

APPENDIX F

TRAFFIC IMPACT STUDY

TRAFFIC IMPACT STUDY

Redding Rancheria

PREPARED FOR:
ANALYTICAL ENVIRONMENTAL SERVICES

JUNE 2018

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EXECUTIVE SUMMARY

Kimley-Horn was retained by Analytical Environmental Services (AES) to prepare a traffic impact study in support of an Environmental Impact Statement (EIS) for the Redding Rancheria Casino Project (Proposed Project) located in Shasta County, California.

The Project consists of a new casino and resort, including an approximately 69,515 square foot casino, 250-room hotel, an event/convention center, and a retail center. The project site, also referred to as the Strawberry Fields Site, is located in the southwest quadrant of the Interstate 5 (I-5) interchange with South Bonnyview Road. While the I-5/South Bonnyview Road interchange is located within the City of Redding's jurisdiction, the project site is located farther south, within unincorporated Shasta County.

As part of the project, six total development alternatives (four of which are on the project site, two of which are located off site) were evaluated. The development alternatives evaluated and their respective project sites are as follows:

Strawberry Fields Site:

- Alternative A: Proposed Project
- Alternative B: Proposed Project with No Retail Alternative
- Alternative C: Reduced Intensity Alternative
- Alternative D: Non-Gaming Alternative

Anderson Site:

- Alternative E: Anderson Site Alternative (City of Anderson)

Win River Casino Site:

- Alternative F: Expansion of the Existing Win River Casino Resort

In addition, three project access options were evaluated for each development alternative on the Strawberry Fields Site. The access options are listed below:

- North Access Only – access to South Bonnyview Road via Bechelli Lane
- North and South Access – access to South Bonnyview Road via Bechelli Lane and access to Smith Road via a new connecting roadway (overpass only at Smith Road)
- South Access Only – access to Smith Road via a new connecting roadway and a new I-5 Interchange at Smith Road

The traffic study was completed for the following scenarios:

- Existing (2016) Conditions
- Opening Year (2025) Conditions
- Opening Year (2025) plus Proposed Project Conditions
- Cumulative (2040) Conditions
- Cumulative (2040) plus Proposed Project Conditions

Significant findings of this study include:

- Several intersections, primarily in and around the South Bonnyview Road/I-5 interchange, operate unacceptably with the addition of the proposed project for various study scenarios and access options. Each impact can be mitigated to be ***less than significant***.

INTRODUCTION

Kimley-Horn was retained by Analytical Environmental Services (AES) to prepare a traffic impact study in support of an Environmental Impact Statement (EIS) for the Redding Rancheria Casino Project (Proposed Project), located in Shasta County, California. The purpose of this study is to address the traffic and transportation effects of the Proposed Project.

Project Description

The Project consists of a new casino and resort, including an approximately 69,515 square foot casino, 250-room hotel, an event/convention center, a retail center, as well as associated parking and infrastructure. The Strawberry Fields Site is located in the southwest quadrant of the Interstate 5 (I-5) interchange with South Bonnyview Road.

Strawberry Fields Site Development Alternatives

As part of the project, four development alternatives at the Strawberry Fields Site were evaluated. The development alternatives evaluated are as follows:

- Alternative A: Proposed Project
- Alternative B: Proposed Project with No Retail Alternative
- Alternative C: Reduced Intensity Alternative
- Alternative D: Non-Gaming Alternative

Strawberry Fields Site Access Alternatives

As part of the project, three project access options were evaluated for each development alternative on the Strawberry Fields Site. The access options evaluated are listed below:

- North Access Only (Option 1) – access to South Bonnyview Road via Bechelli Lane
- North and South Access (Option 2) – access to South Bonnyview Road via Bechelli Lane and access to Smith Road via a new connecting roadway (overpass only at Smith Road)
- South Access Only (Option 3) – access to Smith Road via a new connecting roadway and a new I-5 Interchange at Smith Road

Site Alternatives

In addition to the alternatives listed above, two additional site alternatives were evaluated. These additional alternatives are as follows:

- Alternative E: Anderson Site Alternative (City of Anderson)
- Alternative F: Expansion of the Existing Win River Casino Resort

Study Methodology

This traffic study was based on relevant information from the Shasta County General Plan (amended September 2004), the City of Redding General Plan Transportation Element (adopted October 2000) and Caltrans.

Development Conditions

The traffic study was based on the following study scenarios:

- **Existing (2016) Conditions**
Evaluates current traffic counts, existing roadway geometry/traffic control, and existing development conditions.
- **Opening Year (2025) Conditions**
Evaluates year 2025 traffic volumes. Volumes for intersections #1-9 were taken directly from the 2017 *River Crossing Marketplace Specific Plan Traffic Impact Analysis Report*¹ Year 2020 Plus Project Conditions volumes². Volumes for intersections #10-23 were developed by linearly interpolating between existing and 2040 traffic volumes. The scenario assumes existing roadway geometry/traffic control.
- **Opening Year (2025) plus Proposed Project Conditions**
Evaluates year 2025 traffic volumes and traffic generated by the project.
- **Cumulative (2040) Conditions**
Volumes for intersections #1-9 were taken directly from the 2017 *River Crossing Marketplace Specific Plan Traffic Impact Analysis Report* Year 2040 Plus Project Conditions volumes². Volumes for intersections #10-23 were developed using the Shasta County Regional Travel Demand Model (SCRTDF)³. The scenario assumes existing roadway geometry/traffic control.
- **Cumulative (2040) plus Proposed Project Conditions**
Evaluates year 2040 traffic volumes and traffic generated by the project.

Operating Conditions and Criteria

Operating conditions experienced by drivers are described in terms of Level of Service (LOS), which is a qualitative measure of factors such as delay, speed, travel time, freedom to maneuver, and driving comfort and convenience. Levels of service are represented by a letter scale from LOS A to LOS F, with LOS A representing the best performance and LOS F representing the poorest performance.

¹ *River Crossing Marketplace Specific Plan Traffic Impact Analysis*, Omni-Means, A GHD Company, 2017.

² Note: Some movements presented in the *Redding Rancheria Traffic Impact Study* are higher than those presented in the *River Crossing Marketplace Specific Plan Traffic Impact Analysis* report.

³ Adjusted SCRTDF Model based on I-5 / S. Bonnyview Interchange PSR Technical Memorandum 1 – 14, Omni-Means to City of Redding – Engineering, May 06, 2016 – April 28, 2017.

Table 1 relates the operational characteristics associated with each level of service category for both signalized and unsignalized intersections. **Table 2** and **Table 3** list the level of service thresholds for roadway segments, one-lane and multilane respectively. Level of service thresholds for two-lane highways are based on average travel speed and the percent time spent following based on the segment's classification. Level of service on Class I facilities is defined in terms of average travel speed as well as percent time-spent-following (where mobility is critical). Percent time-spent-following is defined as the average percent of total travel time that vehicles must travel in platoons behind slower vehicles due to inability to pass on a two-lane highway. The level of service on Class II facilities is based only on the percent time-spent-following. Level of service thresholds for multilane highways are based on density measured in passenger cars per mile per lane. **Table 4** lists the level of service thresholds for freeway segments which is also based on density.

Table 1 – Intersection Level of Service Definitions

Level of Service	Description	Signalized (Avg. control delay per vehicle)	Unsignalized (Avg. control delay per vehicle)	Volume to Capacity
A	Free flow with no delays. Users are virtually unaffected by others in the traffic stream	≤ 10	≤ 10	And ≤ 1.0
B	Stable traffic. Traffic flows smoothly with few delays.	$> 10 - 20$	$> 10 - 15$	And ≤ 1.0
C	Stable flow but the operation of individual users becomes affected by other vehicles. Modest delays.	$> 20 - 35$	$> 15 - 25$	And ≤ 1.0
D	Approaching unstable flow. Operation of individual users becomes significantly affected by other vehicles. Delays may be more than one cycle during peak hours.	$> 35 - 55$	$> 25 - 35$	And ≤ 1.0
E	Unstable flow with operating conditions at or near the capacity level. Long delays and vehicle queuing.	$> 55 - 80$	$> 35 - 50$	And ≤ 1.0
F	Forced or breakdown flow that causes reduced capacity. Stop and go traffic conditions. Excessive long delays and vehicle queuing.	> 80	> 50	Or > 1.0

Source: Transportation Research Board, *Highway Capacity Manual 2010*, National Research Council, 2010.

Table 2 – Roadway Segment Level of Service Thresholds: Two-Lane Highway

Level of Service	Class I ^a Percent Time Spent Following (%)	Class I ^a Average Travel Speed (mph)	Class II ^b Percent Time Spent Following (%)
A	≤ 35	≥ 55	≤ 40
B	> 35 – 50	> 50 – 55	> 40 – 55
C	> 50 – 65	> 45 – 50	> 55 – 70
D	> 65 – 80	> 40 – 45	> 70 – 85
E	> 80	≤ 40	> 85

Source: Transportation Research Board, *Highway Capacity Manual 2010*, National Research Council, 2010.

^aClass I: Highways on which motorists expect to travel at relatively high speeds, including major intercity routes, primary arterials, and daily commuter routes.

^bClass II: Highways on which motorists do not necessarily expect to travel at high speeds, including access routes, scenic and recreational routes that are not primarily arterials, and routes through rugged terrain.

LOS F applies whenever the flow rate exceeds the segment capacity.

Table 3 - Roadway Segment Level of Service Thresholds: Multilane Highway

Level of Service (LOS)	Free Flow Speed (mph)	Density (pc/mi/ln)
A	All	> 0 – 11
B	All	> 11 – 18
C	All	> 18 – 26
D	All	> 26 – 35
E	60	> 35 – 40
	55	> 35 – 41
	50	> 35 – 43
	45	> 35 – 45
F (demand exceeds capacity)	60	> 40
	55	> 41
	50	> 43
	45	> 45

Source: *Highway Capacity Manual, 2010*

Note: Passenger Cars per Mile per Lane (pc/mi/ln)

Table 4 – Freeway Facility Level of Service Criteria

Level of Service (LOS)	Basic Segments Density (pc/mi/ln)	Merge/Diverge Segments Density (pc/mi/ln)
A	≤ 11	≤ 10
B	> 11 – 18	> 10 – 20
C	> 18 – 26	> 20 – 28
D	> 26 – 35	> 28 – 35
E	> 35 – 45	> 35
F*	> 45*	*

Source: *Highway Capacity Manual, 2010*

* Demand exceeds capacity

Note: Passenger Cars per Mile per Lane (pc/mi/ln)

Table 5 summarizes the local level of service standards.

Table 5 – Local Level of Service Standards

Jurisdiction	Satisfactory Criteria	Significance Criteria
Shasta County	LOS C	Project causes LOS to fall below LOS C. The project is considered to have a significant impact if the project increases the average delay by more than 5 seconds per vehicle at an intersection having an unacceptable LOS without project traffic.
Redding	LOS C/D	Project causes LOS to fall below LOS C for arterial streets and intersections. The project is considered to have a significant impact if the project increases the average delay by more than 5 seconds per vehicle (and meets peak hour volume signal warrants for stop controlled intersections) at an intersection having an unacceptable LOS without project traffic. *Note LOS D is considered acceptable for areas in the downtown area, as well as along streets within the state highway system and corresponding intersections.
Anderson	LOS D	Project causes LOS to fall below LOS D.
Caltrans	LOS D	Project causes LOS to fall below LOS D at intersections and highways. If LOS is already below criteria, the existing LOS and related measure of effectiveness (i.e. delay, percent time-spent-following, and average speed) are to be maintained.

Sources:

Shasta County General Plan, Circulation Element, September 2004

City of Redding General Plan, October 2000

City of Redding *Traffic Impact Analysis Guidelines*, January 2009

City of Anderson General Plan, May 2007

Caltrans *Guide for the Preparation of Traffic Impact Studies*, December 2002

State Route 273 *Transportation Concept Report*, Caltrans District 2, Office of Planning, December 2004

Traffic analysis was completed using Synchro and VISSIM software at intersections and Highway Capacity Software (HCS) at roadway and freeway segments. Both software platforms are based on the methodology of the *Highway Capacity Manual (HCM, 2010)*.

Significant Impact and Mitigation Thresholds

Shasta County

The Shasta County General Plan, Circulation Element, dated September 2004, was used to determine the Proposed Project impacts to facilities within the County's jurisdiction. These guidelines state that Shasta County shall adopt LOS C standards for any new roads. New developments shall not be approved unless traffic impacts are adequately mitigated. Such mitigation may take the form of, but not limited to, provision of capacity improvements and demand reduction measures. The County has determined that a project may have significant impacts on traffic and circulation if it does any of the following:

- Causes an intersection or roadway segment that operates acceptable without the project to degrade to an unacceptable LOS due to the addition of traffic from the project
- Causes an intersection that is operating at an unacceptable LOS without the project and experiences an increase of 5 or more seconds of control delay due to the addition of the project traffic.
- Causes a roadway segment that operates unacceptably to experience an increase in its daily volume to a capacity ratio of 0.05 or greater due to the addition of project traffic.

City of Redding

The *City of Redding Traffic Impact Analysis Guidelines*, dated January 2009, was used to determine the Proposed Project impacts to facilities within the City of Redding's jurisdiction. These guidelines state that the minimum LOS standard to be used in the analysis shall be LOS C for most arterial streets and their intersections and LOS D for the Downtown area or for streets within the State highway system and interchanges. When an existing Redding facility is operating at less than appropriate target LOS, the following thresholds are used to determine significant impacts:

- The project increases the delay by more than 5 seconds per vehicle at an intersection having an unacceptable LOS without project traffic.
- The project causes the v/c ratio to increase by more than 0.05 on a roadway having an unacceptable LOS without project traffic.
- The project causes the amount of traffic on a local street to exceed 2,000 daily vehicles or 180 peak hour vehicles; or adds any amount of traffic to a local street which exceeds these limits without the project.
- The project causes the amount of traffic on a residential collector, having individual access to single family lots, to exceed 4,000 daily vehicles or 360 peak hour vehicles; or adds any amount of traffic to a residential collector which exceeds these limits without the project.

For impacts that occur in cumulative conditions, the project applicant is responsible for mitigating the impact by providing a fair share contribution. If the project's fair share is 25 percent or more, then the recommended improvements shall be installed at the time

of the development, subject to a reimbursement agreement. If the recommended improvement is included in the current list of Traffic Impact Fee projects, reimbursement will be in the form of either TIF credit or payment from the TIF. If the project's fair share is less than 25 percent, then the project will be required to pay its fair share of the cost of the improvements to be constructed later by others, prior to the realization of the impact. If the recommended improvement is included in the current list of TIF projects, then payment of the project's TIF fee will be considered mitigation for the impact.

City of Anderson

The City of Anderson General Plan, Circulation Element, dated May 2007, was used to determine the Proposed Project impacts to facilities within the City of Anderson's jurisdiction. These guidelines state that the City of Anderson strives to maintain a LOS D as the minimum acceptable service standard for intersections during peak periods. For this study, the Shasta County significance was used for City of Anderson facilities.

Caltrans

The *Caltrans Guide for the Preparation of Traffic Impact Studies*, dated December 2002, was used to determine the Proposed Project impacts to facilities within Caltrans's jurisdiction. These guidelines state that Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D for all of its facilities. However, in the *State Route 273 Transportation Concept Report*, Caltrans indicated that a lower level of service (LOS D) is acceptable before mitigation would be required². When an existing State Highway facility is operating at less than appropriate target LOS, the existing measure of effectiveness (MOE) for that facility should be maintained. This means that, for facilities that operate at a LOS E or F, a significant project impact would occur if a project causes a decrease in the MOE for that facility.

Cumulative traffic impacts are those projected to occur when project traffic is added to future traffic, and where this resulting combined future traffic exceeds each Jurisdiction's significance criteria. Future traffic is based on additional proposed developments in the area (short and long-term cumulative). The project applicant would be responsible for mitigating its cumulatively considerable impact by providing a fair share contribution towards the implementation of mitigation measures needed to improve the intersection or roadway segment to an acceptable LOS or to a level that is equal to better than pre-project operations. A fair share contribution is based on the projects proportionate traffic contribution to the overall future traffic volumes at locations which exceed the significance criteria.

Study Areas

The proposed project site is located in the southwest quadrant of the I-5 interchange with South Bonnyview Road. While the I-5/South Bonnyview Road interchange is located within the City of Redding's jurisdictions, the project site is located immediately south of and outside the City's boundary within unincorporated Shasta County.

² *State Route 273 Transportation Concept Report*, Caltrans District 2, Office of Planning, December 2004.

Two additional site alternatives were evaluated. The Anderson Site is located at the northwest quadrant of the I-5 and North Street Interchange, off of Oak Street within the City of Anderson. The Win River Casino Site is located at the intersection of Market Street (SR-273) and Canyon Road, off of Redding Rancheria Road in Shasta County.

Intersections Included in Analysis

The Project would generate new vehicular trips that would increase traffic volumes on the nearby street network. To assess changes in traffic conditions associated with the Project, the following study intersections were selected based on relevance to the Project and additional site alternatives, and the existing traffic conditions.

Figure 1 illustrates the study intersections for the Strawberry Fields Site:

1. South Bonnyview Road @ Market Street (SR-273) – Caltrans
2. South Bonnyview Road @ East Bonnyview Road – City of Redding
3. South Bonnyview Road @ Bechelli Lane – City of Redding
4. South Bonnyview Road @ I-5 SB Ramps – Caltrans
5. South Bonnyview Road @ I-5 NB Ramps – Caltrans
6. South Bonnyview Road @ Churn Creek Road – City of Redding
7. Churn Creek Road @ Alrose Lane – City of Redding
8. Churn Creek Road @ Victor Avenue – City of Redding
9. Churn Creek Road @ Rancho Road – City of Redding
10. Churn Creek Road @ Smith Road – Shasta County
24. Smith Road @ Proposed Project South Driveway (*Options 1 & 2*) – Shasta County
25. Smith Road @ I-5 SB Ramps (*Option 2*) – Caltrans
26. Smith Road @ I-5 NB Ramps (*Option 2*) – Caltrans

Figure 2 illustrates the study intersections for the Anderson Site (City of Anderson):

17. Market Street (SR-273) @ North Street – Caltrans
18. North Street @ Oak Street – City of Anderson
19. North Street @ I-5 SB Off Ramp – Caltrans
20. North Street @ I-5 NB On-Ramp/ McMurray Drive – Caltrans
21. Balls Ferry Road @ Oak Street – City of Anderson
22. Balls Ferry Road @ I-5 SB On-Ramp/ Ventura Street – Caltrans
23. Balls Ferry Road @ I-5 NB Off-Ramp/ McMurray Drive – Caltrans

Figure 3 illustrates the study intersections for the Win River Casino Site:

1. South Bonnyview Road @ Market Street (SR-273) – Caltrans
11. Market Street (SR-273) @ Westwood Avenue – Caltrans
12. Market Street (SR-273) @ Clear Creek Road – Caltrans
13. Market Street (SR-273) @ Girvan Road – Caltrans
14. Market Street (SR-273) @ Redding Rancheria Road – Caltrans
15. Redding Rancheria Road @ Canyon Road – City of Redding
16. Market Street (SR-273) @ Happy Valley Road – Caltrans

Roadway Segments Included in Analysis

Roadway segments were selected for evaluation. Roadway segments studied are illustrated in **Figures 1-3**.

Strawberry Fields Site:

1. South Bonnyview Road, west of Bechelli Lane
2. Bechelli Lane, south of South Bonnyview Road
3. Churn Creek Road, east of Alrose Lane
4. Smith Road, west of Churn Creek Road

Anderson Site:

1. North Street west of Oak Street
2. Oak Street south of North Street
3. North Street east of Oak Street
4. Oak Street north of North Street

Win River Casino Site:

1. Market Street (SR-273) north of Redding Rancheria Road
2. Market Street (SR-273) south of Redding Rancheria Road
3. Canyon Road south of Redding Rancheria Road

Freeway Segments Included in Analysis

Freeway segments were selected for evaluation. Freeway segments studied are illustrated in **Figures 1-3**.

Strawberry Fields Site:

Northbound and Southbound:

1. I-5 south of Bonnyview Road Off-Ramp
2. Bonnyview Road Off-Ramp
3. I-5 between Bonnyview Road Off-Ramp and On-Ramp
4. Bonnyview Road On-Ramp
5. I-5 North of Bonnyview Road On-Ramp
6. I-5 South of Smith Road Off-Ramp*
7. Smith Road Off-Ramp*
8. I-5 between Smith Road Off-Ramp and On-Ramp*
9. Smith Road On-Ramp*

(*Option 2 only)

Alternative Site (City of Anderson):

Northbound and Southbound:

1. I-5 South of Balls Ferry Road Off-Ramp
2. Balls Ferry Road On-Ramp/Off-Ramp
3. I-5 between Balls Ferry Road Off-Ramp and North Street On-Ramp
4. North Street On-Ramp/Off-Ramp
5. I-5 between North Street On/Off-Ramp and Riverside Ave On/Off-Ramp

Win River Casino Site:

- None

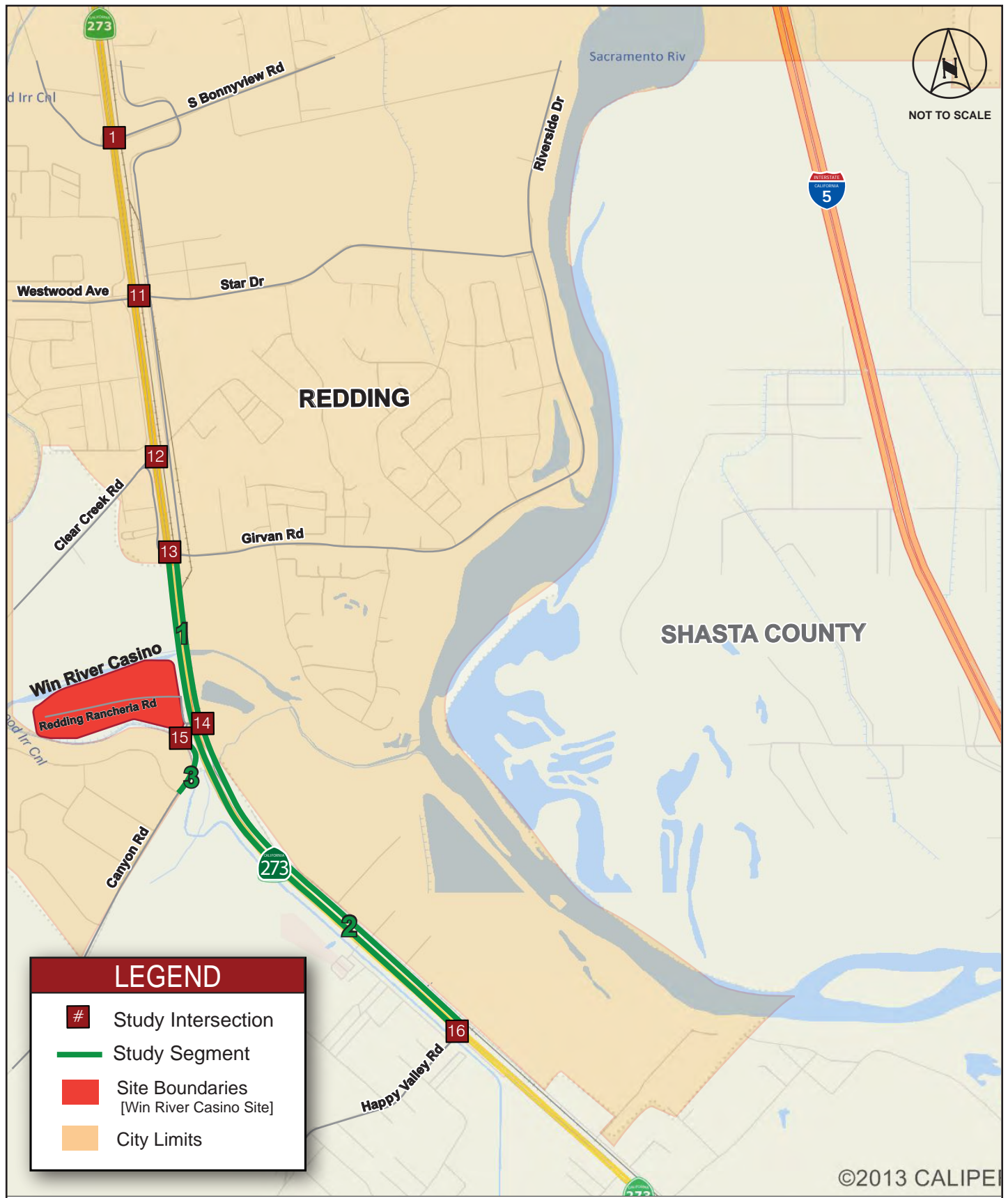


Kimley»Horn Study Intersections and Roadway Segments for the Strawberry Fields Site

Figure 1



Redding Rancheria: Traffic Impact Study



EXISTING (2016) CONDITIONS

Existing Roadways

Below is a description of the roadway facilities and roadway segments included in this study.

I-5 is a major interstate freeway. It runs north-south and connects the cities in northern California and Oregon to the Sacramento Valley in the south. I-5 is also a major truck route, designated as part of the National STAA Network. I-5 runs along the eastern edge of the Proposed Project Site in Redding and the eastern edge of the Alternative Project Site in Anderson. Across the study area, I-5 has a four-lane divided cross section.

Market Street (SR-273) is a divided, four-lane expressway, running north-south along the Southern Pacific Railroad tracks. The expressway serves to connect Redding and Anderson, with limited access to adjacent land. SR-273 is designated a terminal access STAA Route. It intersects South Bonnyview Road north of the Win River Casino Site. All intersections are at grade.

South Bonnyview Road is a two to four lane arterial within the City of Redding with curbs and gutters. The road runs east-west, connecting SR-273, I-5, and Churn Creek Road. A class II bike path runs along the route from SR-273 to I-5. Sidewalks are present from SR-273 to Alrose Lane on the east side of I-5.

East Bonnyview Road is a two lane collector within the City of Redding with curb and gutter on the east side of the roadway. The road runs north-south connecting residential housing to South Bonnyview Road. Sidewalks are present along the east side of the roadway.

Bechelli Lane is a two-lane arterial north of South Bonnyview Road and a two-lane local roadway south of Bonnyview Road within the City of Redding. The roadway connects residential housing to Cypress Avenue and South Bonnyview Road. It runs north-south, parallel to I-5.

Churn Creek Road runs north-south from SR-299 to Knighton Road within the City of Redding. North of South Bonnyview Road, Churn Creek Road is a four-lane divided arterial. After the intersection with Bonnyview Road, Churn Creek Road narrows to two lanes and runs east-west for about a mile before continuing south to Airport Road.

Alrose Lane is a two-lane local roadway within the City of Redding. The roadway runs north-south and connects residential housing to Churn Creek Road.

Victor Avenue is a two-lane arterial roadway within the City of Redding. The roadway runs north-south and connects Churn Creek Road with SR-44 to the north.

Rancho Road is a two-lane arterial roadway within the City of Redding. The roadway runs east-west and connects Churn Creek Road with residential housing to the east.

Smith Road is a two-lane local roadway within Shasta County running east-west from Churn Creek Road to the Sacramento River.

Westwood Avenue is a two-lane local roadway within the City of Redding. The roadway runs east-west and connects SR-273 to residential housing to the west.

Clear Creek Road is a two-lane arterial roadway within the City of Redding. The roadway runs east-west and connects SR-273 to residential housing and businesses to the west.

Girvan Road is a two-lane collector roadway within the City of Redding. The roadway runs east-west and connects SR-273 to residential housing to the east.

Redding Rancheria Road is a two-lane collector. It joins Canyon Road and intersects SR-273 just east of the Win River Casino Resort. It is the major access point for the existing Win River Casino Resort facilities.

Canyon Road is a two-lane arterial running northeast and southwest within the City of Redding. The road extends from SR-273 to Happy Valley Road.

North Street is a four-lane arterial roadway running east-west from the Sacramento River to SR-273. This road is a designated Truck Route under the City of Anderson Municipal Code.

Balls Ferry Road is a four-lane arterial roadway running east-west from the I-5 to SR-273.

Oak Street is a two-lane local road running parallel to SR-273 within the City of Anderson, to the east of the alternative project site.

McMurray Drive is a two-lane local road running parallel to I-5 within the City of Anderson. The roadway connects the I-5 Northbound ramps.

Ventura Street is a two-lane local road running parallel to I-5 within the City of Anderson. The roadway connects North Street with Balls Ferry Road.

Happy Valley Road is a two-lane arterial running northeast and southwest within Shasta County. The road extends from SR-273 to Canyon Road, continuing south to Gas Point Road.

Existing Lane Configurations and Traffic Control

Existing intersection lane configurations and traffic control at study intersections are illustrated in **Figures 4-6**. Traffic signals are located at 16 of the 23 study intersections.

Existing Traffic Turning Movement Volumes

Friday and Saturday intersection turning movement volumes were manually collected in July 2016 at all project study area intersections. Additional intersection turning movement counts were manually collected in September 2016. Volumes were collected during the PM peak period, from 5:00 PM to 7:00 PM on both Friday and Saturday, when the combination of background traffic and casino traffic is at the highest levels. Based on existing traffic volume information and expected trip generation from the Project, it was determined that the Friday and Saturday evening peak periods represent the worst case periods to evaluate. Additionally, September traffic counts were higher than July traffic counts, suggesting season variation in the Project vicinity. Based on a comparison of the July and September traffic counts, adjustments were applied to the July turning movement counts to proportionally increase volumes to reflect observed seasonal variation. The resulting Existing (2016) Friday and Saturday afternoon peak hour volumes are shown in **Figures 7-9**. Traffic volume data sheets are included in **Appendix A**.

Existing Pedestrian and Bicycle Facilities

According to the City of Redding *Bikeway Action Plan: 2010-2015*³, there is a class II bicycle facility running along South Bonnyview Road, from SR-273 to Bechelli Road, and on Churn Creek Road east of South Bonnyview Road. Bicycle facilities are planned for South Bonnyview Road between Bechelli Lane and Churn Creek Road. There are additional class II facilities extending north on East Bonnyview Road, Bechelli Lane and Victor Avenue. None of these facilities connect directly to the Strawberry Fields Site; however, bicycle facilities are planned along the eastern side of the Sacramento River adjacent to the Strawberry Fields Site. Additionally, sidewalks are present on Bechelli Lane north of the Strawberry Fields Site. No sidewalks exist on Smith Road.

According to the Shasta County *2010 Bicycle Transportation Plan*⁴, the Anderson Site in the City of Anderson is not located in close proximity to existing bicycle facilities. However, bicycle access is provided along sections of Market Street (SR-273) and I-5 north and south of the Anderson Site. Bicycle facilities are planned on local roads in the City of Anderson on East Street, North Street, Ventura Street, and Balls Ferry Road in the project vicinity. Additionally, sidewalks are present on North Street and Oak Street south of Mill Street in the project vicinity.

The Win River Casino Site is located adjacent to Market Street (SR-273) which has 15 miles open to bicyclists between the City of Redding to the City of Anderson. Additionally, sidewalks are present on both sides of Redding Rancheria Road.

³ City of Redding, *Bikeway Action Plan: 2010-2015*, 2010.

⁴ Shasta County, *2010 Bicycle Transportation Plan*, 2010.

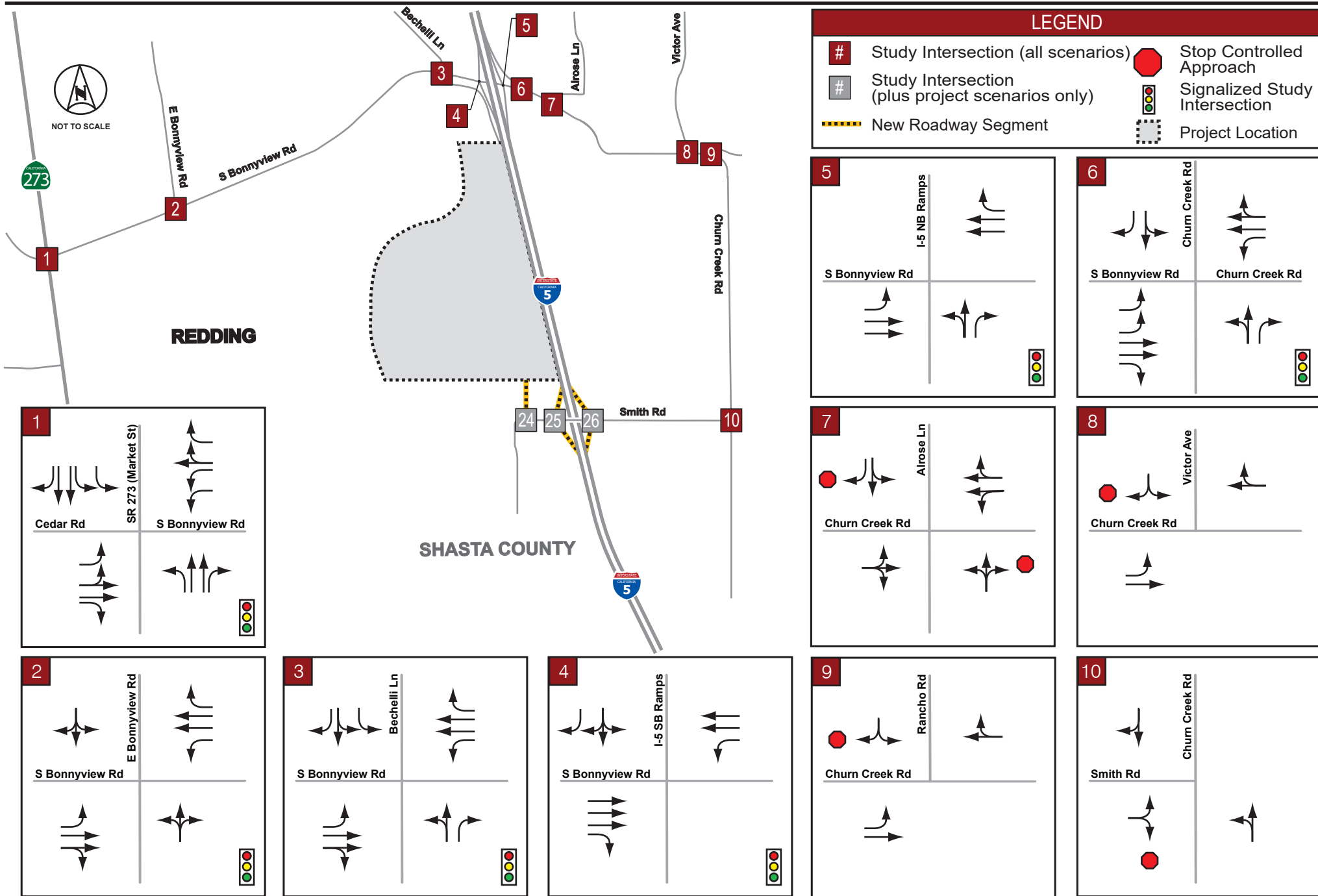
Existing Transit Service

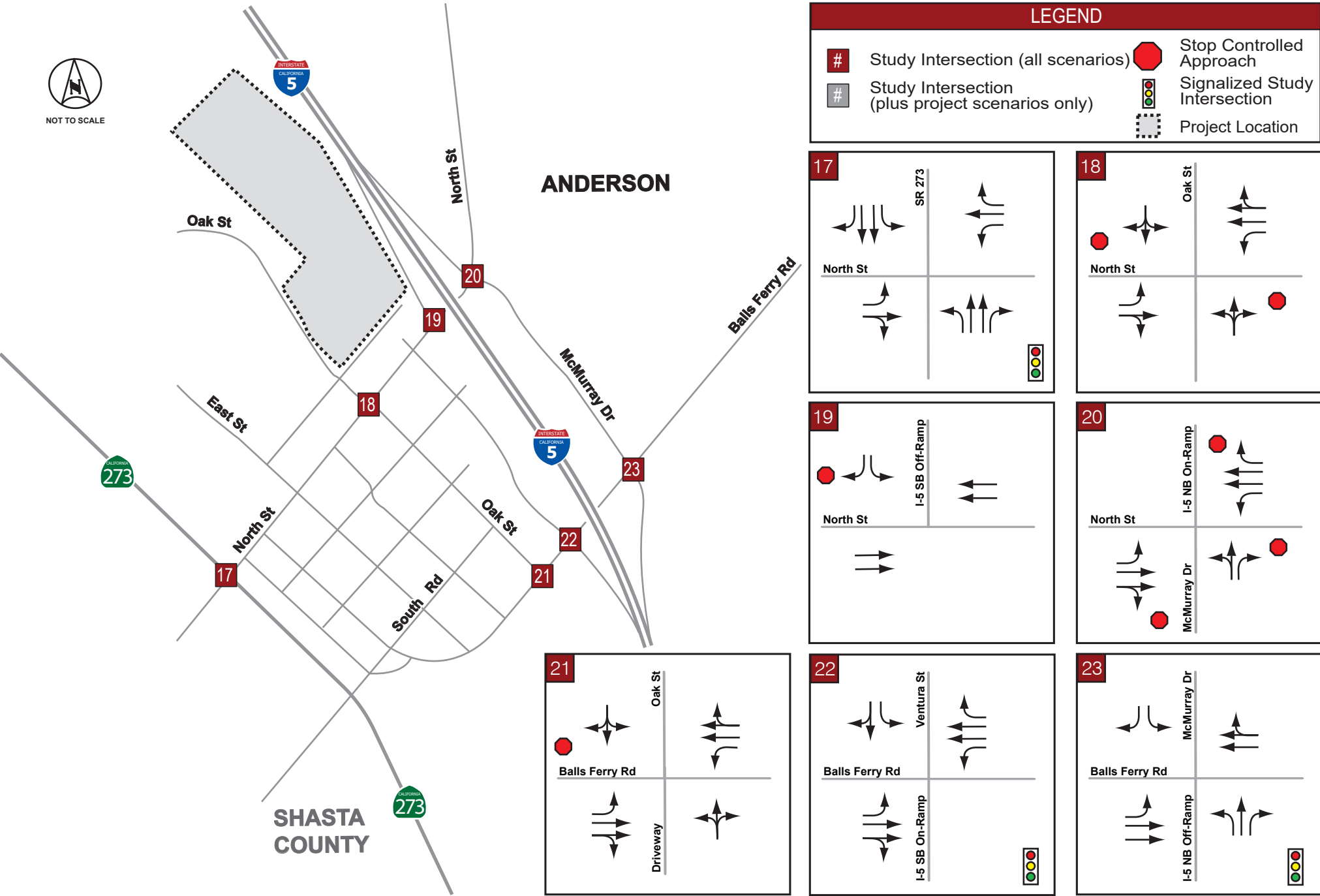
Transit service in Redding and Anderson is provided by the Redding Area Bus Authority (RABA). There are no transit stops in close proximity to the Strawberry Fields Site.

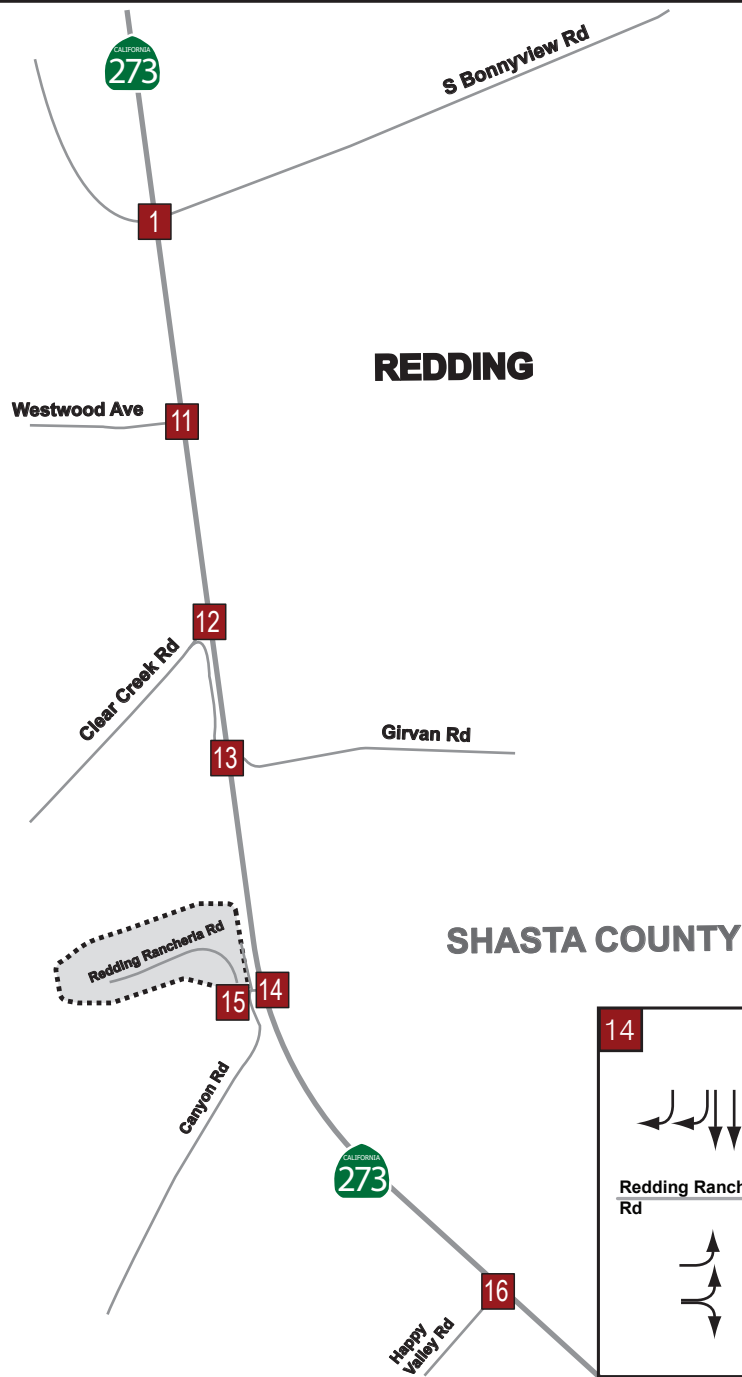
Route 3 and the Anderson Commuter (AC) Route serve the SR-273 corridor with stops near the Anderson Site at North Street, and near the Win River Casino Site at Canyon Road. Route 3 includes stops along the western portion of South Bonnyview Road west of the Strawberry Fields Site. The Route 3 transit services operate during the week and Saturdays, with buses running every hour. The Anderson Commuter only operates between select commuting hours (7-9 AM) on weekday mornings. Additionally, Route 9 provides service within the City of Anderson with stops on North Street near the Anderson Site.

The existing Win River Resort and Casino offers a shuttle between the Casino site and the Hilton Garden Inn, which is located off of Bechelli Lane.

Redding Rancheria: Traffic Impact Study







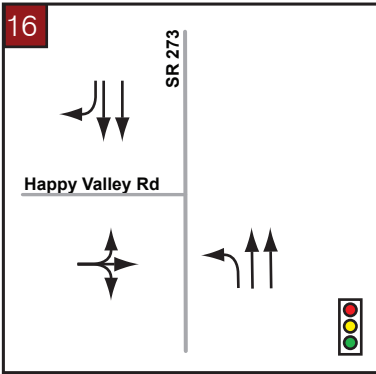
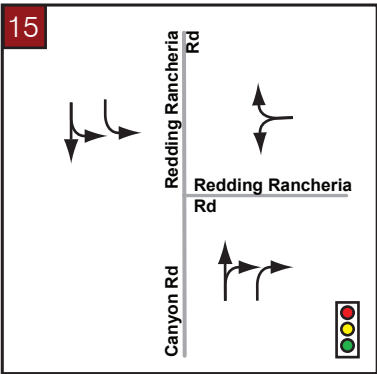
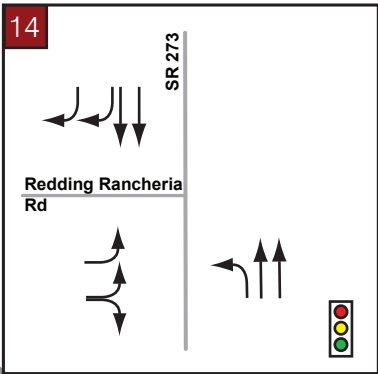
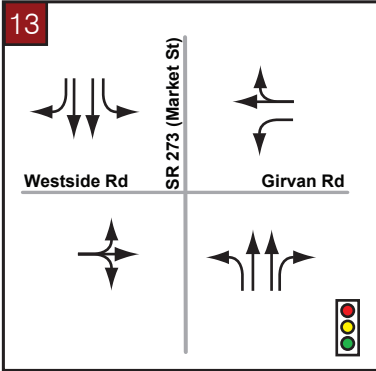
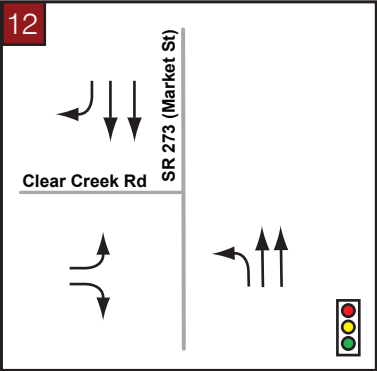
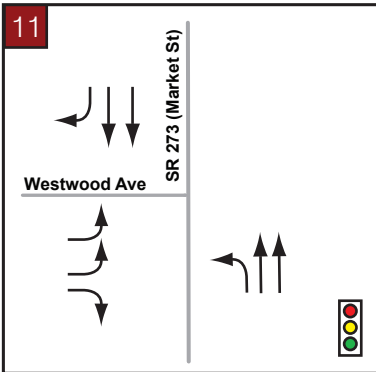
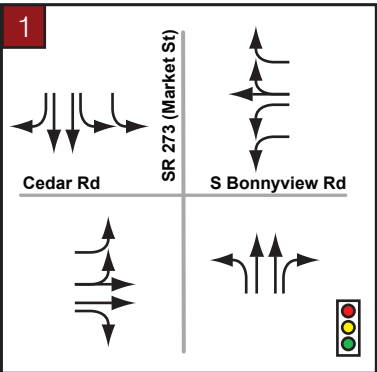
LEGEND

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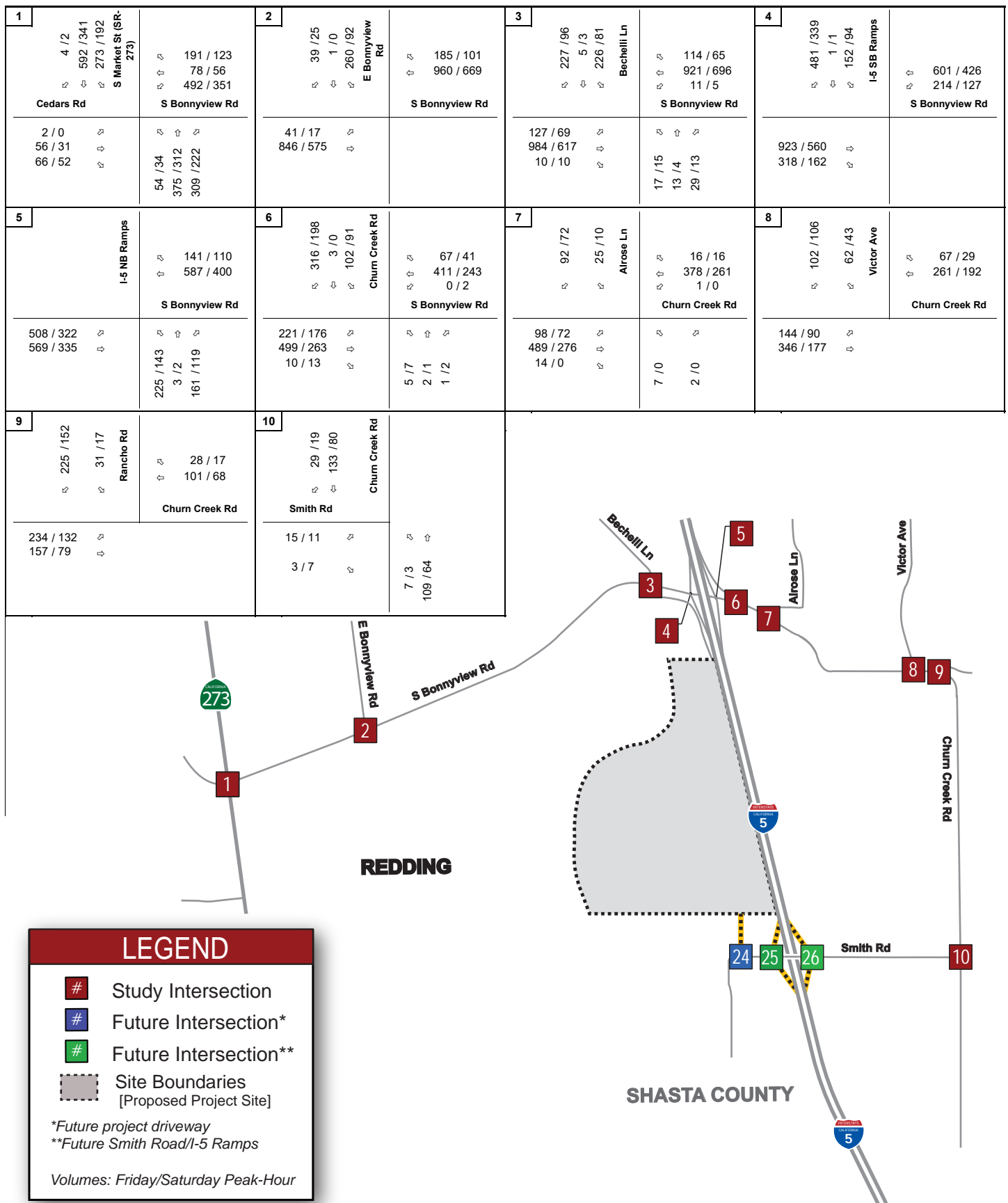
Study Intersection (all scenarios)

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Study Intersection (plus project scenarios only)

Signalized Study Intersection

Redding Rancheria: Traffic Impact Study



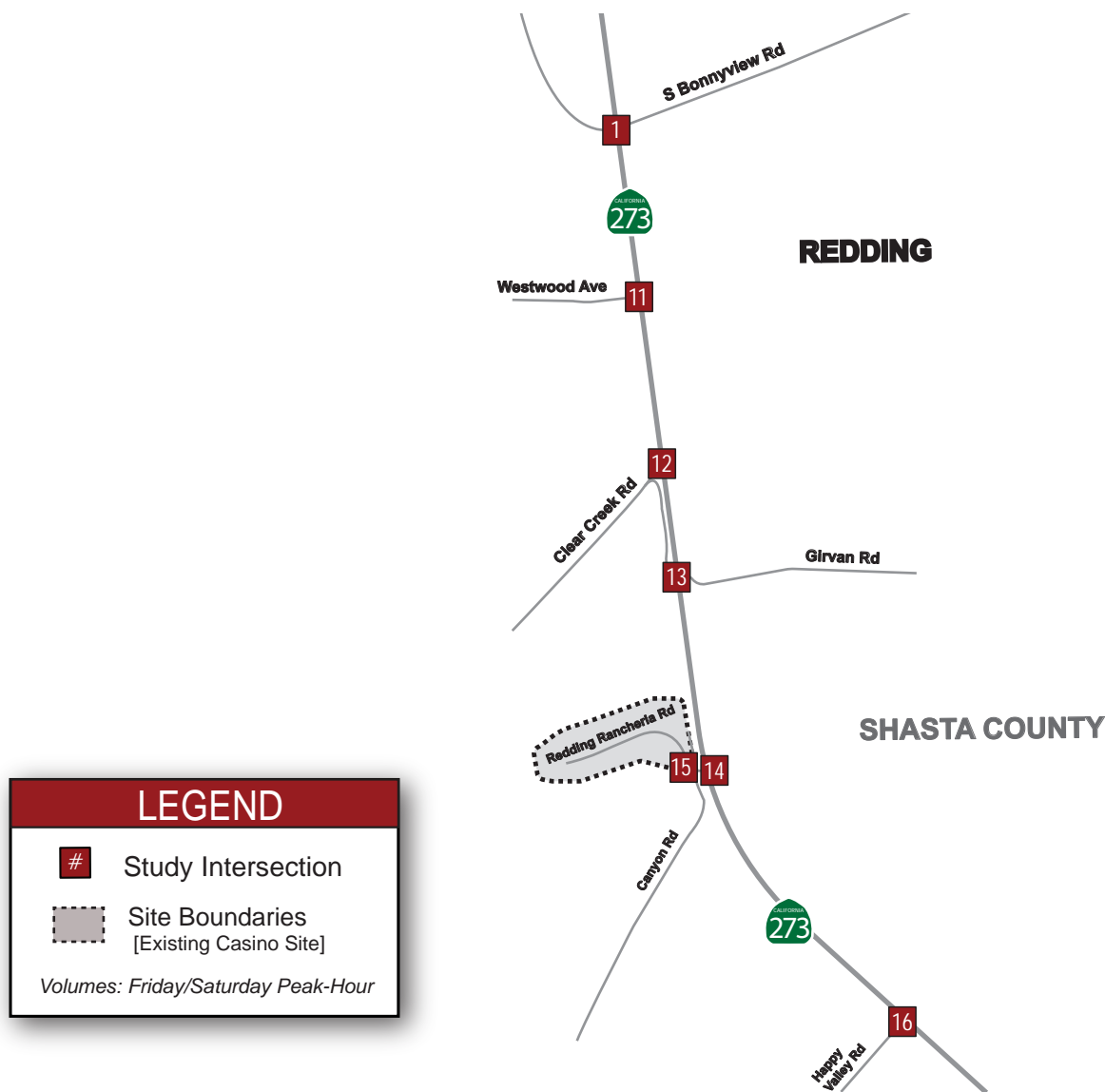
Redding Rancheria: Traffic Impact Study

17 <div> <div>19 / 10 266 / 171 91 / 63 S Market St (SR-273)</div> <div>87 / 73 109 / 59 111 / 67 North St</div> </div> <div> <div>15 / 5 112 / 74 37 / 12</div> <div>36 / 18 173 / 144 114 / 82</div> </div>	18 <div> <div>10 / 9 6 / 10 39 / 47 Oak St</div> <div>42 / 30 382 / 201 12 / 9 North St</div> </div> <div> <div>21 / 11 304 / 195 4 / 2</div> <div>3 / 3 7 / 3 16 / 13</div> </div>	19 <div> <div>161 / 100 232 / 139 I-5 SB Ramps</div> <div>312 / 178 North St</div> </div> <div> <div>391 / 267</div> <div></div> </div>	20 <div> <div>I-5 NB Ramps</div> <div>25 / 27 217 / 120 118 / 89 North St</div> </div> <div> <div>130 / 73 185 / 129 283 / 189</div> <div>92 / 61 192 / 116 160 / 133</div> </div>
21 <div> <div>0 / 2 0 / 5 26 / 14 Oak St</div> <div>11 / 5 230 / 181 22 / 37 Balls Ferry Rd</div> </div> <div> <div>1 / 1 231 / 131 11 / 4</div> <div>15 / 12 3 / 4 53 / 33</div> </div>	22 <div> <div>6 / 18 59 / 37 14 / 9 Ventura St</div> <div>19 / 15 258 / 209 285 / 239 Balls Ferry Rd</div> </div> <div> <div>3 / 2 258 / 140 42 / 31</div> <div>I-5 SB Ramp</div> </div>	23 <div> <div>152 / 130 232 / 162 McMurray Dr</div> <div>198 / 138 402 / 322 Balls Ferry Rd</div> </div> <div> <div>62 / 33 205 / 109</div> <div>I-5 NB Ramp</div> </div>	



Redding Rancheria: Traffic Impact Study

1 <div>4 / 2</div> <div>592 / 341</div> <div>273 / 192</div> <div>S Market St (SR-273)</div> <div>Cedars Rd</div> <div>2 / 0</div> <div>56 / 31</div> <div>66 / 52</div>	<div>191 / 123</div> <div>78 / 56</div> <div>492 / 351</div> <div>S Bonnyview Rd</div> <div>54 / 34</div> <div>375 / 312</div> <div>309 / 222</div>	11 <div>409 / 250</div> <div>714 / 467</div> <div>S Market St (SR-273)</div> <div>Westwood Ave</div> <div>270 / 201</div> <div>227 / 170</div>	<div>145 / 124</div> <div>534 / 351</div>	12 <div>72 / 52</div> <div>865 / 582</div> <div>S Market St (SR-273)</div> <div>Clear Creek Rd</div> <div>120 / 67</div> <div>32 / 16</div>	<div>17 / 19</div> <div>570 / 410</div>	13 <div>25 / 23</div> <div>751 / 496</div> <div>93 / 68</div> <div>S Market St (SR-273)</div> <div>Girvan Rd</div> <div>61 / 51</div> <div>14 / 5</div> <div>157 / 101</div>	<div>6 / 11</div> <div>15 / 9</div> <div>43 / 30</div>	<div>26 / 23</div> <div>521 / 374</div> <div>146 / 100</div>
14 <div>457 / 354</div> <div>487 / 272</div> <div>S Market St (SR-273)</div> <div>Redding Rancheria Rd</div> <div>339 / 286</div> <div>61 / 41</div>	<div>65 / 59</div> <div>422 / 248</div>	15 <div>12 / 8</div> <div>176 / 149</div> <div>Canyon Rd</div> <div>175 / 203</div> <div>352 / 197</div> <div>Redding Rancheria Rd</div> <div>7 / 8</div> <div>220 / 211</div>	<div>74 / 56</div> <div>325 / 232</div>	16 <div>69 / 45</div> <div>411 / 233</div> <div>S Market St (SR-273)</div> <div>Happy Valley Rd</div> <div>63 / 40</div> <div>75 / 53</div>				



Existing Levels of Service at Study Intersections

Traffic operations were evaluated under existing traffic conditions. Results of the analysis are presented in **Table 6**, along with the jurisdictional standard for acceptable level of service (as previously described in Operating Conditions and Criteria). The method of intersection control is listed as Signal for a signalized intersection, AWSC for an all-way stop-controlled intersection and SSSC for a side-street stop-controlled intersection. The overall level of service is reported for signalized intersections and all-way stop-controlled intersections. Only the worst movement is reported in the table for SSSC intersections per the methodology of the *Highway Capacity Manual (2010)*. Additional detail of the analysis is provided in **Appendix B**. Results of the analysis indicate that the existing study area intersections currently operate at acceptable levels of service based on established significance criteria.

Table 6 – Existing Intersection Level of Service Summary

ID	Intersection	Control	Target LOS	Peak Hour	Existing (2016)	
					Delay (sec) (a)	LOS (b)
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	19.6	B
				SAT PM	16.7	B
2	S Bonnyview Rd @ E Bonnyview Rd	Signal	D	FRI PM	11.4	B
				SAT PM	5.2	A
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	20.4	C
				SAT PM	10.9	B
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	33.8	C
				SAT PM	25.6	C
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	30.5	C
				SAT PM	15.5	B
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	15.0	B
				SAT PM	32.3	C
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	12.7	B
				SAT PM	10.2	B
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	24.5	C
				SAT PM	12.5	B
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	12.9	B
				SAT PM	10.1	B
10	Churn Creek Rd @ Smith Rd	SSSC*	C	FRI PM	10.1	B
				SAT PM	9.3	A
11	SR-273 (Market St) @ Westwood Ave	Signal	D	FRI PM	12.1	B
				SAT PM	9.9	A
12	SR-273 (Market St) @ Clear Creek Rd	Signal	D	FRI PM	5.9	A
				SAT PM	5.2	A
13	SR-273 (Market St) @ Girvan Rd	Signal	D	FRI PM	13.8	B
				SAT PM	11.8	B
14	SR-273 (Market St) @ Redding Rancheria Rd	Signal	D	FRI PM	8.7	A
				SAT PM	7.8	A
15	Canyon Rd @ Redding Rancheria Rd	Signal	D	FRI PM	11.6	B
				SAT PM	10.0	B
16	SR-273 (Market St) @ Happy Valley Rd	Signal	D	FRI PM	7.3	A
				SAT PM	6.4	A

Notes:

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 *Highway Capacity Manual*

Table 6 – Existing Intersection Level of Service Summary (Continued)

ID	Intersection	Control	Target LOS	Peak Hour	Existing (2016)	
					Delay (sec) (a)	LOS (b)
17	SR-273 (Market St) @ North St	Signal	D	FRI PM	14.9	B
				SAT PM	12.6	B
18	North St @ Oak St	SSSC*	D	FRI PM	20.8	C
				SAT PM	13.7	B
19	North St @ I-5 SB Off Ramp	AWSC	D	FRI PM	11.7	B
				SAT PM	8.8	A
20	North Street @ McMurray Dr/I-5 NB On Ramp	AWSC	D	FRI PM	22.6	C
				SAT PM	21.1	C
21	Balls Ferry Rd @ Oak St	SSSC*	D	FRI PM	13.2	B
				SAT PM	11.5	B
22	Balls Ferry Rd @ Venutra St/I-5 SB On Ramp	Signal	D	FRI PM	26.6	C
				SAT PM	23.7	C
23	Balls Ferry Rd @ McMurray Dr/I-5 NB Off Ramp	Signal	D	FRI PM	19.2	B
				SAT PM	17.6	B

Notes:

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2010 Highway Capacity Manual*

Existing Conditions Traffic Signal Warrant Analysis

Traffic signals may be justified when traffic operations fall below acceptable thresholds and when one or more signal warrants are satisfied.

Existing traffic volumes at the unsignalized study intersections were compared against the peak-hour warrant in the *California Manual of Uniform Traffic Control Devices*, November 2014. Traffic Signal Warrant #3 – Peak-Hour Volume Warrant is satisfied when traffic volumes on the major and minor approaches exceed thresholds for one hour of the day.

This warrant is generally the first warrant to be satisfied. The warrant applies to traffic conditions during a one-hour peak that are sufficiently high such that minor street traffic experiences excessive delay in entering and crossing the main street due to the high traffic volumes on the main street. The results of a signal warrant analysis are not indicative of impacts, but are provided for informational purposes. When intersections satisfy the peak-hour volume warrant, it does not necessarily mean that a signal will or should be installed. For example, in some instances, the intersection may operate at an acceptable level even though volumes satisfy one or more signal warrants, e.g. a right in/out driveway.

Results of the analysis show that the following intersections currently satisfy Traffic Signal Warrant #3:

- #20 – North Street at McMurray Dr/ I-5 NB On Ramp

Other warrants such as for minimum vehicle volumes, interruption of continuous traffic, and traffic progression were not evaluated because they generally require additional traffic volumes to be satisfied. A copy of the analysis summary for Traffic Signal Warrant #3 is included in **Appendix C**.

Existing Levels of Service on Study Roadway Segments

Traffic analyses were completed to evaluate the existing PM peak hour of Friday and Saturday operation of the study segments. Results of the analyses are presented in **Table 7** and **Table 8**. Results of the analysis indicate that all of the study roadway segments currently operate at acceptable levels of service based on established significance criteria. Additional detail of the analysis is provided in **Appendix B**.

Existing Levels of Service on Study Freeway Segments

Traffic analyses were completed to evaluate the existing PM peak hour of Friday and Saturday operation of the study segments. Results of the analyses are presented in **Table 9** and **Table 10**. Results of the analysis indicate that all of the study freeway segments currently operate at acceptable levels of service based on established significance criteria. Additional details of the analysis are provided in **Appendix B**.

Table 7 – Existing Roadway Segment Level of Service Summary (Two-Lane)

Location	Peak-Hour	Analysis Direction	LOS	PFFS (%)	v/c
Bechelli Ln south of Bonnyview Rd	FRI	NB	A	93.8	0.04
		SB	A	93.8	0.02
	SAT	NB	A	94.3	0.02
		SB	A	94.3	0.01
Churn Creek Rd west of Alrose Ln	FRI	EB	C	81.1	0.33
		WB	C	83.0	0.25
	SAT	EB	B	85.2	0.19
		WB	B	85.2	0.18
Smith Rd west of Churn Creek Rd	FRI	EB	A	98.1	0.01
		WB	A	98.1	0.02
	SAT	EB	A	94.6	0.01
		WB	A	94.6	0.01
Canyon Rd south of Redding Rancheria Rd	FRI	NB	B	85.1	0.15
		SB	B	85.0	0.15
	SAT	NB	B	85.1	0.15
		SB	B	84.6	0.24
North St east of Oak St	FRI	EB	A	97.4	0.05
		WB	A	97.4	0.04
	SAT	EB	A	97.7	0.03
		WB	A	97.7	0.04
North St west of Oak St	FRI	EB	B	85.6	0.21
		WB	B	85.4	0.25
	SAT	EB	B	90.4	0.14
		WB	B	90.4	0.14
Oak St north of North St	FRI	NB	B	83.9	0.28
		SB	B	84.1	0.25
	SAT	NB	B	89	0.16
		SB	B	89	0.17
Oak St south of North St	FRI	NB	A	98.2	0.02
		SB	A	98.2	0.02
	SAT	NB	A	98.3	0.01
		SB	A	98.3	0.01

Notes:

PFFS = Percent Free-Flow Speed, v/c = Volume to Capacity

Table 8 – Existing Roadway Segment Level of Service Summary (Multilane)

Location	Peak-Hour	Analysis Direction	LOS	Density (pc/mi/ln)
Bonnyview Rd west of Bechelli Ln	AM	EB	B	14.2
		WB	B	14.8
	PM	EB	A	8.8
		WB	A	10.2
Market St (SR 275) north of Canyon Rd	AM	NB	A	6.8
		SB	A	8.4
	PM	NB	A	4.7
		SB	A	5.6
Market St (SR 275) south of Canyon Rd	AM	NB	A	4.3
		SB	A	4.9
	PM	NB	A	2.7
		SB	A	2.8

Table 9 – Existing Freeway Segment Level of Service Summary (Strawberry Fields Site)

I-5				Existing (2016)	
Direction	Segment	Type	Peak Hour	Density ^a	LOS
Northbound	South of Bonnyview Rd Off-Ramp	Basic	FRI PM	15.1	B
			SAT PM	10.7	A
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	13.2	B
			SAT PM	10.1	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	8.3	A
			SAT PM	6.1	A
	Bonnyview Rd On-Ramp	Merge	FRI PM	16.5	B
			SAT PM	12.3	B
	North of Bonnyview Rd On-Ramp	Basic	FRI PM	11.4	B
			SAT PM	8.2	A
Southbound	North of Bonnyview Rd Off-Ramp	Basic	FRI PM	14.0	B
			SAT PM	9.9	A
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	22.4	C
			SAT PM	16.9	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	10.9	A
			SAT PM	7.9	A
	Bonnyview Rd On-Ramp	Merge	FRI PM	18.7	B
			SAT PM	13.4	B
	South of Bonnyview Rd On-Ramp	Basic	FRI PM	21.1	C
			SAT PM	13.6	B

Notes:

a- Density measured in passenger cars/lane/mile (pc/lane/mi)

Table 10 – Existing Freeway Segment Level of Service Summary (Anderson Site)

I-5				Existing (2016)	
Direction	Segment	Type	Peak Hour	Density ^a	LOS
Northbound	South of Balls Ferry Rd Off-Ramp	Basic	FRI PM	17.1	B
			SAT PM	12.9	B
	Balls Ferry Rd Off-Ramp	Diverge	FRI PM	20.3	C
			SAT PM	15.3	B
	Balls Ferry Rd Off-Ramp to North St On-Ramp	Basic	FRI PM	13.5	B
			SAT PM	10.4	A
	North St On-Ramp	Merge	FRI PM	19.1	B
			SAT PM	17.3	B
Southbound	North St On-Ramp to Riverside Ave Off-Ramp	Basic	FRI PM	16.0	B
			SAT PM	12.0	B
	Riverside Ave On-Ramp to North St Off-Ramp	Basic	FRI PM	22.1	C
			SAT PM	15.5	B
	North St Off-Ramp	Diverge	FRI PM	27.6	C
			SAT PM	21.9	C
	North St Off-Ramp to Balls Ferry On-Ramp	Basic	FRI PM	18.8	C
			SAT PM	13.7	B
	Balls Ferry On-Ramp	Merge	FRI PM	25.7	C
			SAT PM	19.4	B
	South of Balls Ferry Rd On-Ramp	Basic	FRI PM	22.0	C
			SAT PM	16.0	B

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)

BASELINE CONDITIONS

The Baseline represents the evaluation of traffic conditions without the Proposed Project. Traffic conditions were evaluated for the Opening Year (2025) and Cumulative (2040) forecast.

Opening Year (2025) Traffic Volumes without Project

Opening Year (2025) traffic volumes for intersections #1-9 were taken directly from the 2017 *River Crossing Marketplace Specific Plan Traffic Impact Analysis Report*¹ Year 2020 Plus Project Conditions volumes². Volumes for intersections #10-23 were developed by linearly interpolating between existing and 2040 traffic volumes. Opening Year (2025) traffic volumes assume the full buildout of the River Crossing Marketplace, including a 152,101-square foot Costco, located in the northwest quadrant of the South Bonnyview Road/I-5 interchange. **Figures 10-12** show the Opening Year traffic volumes at the study intersections. These volumes represent anticipated traffic levels in the year 2025, without the proposed project.

Cumulative (2040) Forecasted Traffic Volumes without Project

Volumes for intersections #1-9 were taken directly from the 2017 *River Crossing Marketplace Specific Plan Traffic Impact Analysis Report*¹ Year 2040 Plus Project Conditions volumes². Volumes for intersections #10-23 were developed using the Shasta County Regional Travel Demand Model (SCRTDF). Cumulative (2040) traffic volumes assume the full buildout of the River Crossing Marketplace, including a 152,101-square foot Costco, located in the northwest quadrant of the South Bonnyview Road/I-5 interchange.

The Shasta County Regional Transportation Agency (SRTA) develops and maintains the regional travel demand model, which forecasts land use and corresponding travel behavior into the future for the Shasta County region. The transportation network in the model was updated to be current as of December 31, 2013, reflects recent improvements over the last few years, and includes forecasted improvements through 2040.

The Long-Term forecast for this study is based on the year 2040 directional link volumes from an adjusted Shasta County Regional Travel Demand Model (SCRTDF) provided by Omni-Means⁵. While the model maintained by Shasta County RTPA is the applicable regional planning resource, modifications to the model have been made to address specific impacts of development proposals within the vicinity of the Strawberry Fields Site. Adjustments to the model include:

- Updated dwelling units and number of employees
- Full development of California Gold site
- Full development of River Crossing Marketplace site
- Full development of Terraces TAZ

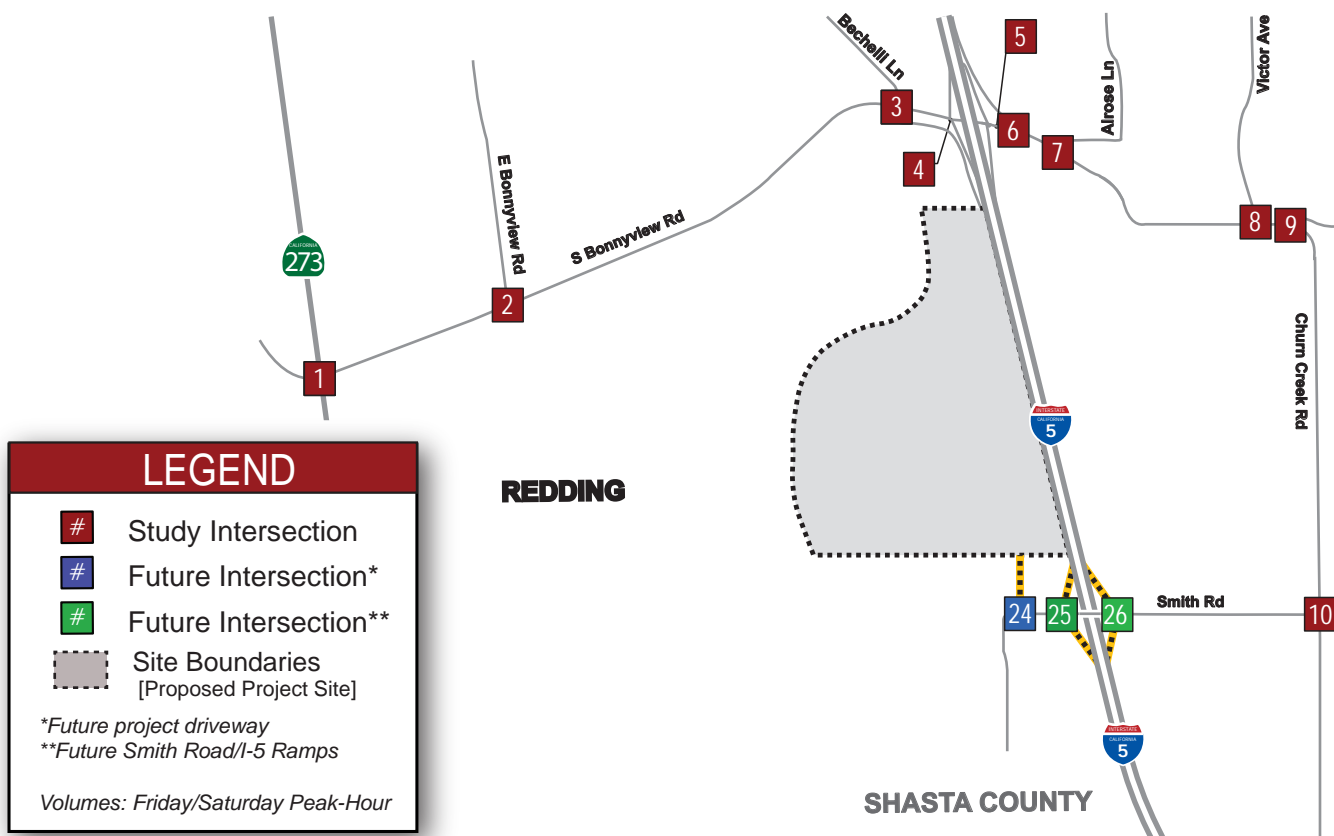
⁵ I-5 / S. Bonnyview Interchange PSR Technical Memorandum 1 – 14, Omni-Means to City of Redding – Engineering, May 06, 2016 – April 28, 2017.

Approach volumes were then converted to turning movement volumes using methodologies from National Cooperative Highway Research Program (NCHRP) 255 – Highway Traffic Data for Urbanized Area Project Planning and Design, Chapter 8. NCHRP Report 255 is a compilation of the best techniques that are currently being used in urban areas to forecast future traffic volumes. These techniques were identified through a survey of state and local agencies with follow-up field visits to obtain detailed information on procedural steps and typical applications. The method used to forecast the future turning movement volumes evaluation is the NCHRP's "Directional Volume Forecast". For this method, existing and future peak hour volumes, existing peak hour turning movements, and projected directional "D" factors are used to calculate future year turning movements. Existing peak hour intersection turning movements were counted in the field. Future peak hour volumes were obtained from the forecast model. Using the "Directional Volume Forecast" technique, the existing turning movements at each study intersection were factored based on increases in peak hour approach traffic and D factors. Each respective movement was derived using an iterative approach that balances the inflows and outflows for each approach.

Figures 13-15 show the Cumulative (2040) traffic volumes.

Redding Rancheria: Traffic Impact Study

1 9 / 5 705 / 406 338 / 238 S Market St (SR-273) Cedars Rd 10 / 0 83 / 46 68 / 54 224 / 144 80 / 57 523 / 373 S Bonnyview Rd 55 / 35 420 / 349 377 / 271	2 39 / 25 5 / 0 341 / 121 E Bonnyview Rd 216 / 118 1092 / 761 10 / 10 S Bonnyview Rd 45 / 19 980 / 666 5 / 5 10 / 10 15 / 15 10 / 10	3 265 / 112 20 / 12 756 / 271 Bechelli Ln 306 / 174 1053 / 796 36 / 16 S Bonnyview Rd 208 / 113 1052 / 660 25 / 25 25 / 22 15 / 5 30 / 13	4 632 / 445 1 / 1 280 / 173 I-5 SB Ramps 893 / 633 300 / 178 S Bonnyview Rd 1254 / 761 590 / 301
5 I-5 NB Ramps 285 / 222 822 / 560 S Bonnyview Rd 665 / 422 874 / 515 371 / 236 5 / 3 250 / 185	6 483 / 303 15 / 0 145 / 129 Churn Creek Rd 130 / 80 499 / 295 35 / 35 S Bonnyview Rd 418 / 333 631 / 333 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 559 / 386 5 / 0 Churn Creek Rd 105 / 77 691 / 390 12 / 0 10 / 0 5 / 5 5 / 0	8 157 / 163 75 / 52 Victor Ave 73 / 32 377 / 277 Churn Creek Rd 198 / 124 428 / 219
9 289 / 195 40 / 22 Rancho Rd 45 / 27 128 / 86 Churn Creek Rd 360 / 203 163 / 82	10 31 / 20 140 / 84 Churn Creek Rd 16 / 12 3 / 7 8 / 3 115 / 68		



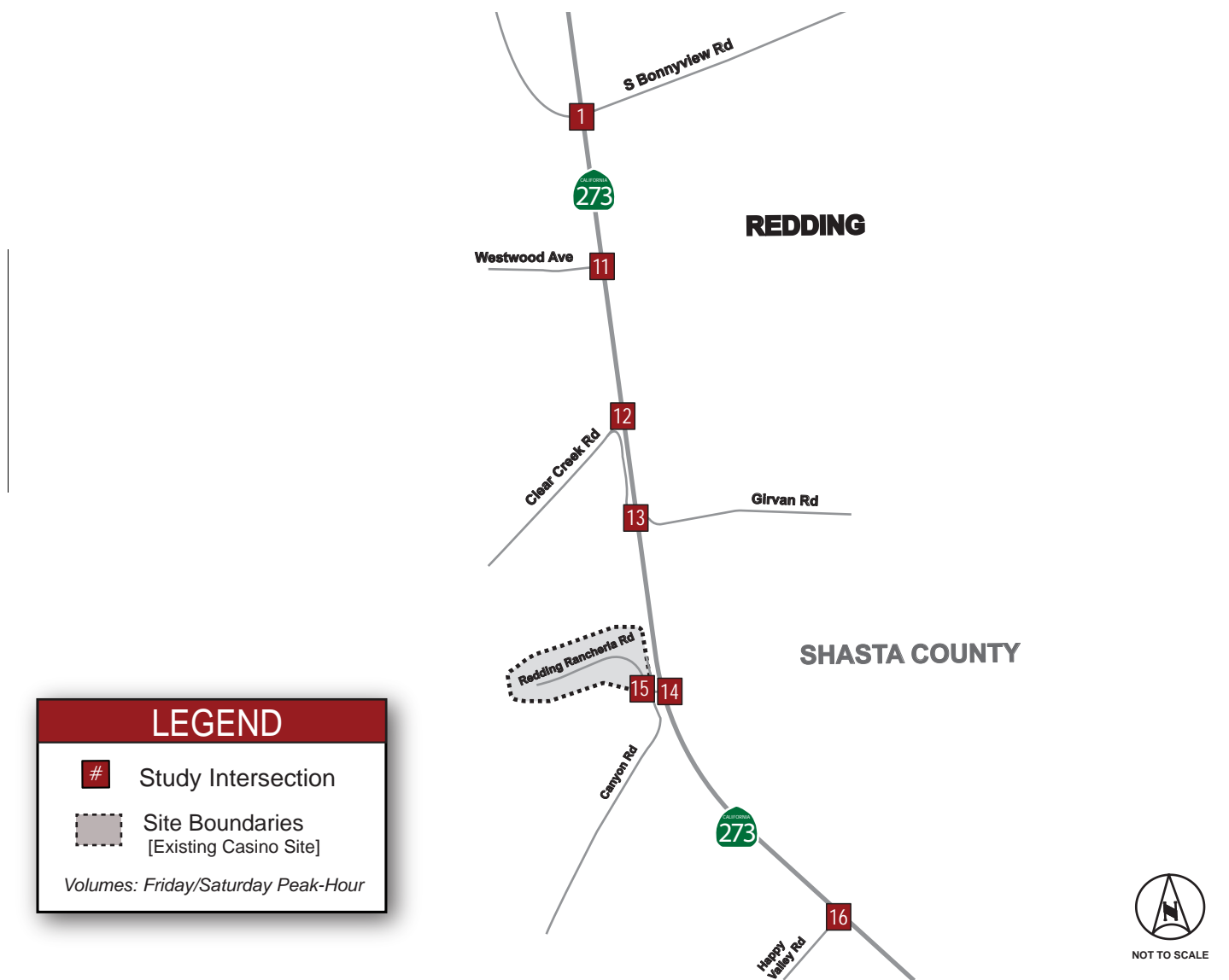
Redding Rancheria: Traffic Impact Study

17 <div> <div>17 / 9</div> <div>329 / 212</div> <div>86 / 60</div> <div>S Market St (SR-273)</div> </div> <div> <div>82 / 69</div> <div>103 / 56</div> <div>154 / 93</div> <div>North St</div> </div> <div> <div>14 / 5</div> <div>106 / 70</div> <div>48 / 16</div> </div> <div> <div>47 / 24</div> <div>216 / 180</div> <div>157 / 113</div> </div>	18 <div> <div>10 / 9</div> <div>6 / 10</div> <div>40 / 48</div> <div>Oak St</div> </div> <div> <div>42 / 30</div> <div>429 / 226</div> <div>12 / 9</div> <div>North St</div> </div> <div> <div>21 / 11</div> <div>344 / 221</div> <div>4 / 2</div> </div> <div> <div>3 / 3</div> <div>7 / 3</div> <div>16 / 13</div> </div>	19 <div> <div>197 / 122</div> <div>226 / 135</div> <div>I-5 SB Ramps</div> </div> <div> <div>328 / 187</div> <div>North St</div> </div> <div> <div>435 / 297</div> </div>	20 <div> <div>I-5 NB Ramps</div> <div>32 / 35</div> <div>233 / 129</div> <div>151 / 114</div> <div>North St</div> </div> <div> <div>129 / 72</div> <div>204 / 142</div> <div>296 / 198</div> </div> <div> <div>McMurray Dr</div> <div>92 / 61</div> <div>210 / 127</div> <div>199 / 165</div> </div>
21 <div> <div>30 / 16</div> <div>Oak St</div> </div> <div> <div>12 / 5</div> <div>289 / 227</div> <div>22 / 37</div> <div>Balls Ferry Rd</div> </div> <div> <div>1 / 1</div> <div>292 / 166</div> <div>11 / 4</div> </div> <div> <div>15 / 12</div> <div>3 / 4</div> <div>54 / 34</div> </div>	22 <div> <div>7 / 21</div> <div>68 / 43</div> <div>18 / 12</div> <div>Ventura St</div> </div> <div> <div>22 / 17</div> <div>318 / 258</div> <div>364 / 305</div> <div>Balls Ferry Rd</div> </div> <div> <div>3 / 2</div> <div>322 / 175</div> <div>51 / 38</div> </div> <div> <div>I-5 SB Ramp</div> </div>	23 <div> <div>194 / 166</div> <div>231 / 161</div> <div>McMurray Dr</div> </div> <div> <div>196 / 137</div> <div>491 / 393</div> <div>Balls Ferry Rd</div> </div> <div> <div>80 / 43</div> <div>254 / 135</div> </div> <div> <div>I-5 NB Ramp</div> <div>73 / 49</div> <div>129 / 96</div> <div>201 / 116</div> </div>	

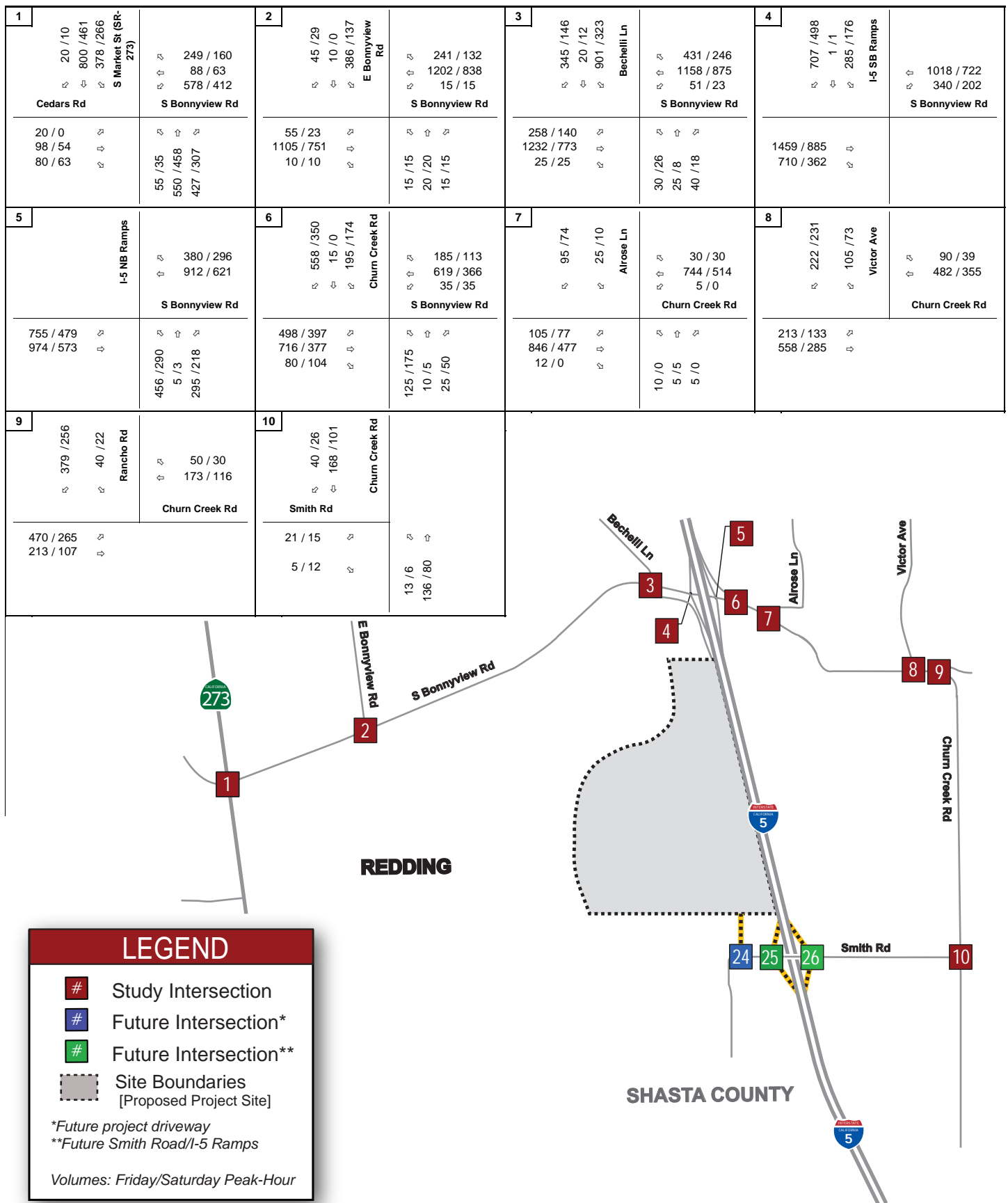


Redding Rancheria: Traffic Impact Study

1 9 / 5 705 / 406 338 / 238 S Market St (SR-273) Cedars Rd 10 / 0 83 / 46 68 / 54	224 / 144 80 / 57 523 / 373 S Bonnyview Rd	11 421 / 257 731 / 478 S Market St (SR-273) Westwood Ave 278 / 207 236 / 177	152 / 130 546 / 359	12 77 / 56 885 / 595 S Market St (SR-273) Clear Creek Rd 130 / 73 36 / 18	20 / 22 581 / 418	13 32 / 29 766 / 506 94 / 69 S Market St (SR-273) Girvan Rd 8 / 15 20 / 12 57 / 40	61 / 51 18 / 6 160 / 103 35 / 31 532 / 382 148 / 101
14 448 / 347 547 / 306 S Market St (SR-273) Redding Rancheria Rd 329 / 278 71 / 48	82 / 74 472 / 277	15 13 / 9 169 / 143 Canyon Rd 175 / 203 350 / 196 Redding Rancheria Rd 9 / 10 222 / 213	16 72 / 47 467 / 265 S Market St (SR-273) Happy Valley Rd 65 / 41 79 / 56	77 / 58 370 / 264			



Redding Rancheria: Traffic Impact Study



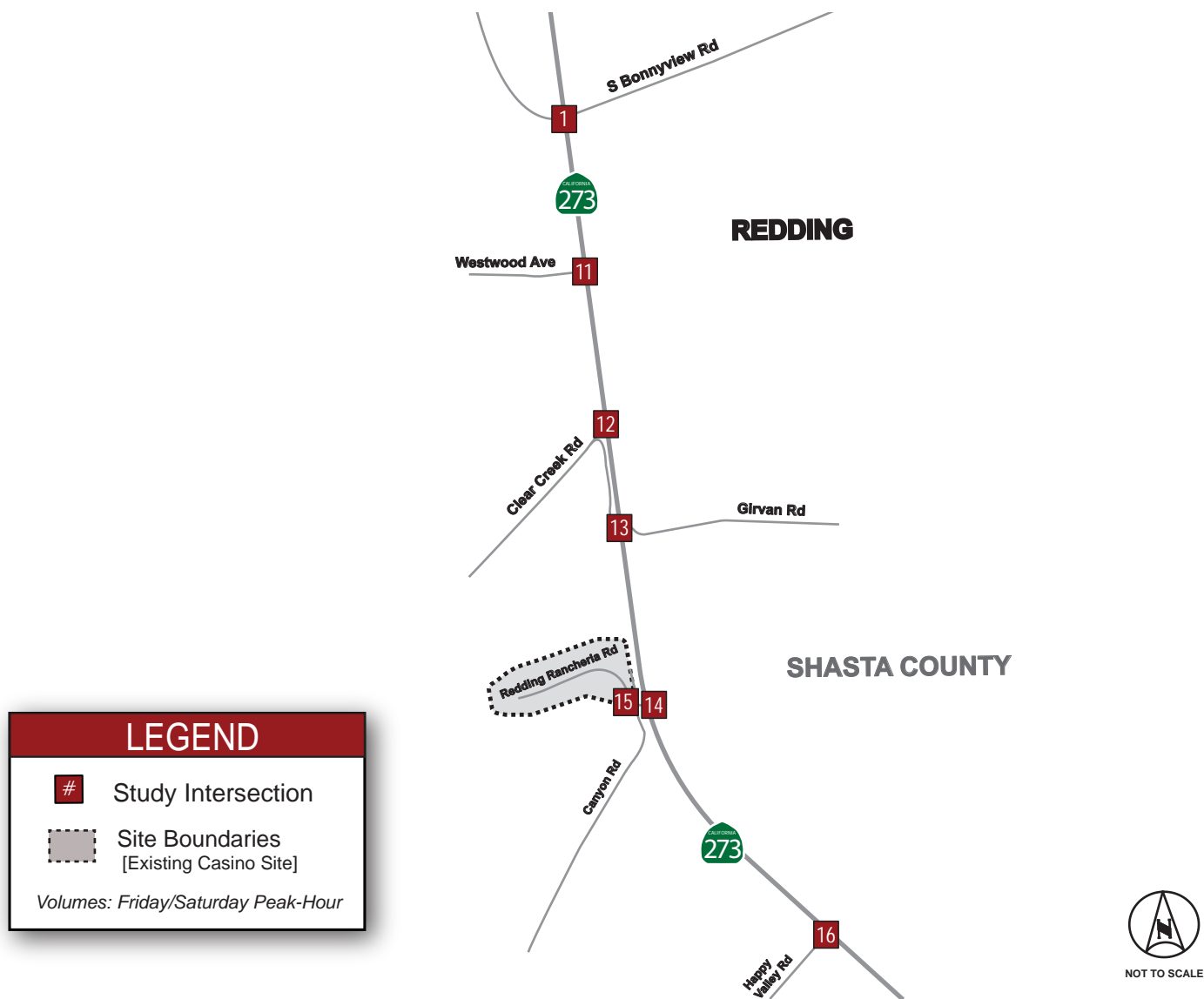
Redding Rancheria: Traffic Impact Study

17 <div> <div>18 / 9</div> <div>429 / 276</div> <div>87 / 60</div> <div>S Market St (SR-273)</div> </div> <div> <div>83 / 70</div> <div>104 / 56</div> <div>256 / 155</div> <div>North St</div> </div> <div> <div>15 / 5</div> <div>107 / 71</div> <div>68 / 22</div> </div> <div> <div>66 / 33</div> <div>284 / 236</div> <div>253 / 182</div> </div>	18 <div> <div>10 / 9</div> <div>7 / 12</div> <div>42 / 51</div> <div>Oak St</div> </div> <div> <div>43 / 31</div> <div>505 / 266</div> <div>13 / 10</div> <div>North St</div> </div> <div> <div>22 / 12</div> <div>407 / 261</div> <div>4 / 2</div> </div> <div> <div>4 / 4</div> <div>7 / 3</div> <div>16 / 13</div> </div>	19 <div> <div>250 / 155</div> <div>227 / 136</div> <div>I-5 SB Ramps</div> </div> <div> <div>355 / 203</div> <div>North St</div> </div> <div> <div>508 / 347</div> </div>	20 <div> <div>I-5 NB Ramps</div> <div>44 / 48</div> <div>260 / 144</div> <div>214 / 161</div> <div>North St</div> </div> <div> <div>130 / 73</div> <div>236 / 165</div> <div>317 / 212</div> </div> <div> <div>McMurray Dr</div> <div>93 / 62</div> <div>241 / 146</div> <div>262 / 218</div> </div>
21 <div> <div>36 / 19</div> <div>Oak St</div> </div> <div> <div>14 / 6</div> <div>392 / 308</div> <div>23 / 39</div> <div>Balls Ferry Rd</div> </div> <div> <div>3 / 3</div> <div>400 / 227</div> <div>12 / 4</div> </div> <div> <div>16 / 13</div> <div>4 / 5</div> <div>56 / 35</div> </div>	22 <div> <div>9 / 27</div> <div>83 / 52</div> <div>24 / 15</div> <div>Ventura St</div> </div> <div> <div>27 / 21</div> <div>413 / 335</div> <div>513 / 430</div> <div>Balls Ferry Rd</div> </div> <div> <div>4 / 3</div> <div>431 / 234</div> <div>64 / 47</div> </div> <div> <div>I-5 SB Ramp</div> </div>	23 <div> <div>272 / 233</div> <div>232 / 162</div> <div>McMurray Dr</div> </div> <div> <div>197 / 137</div> <div>619 / 496</div> <div>Balls Ferry Rd</div> </div> <div> <div>115 / 61</div> <div>333 / 177</div> </div> <div> <div>I-5 NB Ramp</div> <div>134 / 90</div> <div>177 / 132</div> <div>256 / 148</div> </div>	



Redding Rancheria: Traffic Impact Study

1 <div>20 / 10 ↕ 800 / 461 ↕ 378 / 266 S Market St (SR-273)</div> <div>Cedars Rd</div> <div>20 / 0 98 / 54 80 / 63</div>	11 <div>441 / 270 ↕ 759 / 496 S Market St (SR-273)</div> <div>Westwood Ave</div> <div>291 / 217 ↕ 252 / 189</div>	12 <div>85 / 61 ↕ 919 / 618 S Market St (SR-273)</div> <div>Clear Creek Rd</div> <div>147 / 82 ↕ 42 / 21</div>	13 <div>43 / 40 ↕ 790 / 522 ↕ 96 / 70 S Market St (SR-273)</div> <div>Girvan Rd</div> <div>13 / 24 28 / 17 80 / 56</div>
14 <div>449 / 348 ↕ 644 / 360 S Market St (SR-273)</div> <div>Redding Rancheria Rd</div> <div>330 / 278 ↕ 87 / 58</div>	15 <div>15 / 10 ↕ 170 / 144 Canyon Rd</div> <div>Redding Rancheria Rd</div> <div>175 / 203 ↕ 351 / 196 ↕ 12 / 14 226 / 217</div>	16 <div>78 / 51 ↕ 556 / 315 S Market St (SR-273)</div> <div>Happy Valley Rd</div> <div>69 / 44 ↕ 86 / 61</div>	



LOS Conditions and Impacts at Intersections

Traffic operations were evaluated under the following development conditions:

- Opening Year (2025) conditions without Proposed Project
- Cumulative (2040) conditions without Proposed Project

Results of the analysis are presented in **Table 11**. Additional details are provided in **Appendix D**. As seen in **Table 11**, the following intersections will fail to meet acceptable level of service thresholds in the Opening Year (2025) and Cumulative (2040) conditions based on established significance criteria.

Opening Year (2025) without Project Intersections Operating Deficiently

- #4 – Bonnyview Road at I-5 SB Ramps
- #6 – Bonnyview Road at Churn Creek Road
- #8 – Churn Creek Road at Victor Avenue
- #20 – North Street McMurray Drive/I-5 NB On-Ramp

Cumulative (2040) without Project Intersections Operating Deficiently

- #3 – Bonnyview Road at Bechelli Lane
- #8 – Churn Creek Road at Victor Avenue
- #9 – Churn Creek Road at Rancho Road
- #20 – North Street McMurray Drive/I-5 NB On-Ramp

Table 11 – Baseline Intersection Level of Service Summary

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025)		Cumulative Year (2040)	
					Delay (sec) (a)	LOS (b)	Delay (sec) (a)	LOS (b)
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	23.2	C	28.4	C
				SAT PM	20.2	C	18.7	B
2	S Bonnyview Rd @ E Bonnyview Rd	Signal	D	FRI PM	17.8	B	24.8	C
				SAT PM	7.5	A	8.3	A
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	49.9	D	116.9	F
				SAT PM	15.1	B	89.2	F
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	103.1	F	46.1	D
				SAT PM	27.9	C	38.1	D
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	54.6	D	32.3	C
				SAT PM	19.7	B	19.7	B
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	96.2	F	39.4	D
				SAT PM	43.6	D	20.5	C
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	17.2	C	10.8	B
				SAT PM	11.2	B	1.6	A
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	68.0	F	439.6	F
				SAT PM	16.6	C	31.7	D
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	21.1	C	72.2	F
				SAT PM	11.2	B	12.8	B
10	Churn Creek Rd @ Smith Rd	SSSC*	C	FRI PM	10.3	B	10.8	B
				SAT PM	9.3	A	9.5	A
11	SR-273 (Market St) @ Westwood Ave	Signal	D	FRI PM	12.7	B	13.8	B
				SAT PM	10.2	B	10.3	B
12	SR-273 (Market St) @ Clear Creek Rd	Signal	D	FRI PM	6.2	A	6.6	A
				SAT PM	5.4	A	5.6	A
13	SR-273 (Market St) @ Girvan Rd	Signal	D	FRI PM	14.7	B	18.4	B
				SAT PM	12.3	B	14.2	B
14	SR-273 (Market St) @ Redding Rancheria Rd	Signal	D	FRI PM	9.1	A	10.4	B
				SAT PM	8.1	A	8.5	A
15	Canyon Rd @ Redding Rancheria Rd	Signal	D	FRI PM	11.5	B	11.6	B
				SAT PM	10.0	A	10.0	B
16	SR-273 (Market St) @ Happy Valley Rd	Signal	D	FRI PM	7.4	A	17.6	A
				SAT PM	6.4	A	6.4	A

Notes:

Bold represents unacceptable operations.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2010 Highway Capacity Manual*

(c) Under Cumulative (2040) conditions, LOS calculations for intersections 3-7 were performed using VISSIM, all other intersections were performed using Synchro 9.0. (Shaded text represents intersections analyzed with VISSIM.)

Table 11 – Baseline Intersection Level of Service Summary (Continued)

	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025)		Cumulative Year (2040)	
					Delay (sec) (a)	LOS (b)	Delay (sec) (a)	LOS (b)
17	SR-273 (Market St) @ North St	Signal	D	FRI PM	15.9	B	20.0	B
				SAT PM	12.7	B	13.8	B
18	North St @ Oak St	SSSC*	D	FRI PM	24.3	C	33.1	D
				SAT PM	14.6	B	16.6	C
19	North St @ I-5 SB Off Ramp	AWSC	D	FRI PM	12.2	B	13.7	B
				SAT PM	9.0	A	9.4	A
20	North Street @ McMurray Dr/I-5 NB On Ramp	AWSC	D	FRI PM	36.2	E	72.3	F
				SAT PM	13.7	B	18.8	C
21	Balls Ferry Rd @ Oak St	SSSC*	D	FRI PM	15.0	C	19.6	C
				SAT PM	12.8	B	15.0	C
22	Balls Ferry Rd @ Venutra St/I-5 SB On Ramp	Signal	D	FRI PM	26.5	C	28.3	C
				SAT PM	8.6	A	23.0	D
23	Balls Ferry Rd @ McMurray Dr/I-5 NB Off Ramp	Signal	D	FRI PM	23.3	C	41.7	D
				SAT PM	8.3	A	42.2	D

Notes:

Bold represents unacceptable operations.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2010 Highway Capacity Manual*

Traffic Signal Warrant Analysis

Opening Year (2025) and Cumulative (2040) traffic volumes at unsignalized study intersections were compared against the peak-hour warrant in the *2014 California Manual on Uniform Traffic Control Devices (CMUTCD)*.

Results of the analysis showed that the following intersections will satisfy Traffic Signal Warrant #3 by the year 2025 and 2040.

- #7 – Churn Creek Road at Alrose Lane
- #8 – Churn Creek Road at Victor Ave
- #9 – Churn Creek Road at Rancho Road
- #19 – North Street at I-5 Off-Ramp
- #20 – North Street at McMurry Drive and I-5 Northbound On-Ramp

Other warrants, such as minimum vehicle volumes, interruption of continuous traffic, and traffic progression, were not evaluated because they generally require additional traffic volumes to be satisfied. A copy of the analysis summary for Traffic Signal Warrant #3 is included in **Appendix C**.

LOS Conditions and Impacts on Roadway Segments without Project

Opening Year (2025) and Cumulative (2040) roadway segment volumes were determined from the turning movement approach volumes at the study intersections within the study area.

Results of the analysis are presented in **Table 12** and **Table 13**. As shown in **Table 12** and **Table 13**, the roadway segments are expected to operate at acceptable levels of service based on established significance criteria under Opening Year (2025) and Cumulative (2040) Conditions. Additional detail of the analysis is provided in **Appendix D**.

LOS Conditions and Impacts on Freeway Segments without Project

Opening Year (2025) and Cumulative (2040) freeway segment volumes were determined from the year 2040 directional link volumes from the Shasta County Regional Travel Demand Model (SCRTDF) travel forecast model³.

Results of the analysis are presented in **Table 14** and **Table 15**. As shown in the **Table 13** and **Table 15**, the freeway segments are expected to operate at acceptable levels of service based on established significance criteria under Opening Year (2025) and Cumulative (2040) Conditions. Additional details of the analysis are provided in **Appendix D**.

Table 12 – Baseline Roadway Segment Level of Service Summary (Two-Lane)

Location	Peak-Hour	Analysis Direction	Opening Year (2025)			Cumulative (2040)		
			LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c
Bechelli Ln south of Bonnyview Rd	FRI	NB	A	92.7	0.05	A	91.9	0.06
		SB	A	92.7	0.05	A	91.9	0.06
	SAT	NB	A	93.6	0.03	A	93.3	0.03
		SB	A	93.6	0.03	A	93.3	0.04
Churn Creek Rd east of Alrose Ln	FRI	EB	C	77.9	0.46	D	73.9	0.56
		WB	C	78.6	0.38	D	71.4	0.5
	SAT	EB	C	82.8	0.26	C	81.7	0.31
		WB	C	82.8	0.27	C	80.8	0.35
Smith Rd west of Churn Creek Rd	FRI	EB	A	98.1	0.01	A	97.8	0.02
		WB	A	98.1	0.03	A	97.8	0.03
	SAT	EB	A	94.5	0.01	A	94.3	0.02
		WB	A	94.5	0.02	A	94.3	0.02
Canyon Rd south of Redding Rancheria Rd	FRI	NB	B	85	0.15	B	84.9	0.16
		SB	B	84.6	0.24	B	84.5	0.24
	SAT	NB	B	86.9	0.15	B	86.8	0.15
		SB	B	86.9	0.13	B	86.8	0.14
North St east of Oak St	FRI	EB	C	82.6	0.31	C	80.5	0.36
		WB	C	82.9	0.28	C	80.7	0.33
	SAT	EB	B	88.1	0.17	B	86.6	0.2
		WB	B	88.1	0.19	B	86.6	0.22
North St west of Oak St	FRI	EB	B	84.4	0.24	C	82.5	0.28
		WB	B	84	0.26	C	82	0.33
	SAT	EB	B	89.6	0.15	C	88.2	0.18
		WB	B	89.6	0.15	B	88.2	0.18
Oak St north of North St	FRI	NB	A	97.4	0.05	A	97.3	0.05
		SB	A	97.4	0.04	A	97.3	0.04
	SAT	NB	A	97.7	0.03	A	97.6	0.03
		SB	A	97.7	0.04	A	97.6	0.05
Oak St south of North St	FRI	NB	A	98.1	0.02	A	98	0.02
		SB	A	98.1	0.02	A	98	0.02
	SAT	NB	A	98.4	0.01	A	98.4	0.01
		SB	A	98.4	0.01	A	98.4	0.01

Notes:

PFFS = Percent Free-Flow Speed, v/c = Volume to Capacity

Table 13 – Baseline Roadway Segment Level of Service Summary (Multilane)

Location	Peak-Hour	Analysis Direction	Opening Year (2025)		Cumulative (2040)	
			LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)
Bonnyview Rd west of Bechelli Ln	FRI	EB	B	17	A	2.1
		WB	B	17.7	C	20.8
	SAT	EB	A	10.1	B	12
		WB	B	12.5	B	14.5
Market St (SR 273) north of Canyon Rd	FRI	NB	A	7.1	A	7.8
		SB	A	8.8	A	9.7
	SAT	NB	A	4.9	A	5.4
		SB	A	5.8	A	6.3
Market St (SR 273) south of Canyon Rd	FRI	NB	A	4.9	A	5.9
		SB	A	5.5	A	6.5
	SAT	NB	A	3.1	A	3.7
		SB	A	3.1	A	3.7

Table 14 – Baseline Freeway Segment Level of Service Summary (Strawberry Fields Site)

c- Weave segment LOS calculated using Leisch Method				Opening Year 2025		Cumulative 2040	
Direction	Segment	Type	Peak Hour	Density ^a	LOS	Density ^a	LOS
Northbound	South of Bonnyview Rd Off-Ramp	Basic	FRI PM	17.1	B	13.6	B
			SAT PM	12.6	B	10.8	A
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	12.9	B	18.2	B
			SAT PM	10.2	B	12.3	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	8.3	A	9.9	A
			SAT PM	6.5	A	8.4	A
	Bonnyview Rd On-Ramp	Merge	FRI PM	24.0	C	26.2	C
			SAT PM	17.9	B	21.6	C
Southbound	North of Bonnyview Rd Off-Ramp	Basic	FRI PM	16.0	B	19.7	C
			SAT PM	11.8	B	15.0	B
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	20.0	C	28.7	D
			SAT PM	15.9	B	19.7	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	11.4	B	14.2	B
			SAT PM	8.8	A	11.6	B
	Bonnyview Rd On-Ramp	Merge	FRI PM	26.8	C	31.5	D
			SAT PM	18.4	B	22.6	C
	South of Bonnyview Rd On-Ramp	Basic	FRI PM	26.1	D	20.1	C
			SAT PM	16.7	B	14.4	B

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)

b- Bold represents unacceptable operations

c- Weave segment LOS calculated using Leisch Method

Table 15 – Baseline Freeway Segment Level of Service Summary (Anderson Site)

I-5				Opening Year 2025		Cumulative 2040	
Direction	Segment	Type	Peak Hour	Density ^a	LOS	Density ^a	LOS
Northbound	South of Balls Ferry Rd Off-Ramp	Basic	FRI PM	20.6	C	16.9	B
			SAT PM	16.0	B	14.0	B
	Balls Ferry Rd Off-Ramp	Diverge	FRI PM	24.5	C	17.2	B
			SAT PM	18.9	B	13.5	B
	Balls Ferry Rd Off-Ramp to North St On-Ramp	Basic	FRI PM	16.2	B	13.7	B
			SAT PM	13.3	B	11.9	B
	North St On-Ramp	Merge	FRI PM	22.6	C	18.3	B
			SAT PM	18.0	B	15.2	B
	North St On-Ramp to Riverside Ave Off-Ramp	Basic	FRI PM	19.0	C	15.7	B
			SAT PM	15.0	B	13.2	B
Southbound	Riverside Ave On-Ramp to North St Off-Ramp	Basic	FRI PM	28.6	D	22.3	C
			SAT PM	20.5	C	17.8	B
	North St Off-Ramp	Diverge	FRI PM	33.8	D	2.9	A
			SAT PM	25.8	C	2.9	A
	North St Off-Ramp to Balls Ferry On-Ramp	Basic	FRI PM	24.1	C	19.6	C
			SAT PM	18.4	C	16.4	B
	Balls Ferry On-Ramp	Merge	FRI PM	31.9	D	26.4	C
			SAT PM	25.3	C	22.1	C
	South of Balls Ferry Rd On-Ramp	Basic	FRI PM	29.3	D	23.4	C
			SAT PM	21.6	C	19.1	C

Notes:

a- Density measured in passenger cars/lane/mile (pc/lane/mi)

b- Bold represents unacceptable operations

c- Weave segment LOS calculated using Leisch Method

PROPOSED PROJECT

Strawberry Fields Site

As part of the project, four development alternatives at the proposed project site were evaluated.

- **Alternative A: Proposed Project** – Consists of a new casino and resort, including an approximately 69,515 square foot casino, 250-room hotel, an event/convention center, and a retail center, as well as associated parking and infrastructure.
- **Alternative B: Proposed Project with No Retail** – Consists of the same land uses and intensities as the Proposed project without the retail center.
- **Alternative C: Reduced Intensity Alternative** – Consists of a reduced version of the Proposed Project including a new casino and resort, an approximately 250-room hotel, an event/convention center, and a retail center, as well as associated parking and infrastructure.
- **Alternative D: Non-Gaming Alternative** – Consists of an approximately 128-room hotel, restaurants, and a retail center, as well as associated parking and infrastructure.

Site Access

As part of the project, three project access options were evaluated for each development alternative listed above (A through D). The first option has north access only. For this option, the only access point to the project will be from Bechelli Lane off of Bonnyview Road. The second option has both north and south access. For this second option, the primary access point to the project will be from Bechelli Lane off of Bonnyview Road while secondary access will be provided from a new connecting roadway off of Smith Road. The third option has south access only with a new I-5 interchange at Smith Road. For this option, the only access point to the project will be from a new connecting roadway off of Smith Road. The access options evaluated are listed below:

- North Access Only (Option 1) – access to South Bonnyview Road via Bechelli Lane
- North and South Access (Option 2) – access to South Bonnyview Road via Bechelli Lane and access to Smith Road via a new connecting roadway (overpass only at Smith Road)
- South Access Only (Option 3) – access to Smith Road via a new connecting roadway and a new I-5 Interchange at Smith Road

Project Trip Generation

Trip generation for tribal gaming facilities generally peaks on Saturday evenings. However, background traffic on adjacent streets is lower during this period than during traditional peak weekday periods, resulting in a lower total number of vehicles on the adjacent streets. In addition, casino facilities are open 24 hours a day, 7 days a week and typically do not generate extreme peaks of traffic like other uses. Instead, casino traffic patterns typically follow a smoother curve that builds steadily from early morning until approximately 7:00 PM, after which traffic levels slowly decline. Based on existing traffic volume information and expected trip generation from the Proposed Project, it was determined that the Friday and Saturday PM peak periods represent the worst-case periods to evaluate in this traffic impact study. It is during these periods that the combination of background traffic and casino traffic are anticipated to be at the highest levels. Trip generation estimates for Project Alternatives A-D are summarized in **Tables 16-19⁶**.

Project Trip Distribution and Assignment

Because of the unique nature of casino developments, customers and employees are expected to travel from nearby locations, as well as from the regions surrounding Redding, mainly from within Shasta County. The Proposed Project Site is located just outside of Redding's southern city limit. Based on the likely customer and employee base for the site, the immediate roadway system, and the north-south split of traffic on I-5, it was estimated that approximately half of the project traffic would originate from destinations north of the project site. The majority of these trips are expected to use SR-273 and I-5. Many of the trips from Redding's residential developments located east of I-5 are expected to travel along I-5 to the project site, as well as from neighboring cities to the north. A smaller proportion of trips are expected to use Bechelli Road to/from communities directly north of the Proposed Project Site. Approximately 37 percent of the project traffic is expected to come from south of the site, with the majority of this traffic traveling along I-5 from Anderson, Red Bluff, and other neighboring communities. The project traffic distribution for the proposed site is shown in **Figure 16**.

Project traffic assigned to the study intersections based on the assumed trip distribution and generation for the four development alternatives and three site access alternatives are shown in **Figures 17-28**.

⁶ Trip Generation Details are included in the Redding Rancheria Traffic Impact Study Trip Generation and Distribution Memo, Kimley-Horn, September 7, 2016

Table 16 – Project Trip Generation at Strawberry Fields Site (Alternative A)

Land Use	ITE Code	Quantity	Units	Weekday	Weekday PM Peak Hour			Saturday	Saturday Peak Hour		
				Daily	In	Out	Total	Daily	In	Out	Total
Casino	N/A	48,060	Gaming Floor Area	9277	302	302	605	8273	348	213	561
Conference Center	N/A	10,080	SF	965	111	11	122	965	111	11	122
Event Center	N/A	1,800	Seats	1063	123	12	135	1063	123	12	135
Hotel	310	250	Rooms	511	19	18	38	512	25	20	45
Sporting Goods Superstore	861	130,000	SF	2927	115	124	239	3819	255	245	499
Subtotal Vehicle Trips				14742	670	468	1139	14632	862	501	1363
<i>Diverted Link Trips (10%)- Applied only to Casino And Sporting Goods Store</i>				(1220)	(42)	(43)	(84)	(1209)	(60)	(46)	(106)
Net New Vehicle Trips				13521	629	426	1054	13423	801	455	1257

SF- Square Feet

Casino

Weekday PM Peak Hour

T=12.58 x (1000 SF Gaming Floor Area)

50% In

50% Out

Saturday Peak Hour

T=11.67 x (1000 SF Gaming Floor Area)

62% In

38% Out

Hotel

Weekday PM Peak Hour (ITE 310)

T=0.15 x (Rooms)

51% In

49% Out

Weekday Daily (ITE 310)

T=2.04 x (Rooms)

50% In

50% Out

Saturday Peak Hour (ITE 310)

T=0.18 x (Rooms)

56% In

44% Out

Saturday Daily (ITE 310)

T=2.05 x (Rooms)

50% In

50% Out

Sports Retail

Weekday PM Peak Hour (ITE 861)

T=1.84 x (1000 SF)

48% In

52% Out

Saturday Peak Hour (ITE 861)

T=3.84 x (1000 SF)

51% In

49% Out

(1) Source of Land Use Information: Redding Rancheria Casino Master Plan (February, 2016) and subsequent correspondence with Analytical Environmental Services.

(2) Casino trip generation rates based on local traffic data collected for existing Win River Casino. This rate is also consistent with the traffic data collected for the Win River Casino in 2007. (Omni-Means, 2007). The directional distributions were based on the existing conditions.

(3) The proposed casino facility includes other auxiliary/internal uses in addition to gaming area, such as restaurants, back of house, lounges, etc.

However, only the number of gaming position is used as the independent variable for the purposes of estimating trip generation. This is because the trip generation rates use gaming positions as the independent variable, and were developed based on empirical data from similar existing casino facilities, and include the trips associated with all of the casino uses (gaming areas, restaurants, lounges, back of house, etc.), excluding hotel facilities and convention space.

(4) The project site is located adjacent to Interstate, which carries over 45,000 vehicles per day. For the purposes of this analysis, the base daily and peak hour trip generation estimates are adjusted based on an average diverted link rate of 10 percent. This adjustment is likely conservative and is within the range identified by Caltrans' guidance for pass-by/diverted link trip reductions (Caltrans Guide for the Preparation of Traffic Impact Studies, 2002). Only diverted link trip reductions are used to account for all trips assumed to already be on the adjacent network, including pass-by trips. The diverted link trip reduction is applied only to the trips generated by the casino and the sporting good store.

(5) Trip generation for the proposed conference center was developed based on the estimated number of attendees. The maximum number of event attendees/seats was estimated to be 672 people, based on an average of 15 SF per attendee, which is consistent with industry best practices for conference/event space planning. For the purposes of this traffic analysis, the peak trip generation for the conference center assumes an event with 85 percent of the capacity filled, which corresponds to approximately 571 attendees.

Based on the 2016 study of Cache Creek Casino Resort, it is assumed that when conference/meeting activities are scheduled, 25 percent of the 250 on-site hotel rooms would be occupied by event attendees with an average occupancy of 1.3 attendees per room. Thus, 81 attendees would stay on-site, and not drive to/from an event. The remaining attendees (490) would drive to the site. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 223 vehicles trips would generated. The majority of event trips are anticipated to occur outside of the PM peak traffic period (4:00 PM to 6:00 PM), as events typically have a start time between 7:00 PM and 8:00 PM. It was assumed that 50 percent of event attendees would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

(6) Trip generation rates for the proposed event center were based on a previous study of a similar facility at the Cache Creek Casino and Resort. This assumes that most of the patrons visiting the event are already onsite at the casino, and only 30 percent of the patrons represent new trips. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 245 new trips are generated by event facility. It was assumed that 50 percent of patrons would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

(7) Trip generation rates for the Hotel (ITE 310) and Sporting Goods Superstore (ITE 861) are based on ITE Trip Generation Manual, 9th Edition. The trip generation rate for the Hotel (ITE 310) is reduced by 75 percent to account for internal capture to/from the casino. For the Sporting Goods Store (ITE 861), it was conservatively assumed that the peak hour of Generator occurs during the peak hour for the Casino Facility.

(8) Daily rates for Casino, Conference Center and Event Center are calculated from the peak hour to daily relationships from Kimley-Horn's 2016 Ione Casino and Cash Creek Casino studies; daily rates for Sporting Goods Superstore are calculated from the peak hour to daily relationships from the ITE use of Department Store (ITE 861)

Table 17 – Project Trip Generation at Strawberry Fields Site (Alternative B)

Land Use	ITE Code	Quantity	Units	Weekday	Weekday PM Peak Hour			Saturday	Saturday Peak Hour		
				Daily	In	Out	Total	Daily	In	Out	Total
Casino	N/A	48,060	Gaming Floor Area	9277	302	302	605	8273	348	213	561
Conference Center	N/A	10,080	SF	965	111	11	122	965	111	11	122
Event Center	N/A	1,800	Seats	1063	123	12	135	1063	123	12	135
Hotel	310	250	Rooms	511	19	18	38	512	25	20	45
Subtotal Vehicle Trips				11815	556	344	900	10813	607	256	863
<i>Diverted Link Trips(10%)- Applied only to Casino</i>				(928)	(30)	(30)	(60)	(827)	(35)	(21)	(56)
Net New Vehicle Trips				10887	525	314	839	9986	572	235	807

SF- Square Feet

Casino

Weekday PM Peak Hour

Saturday Peak Hour

T=12.58 x (1000 SF Gaming Floor Area)

T=11.67 x (1000 SF Gaming Floor Area)

50% In

62% In

50% Out

38% Out

Hotel

Weekday PM Peak Hour (ITE 310)

Weekday Daily (ITE 310)

Saturday Peak Hour (ITE 310)

Saturday Daily (ITE 310)

T=0.15 x (Rooms)

T=2.04 x (Rooms)

T=0.18 x (Rooms)

T=2.05 x (Rooms)

51% In

50% In

56% In

50% In

49% Out

50% Out

44% Out

50% Out

(1) Source of Land Use Information: Redding Rancheria Casino Master Plan (February, 2016) and subsequent correspondence with Analytical Environmental Services.

(2) Casino trip generation rates based on local traffic data collected for existing Win River Casino. This rate is also consistent with the traffic data collected for the Win River Casino in 2007. (Omni-Means, 2007). The directional distributions were based on the existing conditions.

(3) The proposed casino facility includes other auxiliary/internal uses in addition to gaming area, such as restaurants, back of house, lounges, etc.

However, only the number of gaming position is used as the independent variable for the purposes of estimating trip generation. This is because the trip generation rates use gaming positions as the independent variable, and were developed based on empirical data from similar existing casino facilities, and include the trips associated with all of the casino uses (gaming areas, restaurants, lounges, back of house, etc.), excluding hotel facilities and convention space.

(4) The project site is located adjacent to Interstate, which carries over 45,000 vehicles per day. For the purposes of this analysis, the base daily and peak hour trip generation estimates are adjusted based on an average diverted link rate of 10 percent. This adjustment is likely conservative and is within the range identified by Caltrans' guidance for pass-by/diverted link trip reductions (Caltrans Guide for the Preparation of Traffic Impact Studies, 2002). Only diverted link trip reductions are used to account for all trips assumed to already be on the adjacent network, including pass-by trips. The diverted link trip reduction is applied only to the trips generated by the casino and the sporting good store.

(5) Trip generation for the proposed conference center was developed based on the estimated number of attendees. The maximum number of event attendees/seats was estimated to be 672 people, based on an average of 15 SF per attendee, which is consistent with industry best practices for conference/event space planning. For the purposes of this traffic analysis, the peak trip generation for the conference center assumes an event with 85 percent of the capacity filled, which corresponds to approximately 571 attendees.

Based on the 2016 study of Cache Creek Casino Resort, it is assumed that when conference/meeting activities are scheduled, 25 percent of the 250 on-site hotel rooms would be occupied by event attendees with an average occupancy of 1.3 attendees per room. Thus, 81 attendees would stay on-site, and not drive to/from an event. The remaining attendees (490) would drive to the site. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 223 vehicles trips would generated. The majority of event trips are anticipated to occur outside of the PM peak traffic period (4:00 PM to 6:00 PM), as events typically have a start time between 7:00 PM and 8:00 PM. It was assumed that 50 percent of event attendees would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

(6) Trip generation rates for the proposed event center were based on a previous study of a similar facility at the Cache Creek Casino and Resort. This assumes that most of the patrons visiting the event are already onsite at the casino, and only 30 percent of the patrons represent new trips. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 245 new trips are generated by event facility. It was assumed that 50 percent of patrons would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

(7) Trip generation rates for the Hotel (ITE 310) is based on ITE Trip Generation Manual, 9th Edition. The trip generation rate for the Hotel (ITE 310) is reduced by 75 percent to account for internal capture to/from the casino.

(8) Daily rates for Casino, Conference Center and Event Center are calculated from the peak hour to daily relationships from Kimley-Horn's 2016 lone Casino and Cash Creek Casino studies.

Table 18 – Project Trip Generation at Strawberry Fields Site (Alternative C)

Land Use	ITE Code	Quantity	Units	Weekday	Weekday PM Peak Hour			Saturday	Saturday Peak Hour		
				Daily	In	Out	Total	Daily	In	Out	Total
Casino	N/A	36,060	Gaming Floor Area	6960	227	227	454	6208	261	160	421
Conference Center	N/A	10,080	SF	965	111	11	122	965	111	11	122
Event Center	N/A	1,800	Seats	1063	123	12	135	1063	123	12	135
Hotel	310	250	Rooms	511	19	18	38	512	25	20	45
Sporting Goods Superstore	861	130,000	SF	2927	115	124	239	3819	255	245	499
Subtotal Vehicle Trips				12425	595	393	988	12566	775	448	1223
<i>Diverted Link Trips(10%)- Applied only to Casino And Sporting Goods Store</i>				(989)	(34)	(35)	(69)	(1003)	(52)	(40)	(92)
Net New Vehicle Trips				11437	561	358	919	11564	723	407	1131

SF- Square Feet

Casino

Weekday PM Peak Hour

T=12.58 x (1000 SF Gaming Floor Area)

50% In

50% Out

Saturday Peak Hour

T=11.67 x (1000 SF Gaming Floor Area)

62% In

38% Out

Hotel

Weekday PM Peak Hour (ITE 310)

T=0.15 x (Rooms)

51% In

49% Out

Weekday Daily (ITE 310)

T=2.04 x (Rooms)

50% In

50% Out

Saturday Peak Hour (ITE 310)

T=0.18 x (Rooms)

56% In

44% Out

Saturday Daily (ITE 310)

T=2.05 x (Rooms)

50% In

50% Out

Sports Retail

Weekday PM Peak Hour (ITE 861)

T=1.84 x (1000 SF)

48% In

52% Out

Saturday Peak Hour (ITE 861)

T=3.84 x (1000 SF)

51% In

49% Out

(1) Source of Land Use Information: Redding Rancheria Casino Master Plan (February, 2016) and subsequent correspondence with Analytical Environmental Services.

(2) Casino trip generation rates based on local traffic data collected for existing Win River Casino. This rate is also consistent with the traffic data collected for the Win River Casino in 2007. (Omni-Means, 2007). The directional distributions were based on the existing conditions.

(3) The proposed casino facility includes other auxiliary/internal uses in addition to gaming area, such as restaurants, back of house, lounges, etc. However, only the number of gaming position is used as the independent variable for the purposes of estimating trip generation. This is because the trip generation rates use gaming positions as the independent variable, and were developed based on empirical data from similar existing casino facilities, and include the trips associated with all of the casino uses (gaming areas, restaurants, lounges, back of house, etc.), excluding hotel facilities and convention space.

(4) The project site is located adjacent to Interstate, which carries over 45,000 vehicles per day. For the purposes of this analysis, the base daily and peak hour trip generation estimates are adjusted based on an average diverted link rate of 10 percent. This adjustment is likely conservative and is within the range identified by Caltrans' guidance for pass-by/diverted link trip reductions (Caltrans Guide for the Preparation of Traffic Impact Studies, 2002). Only diverted link trip reductions are used to account for all trips assumed to already be on the adjacent network, including pass-by trips. The diverted link trip reduction is applied only to the trips generated by the casino and the sporting good store.

(5) Trip generation for the proposed conference center was developed based on the estimated number of attendees. The maximum number of event attendees/seats was estimated to be 672 people, based on an average of 15 SF per attendee, which is consistent with industry best practices for conference/event space planning. For the purposes of this traffic analysis, the peak trip generation for the conference center assumes an event with 85 percent of the capacity filled, which corresponds to approximately 571 attendees.

Based on the 2016 study of Cache Creek Casino Resort, it is assumed that when conference/meeting activities are scheduled, 25 percent of the 250 on-site hotel rooms would be occupied by event attendees with an average occupancy of 1.3 attendees per room. Thus, 81 attendees would stay on-site, and not drive to/from an event. The remaining attendees (490) would drive to the site. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 223 vehicles trips would generated. The majority of event trips are anticipated to occur outside of the PM peak traffic period (4:00 PM to 6:00 PM), as events typically have a start time between 7:00 PM and 8:00 PM. It was assumed that 50 percent of event attendees would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

(6) Trip generation rates for the proposed event center were based on a previous study of a similar facility at the Cache Creek Casino and Resort. This assumes that most of the patrons visiting the event are already onsite at the casino, and only 30 percent of the patrons represent new trips. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 245 new trips are generated by event facility. It was assumed that 50 percent of patrons would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

(7) Trip generation rates for the Hotel (ITE 310) and Sporting Goods Superstore (ITE 861) are based on ITE Trip Generation Manual, 9th Edition. The trip generation rate for the Hotel (ITE 310) is reduced by 75 percent to account for internal capture to/from the casino. For the Sporting Goods Store (ITE 861), it was conservatively assumed that the peak hour of Generator occurs during the peak hour for the Casino Facility.

(8) Daily rates for Casino, Conference Center and Event Center are calculated from the peak hour to daily relationships from Kimley-Horn's 2016 Lone Casino and Cash Creek Casino studies; daily rates for Sporting Goods Superstore are calculated from the peak hour to daily relationships from the ITE use of Department Store (ITE 861)

Table 19 – Project Trip Generation at Strawberry Fields Site (Alternative D)

Land Use	ITE Code	Quantity	Units	Weekday	Weekday PM Peak Hour			Saturday	Saturday Peak Hour		
				Daily	In	Out	Total	Daily	In	Out	Total
Hotel	310	128	Rooms	1046	39	38	77	1048	52	41	92
High Turnover Restaurant	932	99	Seats	478	23	17	41	615	28	25	52
Quality Restaurant	931	66	Seats	189	11	6	17	185	13	9	22
Sporting Goods Superstore	862	120,000	SF	2702	106	115	221	3525	235	226	461
Subtotal Vehicle Trips				4414	180	176	355	5374	327	300	627
<i>Diverted Link Trips(15%)- Applied to All Uses</i>				(662)	(27)	(26)	(53)	(806)	(49)	(45)	(94)
Net New Vehicle Trips				3752	153	149	302	4568	278	255	533

SF- Square Feet

<u>Hotel</u>			
Weekday PM Peak Hour (ITE 310)	T=0.6 x (Rooms)	51% In	49% Out
Weekday Daily (ITE 310)	T=8.17 x (Rooms)	50% In	50% Out
Saturday Peak Hour (ITE 310)	T=0.72 x (Rooms)	56% In	44% Out
Saturday Daily (ITE 310)	T=8.19 x (Rooms)	50% In	50% Out
<u>High Turnover Restaurant</u> : Sports Bar			
Weekday PM Peak Hour (ITE 932)	T=0.41 x (Seats)	57% In	43% Out
Weekday Daily (ITE 932)	T=4.83 x (Seats)	50% In	50% Out
Saturday Peak Hour (ITE 932)	T=0.53 x (Seats)	53% In	47% Out
Saturday Daily (ITE 932)	T=6.21 x (Seats)	50% In	50% Out
<u>Quality Restaurant</u> : Specialty Restaurants			
Weekday PM Peak Hour (ITE 931)	T=0.26 x (Seats)	67% In	33% Out
Weekday Daily (ITE 931)	T=2.86 x (Seats)	50% In	50% Out
Saturday Peak Hour (ITE 931)	T=0.33 x (Seats)	59% In	41% Out
Saturday Daily (ITE 931)	T=2.81 x (Seats)	50% In	50% Out
<u>Sports Retail</u>			
Weekday PM Peak Hour (ITE 861)	T=1.84 x (1000 SF)	48% In	52% Out
Saturday Peak Hour (ITE 861)	T=3.84 x (1000 SF)	51% In	49% Out

(1) Source of Land Use Information: *Redding Rancheria Casino Master Plan* (February, 2016) and subsequent correspondence with Analytical Environmental Services.

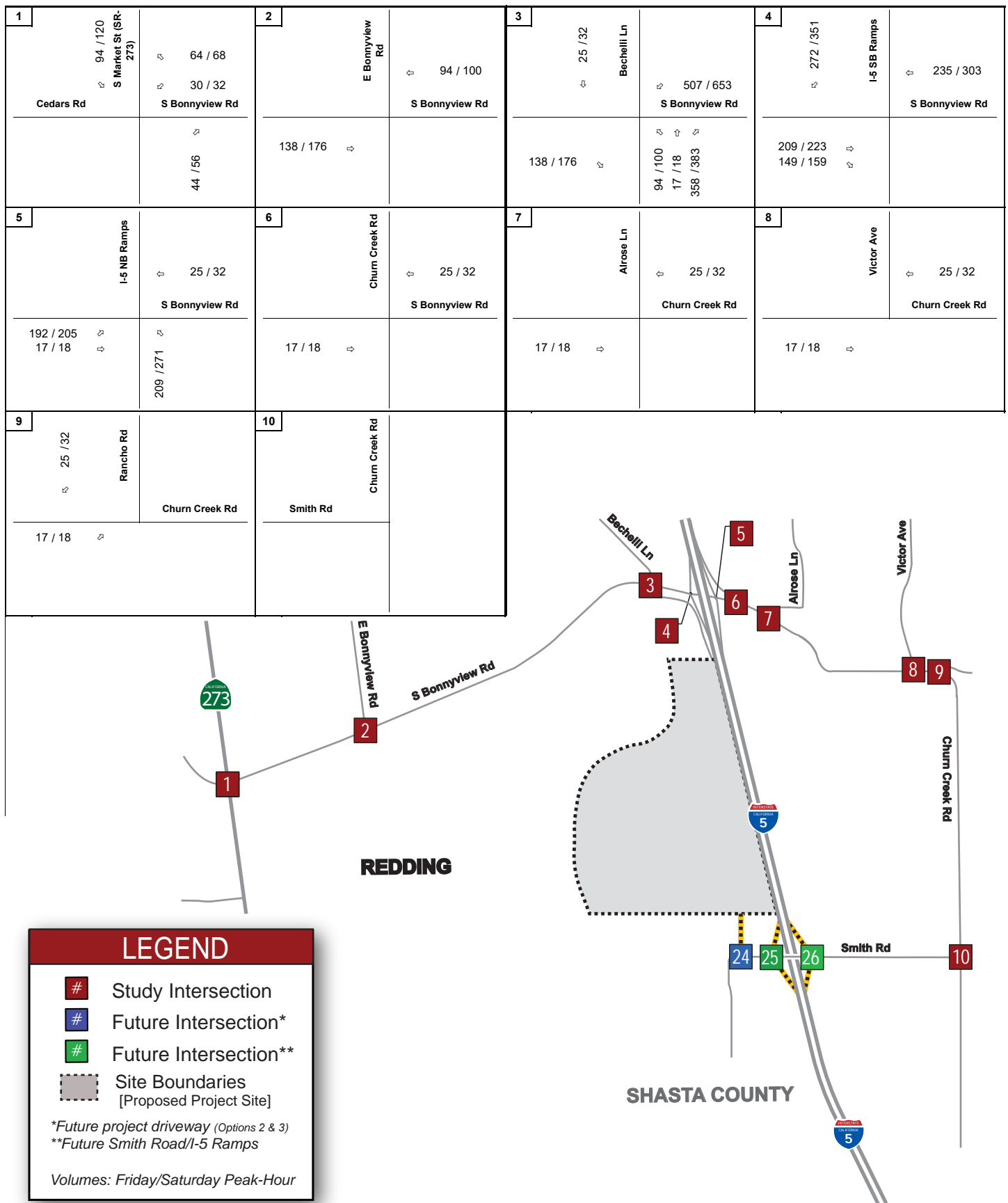
(2) According to the ITE Trip Generation Manual, 9th Edition, the land use category Hotel (ITE 310) includes supporting facilities such as restaurants, cocktail lounges, and/or retail and service shops. However, the amount of restaurant facilities in the non-gaming land use option was more than would normally be present at an average hotel. It is more conservative to treat the excess restaurants as a separate land use category. Therefore, for the purposes of this trip generation analysis, only the Cafe/Deli and Bakery are considered part of the amenities provided by the hotel. The separate land use categories for the sports bar and specialty restaurant are "High Turnover Restaurant" (ITE 932) and "Quality Restaurant" (ITE 931), respectively.

(3) For Alternative C, a diverted link trip reduction of 15 percent was applied. This adjustment is likely conservative and is within the range identified by Caltrans' guidance for pass-by/diverted link trip reductions. (Caltrans Guide for the Preparation of Traffic Impact Studies, 2002). Only diverted link trip reductions are used to account for all trips assumed to already be on the adjacent network, including pass-by trips.

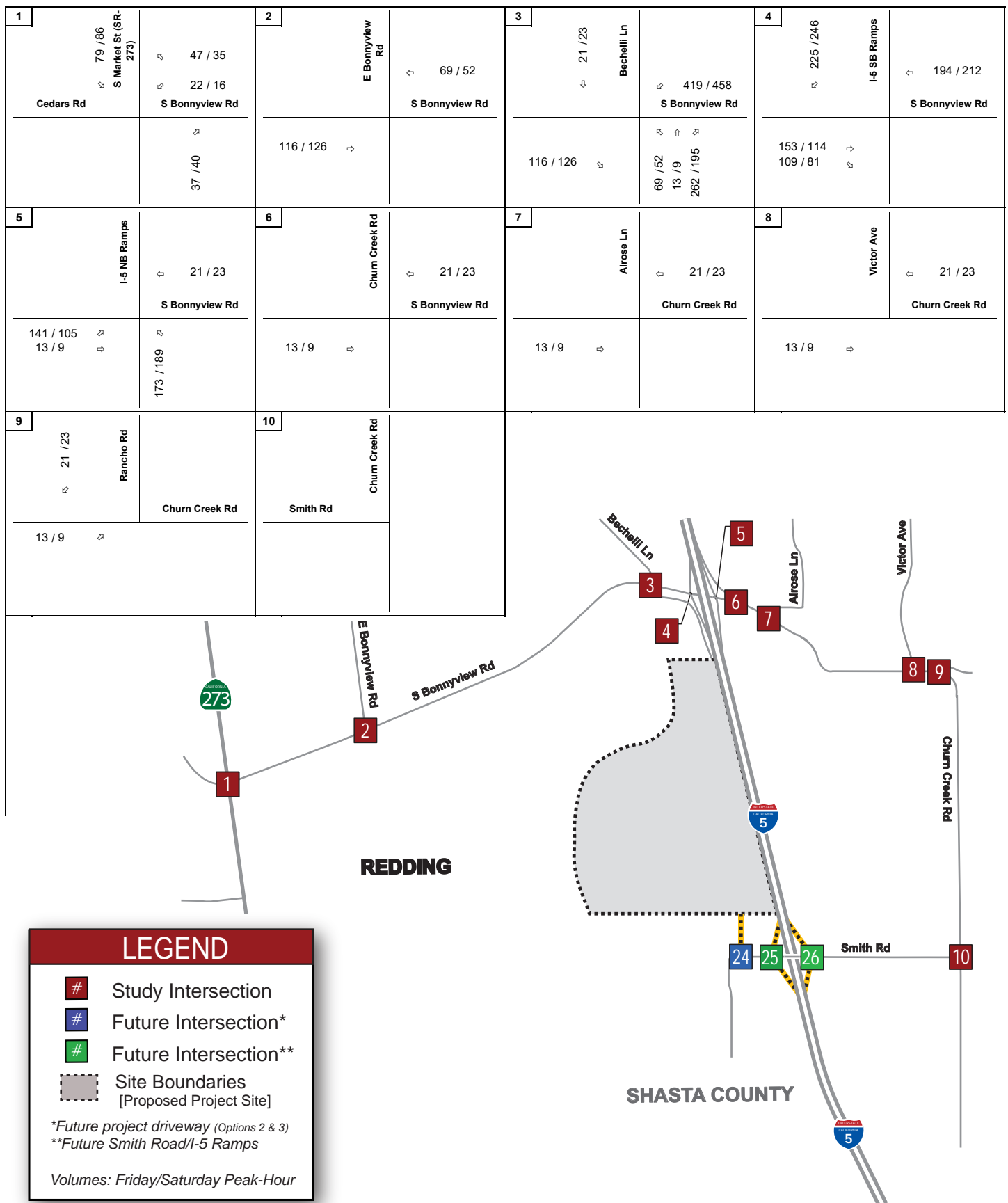
(4) Daily rates for Sporting Goods Superstore are calculated from the peak hour to daily relationships from the ITE use of Department Store (ITE 861)



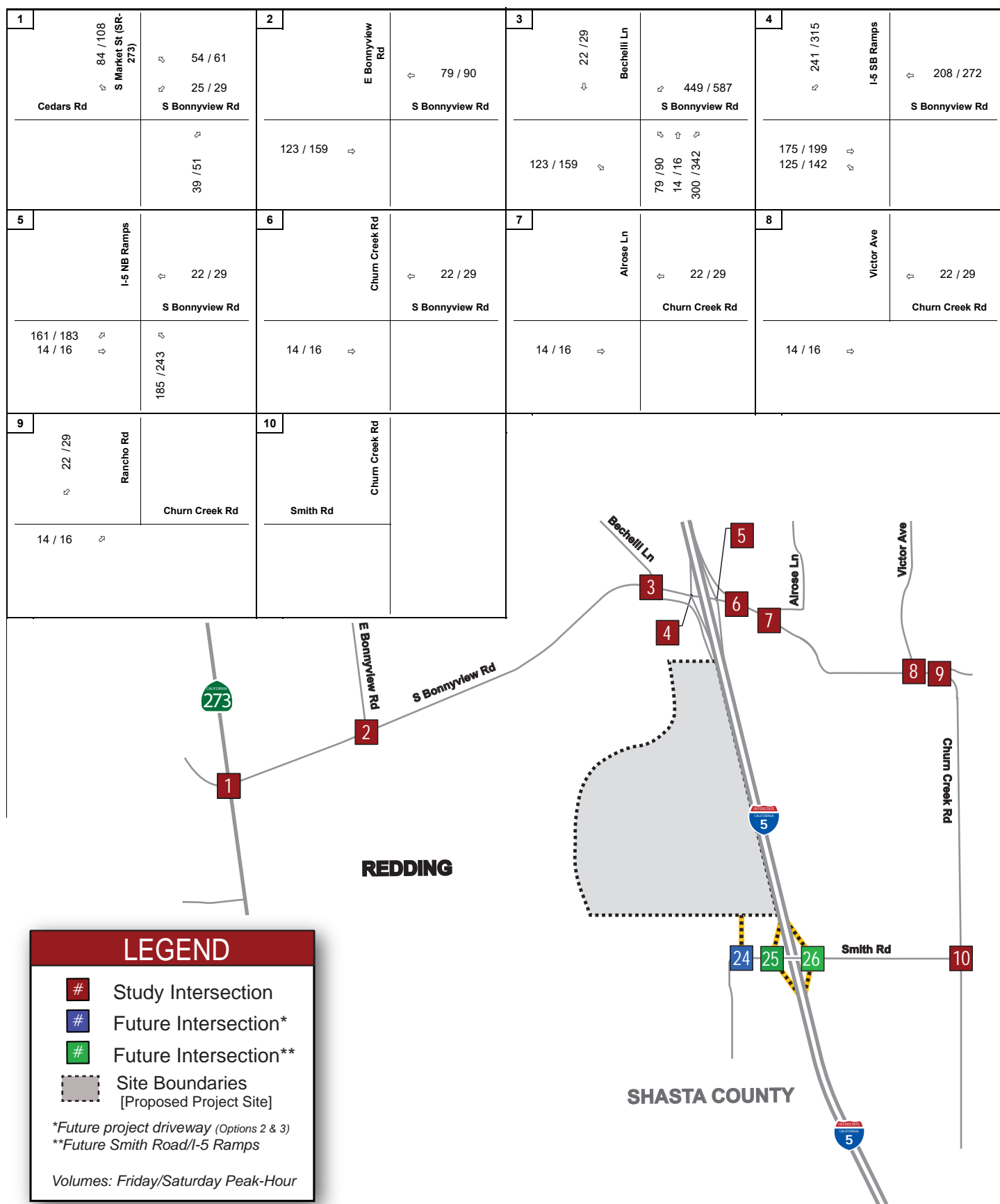
Redding Rancheria: Traffic Impact Study



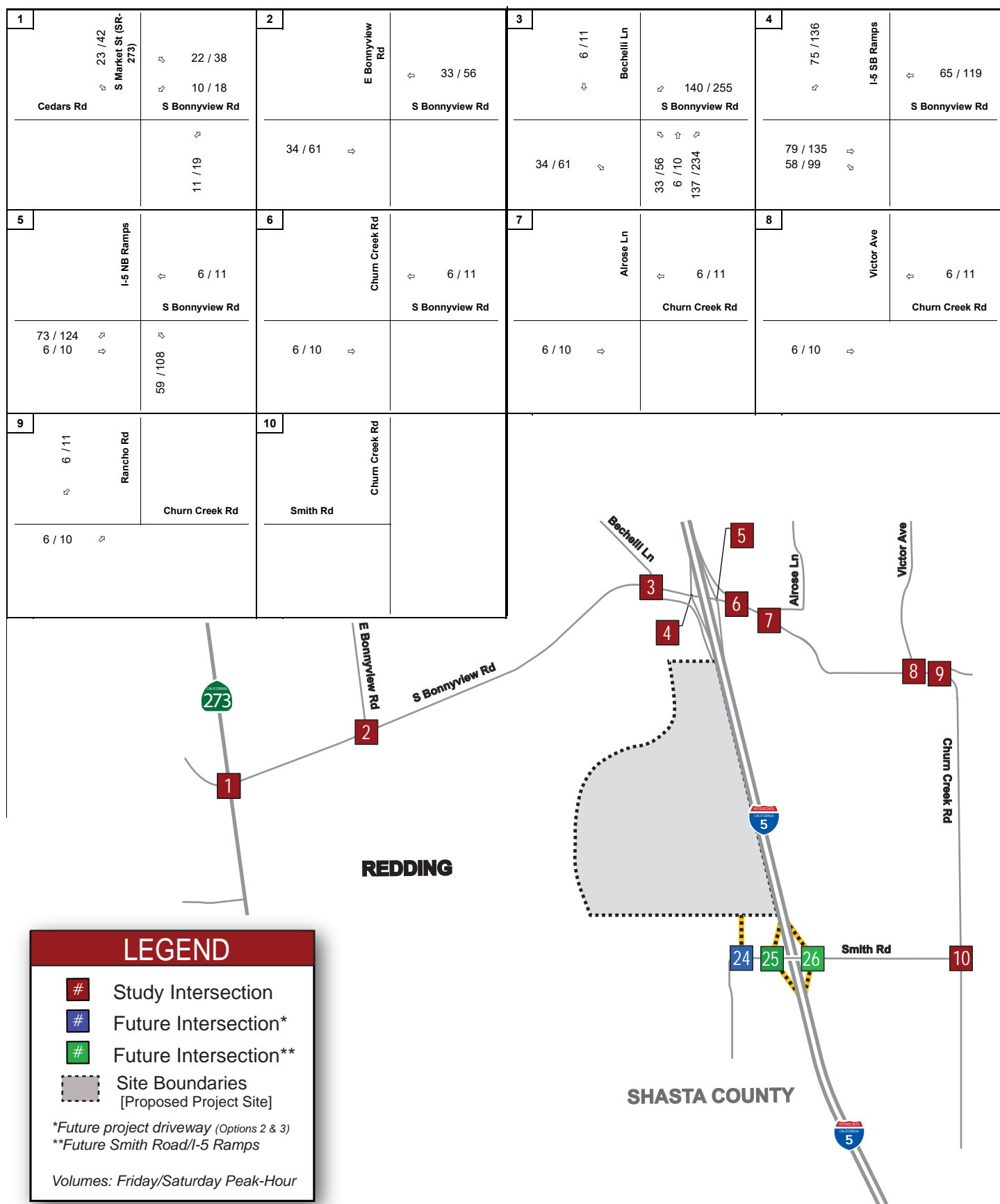
Redding Rancheria: Traffic Impact Study



Redding Rancheria: Traffic Impact Study

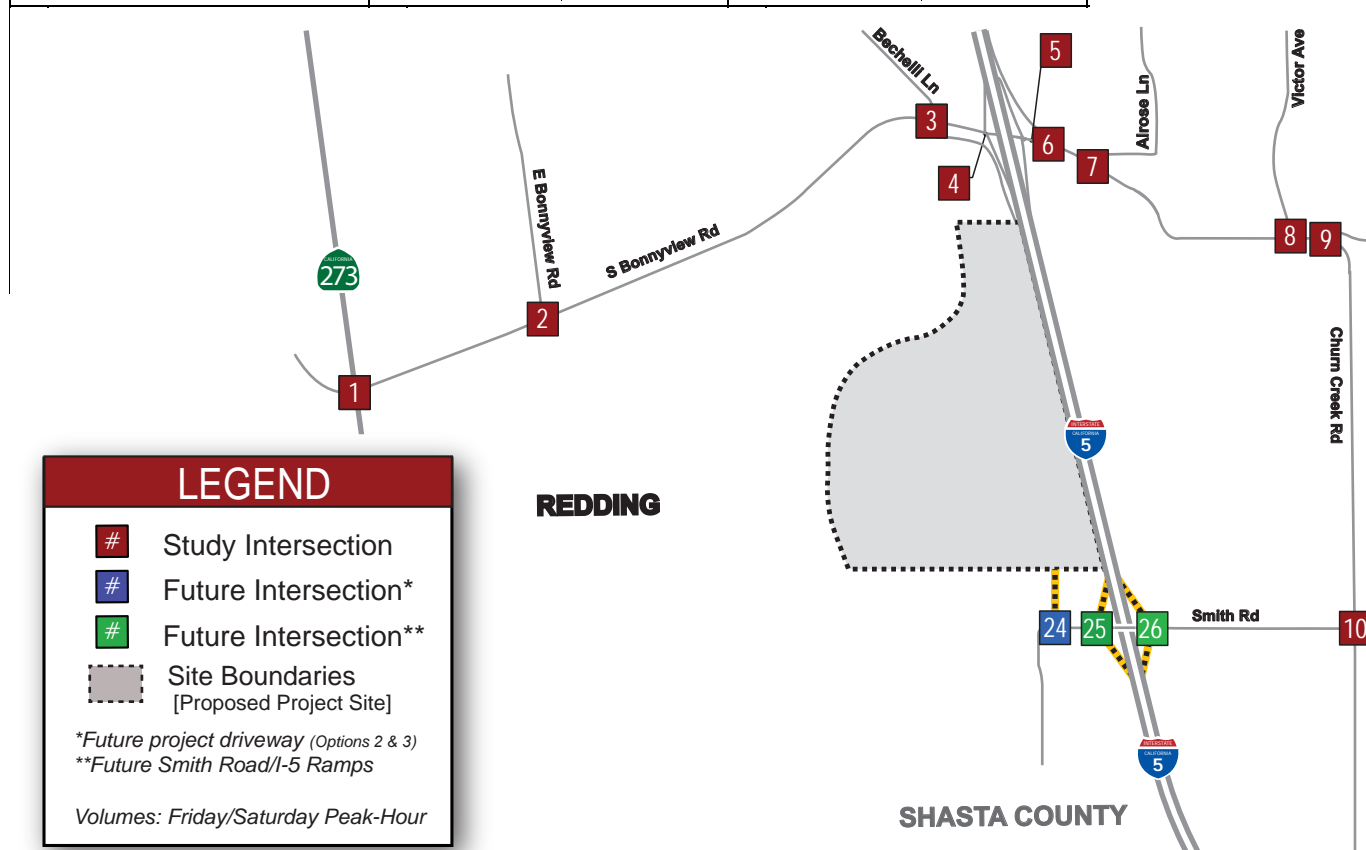


Redding Rancheria: Traffic Impact Study



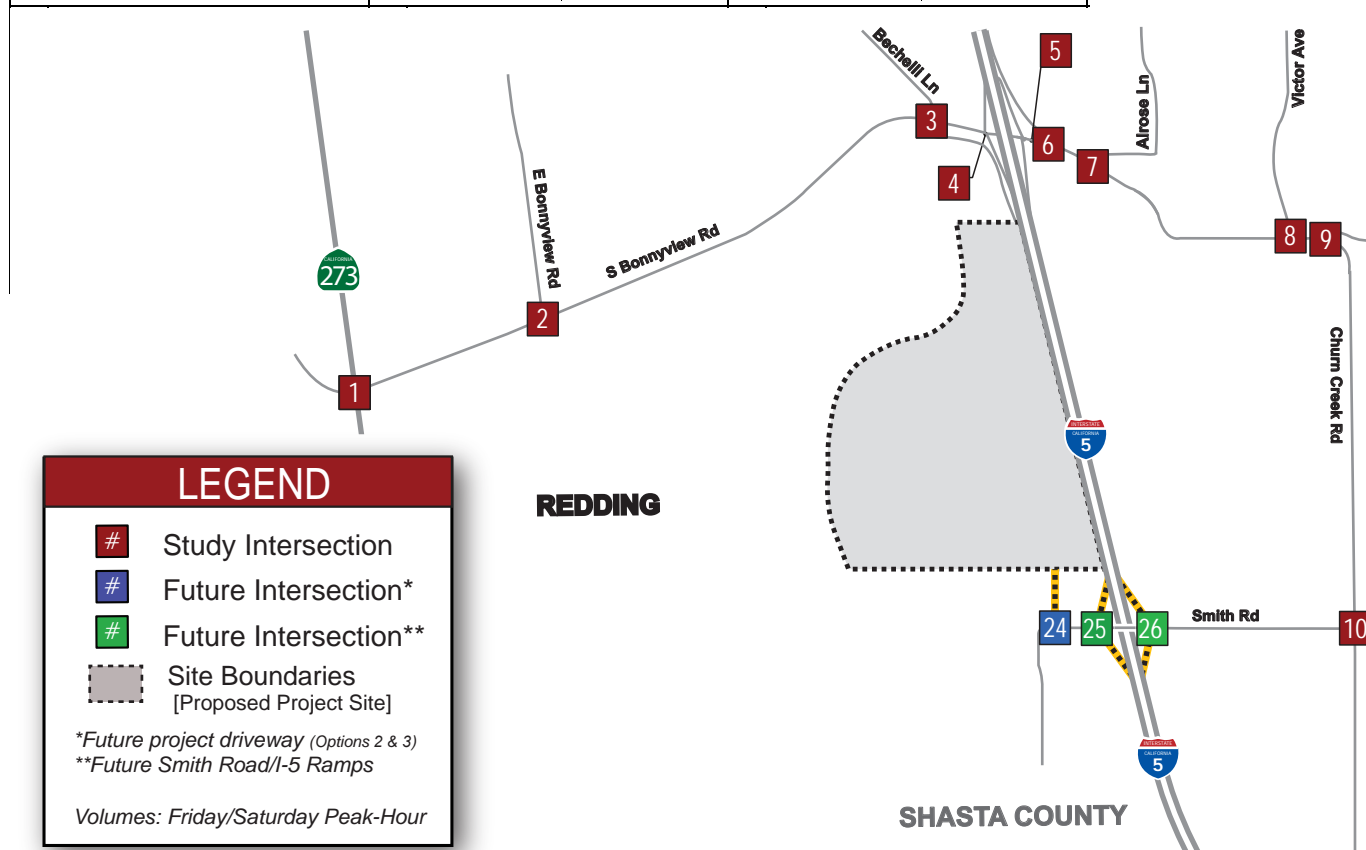
Redding Rancheria: Traffic Impact Study

1 94 / 120 S Market St (SR-273) Cedars Rd 64 / 68 30 / 32 S Bonnyview Rd 44 / 56	2 E Bonnyview Rd 94 / 100 S Bonnyview Rd 138 / 176	3 25 / 32 Bechelli Ln 318 / 413 S Bonnyview Rd 94 / 100 17 / 18 230 / 246	4 272 / 351 I-5 SB Ramps 46 / 62 S Bonnyview Rd 209 / 223 21 / 23
5 I-5 NB Ramps 25 / 32 S Bonnyview Rd 192 / 205 17 / 18 21 / 30	6 Churn Creek Rd 25 / 32 S Bonnyview Rd 17 / 18	7 Alrose Ln 25 / 32 Churn Creek Rd 17 / 18	8 Victor Ave 25 / 32 Churn Creek Rd 17 / 18
9 25 / 32 Rancho Rd Churn Creek Rd 17 / 18	10 Churn Creek Rd Smith Rd 128 / 137 189 / 240	24 128 / 137 Proposed Project South Access 189 / 240 Smith Rd	



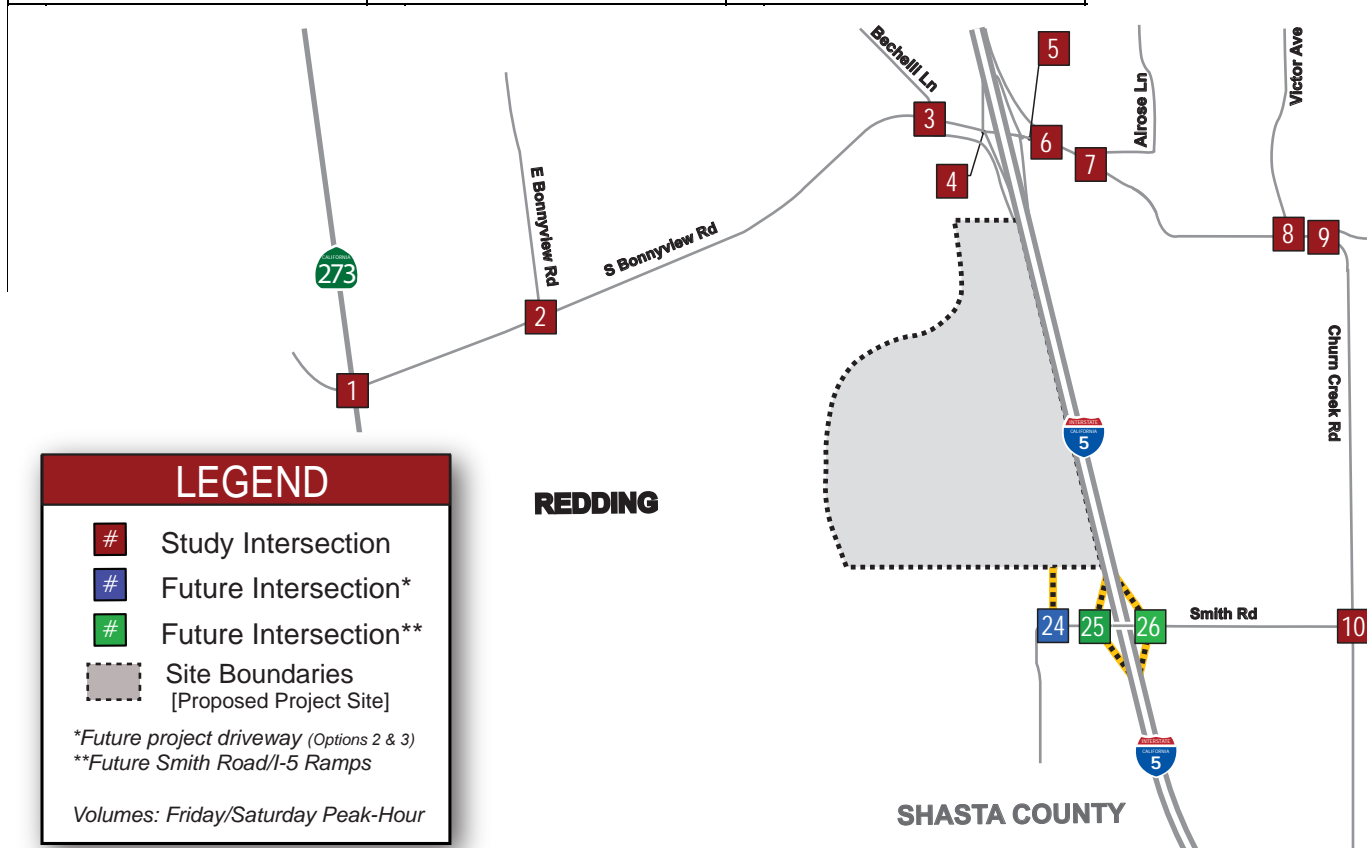
Redding Rancheria: Traffic Impact Study

1 <div>79 / 86 S Market St (SR-273)</div> <div>47 / 35 22 / 16</div> <div>Cedars Rd</div> <div>S Bonnyview Rd</div>	2 <div>E Bonnyview Rd</div> <div>69 / 52</div> <div>S Bonnyview Rd</div>	3 <div>21 / 23 Bechelli Ln</div> <div>261 / 287</div> <div>S Bonnyview Rd</div>	4 <div>225 / 246 I-5 SB Ramps</div> <div>36 / 40</div> <div>S Bonnyview Rd</div>
<div>141 / 105 13 / 9</div> <div>I-5 NB Ramps</div> <div>21 / 23</div> <div>S Bonnyview Rd</div>	<div>13 / 9</div> <div>Churn Creek Rd</div> <div>21 / 23</div> <div>S Bonnyview Rd</div>	<div>13 / 9</div> <div>Alrose Ln</div> <div>21 / 23</div> <div>Churn Creek Rd</div>	<div>13 / 9</div> <div>Victor Ave</div> <div>21 / 23</div> <div>Churn Creek Rd</div>
<div>21 / 23 Rancho Rd</div> <div>Churn Creek Rd</div>	<div>Churn Creek Rd</div> <div>Smith Rd</div>	<div>94 / 71 Proposed Project South Access</div> <div>158 / 172</div> <div>Smith Rd</div>	



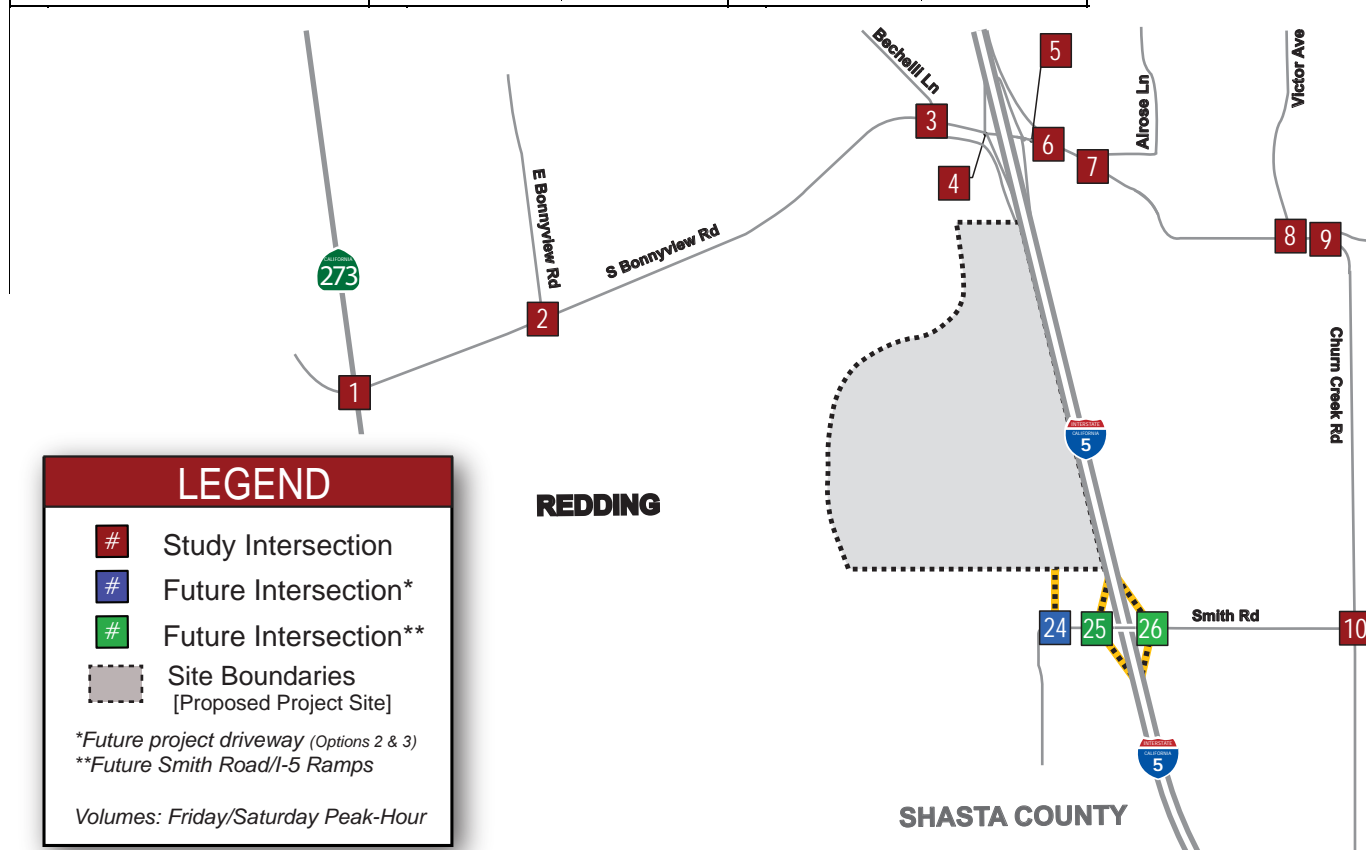
Redding Rancheria: Traffic Impact Study

1 <div>84 / 108 S Market St (SR-273)</div> <div>54 / 61 25 / 29</div> <div>Cedars Rd</div> <div>S Bonnyview Rd</div>	2 <div>E Bonnyview Rd</div> <div>79 / 90</div> <div>S Bonnyview Rd</div>	3 <div>22 / 29 Bechelli Ln</div> <div>281 / 370</div> <div>S Bonnyview Rd</div>	4 <div>241 / 315 I-5 SB Ramps</div> <div>40 / 55</div> <div>S Bonnyview Rd</div>
5 <div>I-5 NB Ramps</div> <div>22 / 29</div> <div>S Bonnyview Rd</div>	6 <div>Churn Creek Rd</div> <div>22 / 29</div> <div>S Bonnyview Rd</div>	7 <div>Alrose Ln</div> <div>22 / 29</div> <div>Churn Creek Rd</div>	8 <div>Victor Ave</div> <div>22 / 29</div> <div>Churn Creek Rd</div>
9 <div>22 / 29 Rancho Rd</div> <div>Churn Creek Rd</div>	10 <div>Churn Creek Rd</div> <div>Smith Rd</div>	24 <div>107 / 122 Proposed Project South Access</div> <div>168 / 217</div> <div>Smith Rd</div>	

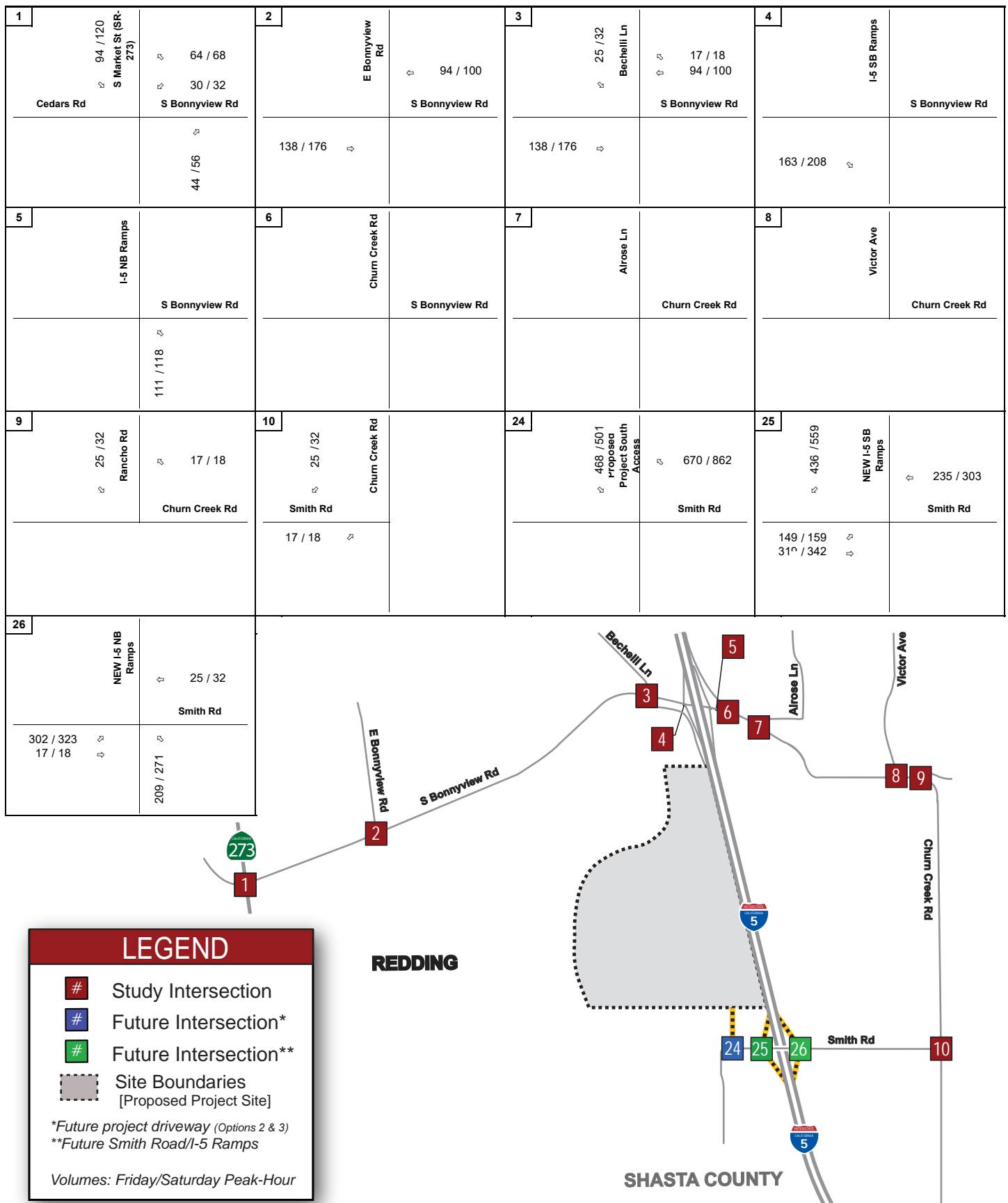


Redding Rancheria: Traffic Impact Study

1 <div> <div>23 / 42</div> <div>S Market St (SR-273)</div> <div>Cedars Rd</div> </div> <div> <div>22 / 38</div> <div>10 / 18</div> <div>S Bonnyview Rd</div> </div> <div> <div>11 / 19</div> </div>	2 <div> <div>E Bonnyview Rd</div> </div> <div> <div>33 / 56</div> <div>S Bonnyview Rd</div> </div> <div> <div>34 / 61</div> </div>	3 <div> <div>6 / 11</div> <div>Bechelli Ln</div> </div> <div> <div>94 / 171</div> <div>S Bonnyview Rd</div> </div> <div> <div>34 / 61</div> </div>	4 <div> <div>75 / 136</div> <div>I-5 SB Ramps</div> </div> <div> <div>20 / 36</div> <div>S Bonnyview Rd</div> </div> <div> <div>79 / 135</div> <div>13 / 22</div> </div>
5 <div> <div>I-5 NB Ramps</div> </div> <div> <div>6 / 11</div> <div>S Bonnyview Rd</div> </div> <div> <div>73 / 124</div> <div>6 / 10</div> </div>	6 <div> <div>Churn Creek Rd</div> </div> <div> <div>6 / 11</div> <div>S Bonnyview Rd</div> </div> <div> <div>6 / 10</div> </div>	7 <div> <div>Alrose Ln</div> </div> <div> <div>6 / 11</div> <div>Churn Creek Rd</div> </div> <div> <div>6 / 10</div> </div>	8 <div> <div>Victor Ave</div> </div> <div> <div>6 / 11</div> <div>Churn Creek Rd</div> </div> <div> <div>6 / 10</div> </div>
9 <div> <div>6 / 11</div> <div>Rancho Rd</div> </div> <div> <div>Churn Creek Rd</div> </div> <div> <div>6 / 10</div> </div>	10 <div> <div>Churn Creek Rd</div> </div> <div> <div>Smith Rd</div> </div> <div> <div>45 / 76</div> </div>	24 <div> <div>45 / 76</div> <div>Proposed Project South Access</div> </div> <div> <div>46 / 83</div> <div>Smith Rd</div> </div> <div> <div>46 / 83</div> </div>	



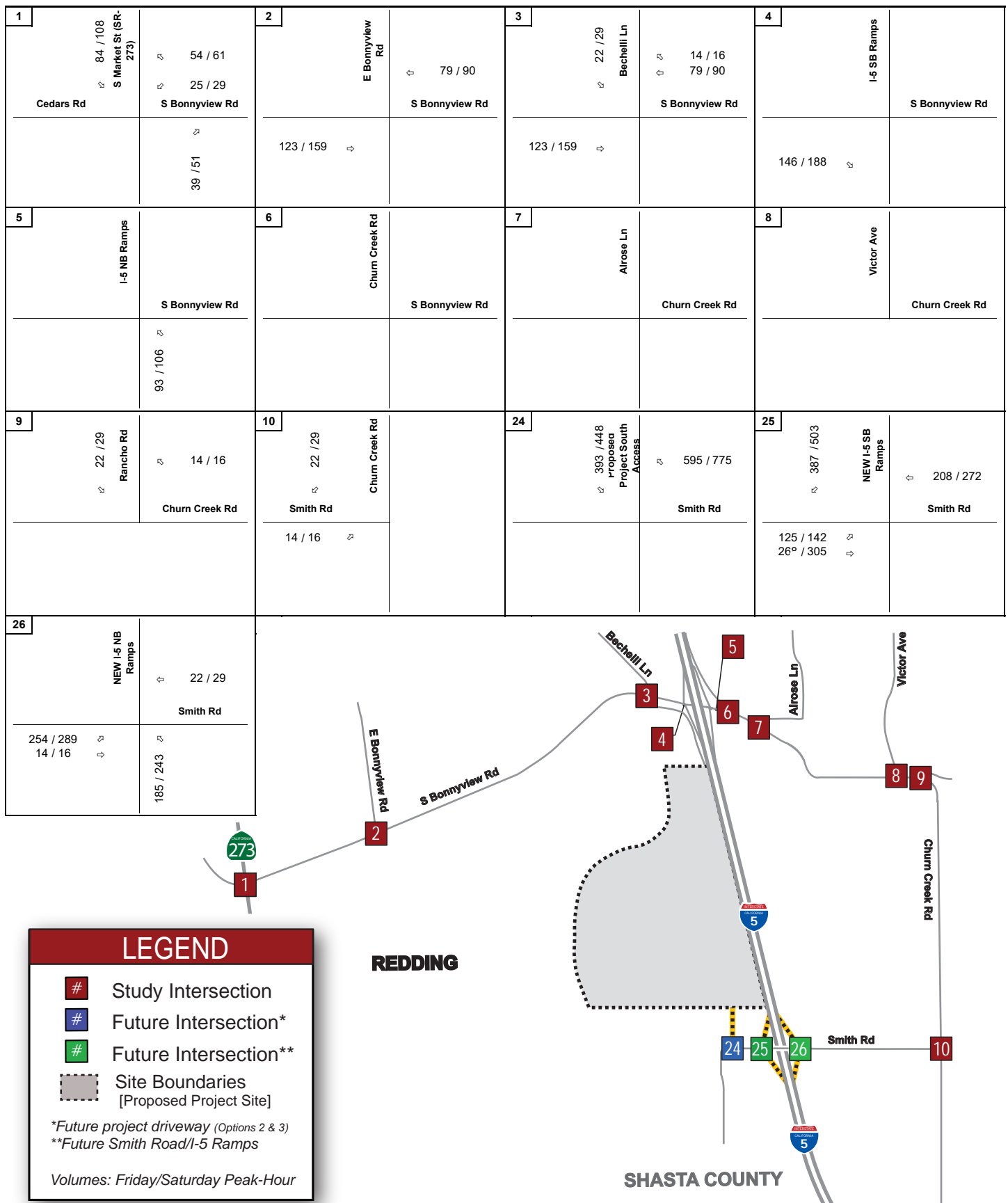
Redding Rancheria: Traffic Impact Study



Redding Rancheria: Traffic Impact Study



Redding Rancheria: Traffic Impact Study



Redding Rancheria: Traffic Impact Study



Existing Win River Casino Resort Operations

With the construction of the new casino at the Strawberry Fields Site, the existing Win River Resort and Casino is expected to close and be redeveloped into tribal services and housing uses. This change in use at the existing casino site is expected to result in approximately one-third of the trips that currently access the existing Win River Casino Resort remaining on the network. As a result, to accurately evaluate the conditions at the study intersections, roadway segments, and freeway facilities with the addition of the proposed project, the existing Win River Casino Resort's trips were first removed from the network and the trips anticipated to be generated by the redevelopment of the site (one-third of the existing trips per the logic explained above) were the added to the network.

The removal of the existing site's trips from the network required an evaluation of the existing trips' travel patterns. To accomplish this, an origin-destination study using Wi-fi technology in which individual unique devices are matched as multiple locations, was completed during both peak periods to establish patterns for the traffic originating from and destined for the existing site. The Wi-fi data was collected on Market Street (SR-273) north and south of Redding Rancheria Road and along Bonnyview Road to determine the travel patterns of the existing Win River Resort and Casino patrons and the tribal services. The existing casino traffic distribution is shown in **Figure 29**. The existing tribal services traffic distribution is shown in **Figure 30**. Origin-destination data is included in **Appendix E**.

The number of trips that currently access the Win River Resort and Casino was determined based on traffic volume counts taken at the existing casino driveways in July 2016. The number of trips anticipated to be generated by the redevelopment of the existing Win River Resort and Casino was derived using data included in Trip Generation Manual, 9th Edition, published by the Institute of Transportation Engineers (ITE). Trip generation estimates for the existing casino and the proposed redeveloped are summarized in **Table 20**.

The number of trips estimated to be currently accessing the existing casino were subtracted from the roadway network based on the existing casino traffic distribution and the number of trips estimated to be generated by the proposed redevelopment were then added back into the roadway network based on the existing tribal services traffic distribution. The resulting existing Win River Resort and Casino adjustments are shown in **Figure 31**.

Table 20 – Existing Win River Casino Resort Adjustments

Land Use	ITE Code	Quantity	Units	Daily	Weekday PM Peak Hour			Saturday Peak	
					In	Out	Total	In	Out
Existing Site					203	208	411	238	143
Proposed Land Use Changes									
Mid-Rise Apartment	223	180	Dwelling Units	1,198	41	29	70	28	28
General Office Building	710	45	KSF	498	11	56	67	10	9
Net New Vehicle Trips				1,696	52	85	137	38	37

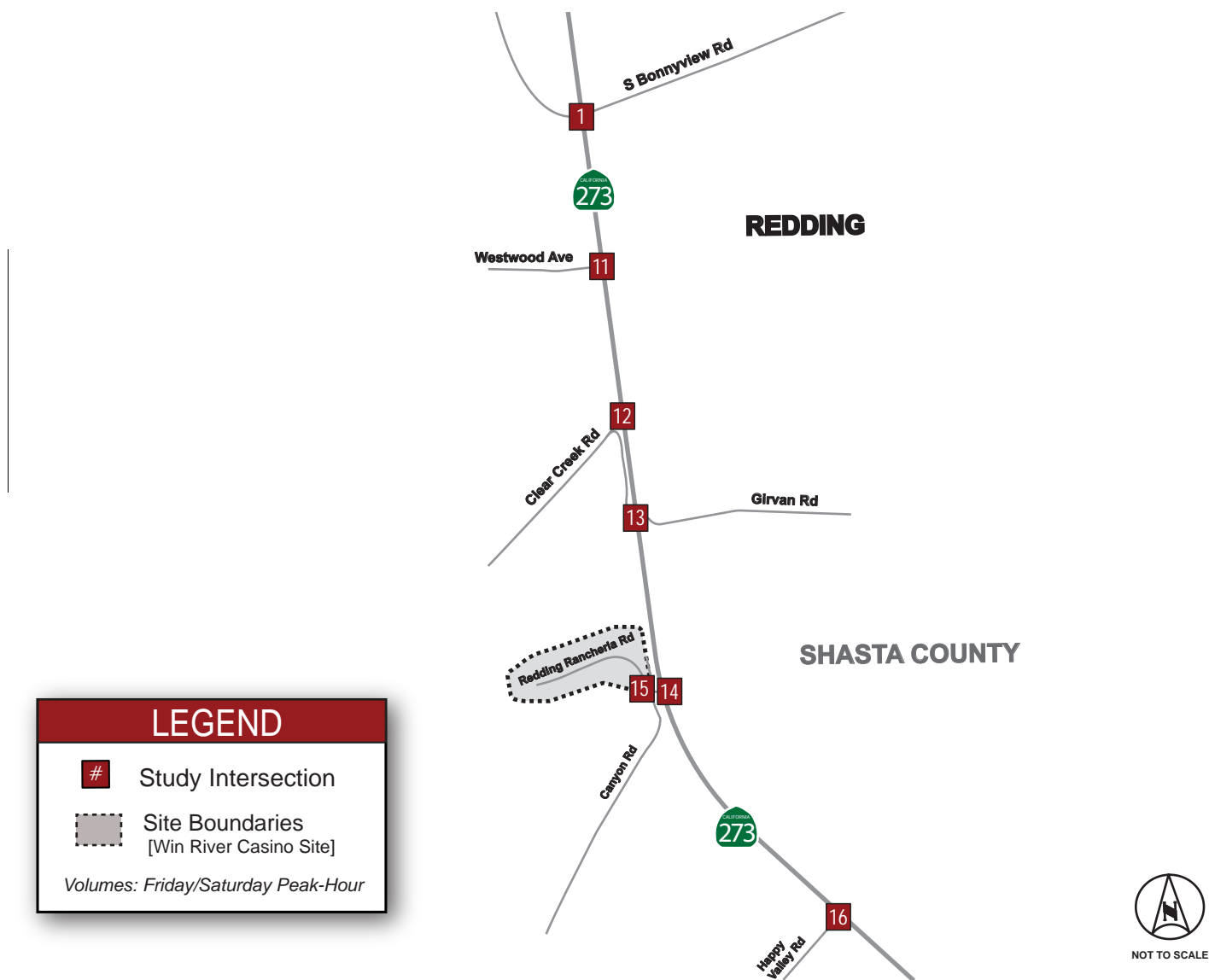
Note: Saturday Peak Hour and Daily trips for Mid-Rise Apartment (ITE 223) estimated based on Apartment (220) Land Use





Redding Rancheria: Traffic Impact Study

<div>1</div> <div>-28 / -38</div> <div>S Market St (SR-273)</div> <div>Cedars Rd</div> <div>-81 / -105</div> <div>S Bonnyview Rd</div> <div>-23 / -20</div> <div>-69 / -57</div>	<div>11</div> <div>-109 / -142</div> <div>S Market St (SR-273)</div> <div>Westwood Ave</div> <div>-91 / -76</div>	<div>12</div> <div>-109 / -142</div> <div>S Market St (SR-273)</div> <div>Clear Creek Rd</div> <div>-3 / -4</div> <div>-2 / -2</div> <div>-91 / -76</div>	<div>13</div> <div>-111 / -146</div> <div>S Market St (SR-273)</div> <div>Girvan Rd</div> <div>-93 / -78</div>
<div>14</div> <div>-111 / -146</div> <div>S Market St (SR-273)</div> <div>Redding Rancheria Rd</div> <div>-93 / -78</div> <div>-25 / -24</div> <div>-34 / -46</div>	<div>15</div> <div>-5 / -4</div> <div>-118 / -102</div> <div>Canyon Rd</div> <div>-145 / -192</div> <div>Redding Rancheria Rd</div> <div>-6 / -8</div>	<div>16</div> <div>-25 / -24</div> <div>S Market St (SR-273)</div> <div>Happy Valley Rd</div> <div>-34 / -46</div>	



Anderson Site

As part of the project, a development at an alternative site in the City of Anderson was evaluated.

- **Alternative E: Anderson Site Alternative (City of Anderson)** - Consists of a new casino and resort, including an approximately 69,515 square foot casino, 250-room hotel, an event/ convention center, and a retail center, as well as associated parking and infrastructure.

Site Access

The project site will be located in the northwest quadrant of the I-5 interchange and North Street in the City of Anderson. Site access for the Alternative Project Site is provided by Oak Street, located west of the I-5/North Street interchange in the City of Anderson.

Project Trip Generation

Trip generation rates are consistent with the proposed site trip generation alternatives (described above). Trip generation estimates for Project Alternative E are summarized in **Table 21**⁶.

To accurately evaluate the conditions at the study intersections, roadway segments, and freeway facilities, the existing Win River Casino Resort's trips were removed from the network and the trips anticipated to be generated by the redevelopment of the site were added on the network.

Table 21 – Project Trip Generation at Anderson Site (Alternative E)

Land Use	ITE Code	Quantity	Units	Weekday	Weekday PM Peak Hour			Saturday	Saturday Peak Hour		
				Daily	In	Out	Total	Daily	In	Out	Total
Casino	N/A	48,060	Gaming Floor Area	9277	302	302	605	8273	348	213	561
Conference Center	N/A	10,080	SF	965	111	11	122	965	111	11	122
Event Center	N/A	1,800	Seats	1063	123	12	135	1063	123	12	135
Hotel	310	250	Rooms	511	19	18	38	512	25	20	45
Sporting Goods Superstore	861	120,000	SF	2702	106	115	221	3525	235	226	461
Subtotal Vehicle Trips				14517	661	459	1120	14338	842	482	1324
<i>Diverted Link Trips(10%)- Applied only to Casino And Sporting Goods Store</i>				(1198)	(41)	(42)	(83)	(1180)	(58)	(44)	(102)
Net New Vehicle Trips				13319	621	417	1038	13158	784	438	1222

SF- Square Feet

Casino

Weekday PM Peak Hour

T=12.58 x (1000 SF Gaming Floor Area)

50% In

50% Out

Saturday Peak Hour

T=11.67 x (1000 SF Gaming Floor Area)

62% In

38% Out

Hotel

Weekday PM Peak Hour (ITE 310)

T=0.15 x (Rooms)

51% In

49% Out

Weekday Daily (ITE 310)

T=2.04 x (Rooms)

50% In

50% Out

Saturday Peak Hour (ITE 310)

T=0.18 x (Rooms)

56% In

44% Out

Saturday Daily (ITE 310)

T=2.05 x (Rooms)

50% In

50% Out

Sports Retail

Weekday PM Peak Hour (ITE 861)

T=1.84 x (1000 SF)

48% In

52% Out

Saturday Peak Hour (ITE 861)

T=3.84 x (1000 SF)

51% In

49% Out

(1) Source of Land Use Information: Redding Rancheria Casino Master Plan (February, 2016) and subsequent correspondence with Analytical Environmental Services.

(2) Casino trip generation rates based on local traffic data collected for existing Win River Casino. This rate is also consistent with the traffic data collected for the Win River Casino in 2007. (Omni-Means, 2007). The directional distributions were based on the existing conditions.

(3) The proposed casino facility includes other auxiliary/internal uses in addition to gaming area, such as restaurants, back of house, lounges, etc.

However, only the number of gaming position is used as the independent variable for the purposes of estimating trip generation. This is because the trip generation rates use gaming positions as the independent variable, and were developed based on empirical data from similar existing casino facilities, and include the trips associated with all of the casino uses (gaming areas, restaurants, lounges, back of house, etc.), excluding hotel facilities and convention space.

(4) The project site is located adjacent to Interstate, which carries over 45,000 vehicles per day. For the purposes of this analysis, the base daily and peak hour trip generation estimates are adjusted based on an average diverted link rate of 10 percent. This adjustment is likely conservative and is within the range identified by Caltrans' guidance for pass-by/diverted link trip reductions (Caltrans Guide for the Preparation of Traffic Impact Studies, 2002). Only diverted link trip reductions are used to account for all trips assumed to already be on the adjacent network, including pass-by trips. The diverted link trip reduction is applied only to the trips generated by the casino and the sporting good store.

(5) Trip generation for the proposed conference center was developed based on the estimated number of attendees. The maximum number of event attendees/seats was estimated to be 672 people, based on an average of 15 SF per attendee, which is consistent with industry best practices for conference/event space planning. For the purposes of this traffic analysis, the peak trip generation for the conference center assumes an event with 85 percent of the capacity filled, which corresponds to approximately 571 attendees.

Based on the 2016 study of Cache Creek Casino Resort, it is assumed that when conference/meeting activities are scheduled, 25 percent of the 250 on-site hotel rooms would be occupied by event attendees with an average occupancy of 1.3 attendees per room. Thus, 81 attendees would stay on-site, and not drive to/from an event. The remaining attendees (490) would drive to the site. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 223 vehicles trips would be generated. The majority of event trips are anticipated to occur outside of the PM peak traffic period (4:00 PM to 6:00 PM), as events typically have a start time between 7:00 PM and 8:00 PM. It was assumed that 50 percent of event attendees would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

(6) Trip generation rates for the proposed event center were based on a previous study of a similar facility at the Cache Creek Casino and Resort. This assumes that most of the patrons visiting the event are already onsite at the casino, and only 30 percent of the patrons represent new trips. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 245 new trips are generated by event facility. It was assumed that 50 percent of patrons would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

(7) Trip generation rates for the Hotel (ITE 310) and Sporting Goods Superstore (ITE 861) are based on ITE Trip Generation Manual, 9th Edition. The trip generation rate for the Hotel (ITE 310) is reduced by 75 percent to account for internal capture to/from the casino. For the Sporting Goods Store (ITE 861), it was conservatively assumed that the peak hour of Generator occurs during the peak hour for the Casino Facility.

(8) Daily rates for Casino, Conference Center and Event Center are calculated from the peak hour to daily relationships from Kimley-Horn's 2016 Lone Casino and Cash Creek Casino studies; daily rates for Sporting Goods Superstore are calculated from the peak hour to daily relationships from the ITE use of Department Store (ITE 861)

Project Trip Distribution and Assignment

Most of the casino project trips are expected to travel to and from I-5 with origins and destinations in Redding to the north and Red Bluff and neighboring communities to the south. A significant portion of the trips are expected to come from Redding, given the city's population relative to neighboring cities. Therefore, based on the likely customer and employee base for the site and orientation of the regional roadway network, it was estimated that approximately 73 percent of the project traffic would come from the north – the vast majority of these trips using I-5 and SR-273. A smaller proportion of the trips coming from communities in eastern Anderson are expected to use North Street. Approximately 20 percent of the project traffic would come from the south of the site via I-5, with an additional 7 percent traveling to the site from within Anderson via North Street, South Road and Balls Ferry Road. The project traffic distribution for the alternative site is shown in **Figure 32**.

Project traffic assigned to the study intersections based on the assumed trip distribution and generation for the alternative site alternative is shown in **Figure 33**.



Redding Rancheria: Traffic Impact Study

17 137 / 172 S Market St (SR-273) 92 / 96 13 / 13 North St 19 / 24	18 104 / 110 121 / 127 234 / 245 Oak St 337 / 429 North St 155 / 196 169 / 217	19 318 / 405 I-5 SB Ramps 19 / 24 North St 234 / 245	20 I-5 NB Ramps 19 / 24 North St 221 / 232 13 / 13 McMurray Dr
21 113 / 118 Oak St 157 / 202 Balls Ferry Rd	22 Ventura St 157 / 202 Balls Ferry Rd 8 / 9 104 / 110 I-5 SB Ramp	23 McMurray Dr 12 / 16 Balls Ferry Rd 8 / 9 I-5 NB Ramp 145 / 186	



Win River Casino Site

As part of the project, the expansion of the existing Win River Casino Resort was evaluated.

- **Alternative F: Expansion of Existing Win River Casino Resort-** Consists of the remodeling of the existing event center into additional casino area, a new event center and a 7-story parking garage.

Site Access

Site access to the Win River Casino Site is provided by Redding Rancheria Road, located west of Market Street (SR-273).

Project Trip Generation

Trip generation rates are consistent with the proposed site trip generation alternatives (described above). Trip generation estimates for Project Alternative F are summarized in **Table 22**⁶.

Unlike the other alternatives, this alternative “credits” the proposed project with the trips associated with the existing casino’s operations and evaluates the “proposed project” as only the additional trips anticipated to be generated by the expansion.

Project Trip Distribution and Assignment

The trip distribution for the expansion of the existing Win River Casino Resort was estimated based on the location of the site and the surrounding land uses, as well as the existing traffic flow patterns. The Win River Casino Site is located in southwest Redding, just off SR-273. SR-273 and I-5 will likely carry the vast majority of the project trips. SR-273 is expected to carry an estimated 25 percent of the trips from neighborhoods in southwest Redding, as well as the City of Anderson. Additionally, an estimated 25 percent of the project trips are expected to travel south from downtown Redding and the surrounding developments. The remaining half of the project trips are also expected to use I-5, with a small proportion traveling along Churn Creek Road. The trips will travel then along South Bonnyview Road before reaching SR-273. The project traffic distribution for the existing casino site is shown in **Figure 34**.

Project traffic assigned to the study intersections based on the assumed trip distribution and generation for the existing site alternative is shown in **Figure 35**.

Table 22 – Project Trip Generation at Win River Casino Site (Alternative F)

Land Use	ITE Code	Quantity	Units	Weekday	Weekday PM Peak Hour			Saturday	Saturday Peak Hour		
				Daily	In	Out	Total	Daily	In	Out	Total
Proposed Expansion											
Casino	N/A	9,826	Gaming Floor Area	1897	62	62	124	1691	71	44	115
Subtotal Vehicle Trips				1897	62	62	124	1691	71	44	115
Diverted Link Trips(0%)- Applied only to CasinoTrips											
Net New Vehicle Trips				1897	62	62	124	1691	71	44	115

SF- Square Feet

Casino

Weekday PM Peak Hour	T=12.58 x (1000 SF Gaming Floor Area)	50% In	50% Out
Saturday Peak Hour	T=11.67 x (1000 SF Gaming Floor Area)	62% In	38% Out

Hotel

Weekday PM Peak Hour (ITE 310)	T=0.15 x (Rooms)	51% In	49% Out
Saturday Peak Hour (ITE 310)	T=0.18 x (Rooms)	56% In	44% Out

(1) Source of Land Use Information: Redding Rancheria Casino Master Plan (February, 2016) and subsequent correspondence with Analytical Environmental Services.

(2) Casino trip generation rates based on local traffic data collected for existing Win River Casino. This rate is also consistent with the traffic data collected for the Win River Casino in 2007. (Omni-Means, 2007). The directional distributions were based on the existing conditions.

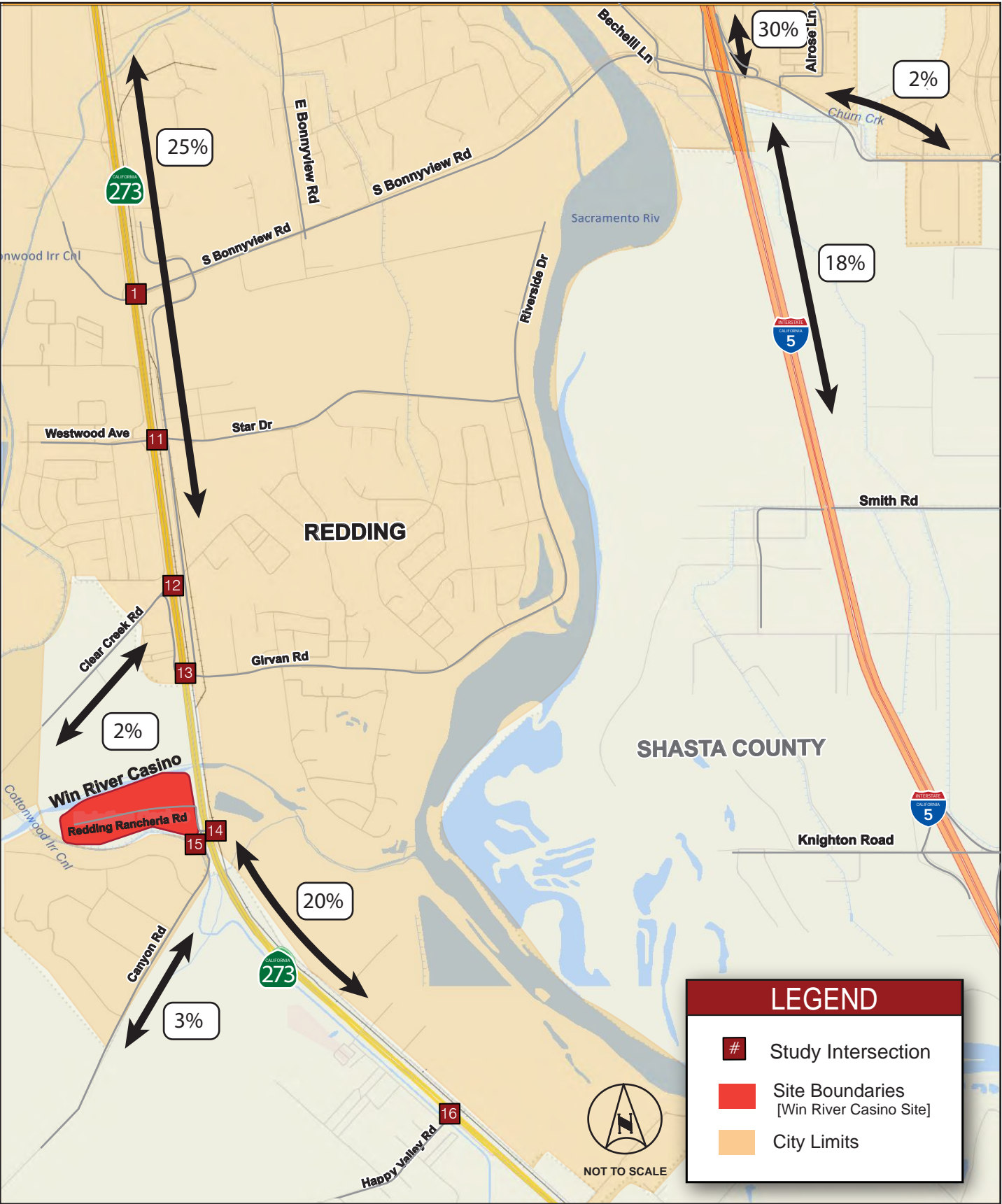
(3) The proposed casino facility includes other auxiliary/internal uses in addition to gaming area, such as restaurants, back of house, lounges, etc.

However, only the number of gaming position is used as the independent variable for the purposes of estimating trip generation. This is because the trip generation rates use gaming positions as the independent variable, and were developed based on empirical data from similar existing casino facilities, and include the trips associated with all of the casino uses (gaming areas, restaurants, lounges, back of house, etc.), excluding hotel facilities and convention space.

(4) Trip generation rates for the proposed event center were based on a previous study of a similar facility at the Cache Creek Casino and Resort. This assumes that most of the patrons visiting the event are already onsite at the casino, and only 30 percent of the patrons represent new trips. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 245 new trips are generated by event facility. It was assumed that 50 percent of patrons would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

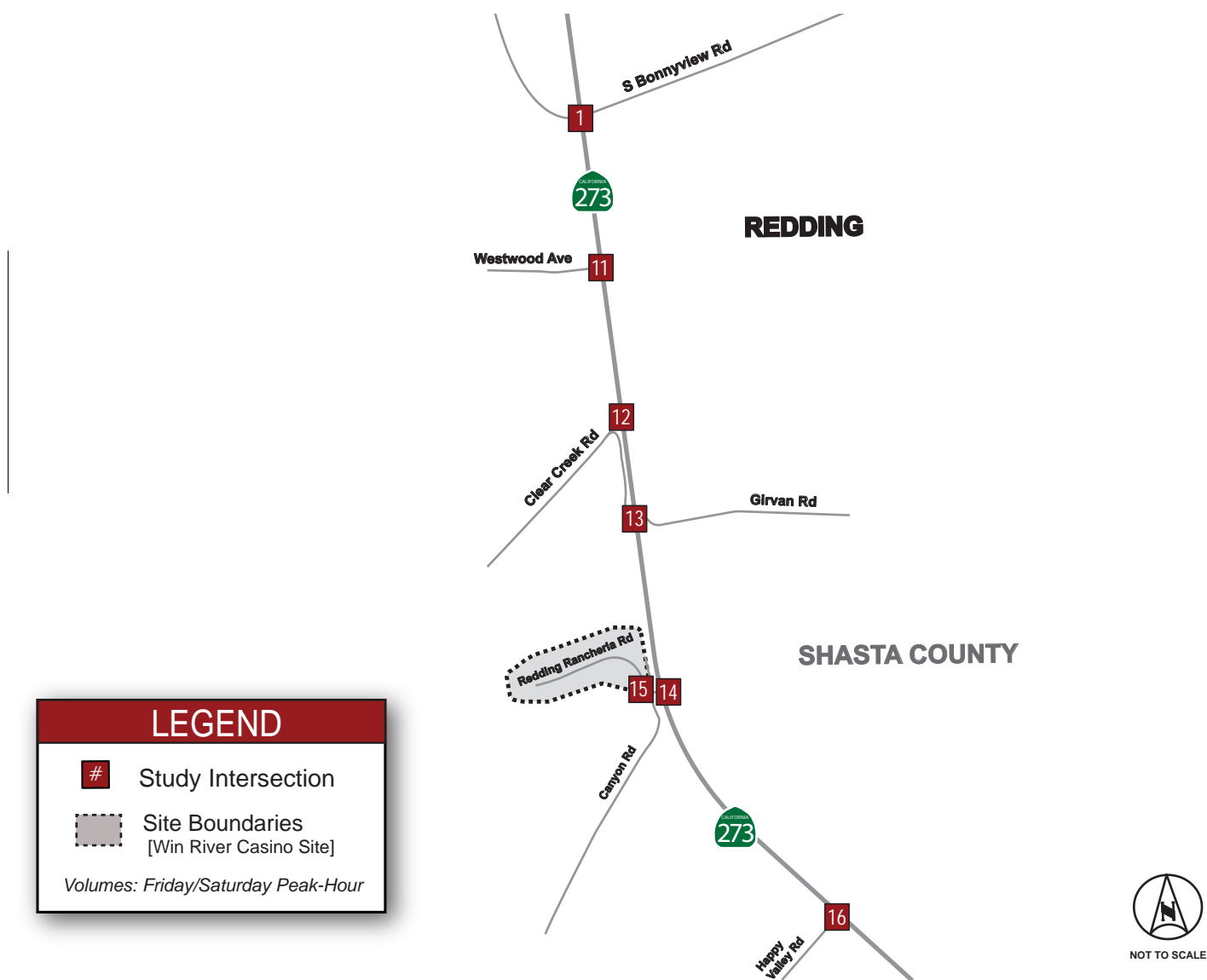
(5) Daily rates for Casino, Conference Center and Event Center are calculated from the peak hour to daily relationships from Kimley-Horn's 2016 Lone Casino and Cash Creek Casino studies; daily rates for Sporting Goods Superstore are are calculated from the peak hour to daily relationships from the ITE use of Department Store (ITE 861)

(6) Unlike the other alternatives, this alternative "credits" the proposed project with the trips associated with the existing casino's operations and evaluates the "proposed project" as only the additional trips anticipated to be generated by the expansion. It was assumed that the expansion will include the replacement of the existing event center with 9,826 square feet of additional Casino space, a new event center nearly equivalent in size to the existing event center, and a 7-story parking garage.



Redding Rancheria: Traffic Impact Study

1	15 / 18 ↓ Cedars Rd S Market St (SR-273) ↔ 31 / 36 S Bonnyview Rd ↑ ↔ 15 / 11 31 / 22	11	46 / 53 ↓ Westwood Ave S Market St (SR-273) ↑ 46 / 33	12	46 / 53 ↓ Clear Creek Rd S Market St (SR-273) 1 / 1 ↔ 1 / 1 46 / 33 ↑	13	48 / 55 ↓ S Market St (SR-273) Girvan Rd ↑ 48 / 34
14	48 / 55 ↔ Redding Rancheria Rd S Market St (SR-273) 48 / 34 ↔ 12 / 9 ↔ 12 / 14 ↔	15	2 / 1 60 / 42 ↔ Canyon Rd ↔ 60 / 69 Redding Rancheria Rd ↑ 2 / 2 Canyon Rd 12 / 14 ↑	16	12 / 9 ↓ Happy Valley Rd S Market St (SR-273) 12 / 14 ↑		



Opening Year (2025) Plus Project Traffic Volumes

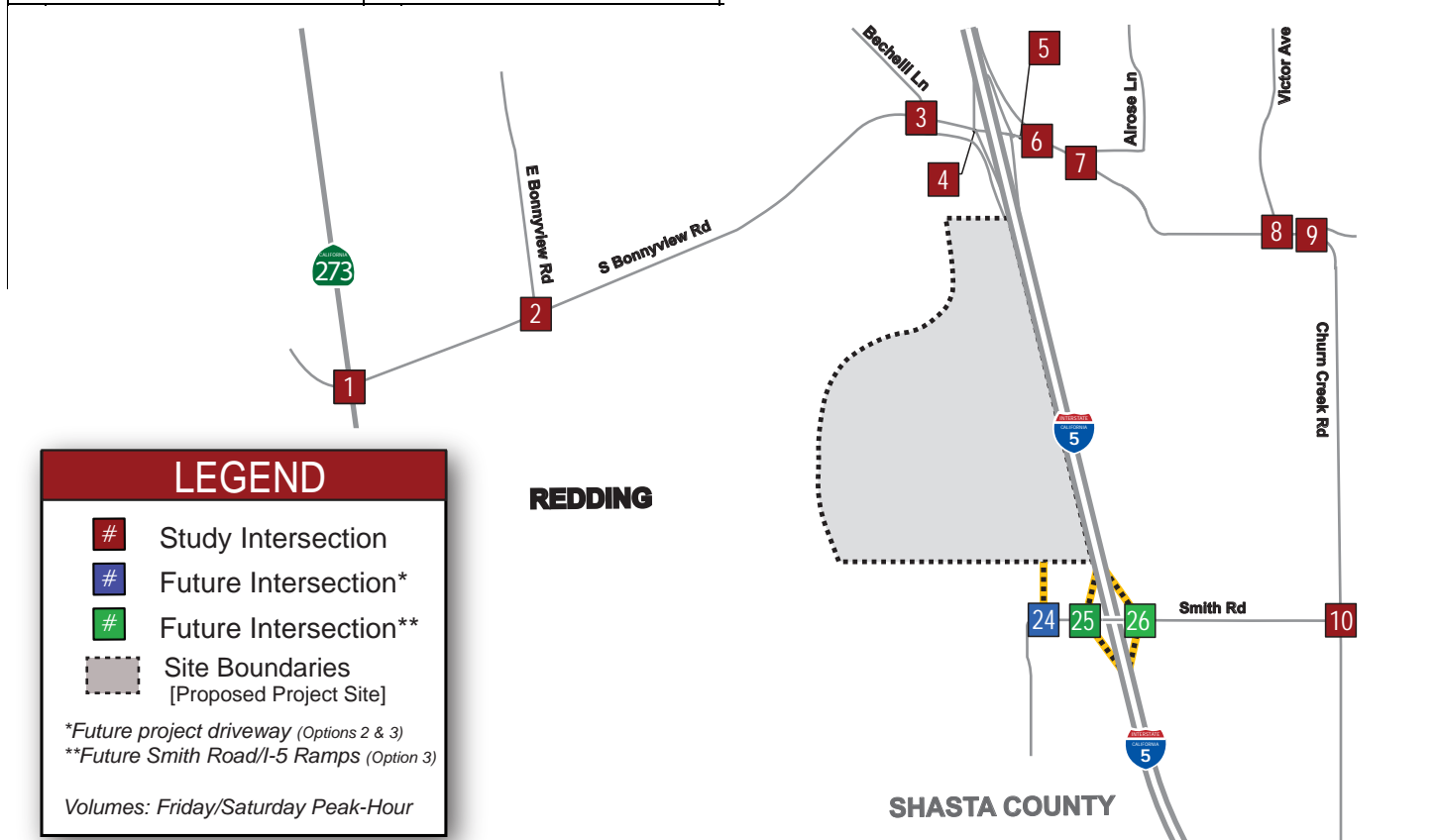
Opening Year (2025) traffic volumes were combined with vehicle trips expected to be generated by the proposed Project. **Figures 36-49** illustrate the Opening Year (2025) Plus Project turning movement volumes at the study intersections for all alternatives.

Cumulative (2040) Plus Project Traffic Volumes

Cumulative (2040) traffic volumes were combined with vehicle trips expected to be generated by the proposed project. **Figures 50-63** illustrate the Cumulative (2040) Plus Project turning movement volumes at the study intersections for all alternatives.

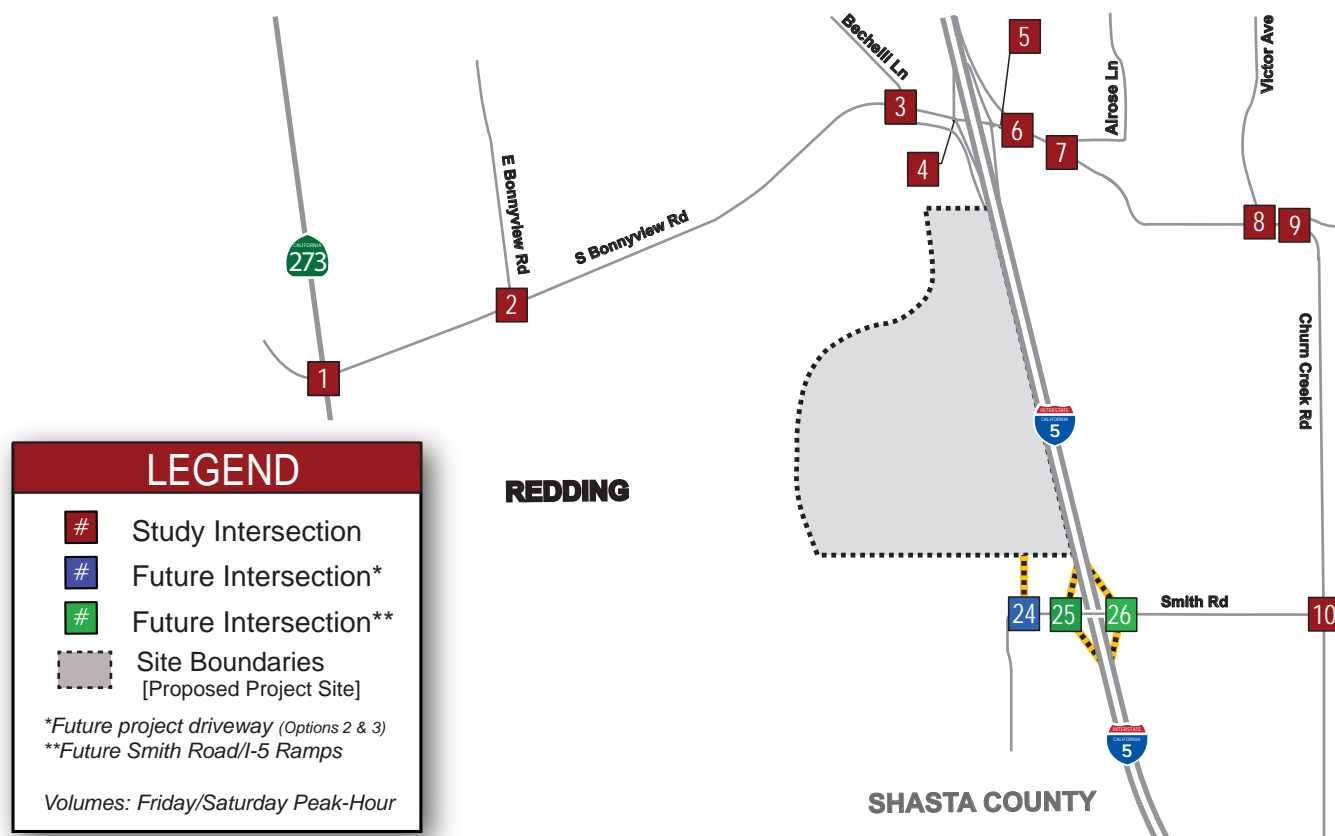
Redding Rancheria: Traffic Impact Study

1 9 / 5 677 / 368 432 / 358 S Market St (SR-273) Cedars Rd 10 / 0 83 / 46 68 / 54 288 / 212 80 / 57 472 / 300 S Bonnyview Rd 55 / 35 397 / 329 352 / 270	2 39 / 25 5 / 0 341 / 121 E Bonnyview Rd 216 / 118 1105 / 756 10 / 10 S Bonnyview Rd 45 / 19 1049 / 785 5 / 5 10 / 10 15 / 15 10 / 10	3 265 / 112 45 / 44 756 / 271 Bechelli Ln 306 / 174 972 / 691 543 / 669 S Bonnyview Rd 208 / 113 983 / 603 163 / 201 119 / 122 32 / 23 388 / 396	4 855 / 732 1 / 1 280 / 173 I-5 SB Ramps 1097 / 895 300 / 178 S Bonnyview Rd 1418 / 947 715 / 440
5 I-5 NB Ramps 285 / 222 844 / 588 S Bonnyview Rd 815 / 592 889 / 531 552 / 470 5 / 3 250 / 185	6 483 / 303 15 / 0 145 / 129 Churn Creek Rd 130 / 80 521 / 323 35 / 35 S Bonnyview Rd 418 / 333 646 / 349 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 581 / 414 5 / 0 Churn Creek Rd 105 / 77 706 / 406 12 / 0 10 / 0 5 / 5 5 / 0	8 157 / 163 75 / 52 Victor Ave 73 / 32 399 / 305 Churn Creek Rd 198 / 124 443 / 235
9 311 / 223 40 / 22 Rancho Rd 45 / 27 128 / 86 Churn Creek Rd 375 / 219 163 / 82	10 31 / 20 140 / 84 Churn Creek Rd 16 / 12 3 / 7 8 / 3 115 / 68		



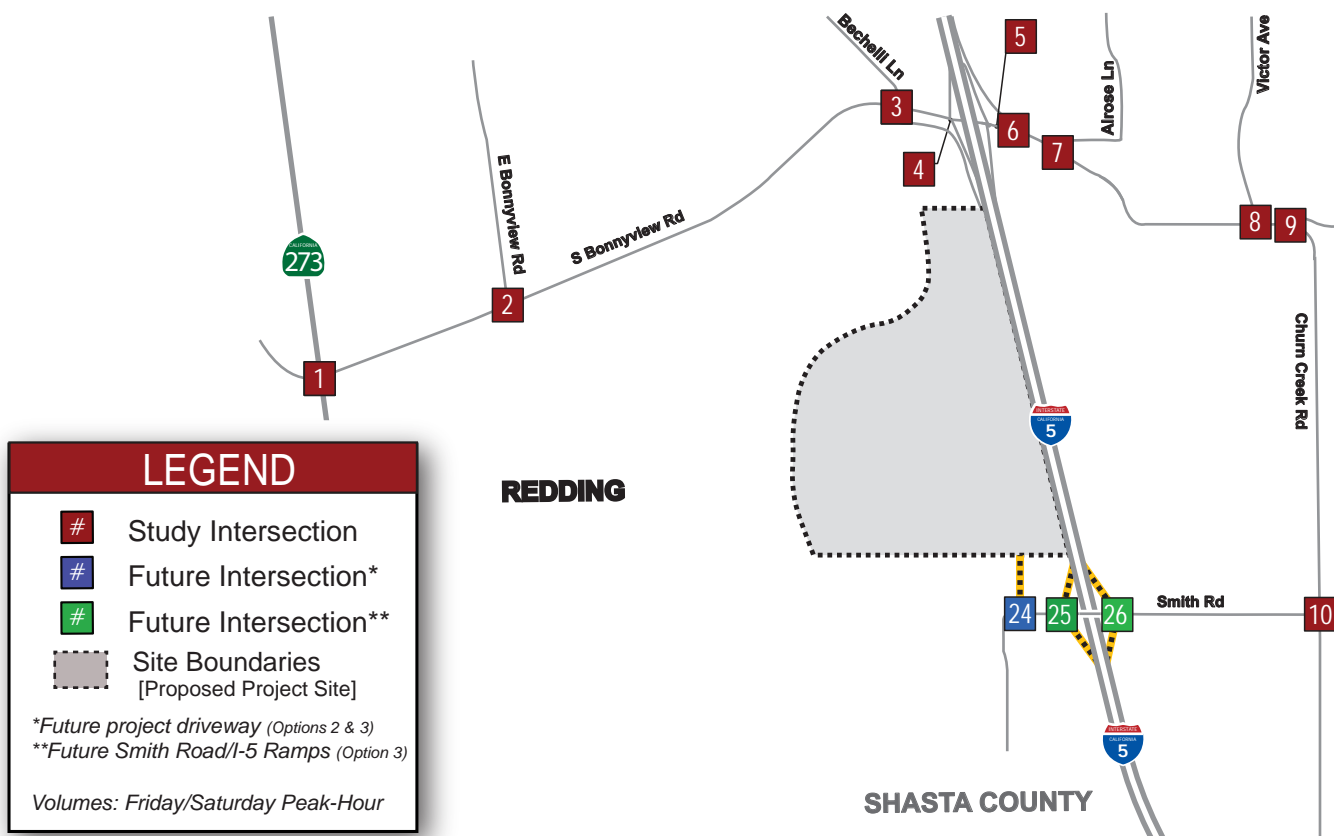
Redding Rancheria: Traffic Impact Study

1 9 / 5 677 / 368 417 / 324 S Market St (SR-273) Cedars Rd 10 / 0 83 / 46 68 / 54 271 / 179 80 / 57 464 / 284 S Bonnyview Rd 55 / 35 397 / 329 345 / 254	2 39 / 25 5 / 0 341 / 121 E Bonnyview Rd 216 / 118 1080 / 708 10 / 10 S Bonnyview Rd 45 / 19 1027 / 735 5 / 5 10 / 10 15 / 15 10 / 10	3 265 / 112 41 / 35 756 / 271 Bechelli Ln 306 / 174 972 / 691 455 / 474 S Bonnyview Rd 208 / 113 983 / 603 141 / 151 94 / 74 28 / 14 292 / 208	4 808 / 627 1 / 1 280 / 173 I-5 SB Ramps 1056 / 804 300 / 178 S Bonnyview Rd 1362 / 838 675 / 362
5 I-5 NB Ramps 285 / 222 840 / 579 S Bonnyview Rd 764 / 492 885 / 522 516 / 388 5 / 3 250 / 185	6 483 / 303 15 / 0 145 / 129 Churn Creek Rd 130 / 80 517 / 314 35 / 35 S Bonnyview Rd 418 / 333 642 / 340 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 577 / 405 5 / 0 Churn Creek Rd 105 / 77 702 / 397 12 / 0 10 / 0 5 / 5 5 / 0	8 157 / 163 75 / 52 Victor Ave 73 / 32 395 / 296 Churn Creek Rd 198 / 124 439 / 226
9 307 / 214 40 / 22 Rancho Rd 45 / 27 128 / 86 Churn Creek Rd 371 / 210 163 / 82	10 31 / 20 140 / 84 Churn Creek Rd 16 / 12 3 / 7 8 / 3 115 / 68		



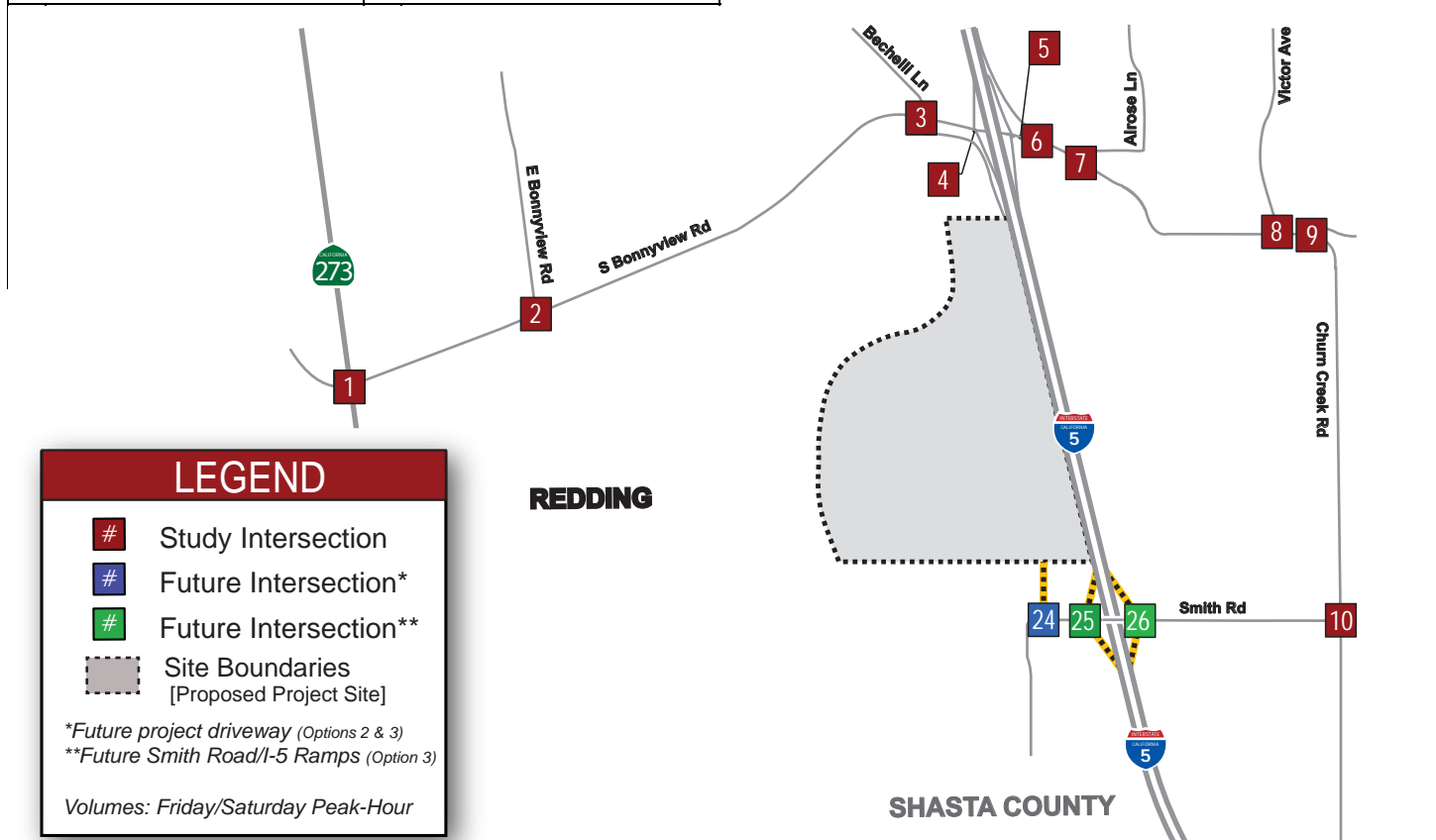
Redding Rancheria: Traffic Impact Study

1 9 / 5 677 / 368 422 / 346 S Market St (SR-273) Cedars Rd 10 / 0 83 / 46 68 / 54 278 / 205 80 / 57 467 / 297 S Bonnyview Rd 55 / 35 397 / 329 347 / 265	2 39 / 25 5 / 0 341 / 121 E Bonnyview Rd 216 / 118 1090 / 746 10 / 10 S Bonnyview Rd 45 / 19 1034 / 768 5 / 5 10 / 10 15 / 15 10 / 10	3 265 / 112 42 / 41 756 / 271 Bechelli Ln 306 / 174 972 / 691 485 / 603 S Bonnyview Rd 208 / 113 983 / 603 148 / 184 104 / 112 29 / 21 330 / 355	4 824 / 696 1 / 1 280 / 173 I-5 SB Ramps 1070 / 864 300 / 178 S Bonnyview Rd 1384 / 923 691 / 423
5 I-5 NB Ramps 285 / 222 841 / 585 S Bonnyview Rd 784 / 570 886 / 529 528 / 442 5 / 3 250 / 185	6 483 / 303 15 / 0 145 / 129 Churn Creek Rd 130 / 80 518 / 320 35 / 35 S Bonnyview Rd 418 / 333 643 / 347 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 578 / 411 5 / 0 Churn Creek Rd 105 / 77 703 / 404 12 / 0 10 / 0 5 / 5 5 / 0	8 157 / 163 75 / 52 Victor Ave 73 / 32 396 / 302 Churn Creek Rd 198 / 124 440 / 233
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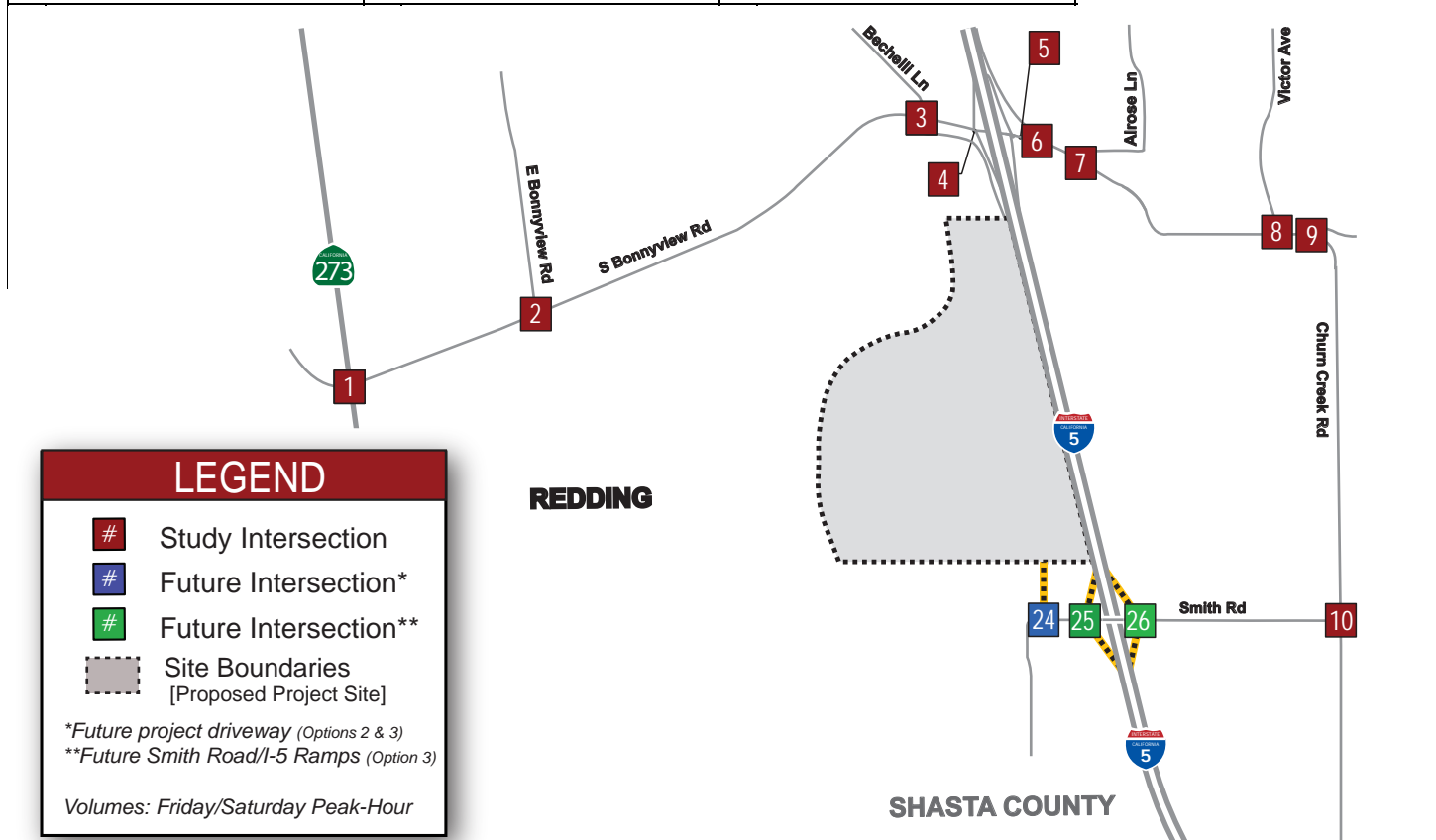
Redding Rancheria: Traffic Impact Study

1 9 / 5 677 / 368 361 / 280 S Market St (SR-273) Cedars Rd 10 / 0 83 / 46 68 / 54 246 / 182 80 / 57 452 / 286 S Bonnyview Rd 55 / 35 397 / 329 319 / 233	2 39 / 25 5 / 0 341 / 121 E Bonnyview Rd 216 / 118 1044 / 712 10 / 10 S Bonnyview Rd 45 / 19 945 / 670 5 / 5 10 / 10 15 / 15 10 / 10	3 265 / 112 26 / 23 756 / 271 Bechelli Ln 306 / 174 972 / 691 176 / 271 S Bonnyview Rd 208 / 113 983 / 603 59 / 86 58 / 78 21 / 15 167 / 247	4 658 / 517 1 / 1 280 / 173 I-5 SB Ramps 927 / 711 300 / 178 S Bonnyview Rd 1288 / 859 624 / 380
5 I-5 NB Ramps 285 / 222 825 / 567 S Bonnyview Rd 696 / 511 878 / 523 402 / 307 5 / 3 250 / 185	6 483 / 303 15 / 0 145 / 129 Churn Creek Rd 130 / 80 502 / 302 35 / 35 S Bonnyview Rd 418 / 333 635 / 341 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 562 / 393 5 / 0 Churn Creek Rd 105 / 77 695 / 398 12 / 0 10 / 0 5 / 5 5 / 0	8 157 / 163 75 / 52 Victor Ave 73 / 32 380 / 284 Churn Creek Rd 198 / 124 432 / 227
9 292 / 202 40 / 22 Rancho Rd 45 / 27 128 / 86 Churn Creek Rd 364 / 211 163 / 82	10 31 / 20 140 / 84 Churn Creek Rd Smith Rd 16 / 12 3 / 7 8 / 3 115 / 68		



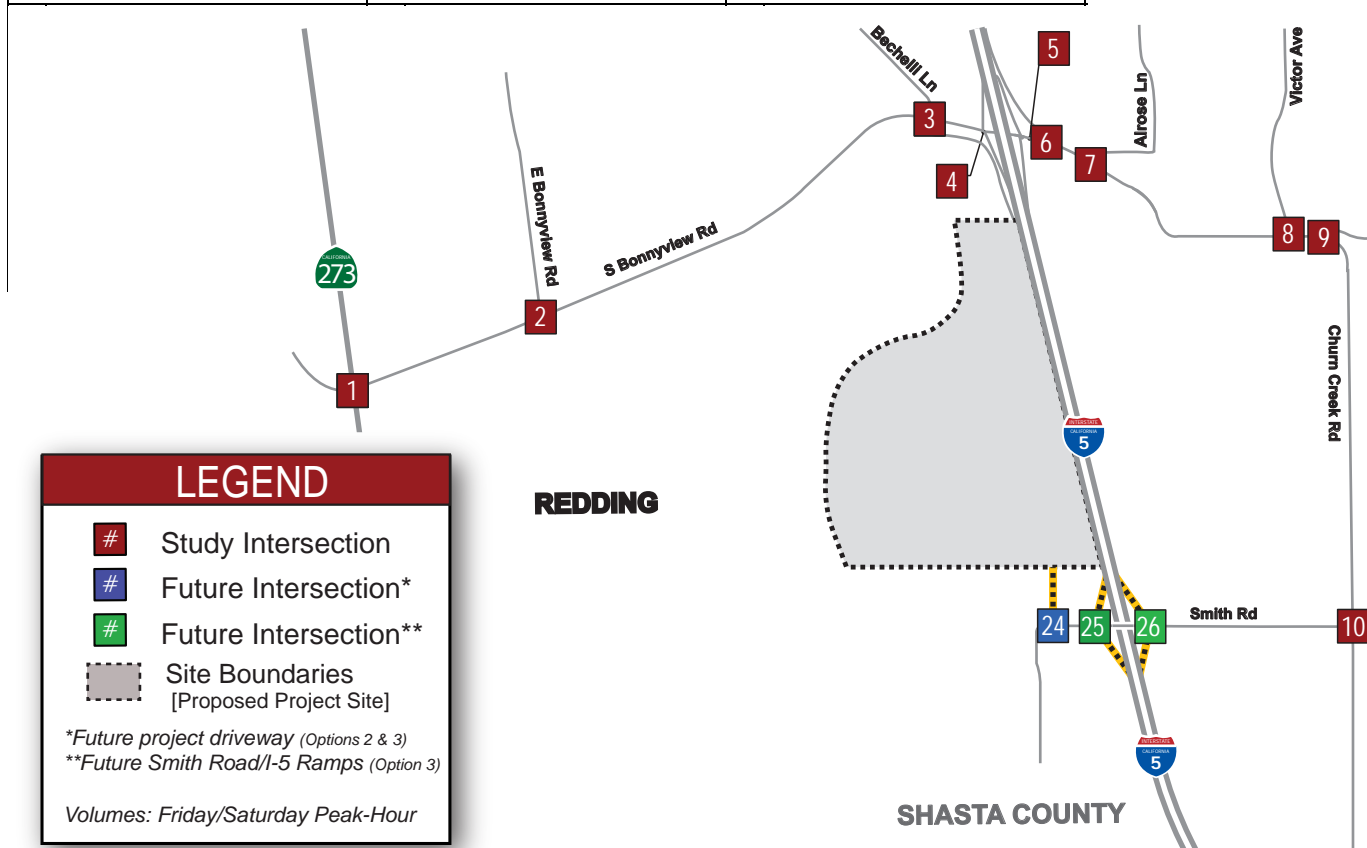
Redding Rancheria: Traffic Impact Study

1 9 / 5 677 / 368 432 / 358 S Market St (SR-273) Cedars Rd 10 / 0 83 / 46 68 / 54 288 / 212 80 / 57 472 / 300 S Bonnyview Rd 55 / 35 397 / 329 352 / 270	2 39 / 25 5 / 0 341 / 121 E Bonnyview Rd 216 / 118 1105 / 756 10 / 10 S Bonnyview Rd 45 / 19 1049 / 785 5 / 5 10 / 10 15 / 15 10 / 10	3 265 / 112 45 / 44 756 / 271 Bechelli Ln 306 / 174 972 / 691 354 / 429 S Bonnyview Rd 208 / 113 983 / 603 163 / 201 119 / 122 32 / 23 260 / 259	4 855 / 732 1 / 1 280 / 173 I-5 SB Ramps 908 / 654 300 / 178 S Bonnyview Rd 1418 / 947 587 / 304
5 I-5 NB Ramps 285 / 222 844 / 588 S Bonnyview Rd 815 / 592 889 / 531 364 / 229 5 / 3 250 / 185	6 483 / 303 15 / 0 145 / 129 Churn Creek Rd 130 / 80 521 / 323 35 / 35 S Bonnyview Rd 418 / 333 646 / 349 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 581 / 414 5 / 0 Churn Creek Rd 105 / 77 706 / 406 12 / 0 10 / 0 5 / 5 5 / 0	8 157 / 163 75 / 52 Victor Ave 73 / 32 399 / 305 Churn Creek Rd 198 / 124 443 / 235
9 311 / 223 40 / 22 Rancho Rd 45 / 27 128 / 86 Churn Creek Rd 375 / 219 163 / 82	10 31 / 20 140 / 84 Churn Creek Rd 16 / 12 131 / 144 197 / 243 115 / 68	11 421 / 257 622 / 336 S Market St (SR-273) Westwood Ave 278 / 207 236 / 177 152 / 130 455 / 283	



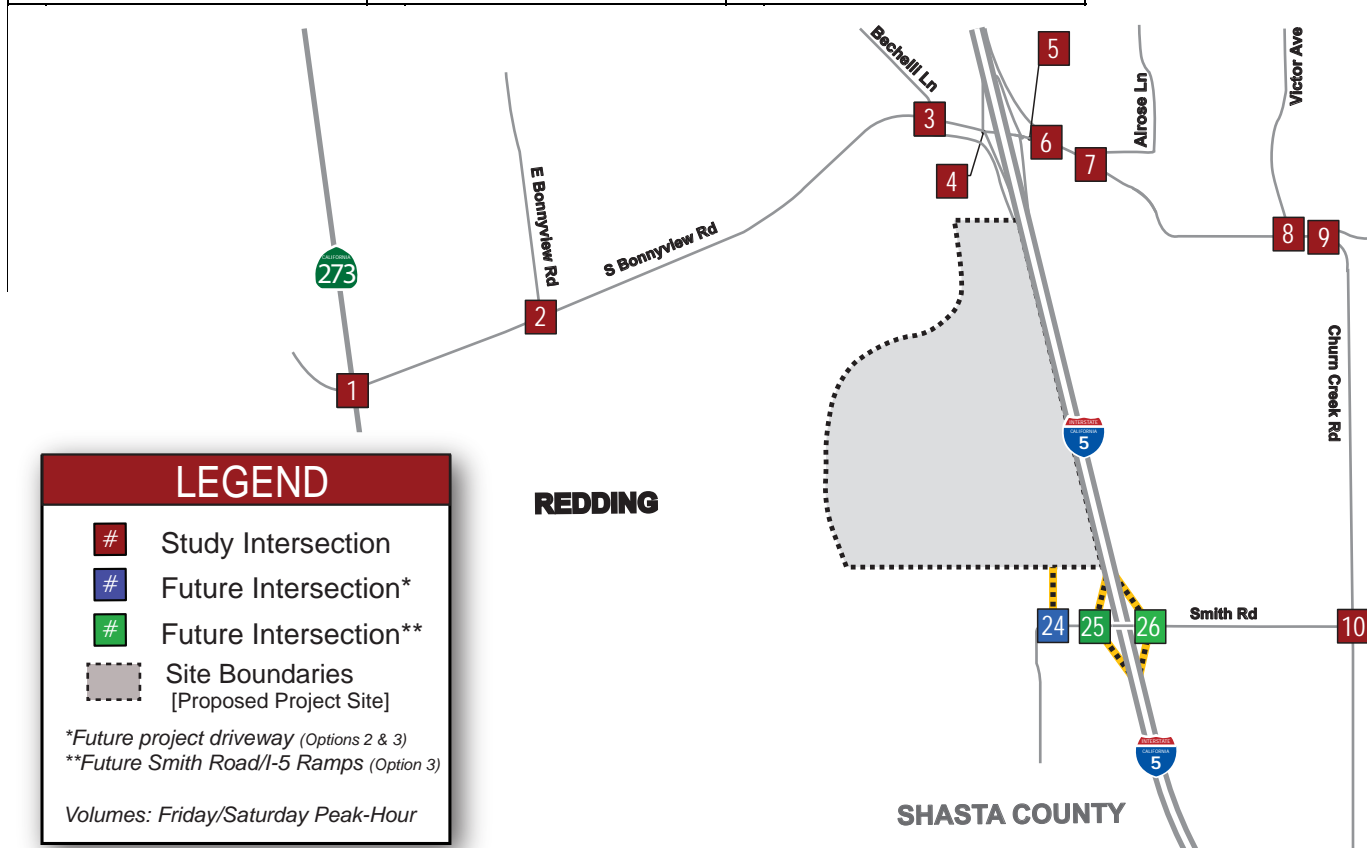
Redding Rancheria: Traffic Impact Study

1 9 / 5 677 / 368 417 / 324 S Market St (SR-273) Cedars Rd 10 / 0 83 / 46 68 / 54 271 / 179 80 / 57 464 / 284 S Bonnyview Rd 55 / 35 397 / 329 345 / 254	2 39 / 25 5 / 0 341 / 121 E Bonnyview Rd 216 / 118 1080 / 708 10 / 10 45 / 19 1027 / 735 5 / 5 10 / 10 15 / 15 10 / 10	3 265 / 112 41 / 35 756 / 271 Bechelli Ln 306 / 174 972 / 691 297 / 303 208 / 113 983 / 603 141 / 151 94 / 74 28 / 14 198 / 138	4 808 / 627 1 / 1 280 / 173 I-5 SB Ramps 898 / 632 300 / 178 S Bonnyview Rd 1362 / 838 581 / 292
5 I-5 NB Ramps 285 / 222 840 / 579 S Bonnyview Rd 764 / 492 885 / 522 358 / 216 5 / 3 250 / 185	6 483 / 303 15 / 0 145 / 129 Churn Creek Rd 130 / 80 517 / 314 35 / 35 S Bonnyview Rd 418 / 333 642 / 340 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 577 / 405 5 / 0 Churn Creek Rd 105 / 77 702 / 397 12 / 0 10 / 0 5 / 5 5 / 0	8 157 / 163 75 / 52 Victor Ave 73 / 32 395 / 296 Churn Creek Rd 198 / 124 439 / 226
9 307 / 214 40 / 22 Rancho Rd 45 / 27 128 / 86 Churn Creek Rd 371 / 210 163 / 82	10 31 / 20 140 / 84 Churn Creek Rd 16 / 12 97 / 78 166 / 175 115 / 68	24 94 / 71 Proposed Project South Access 158 / 172 Smith Rd 166 / 175 115 / 68	



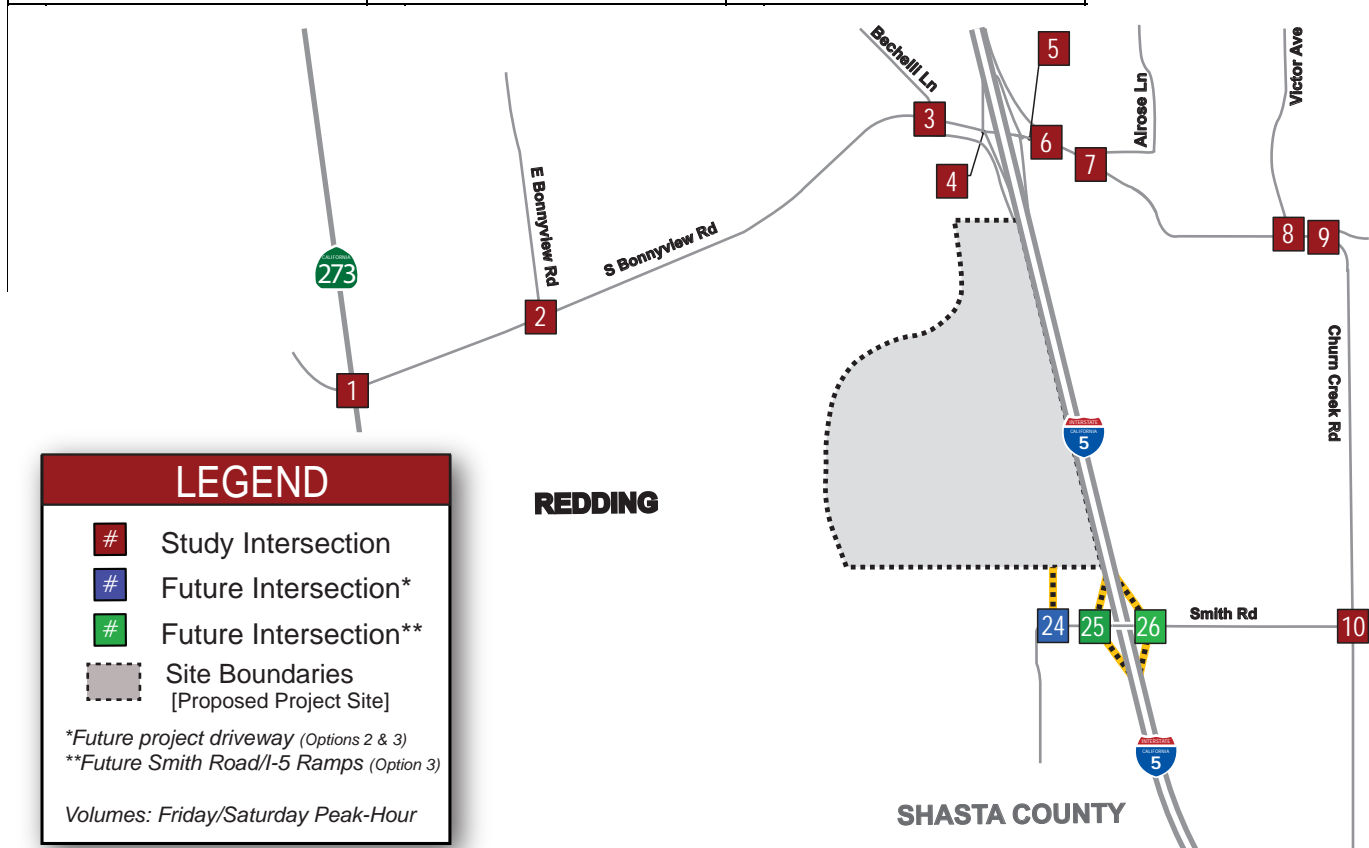
Redding Rancheria: Traffic Impact Study

1 9 / 5 677 / 368 422 / 346 S Market St (SR-273) Cedars Rd 10 / 0 83 / 46 68 / 54 278 / 205 80 / 57 467 / 297 S Bonnyview Rd 55 / 35 397 / 329 347 / 265	2 39 / 25 5 / 0 341 / 121 E Bonnyview Rd 216 / 118 1090 / 746 10 / 10 S Bonnyview Rd 45 / 19 1034 / 768 5 / 5 10 / 10 15 / 15 10 / 10	3 265 / 112 42 / 41 756 / 271 Bechelli Ln 306 / 174 972 / 691 317 / 386 S Bonnyview Rd 208 / 113 983 / 603 148 / 184 104 / 112 29 / 21 223 / 233	4 824 / 696 1 / 1 280 / 173 I-5 SB Ramps 902 / 647 300 / 178 S Bonnyview Rd 1384 / 923 584 / 301
5 I-5 NB Ramps 285 / 222 841 / 585 S Bonnyview Rd 784 / 570 886 / 529 360 / 225 5 / 3 250 / 185	6 483 / 303 15 / 0 145 / 129 Churn Creek Rd 130 / 80 518 / 320 35 / 35 S Bonnyview Rd 418 / 333 643 / 347 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 578 / 411 5 / 0 Churn Creek Rd 105 / 77 703 / 404 12 / 0 10 / 0 5 / 5 5 / 0	8 157 / 163 75 / 52 Victor Ave 73 / 32 396 / 302 Churn Creek Rd 198 / 124 440 / 233
9 308 / 220 40 / 22 Rancho Rd 45 / 27 128 / 86 Churn Creek Rd 372 / 217 163 / 82	10 31 / 20 140 / 84 Churn Creek Rd 16 / 12 110 / 129 176 / 220 115 / 68	24 107 / 122 Proposed Project South Access 168 / 217 Smith Rd	

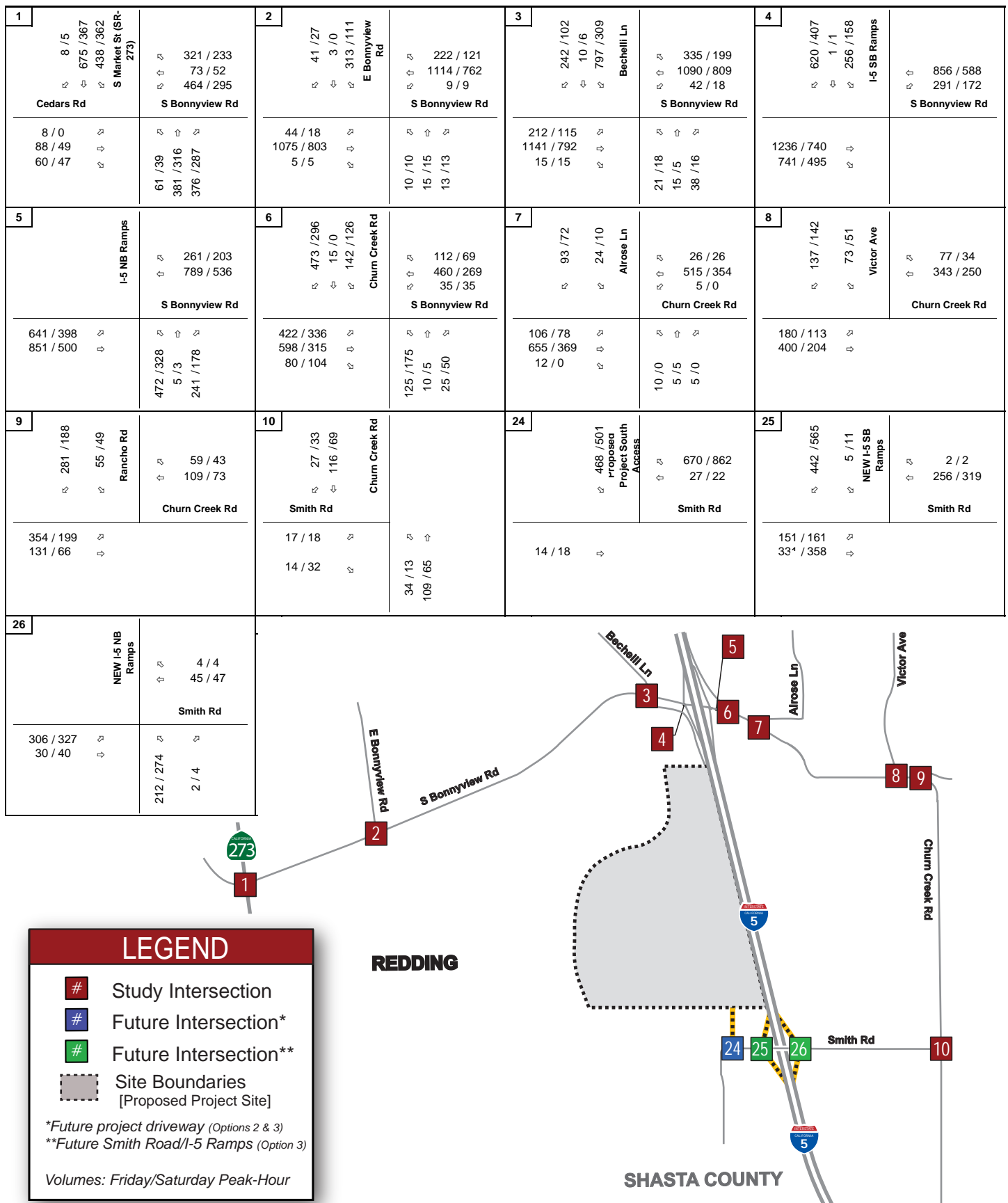


Redding Rancheria: Traffic Impact Study

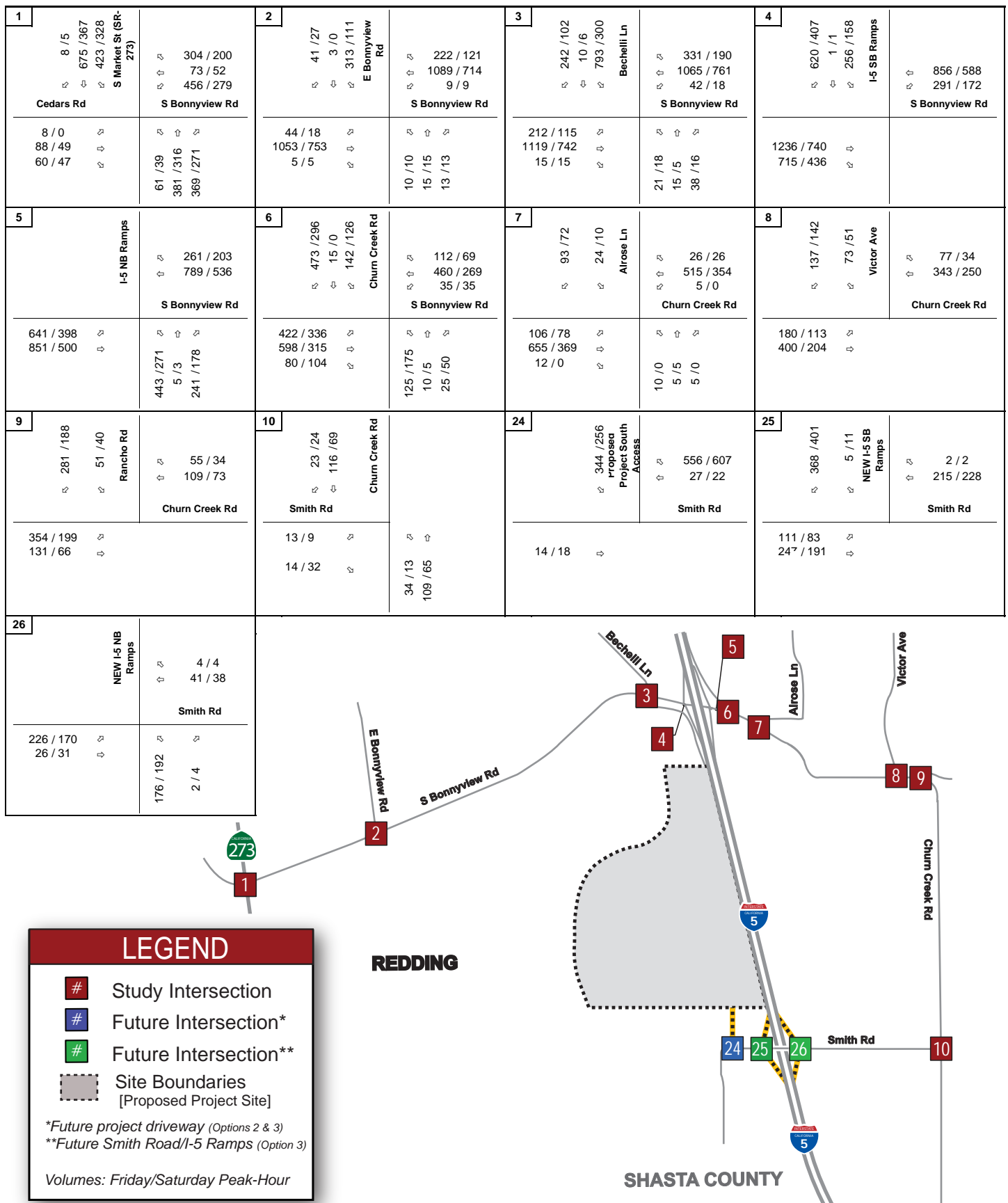
1 9 / 5 677 / 368 361 / 280 S Market St (SR-273) Cedars Rd 10 / 0 83 / 46 68 / 54 246 / 182 80 / 57 452 / 286 S Bonnyview Rd 55 / 35 397 / 329 319 / 233	2 39 / 25 5 / 0 341 / 121 E Bonnyview Rd 216 / 118 1044 / 712 10 / 10 S Bonnyview Rd 45 / 19 945 / 670 5 / 5 10 / 10 15 / 15 10 / 10	3 265 / 112 26 / 23 756 / 271 Bechelli Ln 306 / 174 972 / 691 130 / 187 S Bonnyview Rd 208 / 113 983 / 603 59 / 86 58 / 78 21 / 15 122 / 170	4 658 / 517 1 / 1 280 / 173 I-5 SB Ramps 882 / 628 300 / 178 S Bonnyview Rd 1288 / 859 579 / 303
5 I-5 NB Ramps 285 / 222 825 / 567 S Bonnyview Rd 696 / 511 878 / 523 356 / 224 5 / 3 250 / 185	6 483 / 303 15 / 0 145 / 129 Churn Creek Rd 130 / 80 502 / 302 35 / 35 S Bonnyview Rd 418 / 333 635 / 341 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 562 / 393 5 / 0 Churn Creek Rd 105 / 77 695 / 398 12 / 0 10 / 0 5 / 5 5 / 0	8 157 / 163 75 / 52 Victor Ave 73 / 32 380 / 284 Churn Creek Rd 198 / 124 432 / 227
9 292 / 202 40 / 22 Rancho Rd 45 / 27 128 / 86 Churn Creek Rd 364 / 211 163 / 82	10 31 / 20 140 / 84 Churn Creek Rd 16 / 12 48 / 83 54 / 86 115 / 68	24 45 / 76 Proposed Project South Access 46 / 83 Smith Rd	



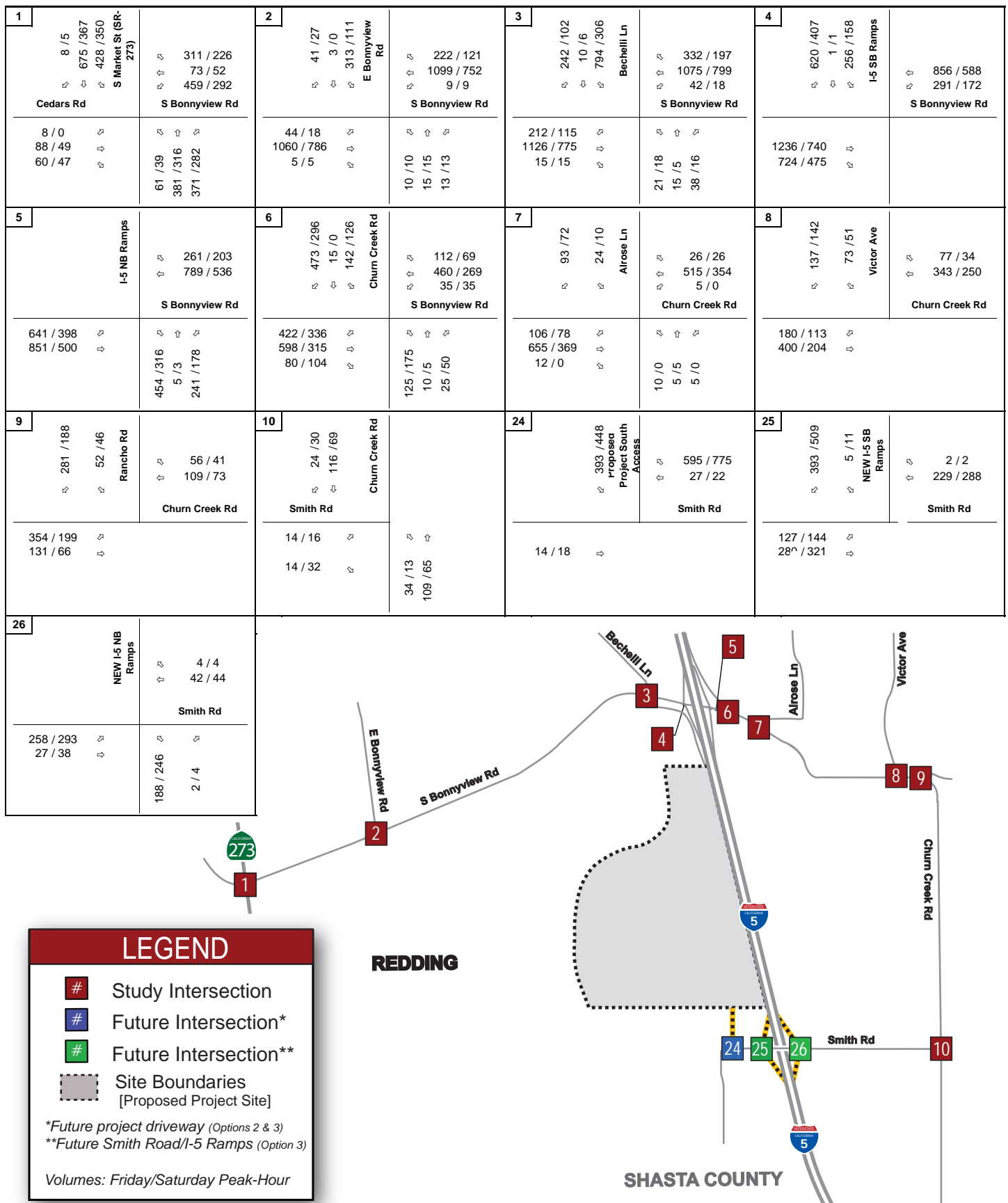
Redding Rancheria: Traffic Impact Study



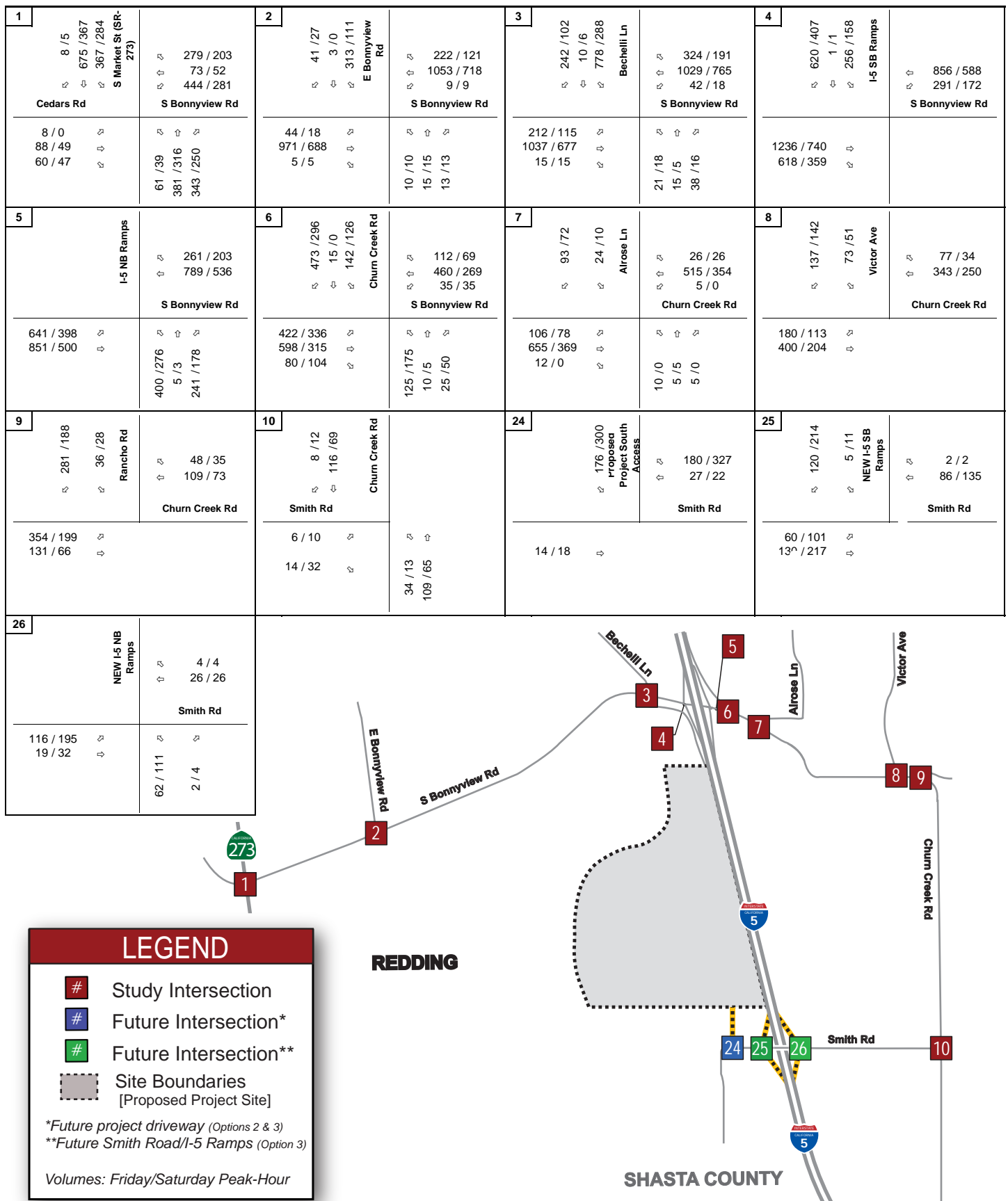
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Redding Rancheria: Traffic Impact Study



Redding Rancheria: Traffic Impact Study



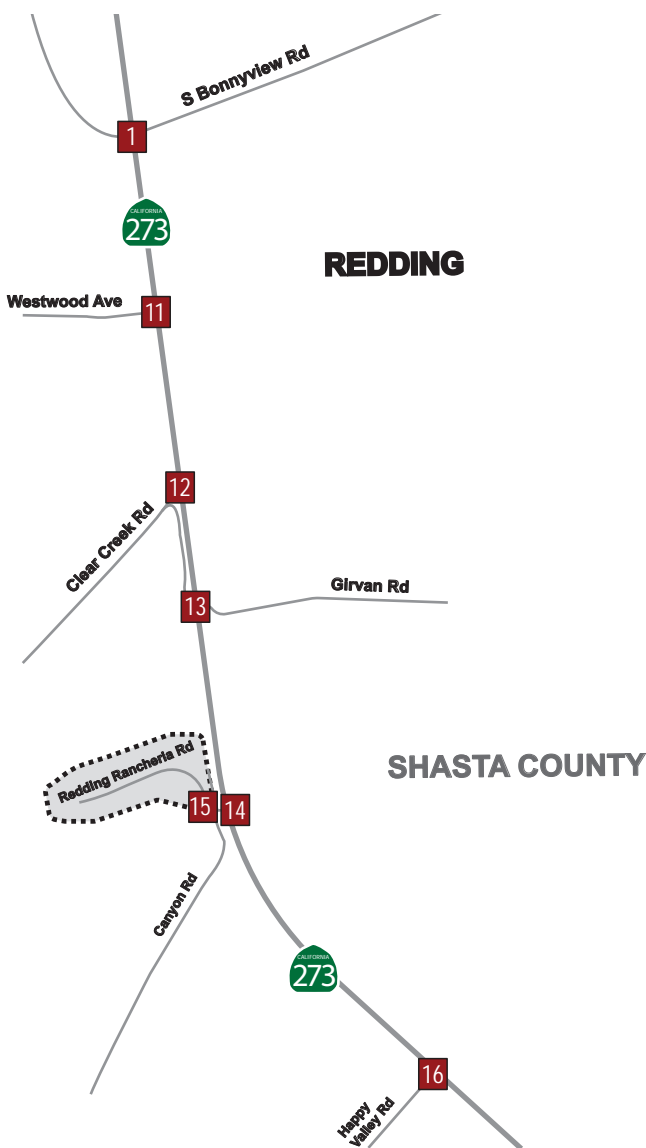
Redding Rancheria: Traffic Impact Study

17 <div> <div>17 / 9</div> <div>304 / 188</div> <div>223 / 232</div> <div>S Market St (SR-273)</div> </div> <div> <div>174 / 165</div> <div>116 / 69</div> <div>154 / 93</div> <div>North St</div> </div> <div> <div>14 / 5</div> <div>125 / 94</div> <div>48 / 16</div> </div> <div> <div>47 / 24</div> <div>182 / 134</div> <div>157 / 113</div> </div>	18 <div> <div>114 / 119</div> <div>127 / 137</div> <div>274 / 293</div> <div>Oak St</div> </div> <div> <div>379 / 459</div> <div>429 / 226</div> <div>12 / 9</div> <div>North St</div> </div> <div> <div>176 / 207</div> <div>344 / 221</div> <div>4 / 2</div> </div> <div> <div>3 / 3</div> <div>176 / 220</div> <div>16 / 13</div> </div>	19 <div> <div>515 / 527</div> <div>226 / 135</div> <div>I-5 SB Ramps</div> </div> <div> <div>347 / 211</div> <div>North St</div> </div> <div> <div>669 / 542</div> </div>	20 <div> <div>I-5 NB Ramps</div> <div>32 / 35</div> <div>252 / 153</div> <div>151 / 114</div> <div>North St</div> </div> <div> <div>350 / 304</div> <div>217 / 155</div> <div>296 / 198</div> <div>McMurray Dr</div> </div> <div> <div>92 / 61</div> <div>210 / 127</div> <div>199 / 165</div> </div>
21 <div> <div>143 / 134</div> <div>Oak St</div> </div> <div> <div>169 / 207</div> <div>289 / 227</div> <div>22 / 37</div> <div>Balls Ferry Rd</div> </div> <div> <div>1 / 1</div> <div>292 / 166</div> <div>11 / 4</div> </div> <div> <div>15 / 12</div> <div>3 / 4</div> <div>54 / 34</div> </div>	22 <div> <div>7 / 21</div> <div>68 / 43</div> <div>18 / 12</div> <div>Ventura St</div> </div> <div> <div>22 / 17</div> <div>475 / 460</div> <div>364 / 305</div> <div>Balls Ferry Rd</div> </div> <div> <div>3 / 2</div> <div>330 / 184</div> <div>155 / 148</div> <div>I-5 SB Ramp</div> </div>	23 <div> <div>194 / 166</div> <div>231 / 161</div> <div>McMurray Dr</div> </div> <div> <div>196 / 137</div> <div>503 / 409</div> <div>Balls Ferry Rd</div> </div> <div> <div>80 / 43</div> <div>262 / 144</div> </div> <div> <div>I-5 NB Ramp</div> <div>218 / 235</div> <div>129 / 96</div> <div>201 / 116</div> </div>	



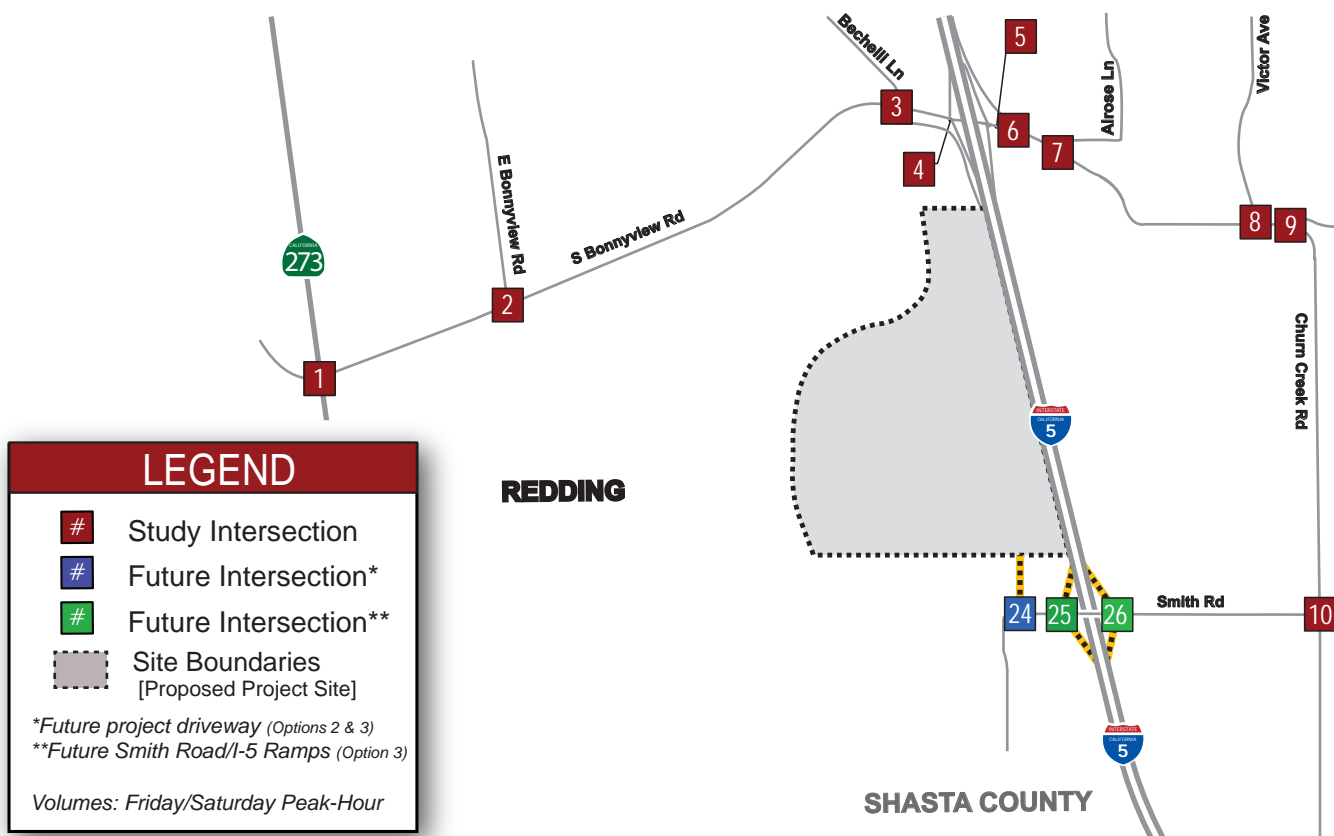
Redding Rancheria: Traffic Impact Study

1 <div> <div>9 / 5</div> <div>720 / 424</div> <div>338 / 238</div> <div>S Market St (SR-273)</div> </div> <div> <div>224 / 144</div> <div>80 / 57</div> <div>554 / 409</div> <div>S Bonnyview Rd</div> </div> <div> <div>10 / 0</div> <div>83 / 46</div> <div>68 / 54</div> <div>Cedars Rd</div> </div>	11 <div> <div>421 / 257</div> <div>777 / 531</div> <div>S Market St (SR-273)</div> </div> <div> <div>278 / 207</div> <div>236 / 177</div> <div>Westwood Ave</div> </div>	12 <div> <div>77 / 56</div> <div>931 / 648</div> <div>S Market St (SR-273)</div> </div> <div> <div>130 / 73</div> <div>37 / 19</div> <div>Clear Creek Rd</div> </div>	13 <div> <div>32 / 29</div> <div>814 / 561</div> <div>94 / 69</div> <div>S Market St (SR-273)</div> </div> <div> <div>61 / 51</div> <div>18 / 6</div> <div>160 / 103</div> <div>Girvan Rd</div> </div>
14 <div> <div>496 / 402</div> <div>547 / 306</div> <div>S Market St (SR-273)</div> </div> <div> <div>377 / 312</div> <div>83 / 57</div> <div>Redding Rancheria Rd</div> </div>	15 <div> <div>15 / 10</div> <div>229 / 185</div> <div>Canyon Rd</div> </div> <div> <div>235 / 272</div> <div>350 / 196</div> <div>Redding Rancheria Rd</div> </div>	16 <div> <div>72 / 47</div> <div>479 / 274</div> <div>S Market St (SR-273)</div> </div> <div> <div>65 / 41</div> <div>79 / 56</div> <div>Happy Valley Rd</div> </div>	



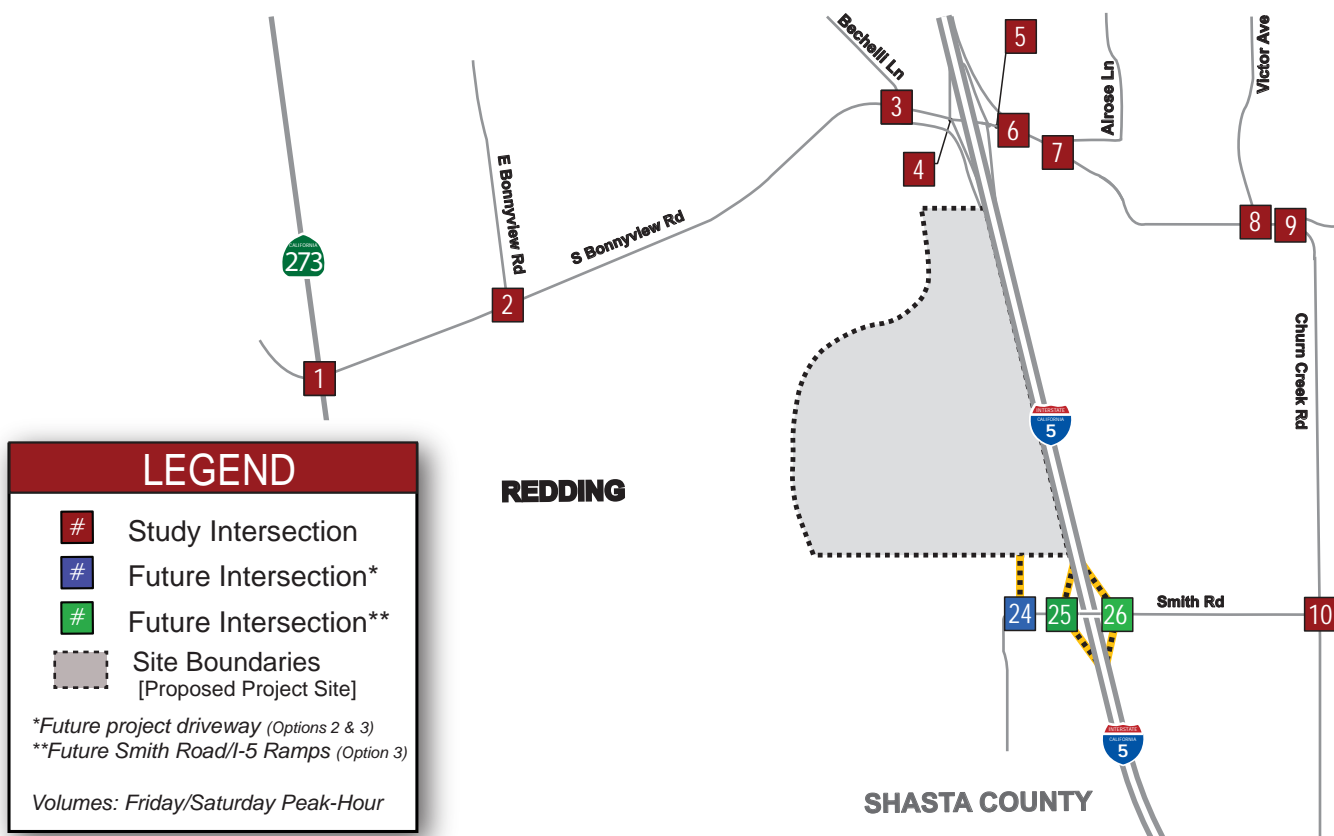
Redding Rancheria: Traffic Impact Study

1 20 / 10 772 / 423 472 / 386 S Market St (SR-273) Cedars Rd 20 / 0 98 / 54 80 / 63 313 / 228 88 / 63 527 / 339 S Bonnyview Rd 55 / 35 527 / 438 402 / 306	2 45 / 29 10 / 0 386 / 137 E Bonnyview Rd 241 / 132 1215 / 833 15 / 15 S Bonnyview Rd 55 / 23 1174 / 870 10 / 10 15 / 15 20 / 20 15 / 15	3 345 / 146 45 / 44 901 / 323 Bechelli Ln 431 / 246 1077 / 770 558 / 676 S Bonnyview Rd 258 / 140 1163 / 716 163 / 201 124 / 126 42 / 26 398 / 401	4 930 / 785 1 / 1 285 / 176 I-5 SB Ramps 1222 / 984 340 / 202 S Bonnyview Rd 1623 / 1071 835 / 501
5 I-5 NB Ramps 380 / 296 934 / 649 S Bonnyview Rd 905 / 649 989 / 589 637 / 524 5 / 3 295 / 218	6 558 / 350 15 / 0 195 / 174 Churn Creek Rd 185 / 113 641 / 394 35 / 35 S Bonnyview Rd 498 / 397 731 / 393 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 766 / 542 5 / 0 Churn Creek Rd 105 / 77 861 / 493 12 / 0 10 / 0 5 / 5 5 / 0	8 222 / 231 105 / 73 Victor Ave 90 / 39 504 / 383 Churn Creek Rd 213 / 133 573 / 301
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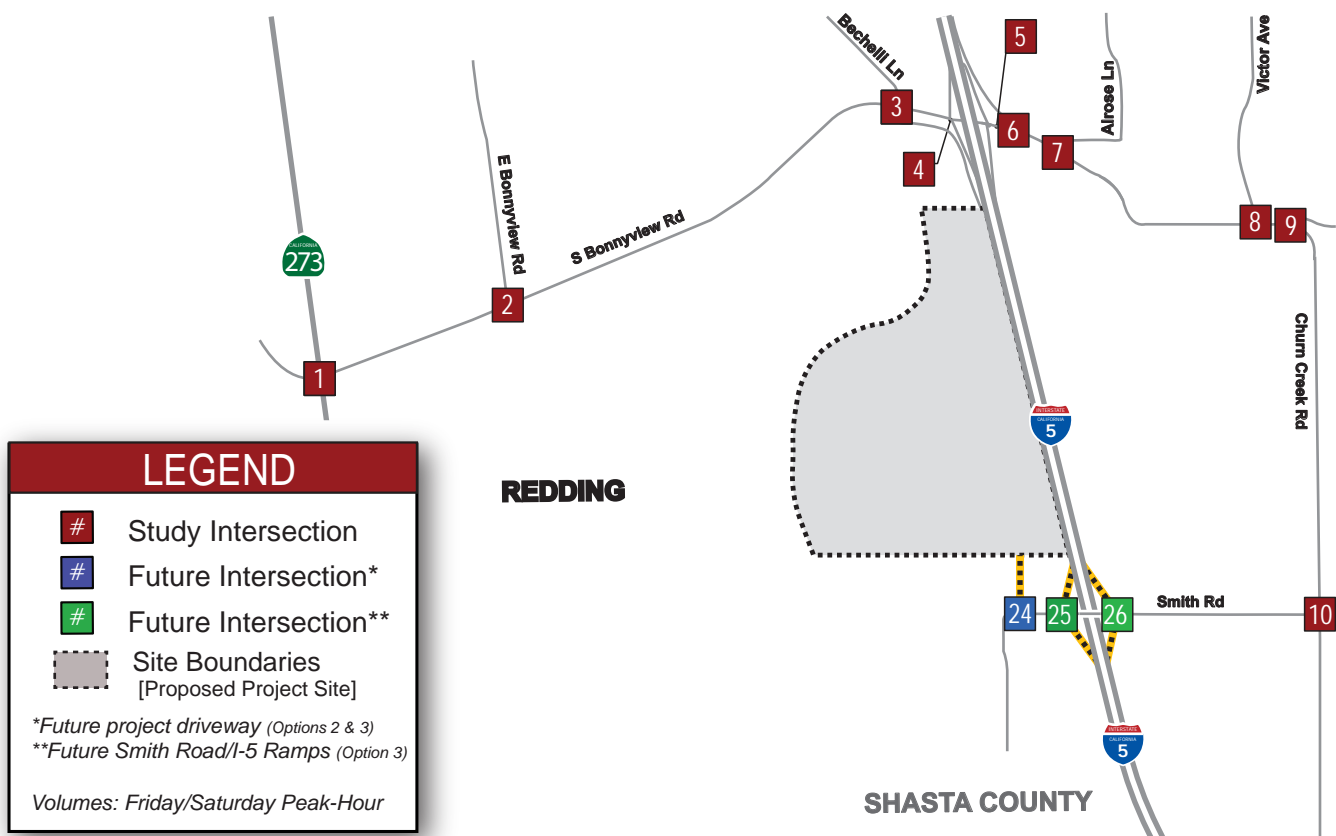
Redding Rancheria: Traffic Impact Study

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5 I-5 NB Ramps 380 / 296 930 / 640 S Bonnyview Rd 854 / 549 985 / 580 601 / 442 5 / 3 295 / 218	6 558 / 350 15 / 0 195 / 174 Churn Creek Rd 185 / 113 637 / 385 35 / 35 S Bonnyview Rd 498 / 397 727 / 384 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 762 / 533 5 / 0 Churn Creek Rd 105 / 77 857 / 484 12 / 0 10 / 0 5 / 5 5 / 0	8 222 / 231 105 / 73 Victor Ave 90 / 39 500 / 374 Churn Creek Rd 213 / 133 569 / 292
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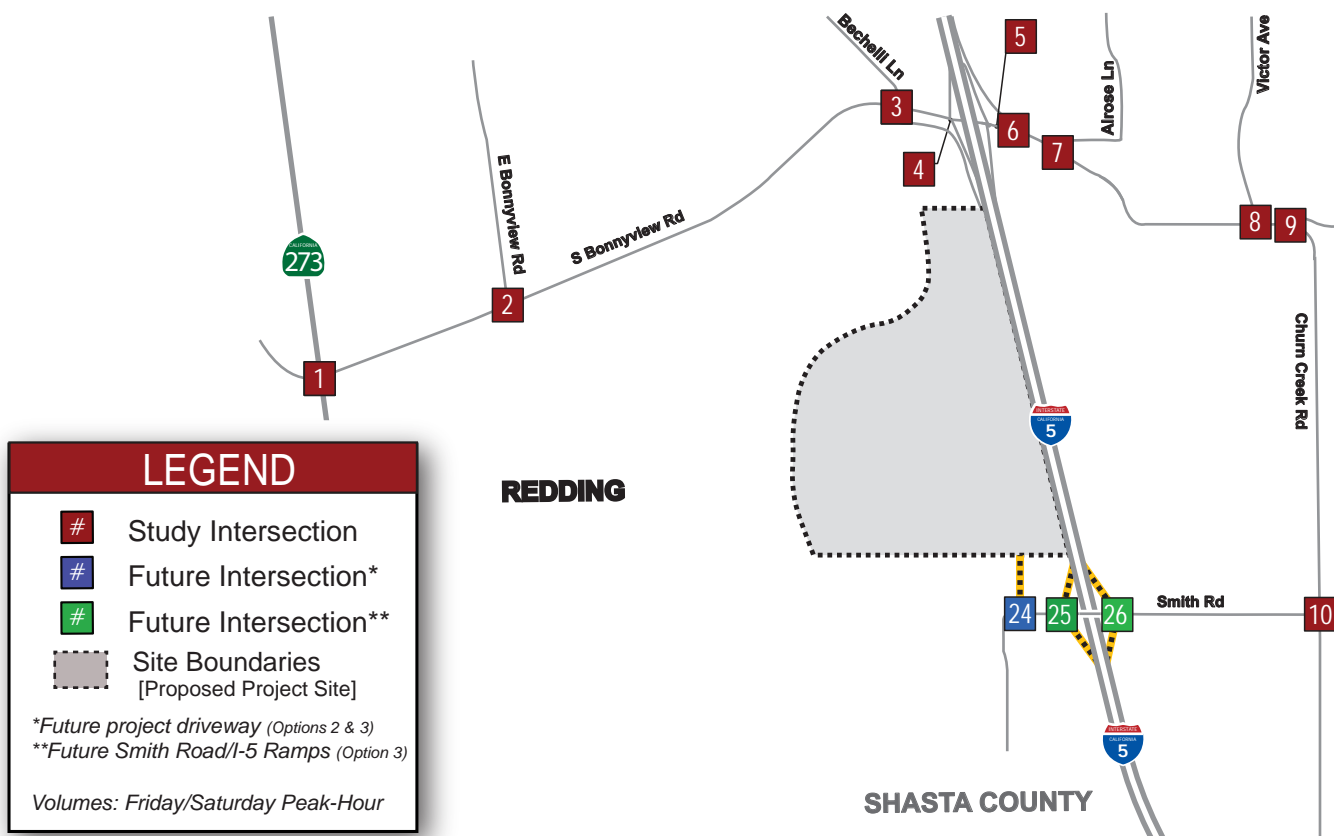
Redding Rancheria: Traffic Impact Study

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5 I-5 NB Ramps 380 / 296 931 / 646 S Bonnyview Rd 874 / 627 986 / 587 613 / 496 5 / 3 295 / 218	6 558 / 350 15 / 0 195 / 174 Churn Creek Rd 185 / 113 638 / 391 35 / 35 S Bonnyview Rd 498 / 397 728 / 391 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 763 / 539 5 / 0 Churn Creek Rd 105 / 77 858 / 491 12 / 0 10 / 0 5 / 5 5 / 0	8 222 / 231 105 / 73 Victor Ave 90 / 39 501 / 380 Churn Creek Rd 213 / 133 570 / 299
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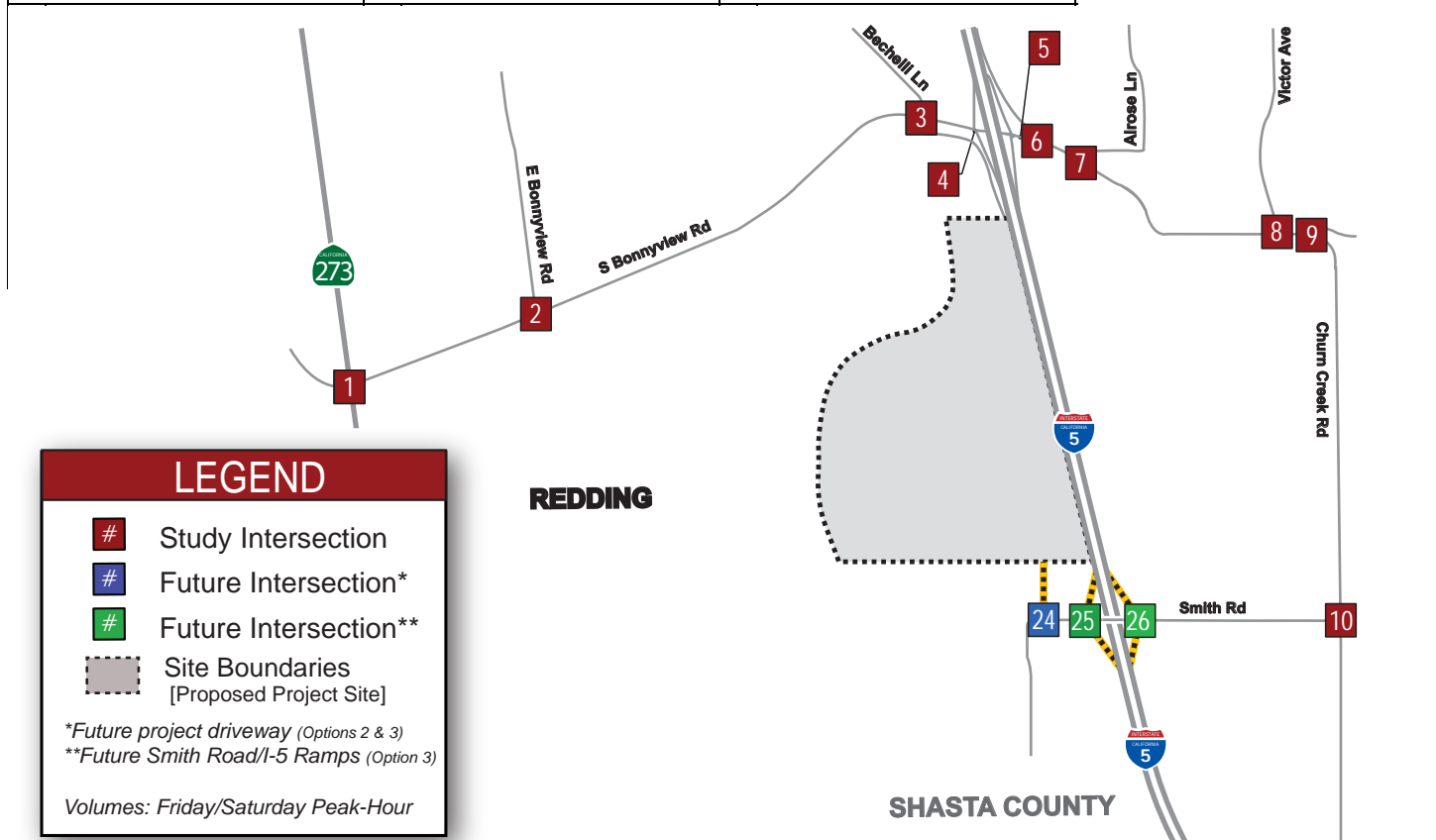
Redding Rancheria: Traffic Impact Study

1 20 / 10 772 / 423 401 / 308 S Market St (SR-273) 271 / 198 88 / 63 507 / 325 Cedars Rd 20 / 0 98 / 54 80 / 63 55 / 35 527 / 438 369 / 269	2 45 / 29 10 / 0 386 / 137 E Bonnyview Rd 241 / 132 1154 / 789 15 / 15 S Bonnyview Rd 55 / 23 1070 / 755 10 / 10 15 / 15 20 / 20 15 / 15	3 345 / 146 26 / 23 901 / 323 Bechelli Ln 431 / 246 1077 / 770 191 / 278 S Bonnyview Rd 258 / 140 1163 / 716 59 / 86 63 / 82 31 / 18 177 / 252	4 733 / 570 1 / 1 285 / 176 I-5 SB Ramps 1052 / 800 340 / 202 S Bonnyview Rd 1493 / 983 744 / 441
5 I-5 NB Ramps 380 / 296 915 / 628 S Bonnyview Rd 786 / 568 978 / 581 487 / 361 5 / 3 295 / 218	6 558 / 350 15 / 0 195 / 174 Churn Creek Rd 185 / 113 622 / 373 35 / 35 S Bonnyview Rd 498 / 397 720 / 385 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 747 / 521 5 / 0 Churn Creek Rd 105 / 77 850 / 485 12 / 0 10 / 0 5 / 5 5 / 0	8 222 / 231 105 / 73 Victor Ave 90 / 39 485 / 362 Churn Creek Rd 213 / 133 562 / 293
9 382 / 263 40 / 22 Rancho Rd 50 / 30 173 / 116 Churn Creek Rd 474 / 273 213 / 107	10 40 / 26 168 / 101 Churn Creek Rd 21 / 15 5 / 12 13 / 6 136 / 80		



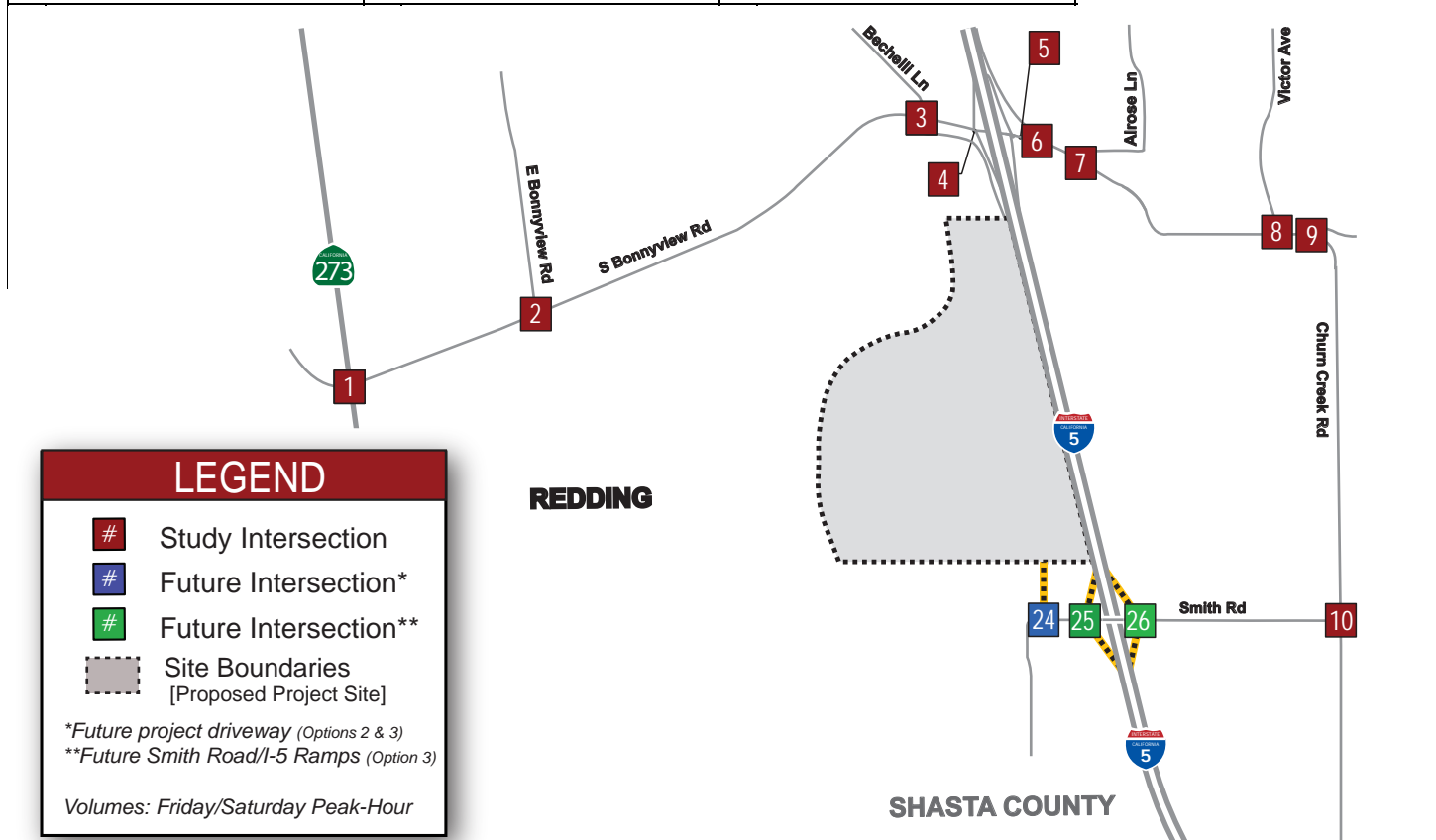
Redding Rancheria: Traffic Impact Study

1 20 / 10 772 / 423 472 / 386 S Market St (SR-273) Cedars Rd 20 / 0 98 / 54 80 / 63 313 / 228 88 / 63 527 / 339 S Bonnyview Rd 55 / 35 527 / 438 402 / 306	2 45 / 29 10 / 0 386 / 137 E Bonnyview Rd 241 / 132 1215 / 833 15 / 15 S Bonnyview Rd 55 / 23 1174 / 870 10 / 10 15 / 15 20 / 20 15 / 15	3 345 / 146 45 / 44 901 / 323 Bechelli Ln 431 / 246 1077 / 770 369 / 436 S Bonnyview Rd 258 / 140 1163 / 716 163 / 201 124 / 126 42 / 26 270 / 264	4 930 / 785 1 / 1 285 / 176 I-5 SB Ramps 1033 / 743 340 / 202 S Bonnyview Rd 1623 / 1071 707 / 365
5 I-5 NB Ramps 380 / 296 934 / 649 S Bonnyview Rd 905 / 649 989 / 589 449 / 283 5 / 3 295 / 218	6 558 / 350 15 / 0 195 / 174 Churn Creek Rd 185 / 113 641 / 394 35 / 35 S Bonnyview Rd 498 / 397 731 / 393 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 766 / 542 5 / 0 Churn Creek Rd 105 / 77 861 / 493 12 / 0 10 / 0 5 / 5 5 / 0	8 222 / 231 105 / 73 Victor Ave 90 / 39 504 / 383 Churn Creek Rd 213 / 133 573 / 301
9 401 / 284 40 / 22 Rancho Rd 50 / 30 173 / 116 Churn Creek Rd 485 / 281 213 / 107	10 40 / 26 168 / 101 Churn Creek Rd Smith Rd 21 / 15 133 / 149 202 / 246 136 / 80	24 128 / 137 Proposed Project South Access 189 / 240 Smith Rd	



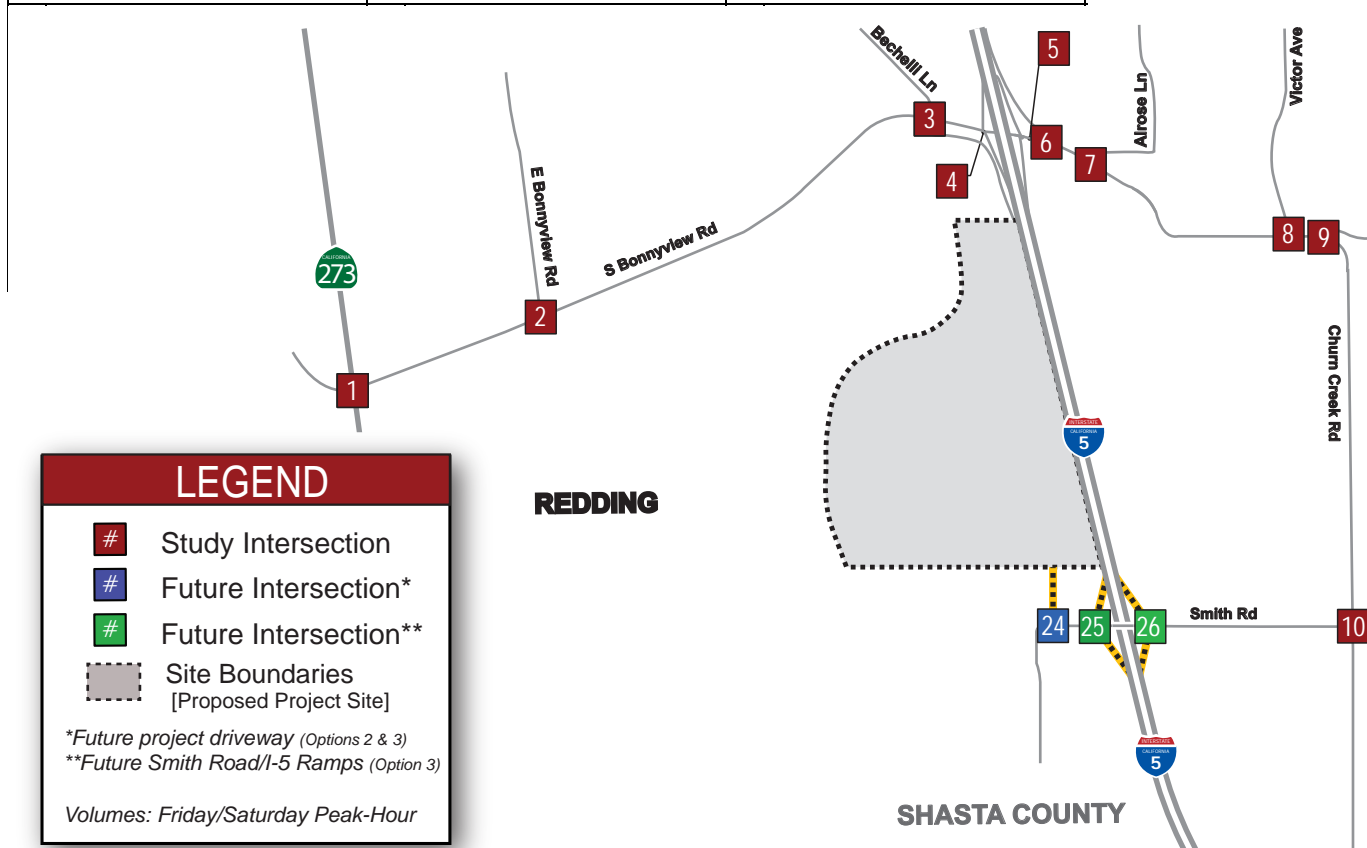
Redding Rancheria: Traffic Impact Study

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5 I-5 NB Ramps 380 / 296 930 / 640 S Bonnyview Rd 854 / 549 985 / 580 443 / 270 5 / 3 295 / 218	6 558 / 350 15 / 0 195 / 174 Churn Creek Rd 185 / 113 637 / 385 35 / 35 S Bonnyview Rd 498 / 397 727 / 384 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 762 / 533 5 / 0 Churn Creek Rd 105 / 77 857 / 484 12 / 0 10 / 0 5 / 5 5 / 0	8 222 / 231 105 / 73 Victor Ave 90 / 39 500 / 374 Churn Creek Rd 213 / 133 569 / 292
9 397 / 275 40 / 22 Rancho Rd 50 / 30 173 / 116 Churn Creek Rd 481 / 272 213 / 107	10 40 / 26 168 / 101 Churn Creek Rd Smith Rd 21 / 15 99 / 83 171 / 178 136 / 80	24 94 / 71 Proposed Project South Access 158 / 172 Smith Rd	



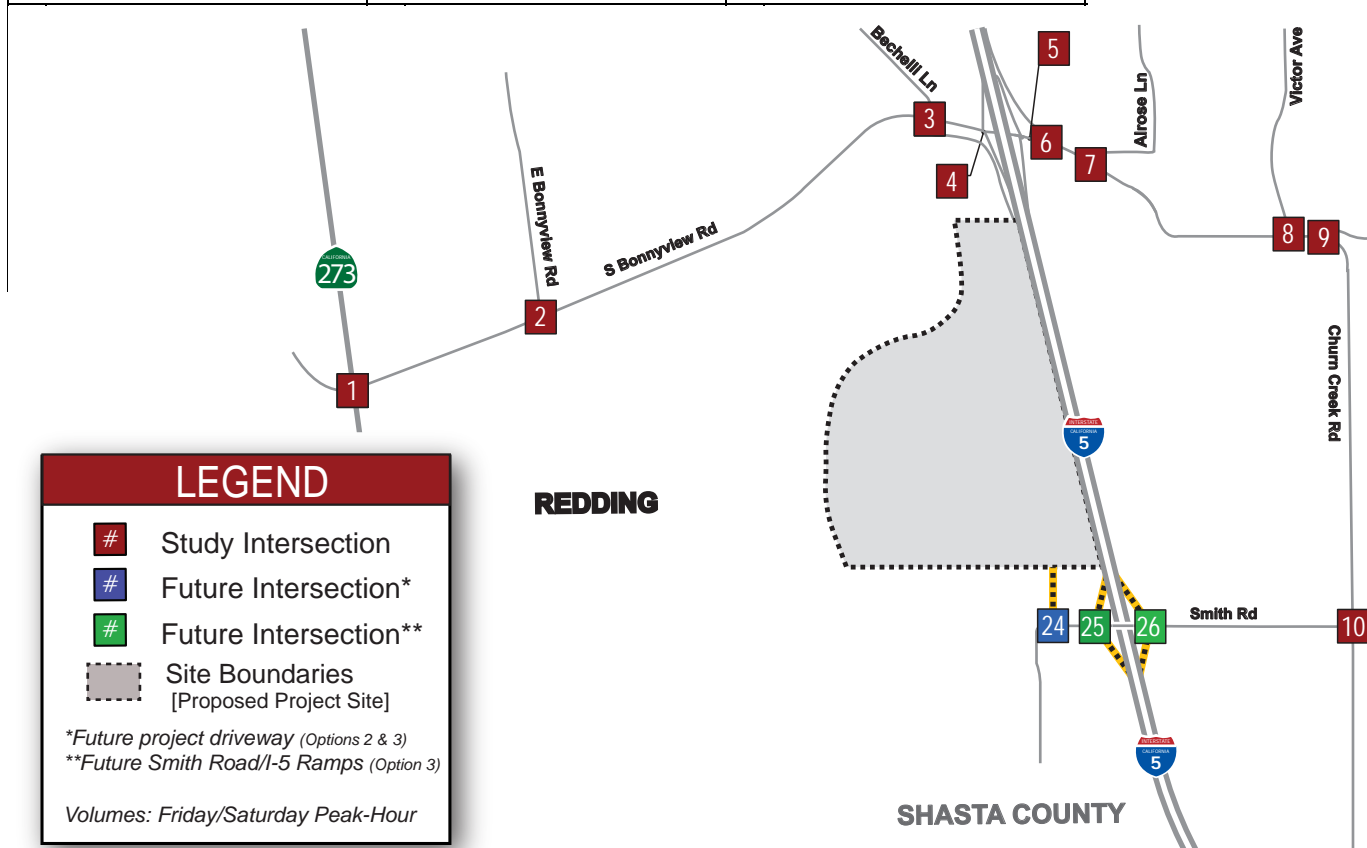
Redding Rancheria: Traffic Impact Study

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5 I-5 NB Ramps 380 / 296 931 / 646 S Bonnyview Rd 874 / 627 986 / 587 445 / 279 5 / 3 295 / 218	6 558 / 350 15 / 0 195 / 174 Churn Creek Rd 185 / 113 638 / 391 35 / 35 S Bonnyview Rd 498 / 397 728 / 391 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 763 / 539 5 / 0 Churn Creek Rd 105 / 77 858 / 491 12 / 0 10 / 0 5 / 5 5 / 0	8 222 / 231 105 / 73 Victor Ave 90 / 39 501 / 380 Churn Creek Rd 213 / 133 570 / 299
9 398 / 281 40 / 22 Rancho Rd 50 / 30 173 / 116 Churn Creek Rd 482 / 279 213 / 107	10 40 / 26 168 / 101 Churn Creek Rd Smith Rd 21 / 15 112 / 134 181 / 223 136 / 80	24 107 / 122 Proposed Project South Access 168 / 217 Smith Rd	

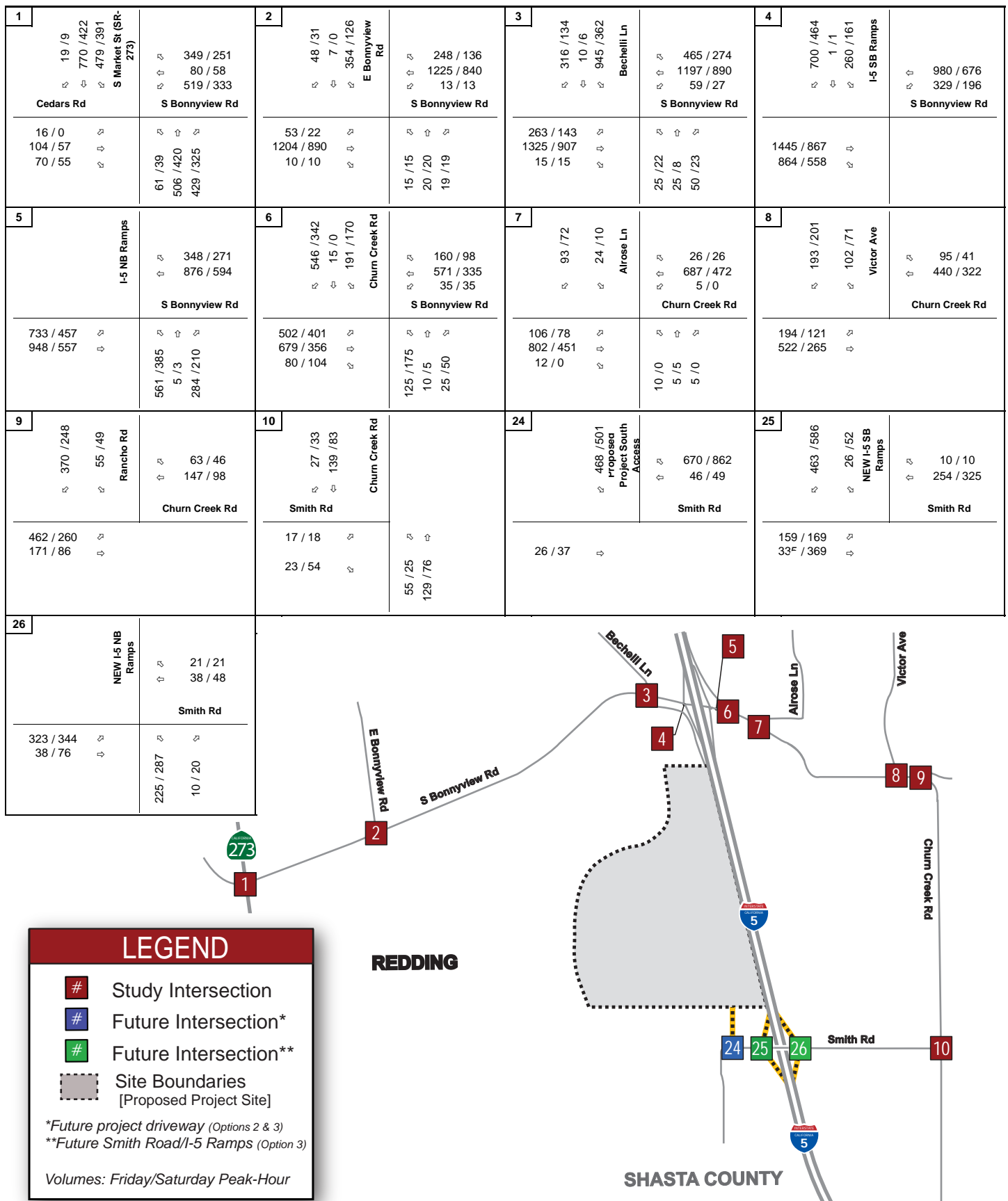


Redding Rancheria: Traffic Impact Study

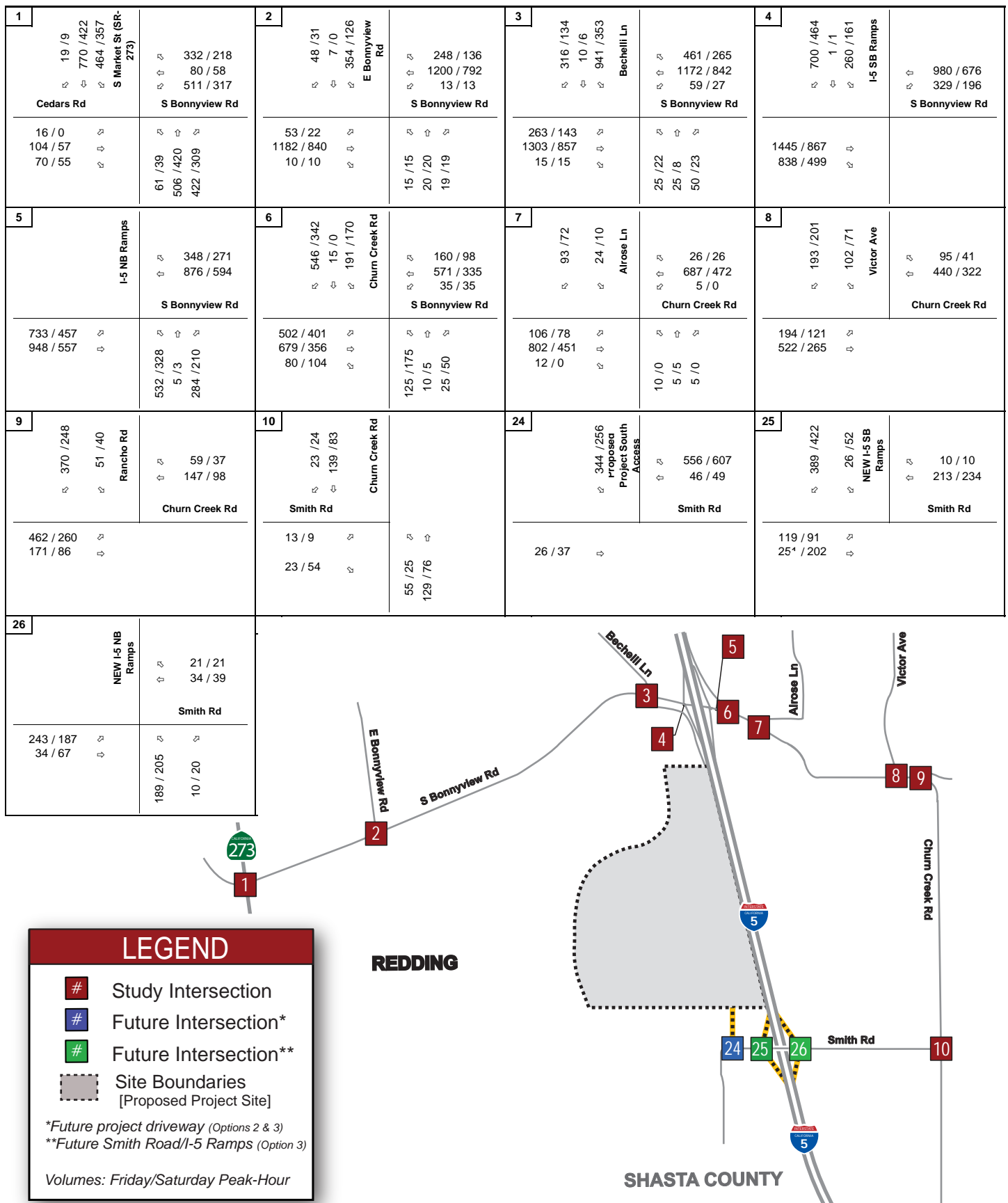
1 20 / 10 772 / 423 401 / 308 S Market St (SR-273) Cedars Rd 20 / 0 98 / 54 80 / 63 271 / 198 88 / 63 507 / 325 S Bonnyview Rd 55 / 35 527 / 438 369 / 269	2 45 / 29 10 / 0 386 / 137 E Bonnyview Rd 241 / 132 1154 / 789 15 / 15 S Bonnyview Rd 55 / 23 1070 / 755 10 / 10 15 / 15 20 / 20 15 / 15	3 345 / 146 26 / 23 901 / 323 Bechelli Ln 431 / 246 1077 / 770 145 / 194 S Bonnyview Rd 258 / 140 1163 / 716 59 / 86 63 / 82 31 / 18 132 / 175	4 733 / 570 1 / 1 285 / 176 I-5 SB Ramps 1007 / 717 340 / 202 S Bonnyview Rd 1493 / 983 699 / 364
5 I-5 NB Ramps 380 / 296 915 / 628 S Bonnyview Rd 786 / 568 978 / 581 441 / 278 5 / 3 295 / 218	6 558 / 350 15 / 0 195 / 174 Churn Creek Rd 185 / 113 622 / 373 35 / 35 S Bonnyview Rd 498 / 397 720 / 385 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 747 / 521 5 / 0 Churn Creek Rd 105 / 77 850 / 485 12 / 0 10 / 0 5 / 5 5 / 0	8 222 / 231 105 / 73 Victor Ave 90 / 39 485 / 362 Churn Creek Rd 213 / 133 562 / 293
9 382 / 263 40 / 22 Rancho Rd 50 / 30 173 / 116 Churn Creek Rd 474 / 273 213 / 107	10 40 / 26 168 / 101 Churn Creek Rd 21 / 15 50 / 88 59 / 89 136 / 80	24 45 / 76 Proposed Project South Access 46 / 83 Smith Rd	



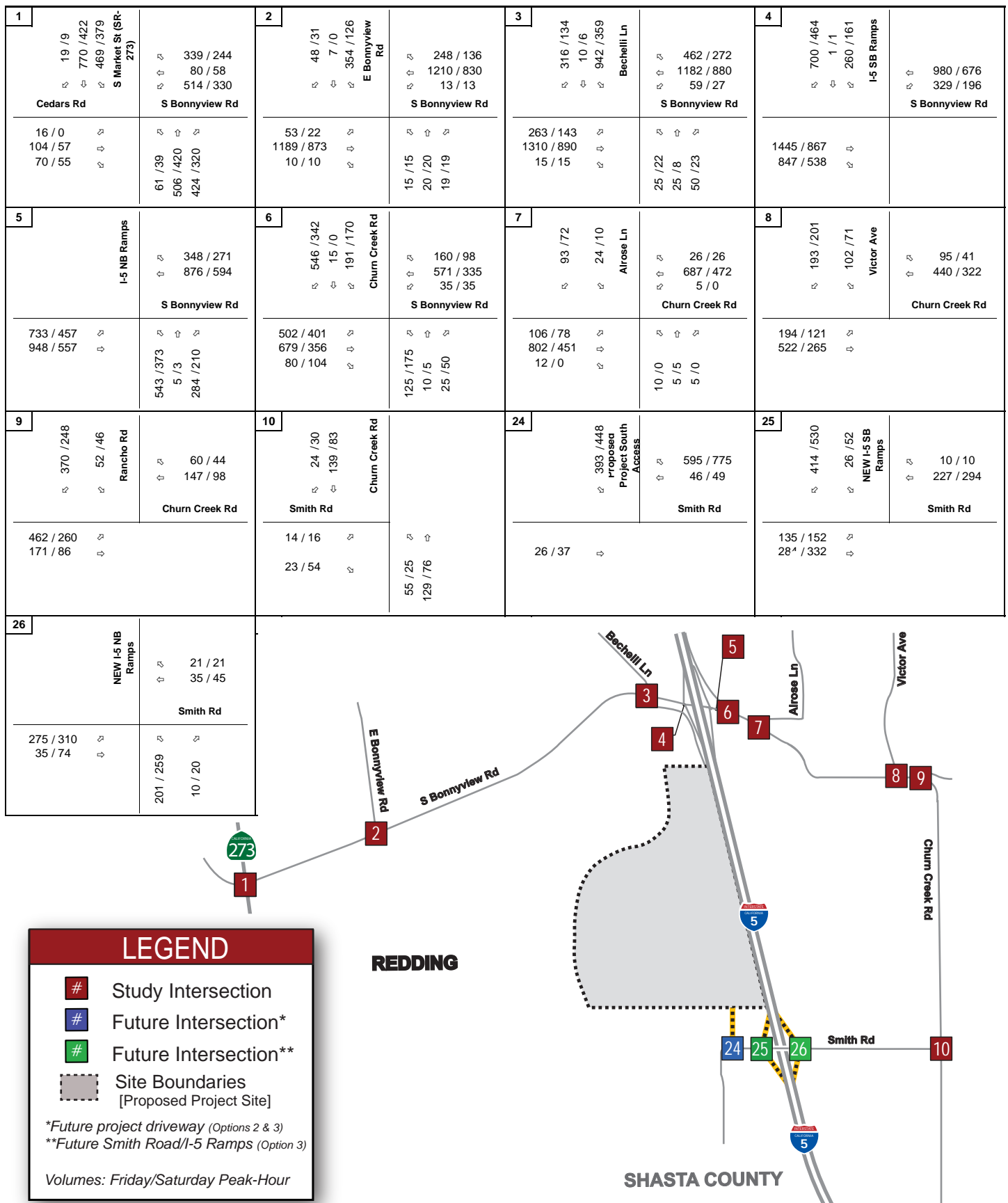
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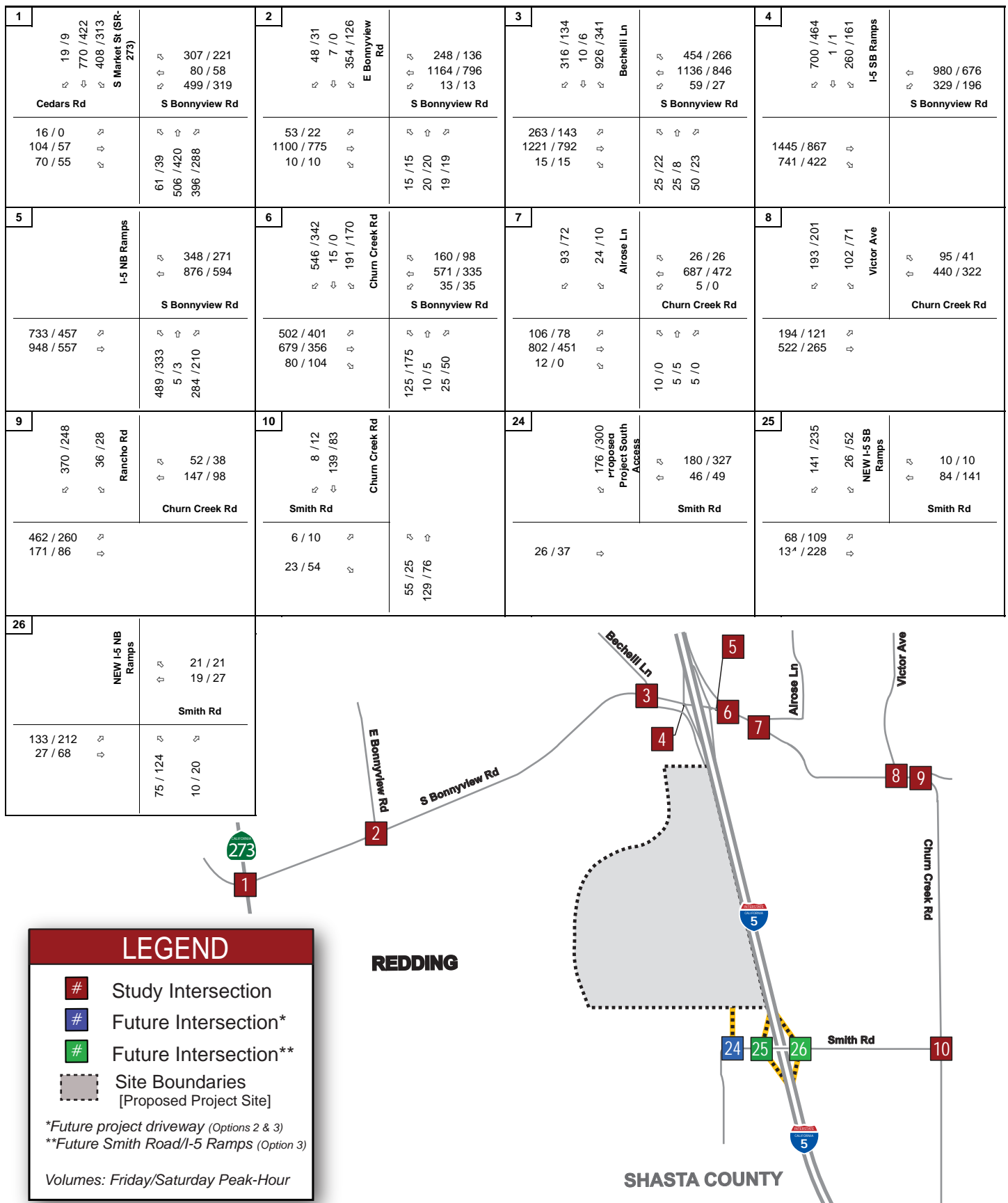
Redding Rancheria: Traffic Impact Study



Redding Rancheria: Traffic Impact Study



Redding Rancheria: Traffic Impact Study



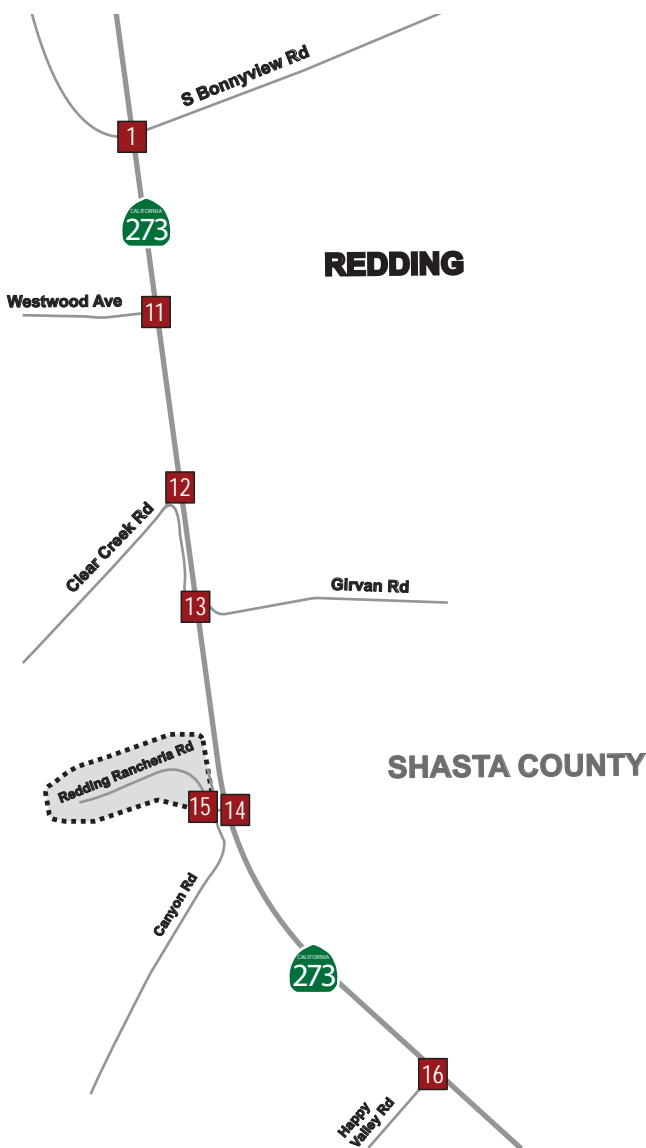
Redding Rancheria: Traffic Impact Study

17 <div> <div>18 / 9</div> <div>404 / 252</div> <div>224 / 232</div> <div>S Market St (SR-273)</div> </div> <div> <div>175 / 166</div> <div>117 / 69</div> <div>256 / 155</div> <div>North St</div> </div> <div> <div>15 / 5</div> <div>126 / 95</div> <div>68 / 22</div> </div> <div> <div>66 / 33</div> <div>250 / 190</div> <div>253 / 182</div> </div>	18 <div> <div>114 / 119</div> <div>128 / 139</div> <div>276 / 296</div> <div>Oak St</div> </div> <div> <div>380 / 460</div> <div>505 / 266</div> <div>13 / 10</div> <div>North St</div> </div> <div> <div>177 / 208</div> <div>407 / 261</div> <div>4 / 2</div> </div> <div> <div>4 / 4</div> <div>176 / 220</div> <div>16 / 13</div> </div>	19 <div> <div>568 / 560</div> <div>227 / 136</div> <div>I-5 SB Ramps</div> </div> <div> <div>374 / 227</div> <div>North St</div> </div> <div> <div>742 / 592</div> </div>	20 <div> <div>I-5 NB Ramps</div> <div>44 / 48</div> <div>279 / 168</div> <div>214 / 161</div> <div>North St</div> </div> <div> <div>351 / 305</div> <div>249 / 178</div> <div>317 / 212</div> <div>McMurray Dr</div> </div> <div> <div>93 / 62</div> <div>241 / 146</div> <div>262 / 218</div> </div>
21 <div> <div>149 / 137</div> <div>Oak St</div> </div> <div> <div>171 / 208</div> <div>392 / 308</div> <div>23 / 39</div> <div>Balls Ferry Rd</div> </div> <div> <div>3 / 3</div> <div>400 / 227</div> <div>12 / 4</div> </div> <div> <div>16 / 13</div> <div>4 / 5</div> <div>56 / 35</div> </div>	22 <div> <div>9 / 27</div> <div>83 / 52</div> <div>24 / 15</div> <div>Ventura St</div> </div> <div> <div>27 / 21</div> <div>570 / 537</div> <div>513 / 430</div> <div>Balls Ferry Rd</div> </div> <div> <div>4 / 3</div> <div>439 / 243</div> <div>168 / 157</div> <div>I-5 SB Ramp</div> </div>	23 <div> <div>272 / 233</div> <div>232 / 162</div> <div>McMurray Dr</div> </div> <div> <div>197 / 137</div> <div>631 / 512</div> <div>Balls Ferry Rd</div> </div> <div> <div>115 / 61</div> <div>341 / 186</div> </div> <div> <div>I-5 NB Ramp</div> <div>279 / 276</div> <div>177 / 132</div> <div>256 / 148</div> </div>	



Redding Rancheria: Traffic Impact Study

1 9 / 5 720 / 424 338 / 238 S Market St (SR-273) Cedars Rd 10 / 0 83 / 46 68 / 54	224 / 144 80 / 57 554 / 409 S Bonnyview Rd 55 / 35 435 / 360 408 / 293	11 421 / 257 777 / 531 S Market St (SR-273) Westwood Ave 278 / 207 236 / 177	152 / 130 592 / 392	12 77 / 56 931 / 648 S Market St (SR-273) Clear Creek Rd 130 / 73 37 / 19	21 / 23 627 / 451	13 32 / 29 814 / 561 94 / 69 S Market St (SR-273) Girvan Rd 8 / 15 20 / 12 57 / 40	61 / 51 18 / 6 160 / 103 35 / 31 580 / 416 148 / 101
14 496 / 402 547 / 306 S Market St (SR-273) Redding Rancheria Rd 377 / 312 83 / 57	94 / 88 472 / 277	15 15 / 10 229 / 185 Canyon Rd 235 / 272 350 / 196 Redding Rancheria Rd 11 / 12 222 / 213	16 72 / 47 479 / 274 S Market St (SR-273) Happy Valley Rd 65 / 41 79 / 56	77 / 58 382 / 278			



Proposed Project LOS Conditions and Impacts at Intersections

Traffic operations were evaluated under Opening Year (2025) and Cumulative (2040) development conditions.

Opening Year (2025) plus Project

Results of the analysis under Opening Year (2025) plus Project Conditions are presented in **Tables 23-27**. Additional details are provided in **Appendix F**.

Table 23 – Opening Year (2025) plus Proposed Project Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with North Only Access Alternative (Option 1)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025)		Opening Year (2025) plus Proposed Project (1A)		Opening Year (2025) plus Proposed Project (1B)		Opening Year (2025) plus Proposed Project (1C)		Opening Year (2025) plus Proposed Project (1D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	23.2	C	24.2	C	23.4	C	22.8	C	21.4	C
				SAT PM	20.2	C	17.8	B	17.1	B	17.6	B	16.2	B
2	S Bonnyview Rd @ E Bonnyview Rd	Signal	D	FRI PM	17.8	B	18.3	B	17.9	B	18.1	B	17.3	B
				SAT PM	7.5	A	7.5	A	7.4	A	7.5	A	7.4	A
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	49.9	D	402.3	F	302.2	F	334.3	F	89.6	F
				SAT PM	15.1	B	531.5	F	253.2	F	438.9	F	92.5	F
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	103.1	F	179.4	F	157.3	F	165.5	F	115.8	F
				SAT PM	27.9	C	76.9	E	54.6	D	68.8	E	35.0	D
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	54.6	D	119.3	F	99.0	F	106.4	F	64.7	E
				SAT PM	19.7	B	63.3	E	30.8	C	52.9	D	27.2	C
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	96.2	F	95.8	F	95.9	F	95.9	F	96.1	F
				SAT PM	43.6	D	43.5	D	43.6	D	43.5	D	43.5	D
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	17.2	C	17.9	C	17.7	C	17.8	C	17.3	C
				SAT PM	11.2	B	11.4	B	11.4	B	11.4	B	11.3	B
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	68.0	F	80.8	F	78.9	F	78.9	F	70.3	F
				SAT PM	16.6	C	17.7	C	17.3	C	17.6	C	16.9	C
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	21.1	C	23.1	C	22.5	C	22.6	C	21.4	C
				SAT PM	11.2	B	11.5	B	11.3	B	11.4	B	11.3	B
10	Churn Creek Rd @ Smith Rd	SSSC*	C	FRI PM	10.3	B	10.3	B	10.3	B	10.3	B	10.3	B
				SAT PM	9.3	A	9.3	A	9.3	A	9.3	A	9.3	A

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

Table 24 – Opening Year (2025) plus Proposed Project Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with North and South Access Alternative (Option 2)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025)		Opening Year (2025) plus Proposed Project (2A)		Opening Year (2025) plus Proposed Project (2B)		Opening Year (2025) plus Proposed Project (2C)		Opening Year (2025) plus Proposed Project (2D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	23.2	C	23.3	C	22.6	C	22.8	C	20.7	C
				SAT PM	20.2	C	17.8	B	17.1	B	17.6	B	16.2	B
2	S Bonnyview Rd @ E Bonnyview Rd	Signal	D	FRI PM	17.8	B	18.3	B	17.9	B	18.1	B	17.3	B
				SAT PM	7.5	A	7.5	A	7.4	A	7.5	A	7.4	A
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	49.9	D	210.6	F	159.1	F	179.8	F	68.9	E
				SAT PM	15.1	B	224.1	F	97.0	F	177.8	F	42.9	D
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	103.1	F	165.5	F	147.6	F	154.2	F	109.7	F
				SAT PM	27.9	C	82.2	F	56.8	E	72.9	E	35.1	D
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	54.6	D	91.7	F	77.3	E	82.8	F	60.6	E
				SAT PM	19.7	B	41.7	D	22.3	C	36.9	D	25.6	C
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	96.2	F	95.8	F	95.9	F	95.9	F	96.1	F
				SAT PM	43.6	D	43.5	D	43.6	D	43.5	D	43.5	D
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	17.2	C	17.9	C	17.7	C	17.8	C	17.3	C
				SAT PM	11.2	B	11.4	B	11.4	B	11.4	B	11.3	B
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	68.0	F	80.8	F	78.9	F	78.9	F	70.3	F
				SAT PM	16.6	C	17.7	C	17.3	C	17.6	C	16.9	C
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	21.1	C	23.1	C	22.5	C	22.6	C	21.4	C
				SAT PM	11.2	B	11.5	B	11.3	B	11.4	B	11.3	B
10	Churn Creek Rd @ Smith Rd	SSSC*	C	FRI PM	10.3	B	11.2	B	10.9	B	11.0	B	10.1	B
				SAT PM	9.3	A	10.4	B	10.0	B	10.3	B	9.6	A
24	Smith Rd @ Proposed Project South Dwy	SSSC*	C	FRI PM	-	-	10.1	B	9.7	A	9.8	A	9.0	A
				SAT PM	-	-	10.3	B	9.5	A	10.1	B	9.3	A

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

Table 25 – Opening Year (2025) plus Proposed Project Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with South Only and New Interchange Access Alternative (Option 3)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025)		Opening Year (2025) plus Proposed Project (3A)		Opening Year (2025) plus Proposed Project (3B)		Opening Year (2025) plus Proposed Project (3C)		Opening Year (2025) plus Proposed Project (3D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	23.2	C	22.9	C	23.1	C	23.4	C	21.1	C
				SAT PM	20.2	C	17.4	B	17.2	B	17.8	B	16.4	B
2	S Bonnyview Rd @ E Bonnyview Rd	Signal	D	FRI PM	17.8	B	17.0	B	16.7	B	16.8	B	16.1	B
				SAT PM	7.5	A	7.3	A	7.2	A	7.3	A	7.2	A
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	49.9	D	53.5	D	52.7	D	53.0	D	51.5	D
				SAT PM	15.1	B	15.7	B	15.4	B	15.6	B	15.2	B
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	103.1	F	123.5	F	119.0	F	120.6	F	103.0	F
				SAT PM	27.9	C	27.3	C	26.5	C	26.9	C	26.0	C
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	54.6	D	64.4	E	59.3	E	61.0	E	53.1	D
				SAT PM	19.7	B	21.7	C	20.1	C	21.3	C	20.4	C
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	96.2	F	95.3	F	95.3	F	95.3	F	95.3	F
				SAT PM	43.6	D	44.3	D	44.3	D	44.3	D	44.3	D
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	17.2	C	15.6	C	15.6	C	15.6	C	15.6	C
				SAT PM	11.2	B	10.9	B	10.9	B	10.9	B	10.9	B
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	68.0	F	42.8	E	42.8	E	42.8	E	42.8	E
				SAT PM	16.6	C	15.0	C	15.0	C	15.0	C	15.0	C
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	21.1	C	24.4	C	22.6	C	23.0	C	17.8	C
				SAT PM	11.2	B	12.5	B	11.9	B	12.3	B	11.3	B
10	Churn Creek Rd @ Smith Rd	SSSC*	C	FRI PM	10.3	B	10.1	B	9.9	A	10.0	B	9.5	A
				SAT PM	9.3	A	9.3	A	9.1	A	9.2	A	9.1	A
24	Smith Rd @ Proposed Project South Dwy	SSSC*	C	FRI PM	-	-	12.9	B	11.1	B	11.7	B	9.7	A
				SAT PM	-	-	13.4	B	15.2	C	12.4	B	10.6	B
25	Smith Rd @ I-5 SB Ramps	Signal	D	FRI PM	-	-	6.6	A	6.9	A	6.9	A	7.0	A
				SAT PM	-	-	9.7	A	15.9	C	8.3	A	6.6	A
26	Smith Rd @ I-5 NB Ramps	AWSC	D	FRI PM	-	-	11.5	B	9.9	A	10.4	B	8.0	A
				SAT PM	-	-	13.1	B	17.2	C	11.8	B	9.0	A

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 *Highway Capacity Manual* and performed using Synchro 9.0

Table 26 – Opening Year (2025) plus Proposed Project Intersection Level of Service Summary at Anderson Site (Alternative E)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025)		Opening Year (2025) plus Proposed Project (E)	
					Delay (sec)	LOS	Delay (sec)	LOS
17	SR-273 (Market St) @ North St	Signal	D	FRI PM	15.9	B	25.1	C
				SAT PM	12.7	B	19.6	B
18	North St @ Oak St	SSSC*	D	FRI PM	24.3	C	-	F
				SAT PM	14.6	B	-	F
19	North St @ I-5 SB Off Ramp	AWSC	D	FRI PM	12.2	B	36.1	E
				SAT PM	9.0	A	26.5	D
20	North Street @ McMurray Dr/I-5 NB On Ramp	AWSC	D	FRI PM	36.2	E	60.7	F
				SAT PM	13.7	B	18.5	C
21	Balls Ferry Rd @ Oak St	SSSC*	D	FRI PM	15.0	C	24.2	C
				SAT PM	12.8	B	19.2	C
22	Balls Ferry Rd @ Venutra St/I-5 SB On Ramp	Signal	D	FRI PM	26.5	C	26.8	C
				SAT PM	8.6	A	23.1	C
23	Balls Ferry Rd @ McMurray Dr/I-5 NB Off Ramp	Signal	D	FRI PM	23.3	C	25.1	C
				SAT PM	8.3	A	21.4	C

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

Table 27 – Opening Year (2025) plus Proposed Project Intersection Level of Service Summary at Win River Casino Site (Alternative F)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025)		Opening Year (2025) plus Proposed Project (F)	
					Delay (sec)	LOS	Delay (sec)	LOS
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	23.2	C	23.2	C
				SAT PM	20.2	C	17.2	B
11	SR-273 (Market St) @ Westwood Ave	Signal	D	FRI PM	12.7	B	12.7	B
				SAT PM	10.2	B	9.8	A
12	SR-273 (Market St) @ Clear Creek Rd	Signal	D	FRI PM	6.2	A	6.2	A
				SAT PM	5.4	A	5.4	A
13	SR-273 (Market St) @ Girvan Rd	Signal	D	FRI PM	14.7	B	15.0	B
				SAT PM	12.3	B	12.4	B
14	SR-273 (Market St) @ Redding Rancheria Rd	Signal	D	FRI PM	9.1	A	9.8	A
				SAT PM	8.1	A	8.6	A
15	Canyon Rd @ Redding Rancheria Rd	Signal	D	FRI PM	11.5	B	11.9	B
				SAT PM	10.0	A	10.2	B
16	SR-273 (Market St) @ Happy Valley Rd	Signal	D	FRI PM	7.4	A	7.4	A
				SAT PM	6.4	A	6.3	A

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.

(b) LOS calculations are based on the methodology outlined in the *2010 Highway Capacity Manual* and performed using Synchro 9.0

As shown in the **Tables 23 - 27**, the following intersections would fail to meet acceptable level of service thresholds in the Opening Year (2025) scenario. These intersections fail based on established significance criteria and with the addition of project-related traffic to create a potentially significant impact.

Opening Year (2025) Intersection Operating Deficiently

Strawberry Fields Site: North Only Access Alternative (Option 1)

- #3 – Bonnyview Road at Bechelli Lane (Alternatives A, B, C, D)
- #4 – Bonnyview Road at I-5 SB Ramps (Alternatives A, B, C, D)
- #5 – Bonnyview Road at I-5 NB Ramps (Alternative A, B, C, D)
- #6 – Bonnyview Road at Churn Creek Road (Alternative A, B, C, D)
- #8 – Churn Creek Road at Victor Avenue (Alternatives A, B, C, D)

Strawberry Fields Site: North and South Access Alternative (Option 2)

- #3 – Bonnyview Road at Bechelli Lane (Alternatives A, B, C, D)
- #4 – Bonnyview Road at I-5 SB Ramps (Alternatives A, B, C, D)
- #5 – Bonnyview Road at I-5 NB Ramps (Alternative A, B, C, D)
- #6 – Bonnyview Road at Churn Creek Road (Alternative A, B, C, D)
- #8 – Churn Creek Road at Victor Avenue (Alternatives A, B, C, D)

Strawberry Fields Site: South Only Access with New Interchange Alternative (Option 3)

- #4 – Bonnyview Road at I-5 SB Ramps (Alternatives A, B, C, D)
- #5 – Bonnyview Road at I-5 NB Ramps (Alternative A, B, C, D)

Anderson Site (Alternative E)

- #18 – North Street at Oak Street
- #19 – North Street at I-5 Southbound Off Ramp
- #20 – North Street at McMurray Drive and I-5 Northbound On-Ramp

Cumulative (2040) plus Project

Results of the analysis under Cumulative (2040) plus Project Conditions are presented in **Tables 28-32**. Additional details are provided in **Appendix G**.

Table 28 – Cumulative (2040) plus Proposed Project Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with North Only Access Alternative (Option 1)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040)		Cumulative (2040) plus Proposed Project (1A)		Cumulative (2040) plus Proposed Project (1B)		Cumulative (2040) Proposed Project (1C)		Cumulative (2040) plus Proposed Project (1D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	28.4	C	28.5	C	27.5	C	27.8	B	24.6	C
				SAT PM	18.7	B	19.4	B	18.6	B	19.1	B	17.6	B
2	S Bonnyview Rd @ E Bonnyview Rd	Signal	D	FRI PM	24.8	C	26.0	C	25.0	C	25.3	C	23.4	C
				SAT PM	8.3	A	8.4	A	8.3	A	8.4	A	8.3	A
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	116.9	F	301.7	F	281.3	F	297.2	F	206.9	F
				SAT PM	89.2	F	536.5	F	435.9	F	440.5	F	343.4	F
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	46.1	D	194.9	F	167.6	F	189.7	F	119.8	F
				SAT PM	38.1	D	338.4	F	308.7	F	252.1	F	223.0	F
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	32.3	C	167.2	F	144.6	F	153.8	F	68.3	E
				SAT PM	19.7	B	291.5	F	253.9	F	232.6	F	133.3	F
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	39.4	D	221.0	F	202.4	F	213.1	F	82.4	F
				SAT PM	20.5	C	361.8	F	313.8	F	357.2	F	109.9	F
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	10.8	B	234.3	F	222.3	F	257.1	F	77.6	F
				SAT PM	1.6	A	456.0	F	420.3	F	430.1	F	98.5	F
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	439.6	F	486.0	F	476.3	F	476.3	F	439.6	F
				SAT PM	31.7	D	36.6	E	34.6	D	35.9	E	33.2	D
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	72.2	F	91.3	F	87.6	F	88.3	F	76.7	F
				SAT PM	12.8	B	13.3	B	13.1	B	13.2	B	12.9	B
10	Churn Creek Rd @ Smith Rd	SSSC*	C	FRI PM	10.8	B	10.8	B	10.8	B	10.8	B	10.8	B
				SAT PM	9.5	A	9.5	A	9.5	A	9.5	A	9.5	A

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 *Highway Capacity Manual* and performed using Synchro 9.0

(c) LOS calculations for intersections 3-7 were performed using VISSIM, all other intersections were performed using Synchro 9.0

Table 29 – Cumulative (2040) plus Proposed Project Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with North and South Access Alternative (Option 2)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040)		Cumulative (2040) plus Proposed Project (2A)		Cumulative (2040) plus Proposed Project (2B)		Cumulative (2040) Proposed Project (2C)		Cumulative (2040) plus Proposed Project (2D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	28.4	C	28.5	C	27.5	C	27.8	C	24.6	C
				SAT PM	18.7	B	19.4	B	18.6	B	19.1	B	17.6	B
2	S Bonnyview Rd @ E Bonnyview Rd	Signal	D	FRI PM	24.8	C	26.0	C	25.0	C	25.3	C	23.4	C
				SAT PM	8.3	A	8.4	A	8.3	A	8.4	A	8.3	A
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	116.9	F	291.5	F	256.8	F	244.9	F	185.3	F
				SAT PM	89.2	F	405.8	F	285.9	F	373.2	F	250.6	F
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	46.1	D	181.9	F	148.7	F	155.6	F	104.9	F
				SAT PM	38.1	D	325.7	F	240.8	F	298.5	F	181.7	F
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	32.3	C	130.8	F	99.7	F	117.6	F	56.5	E
				SAT PM	19.7	B	229.8	F	149.4	F	193.6	F	97.4	F
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	39.4	D	178.4	F	125.0	F	147.4	F	72.6	E
				SAT PM	20.5	C	273.6	F	147.4	F	188.7	F	97.7	F
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	10.8	B	201.1	F	127.9	F	171.2	F	64.2	F
				SAT PM	1.6	A	281.3	F	133.9	F	181.7	F	88.6	F
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	439.6	F	486.0	F	26.4	F	476.3	F	25.5	F
				SAT PM	31.7	D	36.6	E	34.6	D	35.9	E	33.2	D
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	72.2	F	91.3	F	87.6	F	88.3	F	76.7	F
				SAT PM	12.8	B	13.3	B	13.1	B	13.2	B	12.9	B
10	Churn Creek Rd @ Smith Rd	SSSC*	C	FRI PM	10.8	B	12.2	B	11.8	B	11.9	B	10.7	B
				SAT PM	9.5	A	11.0	B	10.4	B	10.7	B	9.9	A
24	Smith Rd @ Proposed Project South Dwy	SSSC*	C	FRI PM	-	-	10.2	B	9.8	A	9.9	A	9.1	A
				SAT PM	-	-	10.4	B	9.6	A	10.2	B	9.4	A

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

(c) LOS calculations for intersections 3-7 were performed using VISSIM, all other intersections were performed using Synchro 9.0

Table 30 – Cumulative (2040) plus Proposed Project Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with South Only and New Interchange Access Alternative (Option 3)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040)		Cumulative (2040) plus Proposed Project (3A)		Cumulative (2040) plus Proposed Project (3B)		Cumulative (2040) Proposed Project (3C)		Cumulative (2040) plus Proposed Project (3D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	28.4	C	28.4	C	28.3	C	28.6	C	25.2	C
				SAT PM	18.7	B	20.3	C	18.8	B	19.4	B	17.9	B
2	S Bonnyview Rd @ E Bonnyview Rd	Signal	D	FRI PM	24.8	C	23.3	C	22.6	C	22.8	C	21.2	C
				SAT PM	8.3	A	8.2	A	8.1	A	8.1	A	8.0	A
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	116.9	F	114.2	F	120.6	F	116.4	F	119.4	F
				SAT PM	89.2	F	94.5	F	87.8	F	94.7	F	88.4	F
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	46.1	D	45.9	D	47.3	D	46.3	D	46.9	D
				SAT PM	38.1	D	38.3	D	37.2	D	38.3	D	37.8	D
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	32.3	C	33.6	C	33.6	C	33.7	C	33.2	C
				SAT PM	19.7	B	22.3	C	21.1	C	22.3	C	21.0	C
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	39.4	D	35.9	D	37.3	D	37.1	D	36.6	D
				SAT PM	20.5	C	19.6	B	20.1	C	19.3	B	20.2	C
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	10.8	B	7.6	A	7.3	A	8.2	A	7.6	A
				SAT PM	1.6	A	1.5	A	1.5	A	1.5	A	1.6	A
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	439.6	F	270.3	F	270.3	F	270.3	F	270.3	F
				SAT PM	31.7	D	23.8	C	23.8	C	23.8	C	23.8	C
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	72.2	F	97.6	F	81.0	F	83.9	F	41.2	E
				SAT PM	12.8	B	15.2	C	14.1	B	14.8	B	12.9	B
10	Churn Creek Rd @ Smith Rd	SSSC*	C	FRI PM	10.8	B	10.4	B	10.2	B	10.3	B	9.7	A
				SAT PM	9.5	A	9.5	A	9.3	A	9.4	A	9.2	A
24	Smith Rd @ Proposed Project South Dwy	SSSC*	C	FRI PM	-	-	13.1	B	11.2	B	11.9	B	9.7	A
				SAT PM	-	-	13.4	B	10.2	B	12.4	B	10.6	B
25	Smith Rd @ I-5 SB Ramps	Signal	D	FRI PM	-	-	17.8	B	12.3	B	13.5	B	7.7	A
				SAT PM	-	-	35.4	D	12.5	B	22.9	C	9.0	A
26	Smith Rd @ I-5 NB Ramps	AWSC	D	FRI PM	-	-	11.5	B	9.9	A	11.0	B	8.1	A
				SAT PM	-	-	13.1	B	9.4	A	11.8	B	9.0	A

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

(c) LOS calculations for intersections 3-7 were performed using VISSIM, all other intersections were performed using Synchro 9.0

Table 31 – Cumulative (2040) plus Proposed Project Intersection Level of Service Summary at Anderson Site (Alternative E)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040)		Cumulative (2040) plus Proposed Project (E)	
					Delay (sec)	LOS	Delay (sec)	LOS
17	SR-273 (Market St) @ North St	Signal	D	FRI PM	20.0	B	42.2	D
				SAT PM	13.8	B	28.2	C
18	North St @ Oak St	SSSC*	D	FRI PM	33.1	D	-	F
				SAT PM	16.6	C	-	F
19	North St @ I-5 SB Off Ramp	AWSC	D	FRI PM	13.7	B	52.3	F
				SAT PM	9.4	A	35.7	E
20	North Street @ McMurray Dr/I-5 NB On Ramp	AWSC	D	FRI PM	72.3	F	95.7	F
				SAT PM	18.8	C	26.5	D
21	Balls Ferry Rd @ Oak St	SSSC*	D	FRI PM	19.6	C	43.6	E
				SAT PM	15.0	C	26.0	D
22	Balls Ferry Rd @ Venutra St/I-5 SB On Ramp	Signal	D	FRI PM	28.3	C	33.0	C
				SAT PM	23.0	D	23.8	C
23	Balls Ferry Rd @ McMurray Dr/I-5 NB Off Ramp	Signal	D	FRI PM	41.7	D	43.0	D
				SAT PM	42.2	D	40.8	D

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 *Highway Capacity Manual* and performed using Synchro 9.0

Table 32 – Cumulative (2040) plus Proposed Project Intersection Level of Service Summary at Win River Casino Site (Alternative F)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040)		Cumulative (2040) plus Proposed Project (F)	
					Delay (sec)	LOS	Delay (sec)	LOS
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	28.4	C	31.8	C
				SAT PM	18.7	B	19.5	B
11	SR-273 (Market St) @ Westwood Ave	Signal	D	FRI PM	13.8	B	13.8	B
				SAT PM	10.3	B	10.3	B
12	SR-273 (Market St) @ Clear Creek Rd	Signal	D	FRI PM	6.6	A	6.7	A
				SAT PM	5.6	A	5.6	A
13	SR-273 (Market St) @ Girvan Rd	Signal	D	FRI PM	18.4	B	18.7	B
				SAT PM	14.2	B	14.2	B
14	SR-273 (Market St) @ Redding Rancheria Rd	Signal	D	FRI PM	10.4	B	11.3	B
				SAT PM	8.5	A	9.0	A
15	Canyon Rd @ Redding Rancheria Rd	Signal	D	FRI PM	11.6	B	12.0	B
				SAT PM	10.0	B	10.3	B
16	SR-273 (Market St) @ Happy Valley Rd	Signal	D	FRI PM	7.6	A	7.6	A
				SAT PM	6.4	A	6.4	A

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.

(b) LOS calculations are based on the methodology outlined in the 2010 *Highway Capacity Manual* and performed using Synchro 9.0

As shown in the **Tables 28 - 32**, the following intersections would fail to meet acceptable level of service thresholds in the Cumulative (2040) scenario. These intersections fail based on established significance criteria and with the addition of project-related traffic to create a potentially significant impact.

Cumulative (2040) Intersection Operating Deficiently

Strawberry Fields Site: North Only Access Alternative (Option 1)

- #3 – Bonnyview Road at Bechelli Lane (Alternatives A, B, C, D)
- #4 – Bonnyview Road at I-5 SB Ramps (Alternatives A, B, C, D)
- #5 – Bonnyview Road at I-5 NB Ramps (Alternative A, B, C, D)
- #6 – Bonnyview Road at Churn Creek Road (Alternative A, B, C, D)
- #7 – Churn Creek Rd at Alrose Lane (Alternative A, B, C, D)
- #8 – Churn Creek Road at Victor Avenue (Alternatives A, B, C, D)
- #9 – Churn Creek Road at Rancho Road (Alternatives A, B, C, D)

Strawberry Fields Site: North and South Access Alternative (Option 2)

- #3 – Bonnyview Road at Bechelli Lane (Alternatives A, B, C, D)
- #4 – Bonnyview Road at I-5 SB Ramps (Alternatives A, B, C, D)
- #5 – Bonnyview Road at I-5 NB Ramps (Alternative A, B, C, D)
- #6 – Bonnyview Road at Churn Creek Road (Alternative A, B, C, D)
- #7 – Churn Creek Rd at Alrose Lane (Alternative A, B, C, D)
- #8 – Churn Creek Road at Victor Avenue (Alternatives A, B, C, D)
- #9 – Churn Creek Road at Rancho Road (Alternatives A, B, C, D)

Strawberry Fields Site: South Only Access with New Interchange Alternative (Option 3)

- #3 – Bonnyview Rd at Bechelli Lane (Alternatives A, B, C, D)
- #9 – Churn Creek Road at Rancho Road (Alternatives A, B, C, D)

Anderson Site (Alternative E)

- #18 – North Street at Oak Street
- #19 – North Street at I-5 Southbound Off-Ramp
- #20 – North Street at McMurray Drive and I-5 Northbound On-Ramp
- #21 – Balls Ferry Road at Oak Street

Proposed Project Traffic Signal Warrant Analysis

Opening Year (2025) Plus Project and Cumulative (2040) Plus Project traffic volumes at unsignalized study intersections were compared against the peak-hour warrant in the *2014 California Manual on Uniform Traffic Control Devices (MUTCD)*.

Results of the analysis showed that the following intersections would satisfy Traffic Signal Warrant #3 by year 2025 and 2040.

Strawberry Fields Site (Alternatives A, B, C, and D)

- #7 – Churn Creek Road at Alrose Lane
- #8 – Churn Creek Road at Victor Ave
- #9 – Churn Creek Road at Rancho Road
- #19 – North Street at I-5 Off-Ramp
- #20 – North Street at McMurry Drive and I-5 Northbound On-Ramp

Alternative Site Alternative (Alternative E)

- #18 – North Street at Oak Street
- #19 – North Street at I-5 Southbound Off-Ramp
- #20 – North Street at McMurray Drive and I-5 Northbound On-Ramp

It should be noted that intersections #8, #9, and #20 meet the Traffic Signal Warrant in the Baseline scenarios as well. Other warrants such as for minimum vehicle volumes, interruption of continuous traffic, and traffic progression were not evaluated because they generally require higher traffic volumes to be satisfied. A copy of the analysis summary for Traffic Signal Warrant #3 is included in **Appendix C**.

Proposed Project LOS Conditions and Impacts on Roadway Segments

Project trips generated by the proposed Project were added to the Opening Year (2025) and Cumulative (2040) forecast roadway segment volumes.

Traffic analyses were completed to evaluate the operation of the study roadway segments in the Opening Year (2025) and Cumulative (2040), with the addition of the project.

Opening Year (2025) plus Project

Results of the Opening Year (2025) Plus Project analysis are presented in **Tables 33-34**. For the proposed project site, only Development Alternative A (Proposed Project) was evaluated. Development Alternative A has the highest trip generation and therefore represents a worst-case scenario. Additional details of the analysis are provided in **Appendix F**.

As shown in **Tables 33-34**, the roadway segments are expected to operate at acceptable levels of service based on established significance criteria under Opening Year (2025) plus Project Conditions.

Table 33 – Opening Year (2025) plus Proposed Project Roadway Segment Level of Service Summary (Two-Lane)

Location	Peak-Hour	Analysis Direction	Opening Year 2025			Opening Year 2025 + Project (1A)			Opening Year 2025 + Project (2A)			Opening Year 2025 + Project (3A)			Opening Year 2025 + Project (E)			Opening Year 2025 + Project (F)		
			LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c
Study Area 1																				
Bechelli Ln south of Bonnyview Rd	FRI	NB	A	92.7	0.05	C	77.7	0.35	C	81.6	0.27	A	92.9	0.05	-	-	-	-	-	-
		SB	A	92.7	0.05	C	76.6	0.48	C	80.3	0.36	A	93.0	0.04	-	-	-	-	-	-
	SAT	NB	A	93.6	0.03	C	75.6	0.35	C	80.5	0.26	A	93.8	0.03	-	-	-	-	-	-
		SB	A	93.6	0.03	C	74.1	0.58	C	78.6	0.43	A	93.8	0.03	-	-	-	-	-	-
Churn Creek Rd east of Alrose Ln	FRI	EB	C	77.9	0.46	C	77.5	0.47	C	77.5	0.47	C	78.9	0.44	-	-	-	-	-	-
		WB	C	78.6	0.38	C	78.2	0.4	C	78.2	0.4	C	79.6	0.35	-	-	-	-	-	-
	SAT	EB	C	82.8	0.26	C	82.6	0.27	C	82.6	0.27	C	83.1	0.24	-	-	-	-	-	-
		WB	C	82.8	0.27	C	82.2	0.29	C	82.2	0.29	C	83.1	0.25	-	-	-	-	-	-
Smith Rd west of Churn Creek Rd	FRI	EB	A	98.1	0.01	A	98.1	0.01	B	90.9	0.1	A	97.6	0.02	-	-	-	-	-	-
		WB	A	98.1	0.03	A	98.1	0.03	A	92.2	0.15	A	97.6	0.04	-	-	-	-	-	-
	SAT	EB	A	94.5	0.01	A	94.5	0.01	B	87.2	0.1	A	93.7	0.03	-	-	-	-	-	-
		WB	A	94.5	0.02	A	94.5	0.02	B	87.4	0.17	A	93.7	0.03	-	-	-	-	-	-
Study Area 2																				
Canyon Rd south of Redding Rancheria Rd	FRI	NB	B	85.0	0.15	-	-	-	-	-	-	-	-	-	-	-	-	B	85.0	0.15
		SB	B	84.6	0.24	-	-	-	-	-	-	-	-	-	-	-	-	B	84.6	0.24
	SAT	NB	B	86.9	0.15	-	-	-	-	-	-	-	-	-	-	-	-	B	86.8	0.15
		SB	B	86.9	0.13	-	-	-	-	-	-	-	-	-	-	-	-	B	86.9	0.14
Study Area 3																				
North St east of Oak St	FRI	EB	C	82.6	0.31	-	-	-	-	-	-	-	-	-	D	73.9	0.52	-	-	-
		WB	C	82.9	0.28	-	-	-	-	-	-	-	-	-	D	74.1	0.43	-	-	-
	SAT	EB	B	88.1	0.17	-	-	-	-	-	-	-	-	-	C	77.8	0.45	-	-	-
		WB	B	88.1	0.19	-	-	-	-	-	-	-	-	-	C	78.2	0.35	-	-	-
North St west of Oak St	FRI	EB	B	84.4	0.24	-	-	-	-	-	-	-	-	-	C	80.7	0.34	-	-	-
		WB	B	84.0	0.26	-	-	-	-	-	-	-	-	-	C	80.6	0.35	-	-	-
	SAT	EB	B	89.6	0.15	-	-	-	-	-	-	-	-	-	B	84.6	0.28	-	-	-
		WB	B	89.6	0.15	-	-	-	-	-	-	-	-	-	B	84.9	0.22	-	-	-
Oak St north of North St	FRI	NB	A	97.4	0.05	-	-	-	-	-	-	-	-	-	C	77.5	0.47	-	-	-
		SB	A	97.4	0.04	-	-	-	-	-	-	-	-	-	C	78.1	0.33	-	-	-
	SAT	NB	A	97.7	0.03	-	-	-	-	-	-	-	-	-	D	74.6	0.57	-	-	-
		SB	A	97.7	0.04	-	-	-	-	-	-	-	-	-	D	75.0	0.35	-	-	-
Oak St south of North St	FRI	NB	A	98.1	0.02	-	-	-	-	-	-	-	-	-	A	92.8	0.13	-	-	-
		SB	A	98.1	0.02	-	-	-	-	-	-	-	-	-	A	92.0	0.09	-	-	-
	SAT	NB	A	98.4	0.01	-	-	-	-	-	-	-	-	-	A	92.5	0.15	-	-	-
		SB	A	98.4	0.01	-	-	-	-	-	-	-	-	-	A	91.7	0.09	-	-	-

Notes:

PFFS = Percent Free-Flow Speed, v/c = Volume to Capacity

Table 34 – Opening Year (2025) plus Proposed Project Roadway Segment Level of Service Summary (Multilane)

Location	Peak-Hour	Analysis Direction	Opening Year 2025		Opening Year 2025 + Project (1A)		Opening Year 2025 + Project (2A)		Opening Year 2025 + Project (3A)		Opening Year 2025 + Project (E)		Opening Year 2025 + Project (F)	
			LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)
Study Area 1														
Bonnyview Rd west of Bechelli Ln	FRI	EB	B	17	B	17.3	B	17.3	B	17.8	-	-	-	-
		WB	B	17.7	C	23.1	C	20.7	C	18.6	-	-	-	-
	SAT	EB	A	10.1	A	10.6	A	10.6	B	11.6	-	-	-	-
		WB	B	12.5	C	19.5	B	16.4	B	13	-	-	-	-
Study Area 2														
Market St (SR 273) north of Canyon Rd	FRI	NB	A	7.1	-	-	-	-	-	-	-	-	A	7.5
		SB	A	8.8	-	-	-	-	-	-	-	-	A	9.2
	SAT	NB	A	4.9	-	-	-	-	-	-	-	-	A	5.2
		SB	A	5.8	-	-	-	-	-	-	-	-	A	6.3
Market St (SR 273) south of Canyon Rd	FRI	NB	A	4.9	-	-	-	-	-	-	-	-	A	5
		SB	A	5.5	-	-	-	-	-	-	-	-	A	5.6
	SAT	NB	A	3.1	-	-	-	-	-	-	-	-	A	3.2
		SB	A	3.1	-	-	-	-	-	-	-	-	A	3.2

Cumulative (2040) plus Project

Results of the Cumulative (2040) Plus Project analysis are presented in **Tables 35-36**. For the proposed project site, only Development Alternative A (Proposed Project) was evaluated. Development Alternative A has the highest trip generation and therefore represents a worst-case scenario. Additional details of the analysis are provided in **Appendix G**.

As shown in **Tables 35-36**, the roadway segments are expected to operate at acceptable levels of service based on established significance criteria under Cumulative (2040) plus Project Conditions.

Table 35 – Cumulative (2040) plus Proposed Project Roadway Segment Level of Service Summary (Two-Lane)

Location	Peak-Hour	Analysis Direction	Cumulative 2040			Cumulative 2040 + Project (1A)			Cumulative 2040 + Project (2A)			Cumulative 2040 + Project (3A)			Cumulative 2040+ Project (E)			Cumulative 2040 + Project F		
			LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c
Study Area 1																				
Bechelli Ln south of Bonnyview Rd	FRI	NB	A	91.9	0.06	C	77.1	0.36	C	81.1	0.28	A	92.2	0.07	-	-	-	-	-	-
		SB	A	91.9	0.06	C	76.2	0.49	C	79.9	0.37	A	91.9	0.06	-	-	-	-	-	-
	SAT	NB	A	93.3	0.03	C	75.4	0.35	C	80.3	0.27	A	93.5	0.03	-	-	-	-	-	-
		SB	A	93.3	0.04	D	73.9	0.59	C	78.5	0.44	A	93.5	0.03	-	-	-	-	-	-
Churn Creek Rd east of Alrose Ln	FRI	EB	D	73.9	0.56	D	73.5	0.57	D	73.5	0.57	C	75.3	0.53	-	-	-	-	-	-
		WB	D	71.4	0.5	D	73.6	0.51	D	73.6	0.51	C	75.5	0.46	-	-	-	-	-	-
	SAT	EB	C	81.7	0.31	C	81.2	0.32	C	81.2	0.32	C	82	0.3	-	-	-	-	-	-
		WB	C	80.8	0.35	C	80.4	0.37	C	80.4	0.37	C	81.4	0.32	-	-	-	-	-	-
Smith Rd west of Churn Creek Rd	FRI	EB	A	97.8	0.02	A	97.8	0.02	B	91.4	0.1	A	97.1	0.03	-	-	-	-	-	-
		WB	A	97.8	0.03	A	97.8	0.03	A	91.7	0.16	A	97.1	0.05	-	-	-	-	-	-
	SAT	EB	A	94.3	0.02	A	94.3	0.02	B	87.0	0.11	A	93.2	0.05	-	-	-	-	-	-
		WB	A	94.3	0.02	A	94.3	0.02	B	86.9	0.18	A	93.2	0.04	-	-	-	-	-	-
Study Area 2																				
Canyon Rd south of Redding Rancheria Rd	FRI	NB	B	84.9	0.16	-	-	-	-	-	-	-	-	-	-	-	-	B	84.9	0.16
		SB	B	84.5	0.24	-	-	-	-	-	-	-	-	-	-	-	-	B	84.5	0.24
	SAT	NB	B	86.8	0.15	-	-	-	-	-	-	-	-	-	-	-	-	B	86.7	0.15
		SB	B	86.8	0.14	-	-	-	-	-	-	-	-	-	-	-	-	B	86.8	0.14
Study Area 3																				
North St east of Oak St	FRI	EB	C	80.5	0.36	-	-	-	-	-	-	-	-	-	D	71.5	0.57	-	-	-
		WB	C	80.7	0.33	-	-	-	-	-	-	-	-	-	D	71.5	0.48	-	-	-
	SAT	EB	B	86.6	0.2	-	-	-	-	-	-	-	-	-	C	76.4	0.47	-	-	-
		WB	B	86.6	0.22	-	-	-	-	-	-	-	-	-	C	76.7	0.38	-	-	-
North St west of Oak St	FRI	EB	C	82.5	0.28	-	-	-	-	-	-	-	-	-	C	78.5	0.38	-	-	-
		WB	C	82.0	0.33	-	-	-	-	-	-	-	-	-	C	78.4	0.4	-	-	-
	SAT	EB	C	88.2	0.18	-	-	-	-	-	-	-	-	-	B	83.3	0.3	-	-	-
		WB	B	88.2	0.18	-	-	-	-	-	-	-	-	-	B	83.8	0.25	-	-	-
Oak St north of North St	FRI	NB	A	97.3	0.05	-	-	-	-	-	-	-	-	-	C	77.5	0.47	-	-	-
		SB	A	97.3	0.04	-	-	-	-	-	-	-	-	-	C	78.0	0.33	-	-	-
	SAT	NB	A	97.6	0.03	-	-	-	-	-	-	-	-	-	D	74.5	0.57	-	-	-
		SB	A	97.6	0.05	-	-	-	-	-	-	-	-	-	D	74.8	0.36	-	-	-
Oak St south of North St	FRI	NB	A	98.0	0.02	-	-	-	-	-	-	-	-	-	A	92.6	0.13	-	-	-
		SB	A	98.0	0.02	-	-	-	-	-	-	-	-	-	A	92.0	0.1	-	-	-
	SAT	NB	A	98.4	0.01	-	-	-	-	-	-	-	-	-	A	92.4	0.15	-	-	-
		SB	A	98.4	0.01	-	-	-	-	-	-	-	-	-	B	91.7	0.09	-	-	-

Notes:
PFFS = Percent Free-Flow Speed, v/c = Volume to Capacity

Table 36 – Cumulative (2040) plus Proposed Project Roadway Segment Level of Service Summary (Multilane)

Location	Peak-Hour	Analysis Direction	Cumulative 2040		Cumulative 2040 + Project (1A)		Cumulative 2040 + Project (2A)		Cumulative 2040 + Project (3A)		Cumulative 2040 + Project (E)		Cumulative 2040 + Project (F)	
			LOS	D (pc/mi/ln)	LOS	D (pc/mi/ln)	LOS	D (pc/mi/ln)	LOS	D (pc/mi/ln)	LOS	D (pc/mi/ln)	LOS	D (pc/mi/ln)
Study Area 1														
Bonnyview Rd west of Bechelli Ln	FRI	EB	A	2.1	C	20.7	C	20.7	C	21.1	-	-	-	-
		WB	C	20.8	D	26.2	C	23.8	C	21.9	-	-	-	-
	SAT	EB	B	12	B	12.5	B	12.5	B	13.5	-	-	-	-
		WB	B	14.5	C	21.5	C	18.4	B	15.1	-	-	-	-
Study Area 2														
Market St (SR 273) north of Canyon Rd	FRI	NB	A	7.8	-	-	-	-	-	-	-	-	A	8.3
		SB	A	9.7	-	-	-	-	-	-	-	-	A	10.1
	SAT	NB	A	5.4	-	-	-	-	-	-	-	-	A	5.7
		SB	A	6.3	-	-	-	-	-	-	-	-	A	6.8
Market St (SR 273) south of Canyon Rd	FRI	NB	A	5.9	-	-	-	-	-	-	-	-	A	6
		SB	A	6.5	-	-	-	-	-	-	-	-	A	6.6
	SAT	NB	A	3.7	-	-	-	-	-	-	-	-	A	3.9
		SB	A	3.7	-	-	-	-	-	-	-	-	A	3.8

Notes:

D = Density

Proposed Project LOS Conditions and Impacts on Freeway Segments

Project trips generated by the proposed project were added to the Opening Year (2025) and Cumulative (2040) forecast freeway segment volumes.

Traffic analyses were completed to evaluate the operation of the study freeway segments in the Opening Year (2025) and Cumulative (2040), with the addition of the project.

Opening Year (2025) plus Project

Results of the Opening Year (2025) Plus Project analysis are presented in **Tables 37-39**. For the proposed project site, only Development Alternative A (Proposed Project) was evaluated. Development Alternative A has the highest trip generation and therefore represents a worst-case scenario. Additional details of the analysis are provided in **Appendix F**.

As shown in **Tables 37-39**, the freeway segments, except for the diverge segment of I-5 at the North Street southbound off-ramp, are expected to operate at acceptable levels of service based on established significance criteria under Opening Year (2025) plus Project Conditions.

Table 37 – Opening Year (2025) plus Proposed Project Freeway Segment Level of Service Summary (Strawberry Fields Site)

I-5				Opening Year 2025 + Project (1A)		Opening Year 2025 + Project (2A)	
Direction	Segment	Type	Peak Hour	Density ^a	LOS	Density ^a	LOS
Northbound	South of Bonnyview Rd Off-Ramp	Basic	FRI PM	19.0	C	17.4	B
			SAT PM	14.6	B	12.8	B
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	14.1	B	13.0	B
			SAT PM	11.6	B	10.3	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	8.5	A	8.5	A
			SAT PM	6.7	A	6.7	A
	Bonnyview Rd On-Ramp	Merge	FRI PM	26.2	C	26.2	C
			SAT PM	20.4	C	20.4	C
	North of Bonnyview Rd On-Ramp	Basic	FRI PM	13.9	B	13.9	B
			SAT PM	10.6	A	10.6	A
Southbound	North of Bonnyview Rd Off-Ramp	Basic	FRI PM	17.5	B	17.5	B
			SAT PM	13.5	B	13.5	B
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	20.9	C	20.9	C
			SAT PM	17.1	B	17.1	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	11.7	B	11.7	B
			SAT PM	9.1	A	9.1	A
	Bonnyview Rd On-Ramp	Merge	FRI PM	28.7	D	27.0	C
			SAT PM	20.6	C	18.8	B
	South of Bonnyview Rd On-Ramp	Basic	FRI PM	28.3	D	26.7	D
			SAT PM	18.4	C	17.3	B

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)

b- Bold represents unacceptable operations

c- Weave segment LOS calculated using Leisch Method

Table 38 – Opening Year (2025) plus Proposed Project Freeway Segment Level of Service Summary (Strawberry Fields Site) (Continued)

I-5				Opening Year 2025 + Project (3A)	
Direction	Segment	Type	Peak Hour	Density ^a	LOS
Northbound	South of Smith Rd Off-Ramp	Basic	FRI PM	20.1	C
			SAT PM	21.6	C
	Smith Rd Off-Ramp	Diverge	FRI PM	28.1	D
			SAT PM	29.6	D
	Smith Rd Off-Ramp to On-Ramp	Basic	FRI PM	18.2	C
			SAT PM	19.0	C
	Smith Rd On-Ramp	Merge	FRI PM	28.1	D
			SAT PM	2.8	A
	Smith Rd On-Ramp to Bonnyview Rd Off-Ramp	Basic	FRI PM	21.0	C
			SAT PM	22.2	C
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	15.2	B
			SAT PM	15.5	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	10.0	A
			SAT PM	11.5	B
	Bonnyview Rd On-Ramp	Merge	FRI PM	24.2	C
			SAT PM	22.8	C
	North of Bonnyview Rd On-Ramp	Basic	FRI PM	14.4	B
			SAT PM	14.5	B
Southbound	North of Bonnyview Rd Off-Ramp	Basic	FRI PM	18.5	C
			SAT PM	19.2	C
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	23.0	C
			SAT PM	24.7	C
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	13.8	B
			SAT PM	16.0	B
	Bonnyview Rd On-Ramp	Merge	FRI PM	30.3	D
			SAT PM	28.4	D
	Bonnyview Rd On-Ramp to Smith Rd On-Ramp	Basic	FRI PM	34.9	D
			SAT PM	36.1	E
	Smith Rd On-Ramp	Diverge	FRI PM	15.2	B
			SAT PM	15.5	B
	Smith Rd On-Ramp to Smith Rd Off-Ramp	Basic	FRI PM	10.0	A
			SAT PM	11.5	B
	Smith Rd Off-Ramp	Merge	FRI PM	24.2	C
			SAT PM	22.8	C
	South of Smith Rd Off-Ramp	Basic	FRI PM	14.4	B
			SAT PM	14.5	B

Notes:

a- Density measured in passenger cars/lane/mile (pc/lane/mi)

b- Bold represents unacceptable operations

c- Weave segment LOS calculated using Leisch Method

Table 39 – Opening Year (2025) plus Proposed Project Freeway Segment Level of Service Summary (Anderson Site)

I-5				Opening Year 2025 + Project (E)	
Direction	Segment	Type	Peak Hour	Density ^a	LOS
Northbound	South of Balls Ferry Rd Off-Ramp	Basic	FRI PM	21.8	C
			SAT PM	17.4	B
	Balls Ferry Rd Off-Ramp	Diverge	FRI PM	25.9	C
			SAT PM	20.7	C
	Balls Ferry Rd Off-Ramp to North St On-Ramp	Basic	FRI PM	17.3	B
			SAT PM	14.7	B
	North St On-Ramp	Merge	FRI PM	25.6	C
			SAT PM	21.5	C
	North St On-Ramp to Riverside Ave Off-Ramp	Basic	FRI PM	22.1	C
			SAT PM	18.1	C
Southbound	Riverside Ave On-Ramp to North St Off-Ramp	Basic	FRI PM	32.7	D
			SAT PM	24.1	C
	North St Off-Ramp	Diverge	FRI PM	36.9	E
			SAT PM	29.7	D
	North St Off-Ramp to Balls Ferry On-Ramp	Basic	FRI PM	24.1	C
			SAT PM	18.4	C
	Balls Ferry On-Ramp	Merge	FRI PM	32.8	D
			SAT PM	26.2	C
	South of Balls Ferry Rd On-Ramp	Basic	FRI PM	30.7	D
			SAT PM	22.5	C

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)

b- Bold represents unacceptable operations

c- Weave segment LOS calculated using Leisch Method

Cumulative (2040) plus Project

Results of the Cumulative (2040) plus Project analysis are presented in **Tables 40-42**. For the proposed project site, only Development Alternative A (Proposed Project) was evaluated. Development Alternative A has the highest trip generation and therefore represents a worst-case scenario. Additional details of the analysis are provided in **Appendix G**.

As shown in **Tables 40-42**, the freeway segments are expected to operate at acceptable levels of service based on established significance criteria under Cumulative (2040) plus Project Conditions.

Table 40 – Cumulative (2040) plus Proposed Project Freeway Segment Level of Service Summary (Strawberry Fields Site)

I-5				Cumulative 2040 + Project (1A)		Cumulative 2040 + Project (2A)	
Direction	Segment	Type	Peak Hour	Density ^a	LOS	Density ^a	LOS
Northbound	South of Bonnyview Rd Off-Ramp	Basic	FRI PM	14.7	B	13.7	B
			SAT PM	12.1	B	10.9	A
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	20.1	C	18.3	B
			SAT PM	16.9	B	14.5	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	10.1	A	10.1	A
			SAT PM	8.5	A	8.5	A
	Bonnyview Rd On-Ramp	Merge	FRI PM	28.6	D	27.6	C
			SAT PM	23.1	C	21.8	C
	North of Bonnyview Rd On-Ramp	Basic	FRI PM	16.6	B	16.6	B
			SAT PM	13.1	B	13.1	B
Southbound	North of Bonnyview Rd Off-Ramp	Basic	FRI PM	21.5	C	21.5	C
			SAT PM	16.9	B	16.9	B
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	30.6	D	30.6	D
			SAT PM	26.1	C	26.1	C
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	14.5	B	14.5	B
			SAT PM	12.0	B	12.0	B
	Bonnyview Rd On-Ramp	Merge	FRI PM	33.9	D	32.9	D
			SAT PM	26.1	C	25.0	C
	South of Bonnyview Rd On-Ramp	Basic	FRI PM	21.2	C	20.4	C
			SAT PM	15.5	B	14.8	B

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)

b- Bold represents unacceptable operations

c- Weave segment LOS calculated using Leisch Method

Table 41 – Cumulative (2040) plus Proposed Project Freeway Segment Level of Service Summary (Strawberry Fields Site) (Continued)

I-5				Cumulative 2040 + Project (3A)	
Direction	Segment	Type	Peak Hour	Density ^a	LOS
Northbound	South of Smith Rd Off-Ramp	Basic	FRI PM	15.4	B
			SAT PM	16.3	B
	Smith Rd Off-Ramp	Diverge	FRI PM	15.6	B
			SAT PM	16.4	B
	Smith Rd Off-Ramp to On-Ramp	Basic	FRI PM	14.3	B
			SAT PM	14.8	B
	Smith Rd On-Ramp	Merge	FRI PM	21.2	C
			SAT PM	2.8	A
	Smith Rd On-Ramp to Bonnyview Rd Off-Ramp	Basic	FRI PM	15.9	B
			SAT PM	16.5	B
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	15.2	B
			SAT PM	15.5	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	11.6	B
			SAT PM	13.4	B
	Bonnyview Rd On-Ramp	Merge	FRI PM	28.0	D
			SAT PM	22.8	C
	North of Bonnyview Rd On-Ramp	Basic	FRI PM	17.2	B
			SAT PM	17.3	B
Southbound	North of Bonnyview Rd Off-Ramp	Basic	FRI PM	22.5	C
			SAT PM	23.4	C
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	23.0	C
			SAT PM	24.7	C
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	16.7	B
			SAT PM	19.3	C
	Bonnyview Rd On-Ramp	Merge	FRI PM	34.9	D
			SAT PM	28.4	D
	Bonnyview Rd On-Ramp to Smith Rd On-Ramp	Basic	FRI PM	24.2	C
			SAT PM	24.3	C
	Smith Rd On-Ramp	Diverge	FRI PM	15.2	B
			SAT PM	15.5	B
	Smith Rd On-Ramp to Smith Rd Off-Ramp	Basic	FRI PM	11.6	B
			SAT PM	13.4	B
	Smith Rd Off-Ramp	Merge	FRI PM	28.0	D
			SAT PM	22.8	C
	South of Smith Rd Off-Ramp	Basic	FRI PM	17.2	B
			SAT PM	17.3	B

Notes:

a- Density measured in passenger cars/lane/mile (pc/lane/mi)

b- Bold represents unacceptable operations

c- Weave segment LOS calculated using Leisch Method

Table 42 – Cumulative (2040) plus Proposed Project Freeway Segment Level of Service Summary (Anderson Site)

I-5				Cumulative 2040 + Project (E)	
Direction	Segment	Type	Peak Hour	Density ^a	LOS
Northbound	South of Balls Ferry Rd Off-Ramp	Basic	FRI PM	17.6	B
			SAT PM	14.9	B
	Balls Ferry Rd Off-Ramp	Diverge	FRI PM	17.8	B
			SAT PM	14.3	B
	Balls Ferry Rd Off-Ramp to North St On-Ramp	Basic	FRI PM	14.3	B
			SAT PM	12.8	B
	North St On-Ramp	Merge	FRI PM	20.8	C
			SAT PM	18.1	B
	North St On-Ramp to Riverside Ave Off-Ramp	Basic	FRI PM	17.5	B
			SAT PM	15.2	B
Southbound	Riverside Ave On-Ramp to North St Off-Ramp	Basic	FRI PM	24.3	C
			SAT PM	19.9	C
	North St Off-Ramp	Diverge	FRI PM	2.9	A
			SAT PM	2.9	A
	North St Off-Ramp to Balls Ferry On-Ramp	Basic	FRI PM	19.6	C
			SAT PM	16.4	B
	Balls Ferry On-Ramp	Merge	FRI PM	27.3	C
			SAT PM	23.0	C
	South of Balls Ferry Rd On-Ramp	Basic	FRI PM	24.1	C
			SAT PM	19.6	C

Notes:

a- Density measured in passenger cars/lane/mile (pc/lane/mi)

b- Bold represents unacceptable operations

c- Weave segment LOS calculated using Leisch Method

Proposed Project Mitigations

The evaluation revealed that several intersection improvements, and one freeway improvement, are needed for the Opening Year (2025) and Cumulative (2040) conditions to mitigate project impacts. The improvements required to mitigate project impacts are described below. The project applicant would be responsible for mitigating its cumulatively considerable impact by providing a fair share contribution towards the implementation of mitigation measures needed to improve the intersection or roadway segment to an acceptable LOS or to a level that is equal to better than pre-project operations. A fair share contribution is based on the projects proportionate traffic contribution to the overall future traffic volumes at locations which exceed the significance criteria. The City of Redding requires that improvements be constructed by the project proponent when the fair share is 25% or more. Based on the Caltrans *Guide for the Preparation of Traffic Impact Studies* (2002), the fair share calculation for cumulative impacts at an intersection is shown in the following equation:

$$P = T / (T_B - T_E)$$

Where:

P = The equitable share for the proposed project's traffic impact.

T = The vehicle trips generated by the project during the peak hour of adjacent State highway facility in vehicles per hour, vph.

T_B = The forecasted traffic volume on an impacted State highway facility at the time of general plan build-out (e.g., 20 year model or the furthest future model data feasible), vph.

T_E = The traffic volume existing on the impacted State highway facility plus other approved projects that will generate traffic that has yet to be constructed/opened, vph.

Opening Year (2025) Intersections Operating Deficiently

Intersections with LOS below established thresholds were investigated to determine the role of the proposed project traffic in under Opening Year (2025) Conditions.

Strawberry Fields Site: North Only Access Alternative (1)

Impact #1 – Bonnyview Road at Bechelli Lane – Intersection #3

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #1 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Construct a second westbound left turn lane and corresponding receiving lane; Restripe the southbound approach to include two left turn lanes and a thru/right lane; Restripe the northbound approach to include a left turn lane, a thru/right lane, and a right turn pocket; add a northbound right turn

permitted overlap signal phase. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 56% for Alternative A, 43% for Alternative B, 53% for Alternative C, and 31% for Alternative D.

Impact #2 – Bonnyview Road at I-5 SB Ramps – Intersection #4

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #2 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Construct a southbound right turn channelized lane with yield control. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 44% for Alternative A, 30% for Alternative B, 40% for Alternative C, and 22% for Alternative D.

Impact #3 – Bonnyview Road at I-5 NB Ramps – Intersection #5

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #3 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Construct a northbound left turn lane. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 30% for Alternative A, 19% for Alternative B, 27% for Alternative C, and 14% for Alternative D.

Impact #4 – Bonnyview Road at Churn Creek Road – Intersection #6

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #4.1 – Alternative A

The significant impact at this intersection can be mitigated with the following improvements: Construct a southbound right turn lane. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 4% for Alternative A.

Mitigation #4.2 – Alternatives B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Add a southbound right turn permitted overlap signal phase. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 2% for Alternative B, 3% for Alternative C, and 1% for Alternative D.

Impact #5 – Churn Creek Road at Victor Avenue – Intersection #8

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #5 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 5% for Alternative A, 4% for Alternative B, 7.5% for Alternative C, and 1% for Alternative D.

Strawberry Fields Site: North and South Access Alternative (2)**Impact #6 – Bonnyview Road at Bechelli Lane – Intersection #3**

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #6.1 – Alternative A

The significant impact at this intersection can be mitigated with the following improvements: Construct a second westbound left turn lane and corresponding

receiving lane; Restripe the southbound approach to include two left turn lanes and a thru/right lane; Restripe the northbound approach to include a left turn lane, a thru/right lane, and a right turn pocket; add a northbound right turn permitted overlap signal phase. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 47% for Alternative A.

Mitigation #6.2 – Alternatives B and C

The significant impact at this intersection can be mitigated with the following improvements: Restripe the southbound approach to include two left turn lanes and a thru/right lane; Restripe the northbound approach to include a left turn lane, a thru/right lane; add a northbound right turn permitted overlap signal phase. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 33% for Alternative B, and 43% for Alternative C.

Mitigation #6.3 – Alternative D

The significant impact at this intersection can be mitigated with the following improvements: Restripe the southbound approach to include two left turn lanes and a thru/right lane; Restripe the northbound approach to include a left turn lane, a thru/right lane. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 24% for Alternative D.

Impact #7 – Bonnyview Road at I-5 SB Ramps – Intersection #4

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #7 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Construct a southbound right turn channelized lane with yield control. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 30% for Alternative A, 18% for Alternative B, 27% for Alternative C, and 13% for Alternative D.

Impact #8 – Bonnyview Road at I-5 NB Ramps – Intersection #5

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #8 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Construct a northbound left turn lane. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 17% for Alternative A, 7% for Alternative B, 14% for Alternative C, and 8% for Alternative D.

Impact #9 – Bonnyview Road at Churn Creek Road – Intersection #6

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #9 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Add a southbound right turn permitted overlap signal phase. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 4% for Alternative A, 2% for Alternative B, 3% for Alternative C, and 1% for Alternative D.

Impact #10 – Churn Creek Road at Victor Avenue – Intersection #8

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #10 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 5% for Alternative A, 4% for Alternative B, 8% for Alternative C, and 1% for Alternative D.

Strawberry Fields Site: South Only Access with New Interchange Alternative (3)**Impact #11 – Bonnyview Road at I-5 SB Ramps – Intersection #4**

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D.

Mitigation #11 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Construct a southbound right turn channelized lane with yield control. This is not a cumulative impact. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 1% for Alternative A. Fair share percentages for Alternatives B, C, and D are 0%.

Impact #12 – Bonnyview Road at I-5 NB Ramps – Intersection #5

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D.

Mitigation #12 – Alternatives A, B, and C

The significant impact at this intersection can be mitigated with the following improvements: Optimize signal timings. This is not a cumulative impact. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 2% for Alternative A, 10 for Alternative B, and 1% for Alternative C.

Anderson Site**Impact #13 – North Street at Oak Street – Intersection #18**

This intersection is expected to exceed significance thresholds for unacceptable operations under Development Alternative E. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #13 – Alternative E

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal or roundabout. The intersection satisfies Traffic Signal Warrant #3 under Opening Year (2025) plus project conditions. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 90%.

Impact #14 – North Street at I-5 Southbound Ramp – Intersection #19

This intersection is expected to exceed significance thresholds for unacceptable operations under Development Alternative E. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #14 – Alternative E

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal or roundabout. The intersection satisfies Traffic Signal Warrant #3 under Opening Year (2025) and Cumulative (2040) plus project conditions. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 81%.

Impact #15 – North Street at McMurray Drive and I-5 Northbound On-Ramp – Intersection #20

This intersection is expected to exceed significance thresholds for unacceptable operations under Development Alternative E. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #15 – Alternative E

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal or roundabout. The intersection satisfies Traffic Signal Warrant #3 under Existing (2016) conditions without the addition of the proposed project. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 39%.

Freeway Impact #16 – I-5 Southbound Off Ramp at North Street Diverge Segment

In addition to the impacts at the study intersections, the project Alternative E (Anderson Site) results in an impact to the diverge freeway segment at the I-5 southbound off-ramp at North Street.

Mitigation #16 – This impact can be mitigated by increasing the length of the deceleration lane to 360-feet, or by adding a third lane to I-5 in the southbound direction. The freeway is anticipated to be improved to three lanes in the southbound and northbound directions by 2040. The project fair share is 24% based on freeway volume.

With the implementation of all mitigation measures listed above, the proposed project would have no significant traffic impacts. **Tables 43-46** summarize the expected intersection levels of service with the identified mitigations under the Opening Year (2025) plus Project conditions. Additional details of the analysis are provided in **Appendix H**.

Table 43 – Opening Year (2025) plus Proposed Project Mitigated Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with North Access Alternative (Option 1)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025) plus Proposed Project (1A)		After Mitigation (1A)		Opening Year (2025) plus Proposed Project (1B)		After Mitigation (1B)		Opening Year (2025) plus Proposed Project (1C)		After Mitigation (1C)		Opening Year (2025) plus Proposed Project (1D)		After Mitigation (1D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	402.3	F	51.0	D	302.2	F	53.4	D	334.3	F	54.9	D	89.6	F	41.5	D
				SAT PM	531.5	F	33.9	C	253.2	F	23.0	C	438.9	F	29.0	C	92.5	F	21.0	C
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	179.4	F	36.7	D	157.3	F	32.4	C	165.5	F	26.4	C	115.8	F	26.8	C
				SAT PM	76.9	E	16.3	B	54.6	D	16.2	B	68.8	E	12.4	B	35.0	D	12.9	B
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	119.3	F	54.9	D	99.0	F	47.8	D	106.4	F	49.2	D	64.7	E	40.5	D
				SAT PM	63.3	E	40.3	D	30.8	C	22.4	C	52.9	D	30.9	C	27.2	C	29.2	C
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	95.8	F	52.1	D	95.9	F	47.0	D	95.9	F	47.0	D	96.1	F	47.0	D
				SAT PM	43.5	D	40.1	D	43.6	D	38.9	D	43.5	D	40.8	D	43.5	D	40.7	D
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	80.8	F	7.6	A	78.9	F	7.4	A	78.9	F	6.1	A	70.3	F	6.1	A
				SAT PM	17.7	C	6.5	A	17.3	C	6.5	A	17.6	C	5.8	A	16.9	C	10.3	B

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

Table 44 – Opening Year (2025) plus Proposed Project Mitigated Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with North and South Access Alternative (Option 2)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025) plus Proposed Project (2A)		After Mitigation (2A)		Opening Year (2025) plus Proposed Project (2B)		After Mitigation (2B)		Opening Year (2025) plus Proposed Project (2C)		After Mitigation (2C)		Opening Year (2025) plus Proposed Project (2D)		After Mitigation (2D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	210.6	F	49.2	D	159.1	F	49.8	D	179.8	F	53.0	D	68.9	E	41.2	D
				SAT PM	224.1	F	23.9	C	97.0	F	24.9	C	177.8	F	31.5	C	42.9	D	29.2	C
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	165.5	F	26.5	C	147.6	F	22.8	C	154.2	F	22.9	C	109.7	F	25.7	C
				SAT PM	82.2	F	13.1	B	56.8	E	16.0	B	72.9	E	13.0	B	35.1	D	13.1	B
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	91.7	F	48.9	D	77.3	E	49.6	D	82.8	F	52.2	D	60.6	E	47.0	D
				SAT PM	41.7	D	31.2	C	22.3	C	22.4	C	36.9	D	31.2	C	25.6	C	29.2	C
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	95.8	F	47.0	D	95.9	F	47.0	D	95.9	F	41.0	D	96.1	F	41.0	D
				SAT PM	43.5	D	40.8	D	43.6	D	38.9	D	43.5	D	40.8	D	43.5	D	38.9	D
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	80.8	F	7.6	A	78.9	F	7.4	A	78.9	F	6.1	A	70.3	F	6.1	A
				SAT PM	17.7	C	6.5	A	17.3	C	6.5	A	17.6	C	5.8	A	16.9	C	10.3	B

Notes:
 Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

Table 45 – Opening Year (2025) plus Proposed Project Mitigated Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with South Only and Interchange Access Alternative (Option 3)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (3025) plus Proposed Project (3A)		After Mitigation (3A)		Opening Year (3025) plus Proposed Project (3B)		After Mitigation (3B)		Opening Year (3025) plus Proposed Project (3C)		After Mitigation (3C)		Opening Year (3025) plus Proposed Project (3D)		After Mitigation (3D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	123.5	F	27.0	C	119.0	F	28.0	C	120.6	F	27.6	C	103.0	F	26.4	C
				SAT PM	27.3	C	21.6	C	26.5	C	12.5	B	26.9	C	12.5	B	26.0	C	12.4	B
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	64.4	E	46.4	D	59.3	E	48.0	D	61.0	E	49.1	D	53.1	D	-	-
				SAT PM	21.7	C	23.6	C	20.1	C	27.3	C	21.3	C	28.2	C	20.4	C	-	-

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

Table 46 – Opening Year (2025) plus Proposed Project Mitigated Intersection Level of Service Summary at Anderson Site (Alternative E)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025) plus Proposed Project (E)		After Mitigation (E)	
					Delay (sec)	LOS	Delay (sec)	LOS
18	North St @ Oak St	SSSC*	D	FRI PM	-	F	15.8	B
				SAT PM	-	F	21.6	C
19	North St @I-5 SB Off Ramp	AWSC	D	FRI PM	36.1	E	10.3	B
				SAT PM	26.5	D	9.9	A
20	North Street @ McMurray Dr/I-5 NB On Ramp	AWSC	D	FRI PM	60.7	F	14.4	B
				SAT PM	18.5	C	12.2	B

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2010 Highway Capacity Manual* and performed using Synchro 9.0

Cumulative (2040) Intersection Operating Deficiently

Intersections with LOS below established thresholds were investigated to determine the role of the proposed project traffic in under Cumulative (2040) Conditions.

Strawberry Fields Site: North Only Access Alternative (1)**Impact #17 – Bonnyview Road at Bechelli Lane – Intersection #3**

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #17 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal with a third eastbound through lane and a right turn pocket, and additional westbound left turn lane, and an additional southbound left turn lane. This improvement is consistent with the Alternative 1B concept proposed by Omni-Means⁶. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 56% for Alternative A, 43% for Alternative B, 53% for Alternative C, and 31% for Alternative D.

Impact #18 – Bonnyview Road at I-5 SB Ramps – Intersection #4

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #18 – Alternative A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a diverging diamond interchange at the I-5 northbound and southbound ramps. This improvement is consistent with the Alternative 4B concept proposed by Omni-Means⁶. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 44% for Alternative A, 30% for Alternative B, 40% for Alternative C, and 22% for Alternative D.

⁶ Technical Memorandum 15, Omni-Means to City of Redding – Engineering, April 28, 2017.

Impact #19 – Bonnyview Road at I-5 NB Ramps – Intersection #5

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #19 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the improvements described in Mitigation #18. Mitigation #18 would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 30% for Alternative A, 19% for Alternative B, 27% for Alternative C, and 14% for Alternative D.

Impact #20 – Bonnyview Road at Churn Creek Road – Intersection #6

This intersection is expected to exceed significance thresholds for unacceptable operations under Development Alternative A. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #20 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a roundabout. This improvement is consistent with the Alternative 4B concept proposed by Omni-Means⁶. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 4% for Alternative A, 2% for Alternative B, 3% for Alternative C, and 1% for Alternative D.

Impact #21 – Churn Creek Road at Alrose Lane – Intersection #7

This intersection is expected to exceed significance thresholds for unacceptable operations under Development Alternative A. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #21 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the improvements described in Mitigations #18 and #20. Mitigations #18 and #20 would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Under Cumulative (2040) conditions, Intersection #7 meets traffic signal warrants. Fair share calculations are 8% for Alternative A, 5% for Alternative B, 8% for Alternative C, and 3% for Alternative D.

Impact #22 – Churn Creek Road at Victor Avenue – Intersection #8

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to

occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #22 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal. The intersection satisfies Traffic Signal Warrant #3 under Cumulative (2040) without project conditions. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 5% for Alternative A, 4% for Alternative B, 7.5% for Alternative C, and 1% for Alternative D.

Impact #23 – Churn Creek Road at Rancho Road – Intersection #9

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #23 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Add a southbound left turn pocket. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Under Cumulative (2040) conditions, Intersection #7 meets traffic signal warrants. Fair share calculations are 6% for Alternative A, 5% for Alternative B, 5% for Alternative C, and 1% for Alternative D.

Strawberry Fields Site: North and South Access Alternative (2)**Impact #24 – Bonnyview Road at Bechelli Lane – Intersection #3**

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #24 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Add a southbound left turn lane; add a westbound left turn lane; add an eastbound right turn pocket. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs.

Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 47% for Alternative A, 33% for Alternative B, 43% for Alternative C, and 24% for Alternative D.

Impact #25 – Bonnyview Road at I-5 SB Ramps – Intersection #4

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #25 – Alternative A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a diverging diamond interchange at the I-5 northbound and southbound ramps. This improvement is consistent with the Alternative 4B concept proposed by Omni-Means⁶. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 30% for Alternative A, 18% for Alternative B, 27% for Alternative C, and 13% for Alternative D.

Impact #26 – Bonnyview Road at I-5 NB Ramps – Intersection #5

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #26 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the improvements described in Mitigation #25. Mitigation #25 would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 17% for Alternative A, 7% for Alternative B, 14% for Alternative C, and 8% for Alternative D.

Impact #27 – Bonnyview Road at Churn Creek Road – Intersection #6

This intersection is expected to exceed significance thresholds for unacceptable operations under Development Alternative A. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #27 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a roundabout. This improvement is consistent with the Alternative 4B concept proposed by Omni-Means⁶. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation

would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 4% for Alternative A, 2% for Alternative B, 3% for Alternative C, and 1% for Alternative D.

Impact #28 – Churn Creek Road at Alrose Lane – Intersection #7

This intersection is expected to exceed significance thresholds for unacceptable operations under Development Alternative A. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #28 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the improvements described in Mitigations #25 and #27. Mitigations #25 and #27 would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Under Cumulative (2040) conditions, Intersection #7 meets traffic signal warrants. Fair share calculations are 8% for Alternative A, 5% for Alternative B, 8% for Alternative C, and 3% for Alternative D.

Impact #29 – Churn Creek Road at Victor Avenue – Intersection #8

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #29 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal. The intersection satisfies Traffic Signal Warrant #3 under Cumulative (2040) without project conditions. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 5% for Alternative A, 4% for Alternative B, 8% for Alternative C, and 1% for Alternative D.

Impact #30 – Churn Creek Road at Rancho Road – Intersection #9

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #30 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Add a southbound left turn pocket. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Under Cumulative (2040) conditions, Intersection #7 meets traffic signal warrants. Fair share calculations are 3% for Alternative A, 5% for Alternative B, 5% for Alternative C, and 1% for Alternative D.

Strawberry Fields Site: South Only Access with New Interchange Alternative (3)**Impact #31 – Bonnyview Road at Bechelli Lane – Intersection #3**

This intersection is expected to operate at unacceptable under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #31 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Add a southbound left turn lane; add a westbound left turn lane; add an eastbound right turn pocket. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 14% for Alternative A, 5% for Alternative B, and 12% for Alternative C. Fair share percentages for Alternative D are 0%.

Impact #32 – Churn Creek Road at Rancho Road – Intersection #9

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #32 – Alternatives A, B, C, D

The significant impact at this intersection can be mitigated with the following improvements: Construct a southbound right turn lane. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Under Cumulative (2040) conditions, Intersection #7 meets traffic signal warrants. Fair share calculations are 8% for Alternative A, 6% for Alternative B, 6% for Alternative C, and 2% for Alternative D.

Anderson Site**Impact #33 – North Street at Oak Street – Intersection #18**

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternative E. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #33 – Alternative E

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal. The intersection satisfies Traffic Signal Warrant #3 under Opening Year (2025) and Cumulative (2040) plus project conditions. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 90%.

Impact #34 – North Street at I-5 Southbound Off Ramp – Intersection #19

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternative E. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #34 – Alternative E

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal or roundabout. The intersection satisfies Traffic Signal Warrant #3 under Opening Year (2025) and Cumulative (2040) plus project conditions. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 81%.

Impact #35 – North Street at McMurray Drive and I-5 Northbound On-Ramp – Intersection #20

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. This intersection is expected to exceed significance thresholds for unacceptable operations under development alternative E. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #35 – Alternative E

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal or roundabout. The intersection satisfies Traffic Signal Warrant #3 under Existing conditions without the addition of the proposed project. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the

intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 39%.

Impact #36 – Balls Ferry Road at Oak Street – Intersection #21

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternative E. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #36 – Alternative E

The significant impact at this intersection can be mitigated with the following improvements: Install all way stop control. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 43%.

With the implementation of all mitigation measures listed above, the proposed project would have no significant traffic impacts. **Tables 47-50** summarize the expected intersection levels of service with the identified mitigations under the Cumulative (2040) plus Proposed Project conditions. Additional details of the analysis are provided in **Appendix I**.

Table 47 – Cumulative (2040) plus Proposed Project Mitigated Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with North Access Alternative (Option 1)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040) plus Proposed Project (1A)		After Mitigation (1A)		Cumulative (2040) plus Proposed Project (1B)		After Mitigation (1B)		Cumulative (2040) plus Proposed Project (1C)		After Mitigation (1C)		Cumulative (2040) plus Proposed Project (1D)		After Mitigation (1D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	301.7	F	40.8	D	281.3	F	39.5	D	297.2	F	39.9	D	206.9	F	37.2	D
				SAT PM	536.5	F	39.7	D	435.9	F	29.5	C	440.5	F	32.8	C	343.4	F	27.9	C
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	194.9	F	26.9	C	167.6	F	25.3	C	189.7	F	25.5	C	119.8	F	22.7	C
				SAT PM	338.4	F	21.9	C	308.7	F	16.0	B	252.1	F	19.4	B	223.0	F	14.3	B
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	167.2	F	19.5	B	144.6	F	15.6	B	153.8	F	16.9	B	68.3	E	12.4	B
				SAT PM	291.5	F	10.1	B	253.9	F	9.8	A	232.6	F	9.8	A	133.3	F	9.6	A
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	221.0	F	20.7	C	202.4	F	12.3	B	213.1	F	14.8	B	82.4	F	8.0	A
				SAT PM	361.8	F	5.0	A	313.8	F	5.0	A	357.2	F	4.9	A	109.9	F	5.1	A
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	234.3	F	11.1	B	222.3	F	9.5	A	257.1	F	9.5	A	77.6	F	9.1	A
				SAT PM	456.0	F	7.6	A	420.3	F	7.6	A	430.1	F	7.6	A	98.5	F	7.8	A
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	486.0	F	25.2	C	476.3	F	26.6	C	476.3	F	26.8	C	439.6	F	25.8	C
				SAT PM	36.6	E	13.8	B	34.6	D	13.6	B	35.9	E	13.7	B	33.2	D	13.4	
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	91.3	F	14.8	B	87.6	F	14.6	B	88.3	F	14.7	B	76.7	F	14.4	
				SAT PM	13.3	B	15.8	B	13.1	B	15.6	B	13.2	B	15.7	B	12.9	B	15.4	

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2010 Highway Capacity Manual* and performed using Synchro 9.0

(c) LOS calculations for intersections 3-7 were performed using VISSIM, all other intersections were performed using Synchro 9.0

Table 48 – Cumulative (2040) plus Proposed Project Mitigated Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with North and South Access Alternative (Option 2)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040) plus Proposed Project (2A)		After Mitigation (2A)		Cumulative (2040) plus Proposed Project (2B)		After Mitigation (2B)		Cumulative (2040) plus Proposed Project (2C)		After Mitigation (2C)		Cumulative (2040) plus Proposed Project (2D)		After Mitigation (2D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	291.5	F	41.9	D	256.8	F	41.5	D	244.9	F	42.0	D	185.3	F	40.6	D
				SAT PM	405.8	F	30.4	C	285.9	F	28.0	C	373.2	F	29.0	C	250.6	F	26.9	C
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	181.9	F	22.7	C	148.7	F	22.1	C	155.6	F	22.1	C	104.9	F	21.8	C
				SAT PM	325.7	F	20.0	C	240.8	F	15.6	B	298.5	F	18.1	B	181.7	F	14.5	B
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	130.8	F	11.9	B	99.7	F	11.8	B	117.6	F	11.7	B	56.5	E	11.8	B
				SAT PM	229.8	F	9.7	A	149.4	F	9.7	A	193.6	F	9.4	A	97.4	F	9.4	A
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	178.4	F	7.9	A	125.0	F	8.2	A	147.4	F	8.7	A	72.6	E	8.3	A
				SAT PM	273.6	F	5.1	A	147.4	F	5.0	A	188.7	F	5.3	A	97.7	F	5.2	A
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	201.1	F	9.2	A	127.9	F	9.3	A	171.2	F	9.1	A	64.2	F	9.5	A
				SAT PM	281.3	F	7.7	A	133.9	F	7.7	A	181.7	F	7.6	A	88.6	F	7.7	A
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	486.0	F	25.2	C	26.4	F	26.6	C	476.3	F	26.8	C	25.5	F	25.8	C
				SAT PM	36.6	E	13.8	B	34.6	D	13.6	B	35.9	E	13.7	B	33.2	D	13.4	O
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	91.3	F	14.8	B	87.6	F	14.6	B	88.3	F	14.7	B	76.7	F	14.4	O
				SAT PM	13.3	B	15.8	B	13.1	B	15.6	B	13.2	B	15.7	B	12.9	B	15.4	O

Notes:
 Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

(c) LOS calculations for intersections 3-7 were performed using VISSIM, all other intersections were performed using Synchro 9.0

Table 49 – Cumulative (2040) plus Proposed Project Mitigated Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with South Only and Interchange Access Alternative (Option 3)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040) plus Proposed Project (3A)		After Mitigation (3A)		Cumulative (2040) plus Proposed Project (3B)		After Mitigation (3B)		Cumulative (2040) plus Proposed Project (3C)		After Mitigation (3C)		Cumulative (2040) plus Proposed Project (3D)		After Mitigation (3D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	114.2	F	39.8	D	120.6	F	39.6	D	116.4	F	39.5	D	119.4	F	38.6	D
				SAT PM	94.5	F	15.4	B	87.8	F	22.8	C	94.7	F	23.1	C	88.4	F	22.9	C
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	97.6	F	22.4	C	81.0	F	21.0	C	83.9	F	21.3	C	41.2	E	17.2	C
				SAT PM	15.2	C	12.2	B	14.1	B	11.8	B	14.8	B	12.0	B	12.9	B	11.4	B

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

(c) LOS calculations for intersections 3-7 were performed using VISSIM, all other intersections were performed using Synchro 9.0

Table 50 – Cumulative (2040) plus Proposed Project Mitigated Intersection Level of Service Summary at Anderson Site (Alternative E)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040) plus Proposed Project (E)		After Mitigation (E)	
					Delay (sec)	LOS	Delay (sec)	LOS
18	North St @ Oak St	SSSC*	D	FRI PM	-	F	23.1	C
				SAT PM	-	F	34.4	C
19	North St @I-5 SB Off Ramp	AWSC	D	FRI PM	52.3	F	13.1	B
				SAT PM	35.7	E	11.6	B
20	North Street @ McMurray Dr/I-5 NB On Ramp	AWSC	D	FRI PM	95.7	F	17.9	B
				SAT PM	26.5	D	13.3	B
21	Balls Ferry Rd @ Oak St	SSSC*	D	FRI PM	43.6	E	13.6	B
				SAT PM	26.0	D	11.5	B

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2010 Highway Capacity Manual* and performed using Synchro 9.0

ADDITIONAL CONSIDERATIONS

Future Bicycle and Pedestrian Facilities

According to the City of Redding *Bikeway Action Plan: 2010-2015*⁹, bicycle facilities are planned along the Sacramento River adjacent to the Strawberry Fields Site. It is recommended that the project implement strategies to avoid impacts to these planned bicycle facilities. Furthermore, there are no impacts to existing or planned bicycle or pedestrian travel at the alternative project sites (Anderson Site and Win River Casino Site).

As a result, the proposed project would not result in the elimination of existing or planned bicycle or pedestrian facilities, interfere with the implementation of a planned bikeway, or result in unsafe conditions for bicyclists or pedestrians. Nevertheless, it is recommended that the project provide safe, continuous, and accessible bicycle and pedestrian facilities within the project vicinity. As presented in the *Redding Rancheria Draft Access Alternative Concepts* memorandum (January 5, 2017), improvements to Bechelli Lane and new access roadways would include sidewalks and shoulders with adequate width to accommodate bicyclists. In addition, it is recommended that the project consider access to transit services, and consider travel demand management programs for employees.

⁹ City of Redding, *Bikeway Action Plan: 2010-2015*, 2010.

APPENDIX

APPENDIX

- A. Existing Traffic Counts
- B. Existing Analysis
 - a. Intersection LOS Worksheets
 - b. Roadway Segment LOS Worksheets
 - c. Freeway Segment LOS Results
- C. Traffic Signal Warrants
- D. Baseline Analysis (Opening Year 2025 and Cumulative 2040)
 - a. Intersection LOS Worksheets
 - b. Roadway Segment LOS Worksheets
 - c. Freeway Segment LOS Results
- E. Origin Destination Results
- F. Opening Year (2025) plus Project Analysis
 - a. Intersection LOS Worksheets
 - b. Roadway Segment LOS Worksheets
 - c. Freeway Segment LOS Results
- G. Cumulative (2040) plus Project Analysis
 - a. Intersection LOS Worksheets
 - b. Roadway Segment LOS Worksheets
 - c. Freeway Segment LOS Results
- H. Opening Year (2025) plus Project Mitigated Analysis
 - a. Intersection LOS Worksheets
- I. Cumulative (2040) plus Project Mitigated Analysis
 - a. Intersection LOS Worksheets

EXISTING TRAFFIC COUNTS

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-016 Oak Street & North Street
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	Oak Street Southbound					North Street Westbound					Oak Street Northbound					North Street Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	6	1	4	0	11	2	97	17	0	116	0	4	6	0	10	8	64	2	0	74	211	0
17:15	12	0	1	0	13	3	76	12	0	91	2	1	2	0	5	2	53	0	0	55	164	0
17:30	11	1	1	0	13	0	82	8	0	90	1	0	4	0	5	4	77	2	0	83	191	0
17:45	5	4	3	0	12	7	77	5	0	89	0	2	2	0	4	7	70	0	0	77	182	0
Total	34	6	9	0	49	12	332	42	0	386	3	7	14	0	24	21	264	4	0	289	748	0
18:00	9	0	3	0	12	1	66	13	0	80	1	4	3	0	8	1	60	1	0	62	162	0
18:15	5	1	5	0	11	3	49	13	0	65	0	0	3	0	3	5	58	0	0	63	142	0
18:30	5	1	2	0	8	4	46	8	0	58	1	1	2	0	4	5	55	0	0	60	130	0
18:45	11	1	4	0	16	2	48	7	0	57	0	1	0	0	1	0	42	1	0	43	117	0
Total	30	3	14	0	47	10	209	41	0	260	2	6	8	0	16	11	215	2	0	228	551	0
Grand Total	64	9	23	0	96	22	541	83	0	646	5	13	22	0	40	32	479	6	0	517	1299	0
Apprch %	66.7%	9.4%	24.0%	0.0%		3.4%	83.7%	12.8%	0.0%		12.5%	32.5%	55.0%	0.0%		6.2%	92.6%	1.2%	0.0%			
Total %	4.9%	0.7%	1.8%	0.0%	7.4%	1.7%	41.6%	6.4%	0.0%	49.7%	0.4%	1.0%	1.7%	0.0%	3.1%	2.5%	36.9%	0.5%	0.0%	39.8%	100.0%	

PM PEAK HOUR	Oak Street Southbound					North Street Westbound					Oak Street Northbound					North Street Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	6	1	4	0	11	2	97	17	0	116	0	4	6	0	10	8	64	2	0	74	211
17:15	12	0	1	0	13	3	76	12	0	91	2	1	2	0	5	2	53	0	0	55	164
17:30	11	1	1	0	13	0	82	8	0	90	1	0	4	0	5	4	77	2	0	83	191
17:45	5	4	3	0	12	7	77	5	0	89	0	2	2	0	4	7	70	0	0	77	182
Total Volume	34	6	9	0	49	12	332	42	0	386	3	7	14	0	24	21	264	4	0	289	748
% App Total	69.4%	12.2%	18.4%	0.0%		3.1%	86.0%	10.9%	0.0%		12.5%	29.2%	58.3%	0.0%		7.3%	91.3%	1.4%	0.0%		
PHF	.708	.375	.563	.000	.942	.429	.856	.618	.000	.832	.375	.438	.583	.000	.600	.656	.857	.500	.000	.870	.886

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-015 SR-273 & North Street
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	SR-273 Southbound					North Street Westbound					SR-273 Northbound					North Street Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	13	51	4	0	68	23	14	8	0	45	2	42	19	0	63	1	11	3	0	15	191	0
17:15	13	44	3	0	60	25	14	11	0	50	4	40	18	0	62	3	9	0	0	12	184	0
17:30	14	39	1	0	54	18	10	13	0	41	5	29	20	0	54	0	15	3	0	18	167	0
17:45	11	41	1	0	53	21	13	18	0	52	2	27	14	0	43	0	12	5	0	17	165	0
Total	51	175	9	0	235	87	51	50	0	188	13	138	71	0	222	4	47	11	0	62	707	0
18:00	11	44	2	0	57	16	15	11	0	42	1	46	18	0	65	1	7	6	0	14	178	0
18:15	13	36	0	0	49	11	9	13	0	33	3	30	8	0	41	3	4	5	0	12	135	0
18:30	16	36	1	0	53	16	10	12	0	38	7	34	18	0	59	0	6	0	0	6	156	0
18:45	10	36	1	0	47	12	14	11	0	37	7	39	18	0	64	2	9	3	0	14	162	0
Total	50	152	4	0	206	55	48	47	0	150	18	149	62	0	229	6	26	14	0	46	631	0
Grand Total	101	327	13	0	441	142	99	97	0	338	31	287	133	0	451	10	73	25	0	108	1338	0
Apprch %	22.9%	74.1%	2.9%	0.0%		42.0%	29.3%	28.7%	0.0%		6.9%	63.6%	29.5%	0.0%		9.3%	67.6%	23.1%	0.0%			
Total %	7.5%	24.4%	1.0%	0.0%	33.0%	10.6%	7.4%	7.2%	0.0%	25.3%	2.3%	21.4%	9.9%	0.0%	33.7%	0.7%	5.5%	1.9%	0.0%	8.1%	100.0%	

PM PEAK HOUR	SR-273 Southbound					North Street Westbound					SR-273 Northbound					North Street Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	13	51	4	0	68	23	14	8	0	45	2	42	19	0	63	1	11	3	0	15	191
17:15	13	44	3	0	60	25	14	11	0	50	4	40	18	0	62	3	9	0	0	12	184
17:30	14	39	1	0	54	18	10	13	0	41	5	29	20	0	54	0	15	3	0	18	167
17:45	11	41	1	0	53	21	13	18	0	52	2	27	14	0	43	0	12	5	0	17	165
Total Volume	51	175	9	0	235	87	51	50	0	188	13	138	71	0	222	4	47	11	0	62	707
% App Total	21.7%	74.5%	3.8%	0.0%		46.3%	27.1%	26.6%	0.0%		5.9%	62.2%	32.0%	0.0%		6.5%	75.8%	17.7%	0.0%		
PHF	.911	.858	.563	.000	.864	.870	.911	.694	.000	.904	.650	.821	.888	.000	.881	.333	.783	.550	.000	.861	.925

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-015 SR-273 & North Street
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	SR-273 Southbound					North Street Westbound					SR-273 Northbound					North Street Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	18	72	6	0	96	44	31	16	0	91	8	45	20	0	73	4	16	9	0	29	289	0
17:15	17	73	6	0	96	36	25	13	0	74	4	37	20	0	61	3	15	12	0	30	261	0
17:30	23	71	2	0	96	33	22	17	0	72	5	41	25	0	71	2	20	9	0	31	270	0
17:45	16	56	4	0	76	32	17	14	0	63	9	43	34	0	86	4	20	3	0	27	252	0
Total	74	272	18	0	364	145	95	60	0	300	26	166	99	0	291	13	71	33	0	117	1072	0
18:00	12	42	3	0	57	33	21	20	0	74	7	36	18	0	61	0	15	12	0	27	219	0
18:15	16	47	1	0	64	31	14	17	0	62	6	37	27	0	70	0	11	2	0	13	209	0
18:30	18	55	2	0	75	21	15	9	0	45	7	36	24	0	67	0	19	7	0	26	213	0
18:45	16	34	2	0	52	20	14	15	0	49	6	32	17	0	55	2	10	3	0	15	171	0
Total	62	178	8	0	248	105	64	61	0	230	26	141	86	0	253	2	55	24	0	81	812	0
Grand Total	136	450	26	0	612	250	159	121	0	530	52	307	185	0	544	15	126	57	0	198	1884	0
Apprch %	22.2%	73.5%	4.2%	0.0%		47.2%	30.0%	22.8%	0.0%		9.6%	56.4%	34.0%	0.0%		7.6%	63.6%	28.8%	0.0%			
Total %	7.2%	23.9%	1.4%	0.0%	32.5%	13.3%	8.4%	6.4%	0.0%	28.1%	2.8%	16.3%	9.8%	0.0%	28.9%	0.8%	6.7%	3.0%	0.0%	10.5%	100.0%	

PM PEAK HOUR	SR-273 Southbound					North Street Westbound					SR-273 Northbound					North Street Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	18	72	6	0	96	44	31	16	0	91	8	45	20	0	73	4	16	9	0	29	289
17:15	17	73	6	0	96	36	25	13	0	74	4	37	20	0	61	3	15	12	0	30	261
17:30	23	71	2	0	96	33	22	17	0	72	5	41	25	0	71	2	20	9	0	31	270
17:45	16	56	4	0	76	32	17	14	0	63	9	43	34	0	86	4	20	3	0	27	252
Total Volume	74	272	18	0	364	145	95	60	0	300	26	166	99	0	291	13	71	33	0	117	1072
% App Total	20.3%	74.7%	4.9%	0.0%		48.3%	31.7%	20.0%	0.0%		8.9%	57.0%	34.0%	0.0%		11.1%	60.7%	28.2%	0.0%		
PHF	.804	.932	.750	.000	.948	.824	.766	.882	.000	.824	.722	.922	.728	.000	.846	.813	.888	.688	.000	.944	.927

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-014 SR-273 & Happy Valley Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	SR-273 Southbound					Happy Valley Road Westbound					SR-273 Northbound					Happy Valley Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	62	10	0	72	0	0	0	0	0	12	51	0	0	63	9	0	10	0	19	154	0
17:15	0	54	14	0	68	0	0	0	0	0	18	66	0	0	84	6	0	12	0	18	170	0
17:30	0	49	14	0	63	0	0	0	0	0	14	59	0	0	73	10	0	14	0	24	160	0
17:45	0	51	7	0	58	0	0	0	0	0	12	39	0	0	51	12	0	13	0	25	134	0
Total	0	216	45	0	261	0	0	0	0	0	56	215	0	0	271	37	0	49	0	86	618	0
18:00	0	45	9	0	54	0	0	0	0	0	10	59	0	0	69	4	0	12	0	16	139	0
18:15	0	68	8	0	76	0	0	0	0	0	18	43	0	0	61	4	0	9	0	13	150	0
18:30	0	48	8	0	56	0	0	0	0	0	12	51	0	0	63	7	0	14	0	21	140	0
18:45	0	45	5	0	50	0	0	0	0	0	13	52	0	0	65	10	0	9	0	19	134	0
Total	0	206	30	0	236	0	0	0	0	0	53	205	0	0	258	25	0	44	0	69	563	0
Grand Total	0	422	75	0	497	0	0	0	0	0	109	420	0	0	529	62	0	93	0	155	1181	0
Apprch %	0.0%	84.9%	15.1%	0.0%		0.0%	0.0%	0.0%	0.0%		20.6%	79.4%	0.0%	0.0%		40.0%	0.0%	60.0%	0.0%			
Total %	0.0%	35.7%	6.4%	0.0%	42.1%	0.0%	0.0%	0.0%	0.0%	0.0%	9.2%	35.6%	0.0%	0.0%	44.8%	5.2%	0.0%	7.9%	0.0%	13.1%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Happy Valley Road Westbound					SR-273 Northbound					Happy Valley Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	62	10	0	72	0	0	0	0	0	12	51	0	0	63	9	0	10	0	19	154
17:15	0	54	14	0	68	0	0	0	0	0	18	66	0	0	84	6	0	12	0	18	170
17:30	0	49	14	0	63	0	0	0	0	0	14	59	0	0	73	10	0	14	0	24	160
17:45	0	51	7	0	58	0	0	0	0	0	12	39	0	0	51	12	0	13	0	25	134
Total Volume	0	216	45	0	261	0	0	0	0	0	56	215	0	0	271	37	0	49	0	86	618
% App Total	0.0%	82.8%	17.2%	0.0%		0.0%	0.0%	0.0%	0.0%		20.7%	79.3%	0.0%	0.0%		43.0%	0.0%	57.0%	0.0%		
PHF	.000	.871	.804	.000	.906	.000	.000	.000	.000	.000	.778	.814	.000	.000	.807	.771	.000	.875	.000	.860	.909

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-014 SR-273 & Happy Valley Road
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	SR-273 Southbound					Happy Valley Road Westbound					SR-273 Northbound					Happy Valley Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	115	15	0	130	0	0	0	0	0	15	69	0	0	84	10	0	17	0	27	241	0
17:15	0	117	19	0	136	0	0	0	0	0	21	88	0	0	109	11	0	19	0	30	275	0
17:30	0	84	22	0	106	0	0	0	0	0	23	62	0	0	85	15	0	16	0	31	222	0
17:45	0	65	13	0	78	0	0	0	0	0	15	82	0	0	97	22	0	17	0	39	214	0
Total	0	381	69	0	450	0	0	0	0	0	74	301	0	0	375	58	0	69	0	127	952	0
18:00	0	49	8	0	57	0	0	0	0	0	21	48	0	0	69	5	0	22	0	27	153	0
18:15	0	61	19	0	80	0	0	0	0	0	22	40	0	0	62	3	0	10	0	13	155	0
18:30	0	47	11	0	58	0	0	0	0	0	14	58	0	0	72	10	0	17	0	27	157	0
18:45	0	51	17	0	68	0	0	0	0	0	12	43	0	0	55	7	0	8	0	15	138	0
Total	0	208	55	0	263	0	0	0	0	0	69	189	0	0	258	25	0	57	0	82	603	0
Grand Total	0	589	124	0	713	0	0	0	0	0	143	490	0	0	633	83	0	126	0	209	1555	0
Apprch %	0.0%	82.6%	17.4%	0.0%		0.0%	0.0%	0.0%	0.0%		22.6%	77.4%	0.0%	0.0%		39.7%	0.0%	60.3%	0.0%			
Total %	0.0%	37.9%	8.0%	0.0%	45.9%	0.0%	0.0%	0.0%	0.0%	0.0%	9.2%	31.5%	0.0%	0.0%	40.7%	5.3%	0.0%	8.1%	0.0%	13.4%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Happy Valley Road Westbound					SR-273 Northbound					Happy Valley Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	115	15	0	130	0	0	0	0	0	15	69	0	0	84	10	0	17	0	27	241
17:15	0	117	19	0	136	0	0	0	0	0	21	88	0	0	109	11	0	19	0	30	275
17:30	0	84	22	0	106	0	0	0	0	0	23	62	0	0	85	15	0	16	0	31	222
17:45	0	65	13	0	78	0	0	0	0	0	15	82	0	0	97	22	0	17	0	39	214
Total Volume	0	381	69	0	450	0	0	0	0	0	74	301	0	0	375	58	0	69	0	127	952
% App Total	0.0%	84.7%	15.3%	0.0%		0.0%	0.0%	0.0%	0.0%		19.7%	80.3%	0.0%	0.0%		45.7%	0.0%	54.3%	0.0%		
PHF	.000	.814	.784	.000	.827	.000	.000	.000	.000	.000	.804	.855	.000	.000	.860	.659	.000	.908	.000	.814	.865

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-013 SR-273 & Redding Rancheria Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	SR-273 Southbound					Redding Rancheria Road Westbound					SR-273 Northbound					Redding Rancheria Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	79	57	0	136	0	0	0	0	0	10	59	0	0	69	51	0	10	0	61	266	0
17:15	0	71	88	1	160	0	0	0	0	0	14	59	0	0	73	55	0	11	0	66	299	1
17:30	0	62	98	0	160	0	0	0	0	0	18	68	0	0	86	84	0	11	0	95	341	0
17:45	0	56	88	0	144	0	0	0	0	0	13	49	0	0	62	53	0	10	0	63	269	0
Total	0	268	331	1	600	0	0	0	0	0	55	235	0	0	290	243	0	42	0	285	1175	1
18:00	0	51	87	0	138	0	0	0	0	0	18	51	0	0	69	59	0	9	0	68	275	0
18:15	0	70	90	0	160	0	0	0	0	0	16	36	0	0	52	55	0	14	0	69	281	0
18:30	0	62	99	0	161	0	0	0	0	0	16	50	0	0	66	48	0	2	0	50	277	0
18:45	0	48	83	0	131	0	0	0	0	0	25	41	0	0	66	46	0	6	0	52	249	0
Total	0	231	359	0	590	0	0	0	0	0	75	178	0	0	253	208	0	31	0	239	1082	0
Grand Total	0	499	690	1	1190	0	0	0	0	0	130	413	0	0	543	451	0	73	0	524	2257	1
Apprch %	0.0%	41.9%	58.0%	0.1%		0.0%	0.0%	0.0%	0.0%		23.9%	76.1%	0.0%	0.0%		86.1%	0.0%	13.9%	0.0%			
Total %	0.0%	22.1%	30.6%	0.0%	52.7%	0.0%	0.0%	0.0%	0.0%	0.0%	5.8%	18.3%	0.0%	0.0%	24.1%	20.0%	0.0%	3.2%	0.0%	23.2%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Redding Rancheria Road Westbound					SR-273 Northbound					Redding Rancheria Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	0	71	88	1	160	0	0	0	0	0	14	59	0	0	73	55	0	11	0	66	299
17:30	0	62	98	0	160	0	0	0	0	0	18	68	0	0	86	84	0	11	0	95	341
17:45	0	56	88	0	144	0	0	0	0	0	13	49	0	0	62	53	0	10	0	63	269
18:00	0	51	87	0	138	0	0	0	0	0	18	51	0	0	69	59	0	9	0	68	275
Total Volume	0	240	361	1	602	0	0	0	0	0	63	227	0	0	290	251	0	41	0	292	1184
% App Total	0.0%	39.9%	60.0%	0.2%		0.0%	0.0%	0.0%	0.0%		21.7%	78.3%	0.0%	0.0%		86.0%	0.0%	14.0%	0.0%		
PHF	.000	.845	.921	.250	.941	.000	.000	.000	.000	.000	.875	.835	.000	.000	.843	.747	.000	.932	.000	.768	.868

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-013 SR-273 & Redding Rancheria Road
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	SR-273 Southbound					Redding Rancheria Road Westbound					SR-273 Northbound					Redding Rancheria Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	140	135	0	275	0	0	0	0	0	12	87	0	0	99	80	0	18	0	98	472	0
17:15	0	138	121	0	259	0	0	0	0	0	20	119	0	0	139	68	0	11	0	79	477	0
17:30	0	94	123	0	217	0	0	0	0	0	18	82	0	0	100	73	0	18	0	91	408	0
17:45	0	80	111	0	191	0	0	0	0	0	20	99	0	0	119	76	0	14	0	90	400	0
Total	0	452	490	0	942	0	0	0	0	0	70	387	0	0	457	297	0	61	0	358	1757	0
18:00	0	60	84	0	144	0	0	0	0	0	17	52	0	0	69	62	0	11	0	73	286	0
18:15	0	67	94	0	161	0	0	0	0	0	6	56	0	0	62	72	0	11	0	83	306	0
18:30	0	64	99	0	163	0	0	0	0	0	16	47	0	0	63	70	0	10	0	80	306	0
18:45	0	65	78	0	143	0	0	0	0	0	17	51	0	0	68	73	0	14	0	87	298	0
Total	0	256	355	0	611	0	0	0	0	0	56	206	0	0	262	277	0	46	0	323	1196	0
Grand Total	0	708	845	0	1553	0	0	0	0	0	126	593	0	0	719	574	0	107	0	681	2953	0
Apprch %	0.0%	45.6%	54.4%	0.0%		0.0%	0.0%	0.0%	0.0%		17.5%	82.5%	0.0%	0.0%		84.3%	0.0%	15.7%	0.0%			
Total %	0.0%	24.0%	28.6%	0.0%	52.6%	0.0%	0.0%	0.0%	0.0%	0.0%	4.3%	20.1%	0.0%	0.0%	24.3%	19.4%	0.0%	3.6%	0.0%	23.1%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Redding Rancheria Road Westbound					SR-273 Northbound					Redding Rancheria Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	140	135	0	275	0	0	0	0	0	12	87	0	0	99	80	0	18	0	98	472
17:15	0	138	121	0	259	0	0	0	0	0	20	119	0	0	139	68	0	11	0	79	477
17:30	0	94	123	0	217	0	0	0	0	0	18	82	0	0	100	73	0	18	0	91	408
17:45	0	80	111	0	191	0	0	0	0	0	20	99	0	0	119	76	0	14	0	90	400
Total Volume	0	452	490	0	942	0	0	0	0	0	70	387	0	0	457	297	0	61	0	358	1757
% App Total	0.0%	48.0%	52.0%	0.0%		0.0%	0.0%	0.0%	0.0%		15.3%	84.7%	0.0%	0.0%		83.0%	0.0%	17.0%	0.0%		
PHF	.000	.807	.907	.000	.856	.000	.000	.000	.000	.000	.875	.813	.000	.000	.822	.928	.000	.847	.000	.913	.921

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-012 SR-273 & Westside Road/Girvan Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	SR-273 Southbound					Westside Road/Girvan Road Westbound					SR-273 Northbound					Westside Road/Girvan Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	17	102	3	0	122	28	1	20	0	49	5	75	30	0	110	2	3	1	0	6	287	0
17:15	14	123	3	0	140	31	0	10	0	41	5	89	22	0	116	1	0	3	0	4	301	0
17:30	8	116	4	0	128	24	1	17	0	42	7	114	28	1	150	4	2	14	0	20	340	1
17:45	22	114	5	0	141	18	1	14	0	33	6	72	27	0	105	3	2	8	0	13	292	0
Total	61	455	15	0	531	101	3	61	0	165	23	350	107	1	481	10	7	26	0	43	1220	1
18:00	16	119	8	0	143	28	3	10	0	41	5	81	23	0	109	3	5	5	0	13	306	0
18:15	16	132	4	0	152	18	2	13	0	33	5	73	19	0	97	2	4	5	0	11	293	0
18:30	14	123	4	1	142	24	1	12	0	37	6	67	24	0	97	3	0	9	0	12	288	1
18:45	13	101	4	0	118	27	1	11	0	39	5	67	17	0	89	4	1	6	0	11	257	0
Total	59	475	20	1	555	97	7	46	0	150	21	288	83	0	392	12	10	25	0	47	1144	1
Grand Total	120	930	35	1	1086	198	10	107	0	315	44	638	190	1	873	22	17	51	0	90	2364	2
Apprch %	11.0%	85.6%	3.2%	0.1%		62.9%	3.2%	34.0%	0.0%		5.0%	73.1%	21.8%	0.1%		24.4%	18.9%	56.7%	0.0%			
Total %	5.1%	39.3%	1.5%	0.0%	45.9%	8.4%	0.4%	4.5%	0.0%	13.3%	1.9%	27.0%	8.0%	0.0%	36.9%	0.9%	0.7%	2.2%	0.0%	3.8%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Westside Road/Girvan Road Westbound					SR-273 Northbound					Westside Road/Girvan Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	14	123	3	0	140	31	0	10	0	41	5	89	22	0	116	1	0	3	0	4	301
17:30	8	116	4	0	128	24	1	17	0	42	7	114	28	1	150	4	2	14	0	20	340
17:45	22	114	5	0	141	18	1	14	0	33	6	72	27	0	105	3	2	8	0	13	292
18:00	16	119	8	0	143	28	3	10	0	41	5	81	23	0	109	3	5	5	0	13	306
Total Volume	60	472	20	0	552	101	5	51	0	157	23	356	100	1	480	11	9	30	0	50	1239
% App Total	10.9%	85.5%	3.6%	0.0%		64.3%	3.2%	32.5%	0.0%		4.8%	74.2%	20.8%	0.2%		22.0%	18.0%	60.0%	0.0%		
PHF	.682	.959	.625	.000	.965	.815	.417	.750	.000	.935	.821	.781	.893	.250	.800	.688	.450	.536	.000	.625	.911

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-012 SR-273 & Westside Road/Girvan Road
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	SR-273 Southbound					Westside Road/Girvan Road Westbound					SR-273 Northbound					Westside Road/Girvan Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	28	210	6	0	244	51	3	18	0	72	6	124	29	0	159	2	1	10	0	13	488	0
17:15	13	219	5	0	237	34	3	12	0	49	6	129	40	1	176	3	11	9	0	23	485	1
17:30	27	152	5	0	184	38	4	16	0	58	6	115	30	1	152	0	1	13	0	14	408	1
17:45	14	134	6	0	154	34	4	15	0	53	8	128	47	0	183	1	2	11	0	14	404	0
Total	82	715	22	0	819	157	14	61	0	232	26	496	146	2	670	6	15	43	0	64	1785	2
18:00	21	123	3	0	147	24	1	11	0	36	2	89	26	0	117	3	1	4	0	8	308	0
18:15	13	137	8	0	158	29	2	13	0	44	6	90	24	0	120	2	2	12	0	16	338	0
18:30	13	121	7	0	141	24	3	11	0	38	5	97	19	0	121	0	3	10	0	13	313	0
18:45	14	115	5	0	134	20	0	9	0	29	3	95	32	0	130	2	2	6	0	10	303	0
Total	61	496	23	0	580	97	6	44	0	147	16	371	101	0	488	7	8	32	0	47	1262	0
Grand Total	143	1211	45	0	1399	254	20	105	0	379	42	867	247	2	1158	13	23	75	0	111	3047	2
Apprch %	10.2%	86.6%	3.2%	0.0%		67.0%	5.3%	27.7%	0.0%		3.6%	74.9%	21.3%	0.2%		11.7%	20.7%	67.6%	0.0%			
Total %	4.7%	39.7%	1.5%	0.0%	45.9%	8.3%	0.7%	3.4%	0.0%	12.4%	1.4%	28.5%	8.1%	0.1%	38.0%	0.4%	0.8%	2.5%	0.0%	3.6%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Westside Road/Girvan Road Westbound					SR-273 Northbound					Westside Road/Girvan Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	28	210	6	0	244	51	3	18	0	72	6	124	29	0	159	2	1	10	0	13	488
17:15	13	219	5	0	237	34	3	12	0	49	6	129	40	1	176	3	11	9	0	23	485
17:30	27	152	5	0	184	38	4	16	0	58	6	115	30	1	152	0	1	13	0	14	408
17:45	14	134	6	0	154	34	4	15	0	53	8	128	47	0	183	1	2	11	0	14	404
Total Volume	82	715	22	0	819	157	14	61	0	232	26	496	146	2	670	6	15	43	0	64	1785
% App Total	10.0%	87.3%	2.7%	0.0%		67.7%	6.0%	26.3%	0.0%		3.9%	74.0%	21.8%	0.3%		9.4%	23.4%	67.2%	0.0%		
PHF	.732	.816	.917	.000	.839	.770	.875	.847	.000	.806	.813	.961	.777	.500	.915	.500	.341	.827	.000	.696	.914

ALL TRAFFIC DATA

City of Redding
All Vehicles & Utturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-011 SR-273 & Clear Creek Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Utturns

	SR-273 Southbound					Clear Creek Road Westbound					SR-273 Northbound					Clear Creek Road Eastbound					Total	Utturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	119	9	0	128	0	0	0	0	0	7	88	0	0	95	14	0	1	0	15	238	0
17:15	0	143	12	0	155	0	0	0	0	0	3	94	0	0	97	16	0	2	0	18	270	0
17:30	0	122	15	0	137	0	0	0	0	0	5	120	0	0	125	15	0	5	0	20	282	0
17:45	0	142	13	0	155	0	0	0	0	0	4	89	0	1	94	18	0	1	0	19	268	1
Total	0	526	49	0	575	0	0	0	0	0	19	391	0	1	411	63	0	9	0	72	1058	1
18:00	0	142	12	0	154	0	0	0	0	0	7	84	0	0	91	14	0	7	0	21	266	0
18:15	0	145	10	0	155	0	0	0	0	0	1	82	0	2	85	8	0	5	0	13	253	2
18:30	0	137	13	0	150	0	0	0	0	0	3	85	0	0	88	10	0	5	0	15	253	0
18:45	0	117	7	0	124	0	0	0	0	0	0	82	0	0	82	8	0	2	0	10	216	0
Total	0	541	42	0	583	0	0	0	0	0	11	333	0	2	346	40	0	19	0	59	988	2
Grand Total	0	1067	91	0	1158	0	0	0	0	0	30	724	0	3	757	103	0	28	0	131	2046	3
Apprch %	0.0%	92.1%	7.9%	0.0%		0.0%	0.0%	0.0%	0.0%		4.0%	95.6%	0.0%	0.4%		78.6%	0.0%	21.4%	0.0%			
Total %	0.0%	52.2%	4.4%	0.0%	56.6%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	35.4%	0.0%	0.1%	37.0%	5.0%	0.0%	1.4%	0.0%	6.4%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Clear Creek Road Westbound					SR-273 Northbound					Clear Creek Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	0	143	12	0	155	0	0	0	0	0	3	94	0	0	97	16	0	2	0	18	270
17:30	0	122	15	0	137	0	0	0	0	0	5	120	0	0	125	15	0	5	0	20	282
17:45	0	142	13	0	155	0	0	0	0	0	4	89	0	1	94	18	0	1	0	19	268
18:00	0	142	12	0	154	0	0	0	0	0	7	84	0	0	91	14	0	7	0	21	266
Total Volume	0	549	52	0	601	0	0	0	0	0	19	387	0	1	407	63	0	15	0	78	1086
% App Total	0.0%	91.3%	8.7%	0.0%		0.0%	0.0%	0.0%	0.0%		4.7%	95.1%	0.0%	0.2%		80.8%	0.0%	19.2%	0.0%		
PHF	.000	.960	.867	.000	.969	.000	.000	.000	.000	.000	.679	.806	.000	.250	.814	.875	.000	.536	.000	.929	.963

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-011 SR-273 & Clear Creek Road
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	SR-273 Southbound					Clear Creek Road Westbound					SR-273 Northbound					Clear Creek Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	248	19	0	267	0	0	0	0	0	2	144	0	0	146	45	0	9	0	54	467	0
17:15	0	246	24	0	270	0	0	0	0	0	5	134	0	0	139	22	0	8	0	30	439	0
17:30	0	165	15	0	180	0	0	0	0	0	5	127	0	0	132	18	0	9	0	27	339	0
17:45	0	157	14	0	171	0	0	0	0	0	5	133	0	0	138	28	0	4	0	32	341	0
Total	0	816	72	0	888	0	0	0	0	0	17	538	0	0	555	113	0	30	0	143	1586	0
18:00	0	135	12	0	147	0	0	0	0	0	3	109	0	0	112	12	0	5	0	17	276	0
18:15	0	145	19	0	164	0	0	0	0	0	3	101	0	0	104	12	0	4	0	16	284	0
18:30	0	138	12	0	150	0	0	0	0	0	5	103	0	0	108	18	0	6	0	24	282	0
18:45	0	123	11	0	134	0	0	0	0	0	2	101	0	0	103	9	0	5	0	14	251	0
Total	0	541	54	0	595	0	0	0	0	0	13	414	0	0	427	51	0	20	0	71	1093	0
Grand Total	0	1357	126	0	1483	0	0	0	0	0	30	952	0	0	982	164	0	50	0	214	2679	0
Apprch %	0.0%	91.5%	8.5%	0.0%		0.0%	0.0%	0.0%	0.0%		3.1%	96.9%	0.0%	0.0%		76.6%	0.0%	23.4%	0.0%			
Total %	0.0%	50.7%	4.7%	0.0%	55.4%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	35.5%	0.0%	0.0%	36.7%	6.1%	0.0%	1.9%	0.0%	8.0%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Clear Creek Road Westbound					SR-273 Northbound					Clear Creek Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	248	19	0	267	0	0	0	0	0	2	144	0	0	146	45	0	9	0	54	467
17:15	0	246	24	0	270	0	0	0	0	0	5	134	0	0	139	22	0	8	0	30	439
17:30	0	165	15	0	180	0	0	0	0	0	5	127	0	0	132	18	0	9	0	27	339
17:45	0	157	14	0	171	0	0	0	0	0	5	133	0	0	138	28	0	4	0	32	341
Total Volume	0	816	72	0	888	0	0	0	0	0	17	538	0	0	555	113	0	30	0	143	1586
% App Total	0.0%	91.9%	8.1%	0.0%		0.0%	0.0%	0.0%	0.0%		3.1%	96.9%	0.0%	0.0%		79.0%	0.0%	21.0%	0.0%		
PHF	.000	.823	.750	.000	.822	.000	.000	.000	.000	.000	.850	.934	.000	.000	.950	.628	.000	.833	.000	.662	.849

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-010 SR-273 & Westwood Avenue
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	SR-273 Southbound					Westwood Avenue Westbound					SR-273 Northbound					Westwood Avenue Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	85	51	0	136	0	0	0	0	0	38	73	0	0	111	50	0	41	0	91	338	0
17:15	0	102	65	0	167	0	0	0	0	0	28	82	0	1	111	52	0	49	0	101	379	1
17:30	0	107	46	0	153	0	0	0	0	0	35	99	0	0	134	42	0	36	0	78	365	0
17:45	0	108	56	0	164	0	0	0	0	0	31	84	0	0	115	42	0	38	0	80	359	0
Total	0	402	218	0	620	0	0	0	0	0	132	338	0	1	471	186	0	164	0	350	1441	1
18:00	0	124	52	0	176	0	0	0	0	0	30	66	0	0	96	54	0	37	0	91	363	0
18:15	0	126	39	0	165	0	0	0	0	0	23	68	0	0	91	38	0	25	0	63	319	0
18:30	0	121	48	0	169	0	0	0	0	0	24	70	0	1	95	31	0	36	0	67	331	1
18:45	0	96	41	0	137	0	0	0	0	0	16	68	0	0	84	28	0	28	0	56	277	0
Total	0	467	180	0	647	0	0	0	0	0	93	272	0	1	366	151	0	126	0	277	1290	1
Grand Total	0	869	398	0	1267	0	0	0	0	0	225	610	0	2	837	337	0	290	0	627	2731	2
Apprch %	0.0%	68.6%	31.4%	0.0%		0.0%	0.0%	0.0%	0.0%		26.9%	72.9%	0.0%	0.2%		53.7%	0.0%	46.3%	0.0%			
Total %	0.0%	31.8%	14.6%	0.0%	46.4%	0.0%	0.0%	0.0%	0.0%	0.0%	8.2%	22.3%	0.0%	0.1%	30.6%	12.3%	0.0%	10.6%	0.0%	23.0%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Westwood Avenue Westbound					SR-273 Northbound					Westwood Avenue Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	0	102	65	0	167	0	0	0	0	0	28	82	0	1	111	52	0	49	0	101	379
17:30	0	107	46	0	153	0	0	0	0	0	35	99	0	0	134	42	0	36	0	78	365
17:45	0	108	56	0	164	0	0	0	0	0	31	84	0	0	115	42	0	38	0	80	359
18:00	0	124	52	0	176	0	0	0	0	0	30	66	0	0	96	54	0	37	0	91	363
Total Volume	0	441	219	0	660	0	0	0	0	0	124	331	0	1	456	190	0	160	0	350	1466
% App Total	0.0%	66.8%	33.2%	0.0%		0.0%	0.0%	0.0%	0.0%		27.2%	72.6%	0.0%	0.2%		54.3%	0.0%	45.7%	0.0%		
PHF	.000	.889	.842	.000	.938	.000	.000	.000	.000	.000	.886	.836	.000	.250	.851	.880	.000	.816	.000	.866	.967

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-010 SR-273 & Westwood Avenue
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	SR-273 Southbound					Westwood Avenue Westbound					SR-273 Northbound					Westwood Avenue Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	213	82	0	295	0	0	0	0	0	49	148	0	0	197	69	0	63	0	132	624	0
17:15	0	209	110	0	319	0	0	0	0	0	23	127	0	0	150	74	0	58	0	132	601	0
17:30	0	123	86	0	209	0	0	0	0	0	38	105	0	0	143	54	0	55	0	109	461	0
17:45	0	129	81	0	210	0	0	0	0	0	35	124	0	0	159	58	0	38	0	96	465	0
Total	0	674	359	0	1033	0	0	0	0	0	145	504	0	0	649	255	0	214	0	469	2151	0
18:00	0	109	54	0	163	0	0	0	0	0	32	104	0	0	136	62	0	42	0	104	403	0
18:15	0	123	57	0	180	0	0	0	0	0	28	83	0	0	111	43	0	47	0	90	381	0
18:30	0	121	64	0	185	0	0	0	0	0	24	100	0	0	124	52	0	25	0	77	386	0
18:45	0	105	49	0	154	0	0	0	0	0	19	93	0	0	112	32	0	27	0	59	325	0
Total	0	458	224	0	682	0	0	0	0	0	103	380	0	0	483	189	0	141	0	330	1495	0
Grand Total	0	1132	583	0	1715	0	0	0	0	0	248	884	0	0	1132	444	0	355	0	799	3646	0
Apprch %	0.0%	66.0%	34.0%	0.0%		0.0%	0.0%	0.0%	0.0%		21.9%	78.1%	0.0%	0.0%		55.6%	0.0%	44.4%	0.0%			
Total %	0.0%	31.0%	16.0%	0.0%	47.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.8%	24.2%	0.0%	0.0%	31.0%	12.2%	0.0%	9.7%	0.0%	21.9%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Westwood Avenue Westbound					SR-273 Northbound					Westwood Avenue Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	213	82	0	295	0	0	0	0	0	49	148	0	0	197	69	0	63	0	132	624
17:15	0	209	110	0	319	0	0	0	0	0	23	127	0	0	150	74	0	58	0	132	601
17:30	0	123	86	0	209	0	0	0	0	0	38	105	0	0	143	54	0	55	0	109	461
17:45	0	129	81	0	210	0	0	0	0	0	35	124	0	0	159	58	0	38	0	96	465
Total Volume	0	674	359	0	1033	0	0	0	0	0	145	504	0	0	649	255	0	214	0	469	2151
% App Total	0.0%	65.2%	34.8%	0.0%		0.0%	0.0%	0.0%	0.0%		22.3%	77.7%	0.0%	0.0%		54.4%	0.0%	45.6%	0.0%		
PHF	.000	.791	.816	.000	.810	.000	.000	.000	.000	.000	.740	.851	.000	.000	.824	.861	.000	.849	.000	.888	.862

ALL TRAFFIC DATA

City of Redding
All Vehicles & Utturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-009 Churn Creek Road & Smith Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Utturns

	Churn Creek Road Southbound					Smith Road Westbound					Churn Creek Road Northbound					Smith Road Eastbound					Total	Utturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	18	5	0	23	0	0	0	0	0	0	17	0	0	17	1	0	0	0	1	41	0
17:15	0	14	2	0	16	0	0	0	0	0	0	15	0	0	15	4	0	0	0	4	35	0
17:30	0	16	6	0	22	0	0	0	0	0	1	17	0	0	18	2	0	2	0	4	44	0
17:45	0	20	6	0	26	0	0	0	0	0	0	16	0	0	16	5	0	1	0	6	48	0
Total	0	68	19	0	87	0	0	0	0	0	1	65	0	0	66	12	0	3	0	15	168	0
18:00	0	19	4	0	23	0	0	0	0	0	0	15	0	0	15	0	0	3	0	3	41	0
18:15	0	20	3	0	23	0	0	0	0	0	2	12	0	0	14	3	0	1	0	4	41	0
18:30	0	16	1	0	17	0	0	0	0	0	1	10	0	0	11	1	0	0	0	1	29	0
18:45	0	10	5	0	15	0	0	0	0	0	3	9	0	0	12	6	0	2	0	8	35	0
Total	0	65	13	0	78	0	0	0	0	0	6	46	0	0	52	10	0	6	0	16	146	0
Grand Total	0	133	32	0	165	0	0	0	0	0	7	111	0	0	118	22	0	9	0	31	314	0
Apprch %	0.0%	80.6%	19.4%	0.0%		0.0%	0.0%	0.0%	0.0%		5.9%	94.1%	0.0%	0.0%		71.0%	0.0%	29.0%	0.0%			
Total %	0.0%	42.4%	10.2%	0.0%	52.5%	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%	35.4%	0.0%	0.0%	37.6%	7.0%	0.0%	2.9%	0.0%	9.9%	100.0%	

PM PEAK HOUR	Churn Creek Road Southbound					Smith Road Westbound					Churn Creek Road Northbound					Smith Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:30 to 18:30																					
Peak Hour For Entire Intersection Begins at 17:30																					
17:30	0	16	6	0	22	0	0	0	0	0	1	17	0	0	18	2	0	2	0	4	44
17:45	0	20	6	0	26	0	0	0	0	0	0	16	0	0	16	5	0	1	0	6	48
18:00	0	19	4	0	23	0	0	0	0	0	0	15	0	0	15	0	0	3	0	3	41
18:15	0	20	3	0	23	0	0	0	0	0	2	12	0	0	14	3	0	1	0	4	41
Total Volume	0	75	19	0	94	0	0	0	0	0	3	60	0	0	63	10	0	7	0	17	174
% App Total	0.0%	79.8%	20.2%	0.0%		0.0%	0.0%	0.0%	0.0%		4.8%	95.2%	0.0%	0.0%		58.8%	0.0%	41.2%	0.0%		
PHF	.000	.938	.792	.000	.904	.000	.000	.000	.000	.000	.375	.882	.000	.000	.875	.500	.000	.583	.000	.708	.906

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-009 Churn Creek Road & Smith Road
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	Churn Creek Road Southbound					Smith Road Westbound					Churn Creek Road Northbound					Smith Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	30	13	0	43	0	0	0	0	0	1	20	0	0	21	1	0	1	0	2	66	0
17:15	0	44	7	0	51	0	0	0	0	0	1	31	0	0	32	4	0	1	0	5	88	0
17:30	0	26	5	0	31	0	0	0	0	0	2	29	0	0	31	4	0	1	0	5	67	0
17:45	0	24	4	0	28	0	0	0	0	0	3	22	0	0	25	5	0	0	0	5	58	0
Total	0	124	29	0	153	0	0	0	0	0	7	102	0	0	109	14	0	3	0	17	279	0
18:00	0	28	4	0	32	0	0	0	0	0	3	21	0	0	24	6	0	1	0	7	63	0
18:15	0	19	1	0	20	0	0	0	0	0	2	16	0	0	18	5	0	0	0	5	43	0
18:30	0	18	4	0	22	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	38	0
18:45	0	15	4	0	19	0	0	0	0	0	1	17	0	0	18	3	0	3	0	6	43	0
Total	0	80	13	0	93	0	0	0	0	0	6	70	0	0	76	14	0	4	0	18	187	0
Grand Total	0	204	42	0	246	0	0	0	0	0	13	172	0	0	185	28	0	7	0	35	466	0
Apprch %	0.0%	82.9%	17.1%	0.0%		0.0%	0.0%	0.0%	0.0%		7.0%	93.0%	0.0%	0.0%		80.0%	0.0%	20.0%	0.0%			
Total %	0.0%	43.8%	9.0%	0.0%	52.8%	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	36.9%	0.0%	0.0%	39.7%	6.0%	0.0%	1.5%	0.0%	7.5%	100.0%	

PM PEAK HOUR	Churn Creek Road Southbound					Smith Road Westbound					Churn Creek Road Northbound					Smith Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	30	13	0	43	0	0	0	0	0	1	20	0	0	21	1	0	1	0	2	66
17:15	0	44	7	0	51	0	0	0	0	0	1	31	0	0	32	4	0	1	0	5	88
17:30	0	26	5	0	31	0	0	0	0	0	2	29	0	0	31	4	0	1	0	5	67
17:45	0	24	4	0	28	0	0	0	0	0	3	22	0	0	25	5	0	0	0	5	58
Total Volume	0	124	29	0	153	0	0	0	0	0	7	102	0	0	109	14	0	3	0	17	279
% App Total	0.0%	81.0%	19.0%	0.0%		0.0%	0.0%	0.0%	0.0%		6.4%	93.6%	0.0%	0.0%		82.4%	0.0%	17.6%	0.0%		
PHF	.000	.705	.558	.000	.750	.000	.000	.000	.000	.000	.583	.823	.000	.000	.852	.700	.000	.750	.000	.850	.793

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-008 Victor Avenue & Churn Creek Road
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	Victor Avenue Southbound					Churn Creek Road Westbound					Victor Avenue Northbound					Churn Creek Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	15	0	22	0	37	0	68	13	0	81	0	0	0	0	0	36	98	0	0	134	252	0
17:15	19	0	27	0	46	0	66	21	0	87	0	0	0	0	0	41	99	0	0	140	273	0
17:30	10	0	28	0	38	0	60	19	0	79	0	0	0	0	0	37	67	0	0	104	221	0
17:45	14	0	18	0	32	0	50	14	0	64	0	0	0	0	0	30	59	0	0	89	185	0
Total	58	0	95	0	153	0	244	67	0	311	0	0	0	0	0	144	323	0	0	467	931	0
18:00	18	0	29	0	47	0	42	16	0	58	0	0	0	0	0	23	54	0	0	77	182	0
18:15	7	0	21	0	28	0	44	14	0	58	0	0	0	0	0	23	51	0	0	74	160	0
18:30	10	0	28	0	38	0	42	10	0	52	0	0	0	0	0	23	44	0	0	67	157	0
18:45	11	0	19	0	30	0	43	7	0	50	0	0	0	0	0	19	45	0	0	64	144	0
Total	46	0	97	0	143	0	171	47	0	218	0	0	0	0	0	88	194	0	0	282	643	0
Grand Total	104	0	192	0	296	0	415	114	0	529	0	0	0	0	0	232	517	0	0	749	1574	0
Apprch %	35.1%	0.0%	64.9%	0.0%		0.0%	78.4%	21.6%	0.0%		0.0%	0.0%	0.0%	0.0%		31.0%	69.0%	0.0%	0.0%			
Total %	6.6%	0.0%	12.2%	0.0%	18.8%	0.0%	26.4%	7.2%	0.0%	33.6%	0.0%	0.0%	0.0%	0.0%	0.0%	14.7%	32.8%	0.0%	0.0%	47.6%	100.0%	

PM PEAK HOUR	Victor Avenue Southbound					Churn Creek Road Westbound					Victor Avenue Northbound					Churn Creek Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	15	0	22	0	37	0	68	13	0	81	0	0	0	0	0	36	98	0	0	134	252
17:15	19	0	27	0	46	0	66	21	0	87	0	0	0	0	0	41	99	0	0	140	273
17:30	10	0	28	0	38	0	60	19	0	79	0	0	0	0	0	37	67	0	0	104	221
17:45	14	0	18	0	32	0	50	14	0	64	0	0	0	0	0	30	59	0	0	89	185
Total Volume	58	0	95	0	153	0	244	67	0	311	0	0	0	0	0	144	323	0	0	467	931
% App Total	37.9%	0.0%	62.1%	0.0%		0.0%	78.5%	21.5%	0.0%		0.0%	0.0%	0.0%	0.0%		30.8%	69.2%	0.0%	0.0%		
PHF	.763	.000	.848	.000	.832	.000	.897	.798	.000	.894	.000	.000	.000	.000	.000	.878	.816	.000	.000	.834	.853

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-008 Victor Avenue & Churn Creek Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	Victor Avenue Southbound					Churn Creek Road Westbound					Victor Avenue Northbound					Churn Creek Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	13	0	31	0	44	0	27	9	0	36	0	0	0	0	0	26	33	0	0	59	139	0
17:15	6	0	17	0	23	0	44	6	0	50	0	0	0	0	0	18	46	0	0	64	137	0
17:30	9	0	27	0	36	0	40	8	0	48	0	0	0	0	0	27	36	0	0	63	147	0
17:45	12	0	25	0	37	0	57	7	0	64	0	0	0	0	0	22	40	0	0	62	163	0
Total	40	0	100	0	140	0	168	30	0	198	0	0	0	0	0	93	155	0	0	248	586	0
18:00	13	0	30	0	43	0	38	8	0	46	0	0	0	0	0	23	43	0	0	66	155	0
18:15	12	0	18	0	30	0	29	5	0	34	0	0	0	0	0	27	33	0	0	60	124	0
18:30	9	0	22	0	31	0	31	2	0	33	0	0	0	0	0	32	42	0	0	74	138	0
18:45	4	0	20	0	24	0	35	8	0	43	0	0	0	0	0	21	28	0	0	49	116	0
Total	38	0	90	0	128	0	133	23	0	156	0	0	0	0	0	103	146	0	0	249	533	0
Grand Total	78	0	190	0	268	0	301	53	0	354	0	0	0	0	0	196	301	0	0	497	1119	0
Apprch %	29.1%	0.0%	70.9%	0.0%		0.0%	85.0%	15.0%	0.0%		0.0%	0.0%	0.0%	0.0%		39.4%	60.6%	0.0%	0.0%			
Total %	7.0%	0.0%	17.0%	0.0%	23.9%	0.0%	26.9%	4.7%	0.0%	31.6%	0.0%	0.0%	0.0%	0.0%	0.0%	17.5%	26.9%	0.0%	0.0%	44.4%	100.0%	

PM PEAK HOUR	Victor Avenue Southbound					Churn Creek Road Westbound					Victor Avenue Northbound					Churn Creek Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	6	0	17	0	23	0	44	6	0	50	0	0	0	0	0	18	46	0	0	64	137
17:30	9	0	27	0	36	0	40	8	0	48	0	0	0	0	0	27	36	0	0	63	147
17:45	12	0	25	0	37	0	57	7	0	64	0	0	0	0	0	22	40	0	0	62	163
18:00	13	0	30	0	43	0	38	8	0	46	0	0	0	0	0	23	43	0	0	66	155
Total Volume	40	0	99	0	139	0	179	29	0	208	0	0	0	0	0	90	165	0	0	255	602
% App Total	28.8%	0.0%	71.2%	0.0%		0.0%	86.1%	13.9%	0.0%		0.0%	0.0%	0.0%	0.0%		35.3%	64.7%	0.0%	0.0%		
PHF	.769	.000	.825	.000	.808	.000	.785	.906	.000	.813	.000	.000	.000	.000	.000	.833	.897	.000	.000	.966	.923

ALL TRAFFIC DATA

City of Redding
All Vehicles & Utturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-007 Alrose Lane & Churn Creek Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Utturns

	Alrose Lane Southbound					Churn Creek Road Westbound					Alrose Lane Northbound					Churn Creek Road Eastbound					Total	Utturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	3	0	26	0	29	0	51	5	0	56	0	0	0	0	0	18	54	0	0	72	157	0
17:15	6	0	12	0	18	0	59	3	0	62	0	0	0	0	0	12	61	0	0	73	153	0
17:30	2	0	10	0	12	0	65	3	0	68	0	0	0	0	0	6	60	0	0	66	146	0
17:45	1	0	16	0	17	0	77	2	0	79	0	0	0	0	0	19	71	0	0	90	186	0
Total	12	0	64	0	76	0	252	13	0	265	0	0	0	0	0	55	246	0	0	301	642	0
18:00	3	0	14	0	17	0	68	6	0	74	0	0	0	0	0	11	56	0	0	67	158	0
18:15	3	0	16	0	19	0	47	2	0	49	0	0	0	0	0	23	63	0	0	86	154	0
18:30	2	0	21	0	23	0	52	6	0	58	0	0	0	0	0	19	68	0	0	87	168	0
18:45	3	0	16	0	19	0	50	3	0	53	0	0	0	0	0	14	48	0	1	63	135	1
Total	11	0	67	0	78	0	217	17	0	234	0	0	0	0	0	67	235	0	1	303	615	1
Grand Total	23	0	131	0	154	0	469	30	0	499	0	0	0	0	0	122	481	0	1	604	1257	1
Apprch %	14.9%	0.0%	85.1%	0.0%		0.0%	94.0%	6.0%	0.0%		0.0%	0.0%	0.0%	0.0%		20.2%	79.6%	0.0%	0.2%			
Total %	1.8%	0.0%	10.4%	0.0%	12.3%	0.0%	37.3%	2.4%	0.0%	39.7%	0.0%	0.0%	0.0%	0.0%	0.0%	9.7%	38.3%	0.0%	0.1%	48.1%	100.0%	

PM PEAK HOUR	Alrose Lane Southbound					Churn Creek Road Westbound					Alrose Lane Northbound					Churn Creek Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:45 to 18:45																					
Peak Hour For Entire Intersection Begins at 17:45																					
17:45	1	0	16	0	17	0	77	2	0	79	0	0	0	0	0	19	71	0	0	90	186
18:00	3	0	14	0	17	0	68	6	0	74	0	0	0	0	0	11	56	0	0	67	158
18:15	3	0	16	0	19	0	47	2	0	49	0	0	0	0	0	23	63	0	0	86	154
18:30	2	0	21	0	23	0	52	6	0	58	0	0	0	0	0	19	68	0	0	87	168
Total Volume	9	0	67	0	76	0	244	16	0	260	0	0	0	0	0	72	258	0	0	330	666
% App Total	11.8%	0.0%	88.2%	0.0%		0.0%	93.8%	6.2%	0.0%		0.0%	0.0%	0.0%	0.0%		21.8%	78.2%	0.0%	0.0%		
PHF	.750	.000	.798	.000	.826	.000	.792	.667	.000	.823	.000	.000	.000	.000	.000	.783	.908	.000	.000	.917	.895

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-007 Alrose Lane & Churn Creek Road
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	Alrose Lane Southbound					Churn Creek Road Westbound					Alrose Lane Northbound					Churn Creek Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	7	0	24	0	31	1	96	7	0	104	4	0	0	0	4	28	142	6	0	176	315	0
17:15	4	0	25	0	29	0	98	3	0	101	2	0	1	0	3	18	128	0	0	146	279	0
17:30	9	0	18	0	27	0	89	4	0	93	1	0	1	0	2	25	102	2	0	129	251	0
17:45	3	0	19	0	22	0	70	2	0	72	0	0	0	0	0	27	85	6	0	118	212	0
Total	23	0	86	0	109	1	353	16	0	370	7	0	2	0	9	98	457	14	0	569	1057	0
18:00	1	0	14	0	15	0	70	5	0	75	3	0	0	0	3	22	84	1	0	107	200	0
18:15	5	0	19	0	24	0	67	7	0	74	1	0	0	0	1	27	73	1	0	101	200	0
18:30	6	0	20	0	26	0	69	5	0	74	3	0	1	0	4	16	73	2	0	91	195	0
18:45	3	0	11	0	14	1	66	3	0	70	1	0	1	0	2	15	64	0	0	79	165	0
Total	15	0	64	0	79	1	272	20	0	293	8	0	2	0	10	80	294	4	0	378	760	0
Grand Total	38	0	150	0	188	2	625	36	0	663	15	0	4	0	19	178	751	18	0	947	1817	0
Apprch %	20.2%	0.0%	79.8%	0.0%		0.3%	94.3%	5.4%	0.0%		78.9%	0.0%	21.1%	0.0%		18.8%	79.3%	1.9%	0.0%			
Total %	2.1%	0.0%	8.3%	0.0%	10.3%	0.1%	34.4%	2.0%	0.0%	36.5%	0.8%	0.0%	0.2%	0.0%	1.0%	9.8%	41.3%	1.0%	0.0%	52.1%	100.0%	

PM PEAK HOUR	Alrose Lane Southbound					Churn Creek Road Westbound					Alrose Lane Northbound					Churn Creek Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	7	0	24	0	31	1	96	7	0	104	4	0	0	0	4	28	142	6	0	176	315
17:15	4	0	25	0	29	0	98	3	0	101	2	0	1	0	3	18	128	0	0	146	279
17:30	9	0	18	0	27	0	89	4	0	93	1	0	1	0	2	25	102	2	0	129	251
17:45	3	0	19	0	22	0	70	2	0	72	0	0	0	0	0	27	85	6	0	118	212
Total Volume	23	0	86	0	109	1	353	16	0	370	7	0	2	0	9	98	457	14	0	569	1057
% App Total	21.1%	0.0%	78.9%	0.0%		0.3%	95.4%	4.3%	0.0%		77.8%	0.0%	22.2%	0.0%		17.2%	80.3%	2.5%	0.0%		
PHF	.639	.000	.860	.000	.879	.250	.901	.571	.000	.889	.438	.000	.500	.000	.563	.875	.805	.583	.000	.808	.839

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-006 Churn Creek Road & South Bonnyview Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	Churn Creek Road Southbound					South Bonnyview Road Westbound					Churn Creek Road Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	10	0	49	0	59	0	62	19	0	81	1	2	0	0	3	33	67	0	0	100	243	0
17:15	12	2	43	0	57	0	63	10	0	73	3	3	1	0	7	28	61	2	0	91	228	0
17:30	8	0	48	0	56	1	72	4	0	77	2	2	0	0	4	46	55	3	0	104	241	0
17:45	14	0	51	0	65	1	79	12	0	92	3	0	1	0	4	51	75	1	0	127	288	0
Total	44	2	191	0	237	2	276	45	0	323	9	7	2	0	18	158	258	6	0	422	1000	0
18:00	16	0	40	0	56	0	78	10	0	88	3	1	0	0	4	46	52	6	0	104	252	0
18:15	31	0	53	0	84	0	55	8	0	63	0	0	1	0	1	42	56	6	0	104	252	0
18:30	24	0	41	0	65	1	65	11	0	77	1	0	0	0	1	37	67	0	0	104	247	0
18:45	9	2	42	0	53	0	51	11	0	62	1	2	0	0	3	29	54	2	0	85	203	0
Total	80	2	176	0	258	1	249	40	0	290	5	3	1	0	9	154	229	14	0	397	954	0
Grand Total	124	4	367	0	495	3	525	85	0	613	14	10	3	0	27	312	487	20	0	819	1954	0
Apprch %	25.1%	0.8%	74.1%	0.0%		0.5%	85.6%	13.9%	0.0%		51.9%	37.0%	11.1%	0.0%		38.1%	59.5%	2.4%	0.0%			
Total %	6.3%	0.2%	18.8%	0.0%	25.3%	0.2%	26.9%	4.4%	0.0%	31.4%	0.7%	0.5%	0.2%	0.0%	1.4%	16.0%	24.9%	1.0%	0.0%	41.9%	100.0%	

PM PEAK HOUR	Churn Creek Road Southbound					South Bonnyview Road Westbound					Churn Creek Road Northbound					South Bonnyview Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:45 to 18:45																					
Peak Hour For Entire Intersection Begins at 17:45																					
17:45	14	0	51	0	65	1	79	12	0	92	3	0	1	0	4	51	75	1	0	127	288
18:00	16	0	40	0	56	0	78	10	0	88	3	1	0	0	4	46	52	6	0	104	252
18:15	31	0	53	0	84	0	55	8	0	63	0	0	1	0	1	42	56	6	0	104	252
18:30	24	0	41	0	65	1	65	11	0	77	1	0	0	0	1	37	67	0	0	104	247
Total Volume	85	0	185	0	270	2	277	41	0	320	7	1	2	0	10	176	250	13	0	439	1039
% App Total	31.5%	0.0%	68.5%	0.0%		0.6%	86.6%	12.8%	0.0%		70.0%	10.0%	20.0%	0.0%		40.1%	56.9%	3.0%	0.0%		
PHF	.685	.000	.873	.000	.804	.500	.877	.854	.000	.870	.583	.250	.500	.000	.625	.863	.833	.542	.000	.864	.902

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-006 Churn Creek Road & South Bonnyview Road
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	Churn Creek Road Southbound					South Bonnyview Road Westbound					Churn Creek Road Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	33	1	95	0	129	0	104	20	0	124	0	0	0	0	0	52	142	3	0	197	450	0
17:15	20	1	81	0	102	0	108	14	0	122	1	1	0	0	2	64	133	2	0	199	425	0
17:30	26	1	68	0	95	0	95	18	0	113	2	1	0	0	3	53	102	2	0	157	368	0
17:45	16	0	51	0	67	0	77	15	0	92	2	0	1	0	3	42	98	3	1	144	306	1
Total	95	3	295	0	393	0	384	67	0	451	5	2	1	0	8	211	475	10	1	697	1549	1
18:00	24	1	65	0	90	0	78	11	0	89	1	0	0	0	1	48	86	1	0	135	315	0
18:15	21	2	77	0	100	0	71	15	0	86	1	1	0	0	2	44	78	1	0	123	311	0
18:30	19	2	47	0	68	0	81	12	0	93	1	0	0	0	1	54	73	1	0	128	290	0
18:45	20	0	39	0	59	0	71	8	0	79	2	0	0	0	2	42	64	4	0	110	250	0
Total	84	5	228	0	317	0	301	46	0	347	5	1	0	0	6	188	301	7	0	496	1166	0
Grand Total	179	8	523	0	710	0	685	113	0	798	10	3	1	0	14	399	776	17	1	1193	2715	1
Apprch %	25.2%	1.1%	73.7%	0.0%		0.0%	85.8%	14.2%	0.0%		71.4%	21.4%	7.1%	0.0%		33.4%	65.0%	1.4%	0.1%			
Total %	6.6%	0.3%	19.3%	0.0%	26.2%	0.0%	25.2%	4.2%	0.0%	29.4%	0.4%	0.1%	0.0%	0.0%	0.5%	14.7%	28.6%	0.6%	0.0%	43.9%	100.0%	

PM PEAK HOUR	Churn Creek Road Southbound					South Bonnyview Road Westbound					Churn Creek Road Northbound					South Bonnyview Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	33	1	95	0	129	0	104	20	0	124	0	0	0	0	0	52	142	3	0	197	450
17:15	20	1	81	0	102	0	108	14	0	122	1	1	0	0	2	64	133	2	0	199	425
17:30	26	1	68	0	95	0	95	18	0	113	2	1	0	0	3	53	102	2	0	157	368
17:45	16	0	51	0	67	0	77	15	0	92	2	0	1	0	3	42	98	3	1	144	306
Total Volume	95	3	295	0	393	0	384	67	0	451	5	2	1	0	8	211	475	10	1	697	1549
% App Total	24.2%	0.8%	75.1%	0.0%		0.0%	85.1%	14.9%	0.0%		62.5%	25.0%	12.5%	0.0%		30.3%	68.1%	1.4%	0.1%		
PHF	.720	.750	.776	.000	.762	.000	.889	.838	.000	.909	.625	.500	.250	.000	.667	.824	.836	.833	.250	.876	.861

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-005 I-5 NB Ramps & South Bonnyview Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	I-5 NB Ramps Southbound					South Bonnyview Road Westbound					I-5 NB Ramps Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	0	0	0	0	0	81	29	0	110	40	1	23	0	64	69	77	0	0	146	320	0
17:15	0	0	0	0	0	0	89	22	0	111	36	1	18	0	55	81	72	0	0	153	319	0
17:30	0	0	0	0	0	0	100	25	0	125	32	1	25	0	58	77	83	0	0	160	343	0
17:45	0	0	0	0	0	0	101	27	0	128	41	0	42	0	83	76	84	0	0	160	371	0
Total	0	0	0	0	0	0	371	103	0	474	149	3	108	0	260	303	316	0	0	619	1353	0
18:00	0	0	0	0	0	0	84	36	0	120	34	0	34	0	68	67	74	0	0	141	329	0
18:15	0	0	0	0	0	0	80	28	0	108	38	0	35	0	73	58	68	0	0	126	307	0
18:30	0	0	0	0	0	0	69	36	0	105	30	1	26	0	57	55	76	0	0	131	293	0
18:45	0	0	0	0	0	0	77	17	0	94	24	0	21	0	45	67	67	0	0	134	273	0
Total	0	0	0	0	0	0	310	117	0	427	126	1	116	0	243	247	285	0	0	532	1202	0
Grand Total	0	0	0	0	0	0	681	220	0	901	275	4	224	0	503	550	601	0	0	1151	2555	0
Apprch %	0.0%	0.0%	0.0%	0.0%		0.0%	75.6%	24.4%	0.0%		54.7%	0.8%	44.5%	0.0%		47.8%	52.2%	0.0%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	26.7%	8.6%	0.0%	35.3%	10.8%	0.2%	8.8%	0.0%	19.7%	21.5%	23.5%	0.0%	0.0%	45.0%	100.0%	

PM PEAK HOUR	I-5 NB Ramps Southbound					South Bonnyview Road Westbound					I-5 NB Ramps Northbound					South Bonnyview Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	0	0	0	0	0	0	89	22	0	111	36	1	18	0	55	81	72	0	0	153	319
17:30	0	0	0	0	0	0	100	25	0	125	32	1	25	0	58	77	83	0	0	160	343
17:45	0	0	0	0	0	0	101	27	0	128	41	0	42	0	83	76	84	0	0	160	371
18:00	0	0	0	0	0	0	84	36	0	120	34	0	34	0	68	67	74	0	0	141	329
Total Volume	0	0	0	0	0	0	374	110	0	484	143	2	119	0	264	301	313	0	0	614	1362
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	77.3%	22.7%	0.0%		54.2%	0.8%	45.1%	0.0%		49.0%	51.0%	0.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.926	.764	.000	.945	.872	.500	.708	.000	.795	.929	.932	.000	.000	.959	.918

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-005 I-5 NB Ramps & South Bonnyview Road
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	I-5 NB Ramps Southbound					South Bonnyview Road Westbound					I-5 NB Ramps Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	0	0	0	0	0	178	30	0	208	53	2	38	0	93	131	161	0	0	292	593	0
17:15	0	0	0	0	0	0	153	39	0	192	65	0	46	0	111	120	151	0	0	271	574	0
17:30	0	0	0	0	0	0	115	42	0	157	52	0	37	0	89	115	116	0	0	231	477	0
17:45	0	0	0	0	0	0	103	30	0	133	55	1	40	0	96	109	104	0	0	213	442	0
Total	0	0	0	0	0	0	549	141	0	690	225	3	161	0	389	475	532	0	0	1007	2086	0
18:00	0	0	0	0	0	0	103	31	0	134	54	0	23	0	77	113	116	0	0	229	440	0
18:15	0	0	0	0	0	0	117	37	0	154	48	0	27	0	75	85	92	0	0	177	406	0
18:30	0	0	0	0	0	0	94	29	0	123	49	0	33	0	82	95	94	0	0	189	394	0
18:45	0	0	0	0	0	0	93	24	0	117	24	0	37	0	61	74	73	0	0	147	325	0
Total	0	0	0	0	0	0	407	121	0	528	175	0	120	0	295	367	375	0	0	742	1565	0
Grand Total	0	0	0	0	0	0	956	262	0	1218	400	3	281	0	684	842	907	0	0	1749	3651	0
Apprch %	0.0%	0.0%	0.0%	0.0%		0.0%	78.5%	21.5%	0.0%		58.5%	0.4%	41.1%	0.0%		48.1%	51.9%	0.0%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	26.2%	7.2%	0.0%	33.4%	11.0%	0.1%	7.7%	0.0%	18.7%	23.1%	24.8%	0.0%	0.0%	47.9%	100.0%	

PM PEAK HOUR	I-5 NB Ramps Southbound					South Bonnyview Road Westbound					I-5 NB Ramps Northbound					South Bonnyview Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	0	178	30	0	208	53	2	38	0	93	131	161	0	0	292	593
17:15	0	0	0	0	0	0	153	39	0	192	65	0	46	0	111	120	151	0	0	271	574
17:30	0	0	0	0	0	0	115	42	0	157	52	0	37	0	89	115	116	0	0	231	477
17:45	0	0	0	0	0	0	103	30	0	133	55	1	40	0	96	109	104	0	0	213	442
Total Volume	0	0	0	0	0	0	549	141	0	690	225	3	161	0	389	475	532	0	0	1007	2086
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	79.6%	20.4%	0.0%		57.8%	0.8%	41.4%	0.0%		47.2%	52.8%	0.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.771	.839	.000	.829	.865	.375	.875	.000	.876	.906	.826	.000	.000	.862	.879

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 16-7487-004 I-5 SB Ramps & South Bonnyview Road

Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	I-5 SB Ramps Southbound					South Bonnyview Road Westbound					I-5 SB Ramps Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	44	0	136	0	180	64	166	0	0	230	0	0	0	0	0	0	249	92	0	341	751	0
17:15	45	0	124	0	169	72	148	0	0	220	0	0	0	0	0	0	232	88	0	320	709	0
17:30	30	0	129	0	159	41	125	0	0	166	0	0	0	0	0	0	197	75	0	272	597	0
17:45	33	1	92	0	126	37	123	0	0	160	0	0	0	0	0	0	185	63	0	248	534	0
Total	152	1	481	0	634	214	562	0	0	776	0	0	0	0	0	0	863	318	0	1181	2591	0
18:00	45	0	106	0	151	39	113	0	0	152	0	0	0	0	0	0	178	48	0	226	529	0
18:15	21	0	92	0	113	42	112	0	0	154	0	0	0	0	0	0	160	47	0	207	474	0
18:30	28	0	103	0	131	42	116	0	0	158	0	0	0	0	0	0	162	52	0	214	503	0
18:45	29	0	94	0	123	34	84	0	0	118	0	0	0	0	0	0	114	35	0	149	390	0
Total	123	0	395	0	518	157	425	0	0	582	0	0	0	0	0	0	614	182	0	796	1896	0
Grand Total	275	1	876	0	1152	371	987	0	0	1358	0	0	0	0	0	0	1477	500	0	1977	4487	0
Apprch %	23.9%	0.1%	76.0%	0.0%		27.3%	72.7%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	74.7%	25.3%	0.0%			
Total %	6.1%	0.0%	19.5%	0.0%	25.7%	8.3%	22.0%	0.0%	0.0%	30.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	32.9%	11.1%	0.0%	44.1%	100.0%	

PM PEAK HOUR	I-5 SB Ramps Southbound					South Bonnyview Road Westbound					I-5 SB Ramps Northbound					South Bonnyview Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	44	0	136	0	180	64	166	0	0	230	0	0	0	0	0	0	249	92	0	341	751
17:15	45	0	124	0	169	72	148	0	0	220	0	0	0	0	0	0	232	88	0	320	709
17:30	30	0	129	0	159	41	125	0	0	166	0	0	0	0	0	0	197	75	0	272	597
17:45	33	1	92	0	126	37	123	0	0	160	0	0	0	0	0	0	185	63	0	248	534
Total Volume	152	1	481	0	634	214	562	0	0	776	0	0	0	0	0	0	863	318	0	1181	2591
% App Total	24.0%	0.2%	75.9%	0.0%		27.6%	72.4%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	73.1%	26.9%	0.0%		
PHF	.844	.250	.884	.000	.881	.743	.846	.000	.000	.843	.000	.000	.000	.000	.000	.000	.866	.864	.000	.866	.863

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-004 I-5 SB Ramps & South Bonnyview Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	I-5 SB Ramps Southbound					South Bonnyview Road Westbound					I-5 SB Ramps Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	33	0	96	0	129	30	92	0	0	122	0	0	0	0	0	0	118	40	0	158	409	0
17:15	21	0	79	0	100	28	95	0	0	123	0	0	0	0	0	0	127	43	0	170	393	0
17:30	24	0	81	0	105	38	91	0	0	129	0	0	0	0	0	0	133	44	0	177	411	0
17:45	16	1	83	0	100	31	120	0	0	151	0	0	0	0	0	0	145	35	0	180	431	0
Total	94	1	339	0	434	127	398	0	0	525	0	0	0	0	0	0	523	162	0	685	1644	0
18:00	30	0	83	0	113	25	88	0	0	113	0	0	0	0	0	0	108	36	0	144	370	0
18:15	26	0	89	0	115	34	91	0	0	125	0	0	0	0	0	0	101	33	0	134	374	0
18:30	24	1	81	0	106	30	70	0	0	100	0	0	0	0	0	0	106	28	0	134	340	0
18:45	24	2	85	0	111	24	67	0	0	91	0	0	0	0	0	0	108	23	0	131	333	0
Total	104	3	338	0	445	113	316	0	0	429	0	0	0	0	0	0	423	120	0	543	1417	0
Grand Total	198	4	677	0	879	240	714	0	0	954	0	0	0	0	0	0	946	282	0	1228	3061	0
Apprch %	22.5%	0.5%	77.0%	0.0%		25.2%	74.8%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	77.0%	23.0%	0.0%			
Total %	6.5%	0.1%	22.1%	0.0%	28.7%	7.8%	23.3%	0.0%	0.0%	31.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.9%	9.2%	0.0%	40.1%	100.0%	

PM PEAK HOUR	I-5 SB Ramps Southbound					South Bonnyview Road Westbound					I-5 SB Ramps Northbound					South Bonnyview Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	33	0	96	0	129	30	92	0	0	122	0	0	0	0	0	0	118	40	0	158	409
17:15	21	0	79	0	100	28	95	0	0	123	0	0	0	0	0	0	127	43	0	170	393
17:30	24	0	81	0	105	38	91	0	0	129	0	0	0	0	0	0	133	44	0	177	411
17:45	16	1	83	0	100	31	120	0	0	151	0	0	0	0	0	0	145	35	0	180	431
Total Volume	94	1	339	0	434	127	398	0	0	525	0	0	0	0	0	0	523	162	0	685	1644
% App Total	21.7%	0.2%	78.1%	0.0%		24.2%	75.8%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	76.4%	23.6%	0.0%		
PHF	.712	.250	.883	.000	.841	.836	.829	.000	.000	.869	.000	.000	.000	.000	.000	.000	.902	.920	.000	.951	.954

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-003 Bechelli Lane & South Bonnyview Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	Bechelli Lane Southbound					South Bonnyview Road Westbound					Bechelli Lane Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	21	1	35	0	57	1	169	15	0	185	6	0	3	0	9	14	131	2	0	147	398	0
17:15	15	1	21	0	37	2	151	15	1	169	0	2	3	0	5	21	146	3	0	170	381	1
17:30	20	1	20	0	41	2	149	13	0	164	5	2	3	0	10	13	141	3	0	157	372	0
17:45	20	0	14	0	34	0	181	22	0	203	3	0	3	0	6	21	159	2	0	182	425	0
Total	76	3	90	0	169	5	650	65	1	721	14	4	12	0	30	69	577	10	0	656	1576	1
18:00	25	0	37	0	62	0	139	21	1	161	1	1	1	0	3	13	108	1	0	122	348	1
18:15	13	3	35	0	51	6	155	14	0	175	3	3	3	0	9	22	117	4	0	143	378	0
18:30	14	1	37	0	52	2	121	17	2	142	1	1	0	0	2	17	111	2	0	130	326	2
18:45	8	0	26	0	34	3	142	6	0	151	1	1	3	0	5	10	114	3	0	127	317	0
Total	60	4	135	0	199	11	557	58	3	629	6	6	7	0	19	62	450	10	0	522	1369	3
Grand Total	136	7	225	0	368	16	1207	123	4	1350	20	10	19	0	49	131	1027	20	0	1178	2945	4
Apprch %	37.0%	1.9%	61.1%	0.0%		1.2%	89.4%	9.1%	0.3%		40.8%	20.4%	38.8%	0.0%		11.1%	87.2%	1.7%	0.0%			
Total %	4.6%	0.2%	7.6%	0.0%	12.5%	0.5%	41.0%	4.2%	0.1%	45.8%	0.7%	0.3%	0.6%	0.0%	1.7%	4.4%	34.9%	0.7%	0.0%	40.0%	100.0%	

PM PEAK HOUR	Bechelli Lane Southbound					South Bonnyview Road Westbound					Bechelli Lane Northbound					South Bonnyview Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	21	1	35	0	57	1	169	15	0	185	6	0	3	0	9	14	131	2	0	147	398
17:15	15	1	21	0	37	2	151	15	1	169	0	2	3	0	5	21	146	3	0	170	381
17:30	20	1	20	0	41	2	149	13	0	164	5	2	3	0	10	13	141	3	0	157	372
17:45	20	0	14	0	34	0	181	22	0	203	3	0	3	0	6	21	159	2	0	182	425
Total Volume	76	3	90	0	169	5	650	65	1	721	14	4	12	0	30	69	577	10	0	656	1576
% App Total	45.0%	1.8%	53.3%	0.0%		0.7%	90.2%	9.0%	0.1%		46.7%	13.3%	40.0%	0.0%		10.5%	88.0%	1.5%	0.0%		
PHF	.905	.750	.643	.000	.741	.625	.898	.739	.250	.888	.583	.500	1.000	.000	.750	.821	.907	.833	.000	.901	.927

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-003 Bechelli Lane & South Bonnyview Road
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	Bechelli Lane Southbound					South Bonnyview Road Westbound					Bechelli Lane Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	66	1	66	0	133	6	244	34	0	284	5	6	10	0	21	42	270	3	0	315	753	0
17:15	57	0	59	0	116	2	220	36	0	258	5	1	5	0	11	40	242	4	0	286	671	0
17:30	50	2	53	0	105	0	220	22	0	242	3	4	6	0	13	20	210	2	0	232	592	0
17:45	38	2	34	0	74	3	177	22	0	202	3	2	6	0	11	25	198	1	0	224	511	0
Total	211	5	212	0	428	11	861	114	0	986	16	13	27	0	56	127	920	10	0	1057	2527	0
18:00	39	1	36	0	76	1	181	21	0	203	7	2	2	0	11	17	176	0	0	193	483	0
18:15	35	4	43	0	82	2	174	19	1	196	2	0	2	0	4	20	163	1	0	184	466	1
18:30	22	0	30	0	52	3	193	18	2	216	4	1	3	0	8	17	173	3	0	193	469	2
18:45	15	1	32	0	48	2	145	16	0	163	5	1	2	0	8	22	121	1	0	144	363	0
Total	111	6	141	0	258	8	693	74	3	778	18	4	9	0	31	76	633	5	0	714	1781	3
Grand Total	322	11	353	0	686	19	1554	188	3	1764	34	17	36	0	87	203	1553	15	0	1771	4308	3
Apprch %	46.9%	1.6%	51.5%	0.0%		1.1%	88.1%	10.7%	0.2%		39.1%	19.5%	41.4%	0.0%		11.5%	87.7%	0.8%	0.0%			
Total %	7.5%	0.3%	8.2%	0.0%	15.9%	0.4%	36.1%	4.4%	0.1%	40.9%	0.8%	0.4%	0.8%	0.0%	2.0%	4.7%	36.0%	0.3%	0.0%	41.1%	100.0%	

PM PEAK HOUR	Bechelli Lane Southbound					South Bonnyview Road Westbound					Bechelli Lane Northbound					South Bonnyview Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	66	1	66	0	133	6	244	34	0	284	5	6	10	0	21	42	270	3	0	315	753
17:15	57	0	59	0	116	2	220	36	0	258	5	1	5	0	11	40	242	4	0	286	671
17:30	50	2	53	0	105	0	220	22	0	242	3	4	6	0	13	20	210	2	0	232	592
17:45	38	2	34	0	74	3	177	22	0	202	3	2	6	0	11	25	198	1	0	224	511
Total Volume	211	5	212	0	428	11	861	114	0	986	16	13	27	0	56	127	920	10	0	1057	2527
% App Total	49.3%	1.2%	49.5%	0.0%		1.1%	87.3%	11.6%	0.0%		28.6%	23.2%	48.2%	0.0%		12.0%	87.0%	0.9%	0.0%		
PHF	.799	.625	.803	.000	.805	.458	.882	.792	.000	.868	.800	.542	.675	.000	.667	.756	.852	.625	.000	.839	.839

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-002 East Bonnyview Road & South Bonnyview Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	East Bonnyview Road Southbound					South Bonnyview Road Westbound					East Bonnyview Road Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	22	0	6	0	28	0	164	33	1	198	0	0	0	0	0	4	121	0	2	127	353	3
17:15	19	0	6	0	25	0	150	25	0	175	0	0	0	0	0	5	137	0	0	142	342	0
17:30	23	0	5	0	28	0	138	23	0	161	0	0	0	0	0	3	136	0	0	139	328	0
17:45	22	0	6	0	28	0	173	20	0	193	0	0	0	0	0	5	143	0	0	148	369	0
Total	86	0	23	0	109	0	625	101	1	727	0	0	0	0	0	17	537	0	2	556	1392	3
18:00	22	0	9	0	31	0	157	14	0	171	0	0	0	0	0	2	103	0	0	105	307	0
18:15	25	0	5	0	30	0	174	26	0	200	0	0	0	0	0	5	104	0	0	109	339	0
18:30	25	0	7	0	32	0	133	16	0	149	0	0	0	0	0	8	102	0	1	111	292	1
18:45	13	0	8	0	21	0	134	18	0	152	0	0	0	0	0	7	115	0	1	123	296	1
Total	85	0	29	0	114	0	598	74	0	672	0	0	0	0	0	22	424	0	2	448	1234	2
Grand Total	171	0	52	0	223	0	1223	175	1	1399	0	0	0	0	0	39	961	0	4	1004	2626	5
Apprch %	76.7%	0.0%	23.3%	0.0%		0.0%	87.4%	12.5%	0.1%		0.0%	0.0%	0.0%	0.0%		3.9%	95.7%	0.0%	0.4%			
Total %	6.5%	0.0%	2.0%	0.0%	8.5%	0.0%	46.6%	6.7%	0.0%	53.3%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	36.6%	0.0%	0.2%	38.2%	100.0%	

PM PEAK HOUR	East Bonnyview Road Southbound					South Bonnyview Road Westbound					East Bonnyview Road Northbound					South Bonnyview Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	22	0	6	0	28	0	164	33	1	198	0	0	0	0	0	4	121	0	2	127	353
17:15	19	0	6	0	25	0	150	25	0	175	0	0	0	0	0	5	137	0	0	142	342
17:30	23	0	5	0	28	0	138	23	0	161	0	0	0	0	0	3	136	0	0	139	328
17:45	22	0	6	0	28	0	173	20	0	193	0	0	0	0	0	5	143	0	0	148	369
Total Volume	86	0	23	0	109	0	625	101	1	727	0	0	0	0	0	17	537	0	2	556	1392
% App Total	78.9%	0.0%	21.1%	0.0%		0.0%	86.0%	13.9%	0.1%		0.0%	0.0%	0.0%	0.0%		3.1%	96.6%	0.0%	0.4%		
PHF	.935	.000	.958	.000	.973	.000	.903	.765	.250	.918	.000	.000	.000	.000	.000	.850	.939	.000	.250	.939	.943

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-002 East Bonnyview Road & South Bonnyview Road
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	East Bonnyview Road Southbound					South Bonnyview Road Westbound					East Bonnyview Road Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	104	0	12	0	116	0	257	52	1	310	0	0	0	0	0	16	207	0	0	223	649	1
17:15	49	0	11	0	60	0	230	50	0	280	0	0	0	0	0	9	218	0	1	228	568	1
17:30	53	0	7	0	60	0	216	53	3	272	0	0	0	0	0	11	165	0	0	176	508	3
17:45	37	1	6	0	44	0	194	30	0	224	0	0	0	0	0	5	201	0	1	207	475	1
Total	243	1	36	0	280	0	897	185	4	1086	0	0	0	0	0	41	791	0	2	834	2200	6
18:00	25	0	8	0	33	0	156	37	2	195	0	0	0	0	0	8	157	0	1	166	394	3
18:15	36	0	8	0	44	2	191	34	0	227	0	1	0	0	1	4	151	0	1	156	428	1
18:30	27	0	7	0	34	0	169	34	2	205	0	0	0	0	0	5	160	1	1	167	406	3
18:45	21	0	8	0	29	2	149	31	1	183	0	0	0	0	0	7	111	0	0	118	330	1
Total	109	0	31	0	140	4	665	136	5	810	0	1	0	0	1	24	579	1	3	607	1558	8
Grand Total	352	1	67	0	420	4	1562	321	9	1896	0	1	0	0	1	65	1370	1	5	1441	3758	14
Apprch %	83.8%	0.2%	16.0%	0.0%		0.2%	82.4%	16.9%	0.5%		0.0%	100.0%	0.0%	0.0%		4.5%	95.1%	0.1%	0.3%			
Total %	9.4%	0.0%	1.8%	0.0%	11.2%	0.1%	41.6%	8.5%	0.2%	50.5%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	36.5%	0.0%	0.1%	38.3%	100.0%	

PM PEAK HOUR	East Bonnyview Road Southbound					South Bonnyview Road Westbound					East Bonnyview Road Northbound					South Bonnyview Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	104	0	12	0	116	0	257	52	1	310	0	0	0	0	0	16	207	0	0	223	649
17:15	49	0	11	0	60	0	230	50	0	280	0	0	0	0	0	9	218	0	1	228	568
17:30	53	0	7	0	60	0	216	53	3	272	0	0	0	0	0	11	165	0	0	176	508
17:45	37	1	6	0	44	0	194	30	0	224	0	0	0	0	0	5	201	0	1	207	475
Total Volume	243	1	36	0	280	0	897	185	4	1086	0	0	0	0	0	41	791	0	2	834	2200
% App Total	86.8%	0.4%	12.9%	0.0%		0.0%	82.6%	17.0%	0.4%		0.0%	0.0%	0.0%	0.0%		4.9%	94.8%	0.0%	0.2%		
PHF	.584	.250	.750	.000	.603	.000	.873	.873	.333	.876	.000	.000	.000	.000	.000	.641	.907	.000	.500	.914	.847

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-001 SR-273 & South Bonnyview Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	SR-273 Southbound					South Bonnyview Road Westbound					SR-273 Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	41	73	0	0	114	75	15	28	0	118	7	68	51	0	126	0	7	5	0	12	370	0
17:15	46	59	1	0	106	85	8	16	1	110	8	61	61	0	130	0	7	15	0	22	368	1
17:30	34	81	1	0	116	64	9	40	0	113	7	68	64	0	139	0	15	11	0	26	394	0
17:45	29	69	0	0	98	79	16	29	0	124	6	64	59	0	129	0	3	6	0	9	360	0
Total	150	282	2	0	434	303	48	113	1	465	28	261	235	0	524	0	32	37	0	69	1492	1
18:00	34	96	0	0	130	88	10	30	0	128	3	58	52	0	113	0	5	6	0	11	382	0
18:15	33	72	0	0	105	72	10	27	0	109	5	65	47	0	117	0	5	7	0	12	343	0
18:30	27	71	0	0	98	94	6	28	0	128	6	59	43	0	108	2	6	6	0	14	348	0
18:45	29	58	1	0	88	73	3	18	0	94	5	50	43	0	98	0	4	11	0	15	295	0
Total	123	297	1	0	421	327	29	103	0	459	19	232	185	0	436	2	20	30	0	52	1368	0
Grand Total	273	579	3	0	855	630	77	216	1	924	47	493	420	0	960	2	52	67	0	121	2860	1
Apprch %	31.9%	67.7%	0.4%	0.0%		68.2%	8.3%	23.4%	0.1%		4.9%	51.4%	43.8%	0.0%		1.7%	43.0%	55.4%	0.0%			
Total %	9.5%	20.2%	0.1%	0.0%	29.9%	22.0%	2.7%	7.6%	0.0%	32.3%	1.6%	17.2%	14.7%	0.0%	33.6%	0.1%	1.8%	2.3%	0.0%	4.2%	100.0%	

PM PEAK HOUR	SR-273 Southbound					South Bonnyview Road Westbound					SR-273 Northbound					South Bonnyview Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	46	59	1	0	106	85	8	16	1	110	8	61	61	0	130	0	7	15	0	22	368
17:30	34	81	1	0	116	64	9	40	0	113	7	68	64	0	139	0	15	11	0	26	394
17:45	29	69	0	0	98	79	16	29	0	124	6	64	59	0	129	0	3	6	0	9	360
18:00	34	96	0	0	130	88	10	30	0	128	3	58	52	0	113	0	5	6	0	11	382
Total Volume	143	305	2	0	450	316	43	115	1	475	24	251	236	0	511	0	30	38	0	68	1504
% App Total	31.8%	67.8%	0.4%	0.0%		66.5%	9.1%	24.2%	0.2%		4.7%	49.1%	46.2%	0.0%		0.0%	44.1%	55.9%	0.0%		
PHF	.777	.794	.500	.000	.865	.898	.672	.719	.250	.928	.750	.923	.922	.000	.919	.000	.500	.633	.000	.654	.954

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-001 SR-273 & South Bonnyview Road
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	SR-273 Southbound					South Bonnyview Road Westbound					SR-273 Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	73	173	0	0	246	97	15	43	0	155	19	105	96	0	220	1	16	14	0	31	652	0
17:15	51	161	1	0	213	141	10	57	0	208	6	80	98	0	184	0	8	8	0	16	621	0
17:30	36	92	1	0	129	104	15	28	0	147	9	74	84	0	167	1	16	16	0	33	476	0
17:45	43	104	2	0	149	101	20	50	0	171	10	85	97	0	192	0	15	10	0	25	537	0
Total	203	530	4	0	737	443	60	178	0	681	44	344	375	0	763	2	55	48	0	105	2286	0
18:00	41	81	2	0	124	61	9	24	0	94	10	80	72	0	162	0	15	13	0	28	408	0
18:15	57	91	1	0	149	84	18	46	0	148	9	76	53	0	138	0	7	9	0	16	451	0
18:30	37	89	2	0	128	85	12	45	0	142	5	62	81	0	148	2	10	15	0	27	445	0
18:45	27	62	1	0	90	78	11	18	0	107	6	72	54	0	132	0	9	8	0	17	346	0
Total	162	323	6	0	491	308	50	133	0	491	30	290	260	0	580	2	41	45	0	88	1650	0
Grand Total	365	853	10	0	1228	751	110	311	0	1172	74	634	635	0	1343	4	96	93	0	193	3936	0
Apprch %	29.7%	69.5%	0.8%	0.0%		64.1%	9.4%	26.5%	0.0%		5.5%	47.2%	47.3%	0.0%		2.1%	49.7%	48.2%	0.0%			
Total %	9.3%	21.7%	0.3%	0.0%	31.2%	19.1%	2.8%	7.9%	0.0%	29.8%	1.9%	16.1%	16.1%	0.0%	34.1%	0.1%	2.4%	2.4%	0.0%	4.9%	100.0%	

PM PEAK HOUR	SR-273 Southbound					South Bonnyview Road Westbound					SR-273 Northbound					South Bonnyview Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	73	173	0	0	246	97	15	43	0	155	19	105	96	0	220	1	16	14	0	31	652
17:15	51	161	1	0	213	141	10	57	0	208	6	80	98	0	184	0	8	8	0	16	621
17:30	36	92	1	0	129	104	15	28	0	147	9	74	84	0	167	1	16	16	0	33	476
17:45	43	104	2	0	149	101	20	50	0	171	10	85	97	0	192	0	15	10	0	25	537
Total Volume	203	530	4	0	737	443	60	178	0	681	44	344	375	0	763	2	55	48	0	105	2286
% App Total	27.5%	71.9%	0.5%	0.0%		65.1%	8.8%	26.1%	0.0%		5.8%	45.1%	49.1%	0.0%		1.9%	52.4%	45.7%	0.0%		
PHF	.695	.766	.500	.000	.749	.785	.750	.781	.000	.819	.579	.819	.957	.000	.867	.500	.859	.750	.000	.795	.877

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-113 Canyon Road & Redding Rancheria Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	Canyon Road Southbound					Redding Rancheria Road Westbound					Canyon Road Northbound					Redding Rancheria Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	24	6	0	0	30	38	0	27	0	65	0	4	37	0	41	0	0	0	0	0	136	0
17:15	31	3	0	0	34	47	0	51	0	98	0	1	31	0	32	0	0	0	0	0	164	0
17:30	36	2	0	0	38	58	0	63	0	121	0	2	52	0	54	0	0	0	0	0	213	0
17:45	33	2	0	0	35	52	0	45	0	97	0	1	33	0	34	0	0	0	0	0	166	0
Total	124	13	0	0	137	195	0	186	0	381	0	8	153	0	161	0	0	0	0	0	679	0
18:00	30	5	0	0	35	50	0	57	0	107	0	6	38	0	44	0	0	0	0	0	186	0
18:15	37	3	0	0	40	44	0	61	0	105	0	8	36	0	44	0	0	0	0	0	189	0
18:30	22	1	0	0	23	48	0	73	0	121	0	2	30	0	32	0	0	0	0	0	176	0
18:45	25	4	0	0	29	41	0	65	0	106	0	6	29	0	35	0	0	0	0	0	170	0
Total	114	13	0	0	127	183	0	256	0	439	0	22	133	0	155	0	0	0	0	0	721	0
Grand Total	238	26	0	0	264	378	0	442	0	820	0	30	286	0	316	0	0	0	0	0	1400	0
Apprch %	90.2%	9.8%	0.0%	0.0%		46.1%	0.0%	53.9%	0.0%		0.0%	9.5%	90.5%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	17.0%	1.9%	0.0%	0.0%	18.9%	27.0%	0.0%	31.6%	0.0%	58.6%	0.0%	2.1%	20.4%	0.0%	22.6%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

PM PEAK HOUR	Canyon Road Southbound					Redding Rancheria Road Westbound					Canyon Road Northbound					Redding Rancheria Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:30 to 18:30																					
Peak Hour For Entire Intersection Begins at 17:30																					
17:30	36	2	0	0	38	58	0	63	0	121	0	2	52	0	54	0	0	0	0	0	213
17:45	33	2	0	0	35	52	0	45	0	97	0	1	33	0	34	0	0	0	0	0	166
18:00	30	5	0	0	35	50	0	57	0	107	0	6	38	0	44	0	0	0	0	0	186
18:15	37	3	0	0	40	44	0	61	0	105	0	8	36	0	44	0	0	0	0	0	189
Total Volume	136	12	0	0	148	204	0	226	0	430	0	17	159	0	176	0	0	0	0	0	754
% App Total	91.9%	8.1%	0.0%	0.0%		47.4%	0.0%	52.6%	0.0%		0.0%	9.7%	90.3%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.919	.600	.000	.000	.925	.879	.000	.897	.000	.888	.000	.531	.764	.000	.815	.000	.000	.000	.000	.000	.885

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-113 Canyon Road & Redding Rancheria Road
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	Canyon Road Southbound					Redding Rancheria Road Westbound					Canyon Road Northbound					Redding Rancheria Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	57	6	0	0	63	99	0	54	0	153	0	4	40	0	44	0	0	0	0	0	260	0
17:15	40	6	0	0	46	87	0	51	0	138	0	4	40	0	44	0	0	0	0	0	228	0
17:30	52	3	0	0	55	98	0	45	0	143	0	3	39	0	42	0	0	0	0	0	240	0
17:45	43	4	0	0	47	80	0	45	0	125	0	4	47	0	51	0	0	0	0	0	223	0
Total	192	19	0	0	211	364	0	195	0	559	0	15	166	0	181	0	0	0	0	0	951	0
18:00	31	3	0	0	34	71	0	32	0	103	0	1	42	0	43	0	0	0	0	0	180	0
18:15	33	3	0	0	36	67	0	32	0	99	0	2	46	0	48	0	0	0	0	0	183	0
18:30	38	4	0	0	42	75	0	35	0	110	0	2	45	0	47	0	0	0	0	0	199	0
18:45	46	9	0	0	55	57	0	45	0	102	0	1	41	0	42	0	0	0	0	0	199	0
Total	148	19	0	0	167	270	0	144	0	414	0	6	174	0	180	0	0	0	0	0	761	0
Grand Total	340	38	0	0	378	634	0	339	0	973	0	21	340	0	361	0	0	0	0	0	1712	0
Apprch %	89.9%	10.1%	0.0%	0.0%		65.2%	0.0%	34.8%	0.0%		0.0%	5.8%	94.2%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	19.9%	2.2%	0.0%	0.0%	22.1%	37.0%	0.0%	19.8%	0.0%	56.8%	0.0%	1.2%	19.9%	0.0%	21.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

PM PEAK HOUR	Canyon Road Southbound					Redding Rancheria Road Westbound					Canyon Road Northbound					Redding Rancheria Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	57	6	0	0	63	99	0	54	0	153	0	4	40	0	44	0	0	0	0	0	260
17:15	40	6	0	0	46	87	0	51	0	138	0	4	40	0	44	0	0	0	0	0	228
17:30	52	3	0	0	55	98	0	45	0	143	0	3	39	0	42	0	0	0	0	0	240
17:45	43	4	0	0	47	80	0	45	0	125	0	4	47	0	51	0	0	0	0	0	223
Total Volume	192	19	0	0	211	364	0	195	0	559	0	15	166	0	181	0	0	0	0	0	951
% App Total	91.0%	9.0%	0.0%	0.0%		65.1%	0.0%	34.9%	0.0%		0.0%	8.3%	91.7%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.842	.792	.000	.000	.837	.919	.000	.903	.000	.913	.000	.938	.883	.000	.887	.000	.000	.000	.000	.000	.914

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-108 Rancho Road & Churn Creek Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	Rancho Road Southbound					Churn Creek Road Westbound					Rancho Road Northbound					Churn Creek Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	5	0	23	0	28	0	14	4	0	18	0	0	0	0	0	23	23	0	0	46	92	0
17:15	2	0	33	0	35	0	16	4	0	20	0	0	0	0	0	38	14	0	0	52	107	0
17:30	4	0	31	0	35	0	18	4	0	22	0	0	0	0	0	28	17	0	0	45	102	0
17:45	6	0	42	0	48	0	20	6	0	26	0	0	0	0	0	30	22	0	0	52	126	0
Total	17	0	129	0	146	0	68	18	0	86	0	0	0	0	0	119	76	0	0	195	427	0
18:00	4	0	36	0	40	0	10	3	0	13	0	0	0	0	0	36	21	0	0	57	110	0
18:15	2	0	25	0	27	0	10	5	0	15	0	0	0	0	0	27	18	0	0	45	87	0
18:30	6	0	23	0	29	0	9	2	0	11	0	0	0	0	0	36	14	0	0	50	90	0
18:45	1	0	28	0	29	0	15	2	0	17	0	0	0	0	0	20	13	0	0	33	79	0
Total	13	0	112	0	125	0	44	12	0	56	0	0	0	0	0	119	66	0	0	185	366	0
Grand Total	30	0	241	0	271	0	112	30	0	142	0	0	0	0	0	238	142	0	0	380	793	0
Apprch %	11.1%	0.0%	88.9%	0.0%		0.0%	78.9%	21.1%	0.0%		0.0%	0.0%	0.0%	0.0%		62.6%	37.4%	0.0%	0.0%			
Total %	3.8%	0.0%	30.4%	0.0%	34.2%	0.0%	14.1%	3.8%	0.0%	17.9%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	17.9%	0.0%	0.0%	47.9%	100.0%	

PM PEAK HOUR	Rancho Road Southbound					Churn Creek Road Westbound					Rancho Road Northbound					Churn Creek Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	2	0	33	0	35	0	16	4	0	20	0	0	0	0	0	38	14	0	0	52	107
17:30	4	0	31	0	35	0	18	4	0	22	0	0	0	0	0	28	17	0	0	45	102
17:45	6	0	42	0	48	0	20	6	0	26	0	0	0	0	0	30	22	0	0	52	126
18:00	4	0	36	0	40	0	10	3	0	13	0	0	0	0	0	36	21	0	0	57	110
Total Volume	16	0	142	0	158	0	64	17	0	81	0	0	0	0	0	132	74	0	0	206	445
% App Total	10.1%	0.0%	89.9%	0.0%		0.0%	79.0%	21.0%	0.0%		0.0%	0.0%	0.0%	0.0%		64.1%	35.9%	0.0%	0.0%		
PHF	.667	.000	.845	.000	.823	.000	.800	.708	.000	.779	.000	.000	.000	.000	.000	.868	.841	.000	.000	.904	.883

ALL TRAFFIC DATA

City of Redding
All Vehicles & Turns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-108 Rancho Road & Churn Creek Road
Date : 7/15/2016

Unshifted Count = All Vehicles & Turns

	Rancho Road Southbound					Churn Creek Road Westbound					Rancho Road Northbound					Churn Creek Road Eastbound					Total	Turns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	7	0	63	0	70	0	13	6	0	19	0	0	0	0	0	70	42	0	0	112	201	0
17:15	9	0	59	0	68	0	28	9	0	37	0	0	0	0	0	72	50	0	0	122	227	0
17:30	6	0	51	0	57	0	27	10	0	37	0	0	0	0	0	47	28	0	0	75	169	0
17:45	7	0	37	0	44	0	26	3	0	29	0	0	0	0	0	45	27	0	0	72	145	0
Total	29	0	210	0	239	0	94	28	0	122	0	0	0	0	0	234	147	0	0	381	742	0
18:00	4	0	41	0	45	0	19	10	0	29	0	0	0	0	0	36	35	0	0	71	145	0
18:15	2	0	41	0	43	0	16	4	0	20	0	0	0	0	0	38	22	0	0	60	123	0
18:30	4	0	34	0	38	0	17	7	0	24	0	0	0	0	0	32	21	0	0	53	115	0
18:45	5	0	33	0	38	0	20	4	0	24	0	0	0	0	0	35	23	0	0	58	120	0
Total	15	0	149	0	164	0	72	25	0	97	0	0	0	0	0	141	101	0	0	242	503	0
Grand Total	44	0	359	0	403	0	166	53	0	219	0	0	0	0	0	375	248	0	0	623	1245	0
Apprch %	10.9%	0.0%	89.1%	0.0%		0.0%	75.8%	24.2%	0.0%		0.0%	0.0%	0.0%	0.0%		60.2%	39.8%	0.0%	0.0%			
Total %	3.5%	0.0%	28.8%	0.0%	32.4%	0.0%	13.3%	4.3%	0.0%	17.6%	0.0%	0.0%	0.0%	0.0%	0.0%	30.1%	19.9%	0.0%	0.0%	50.0%	100.0%	

PM PEAK HOUR	Rancho Road Southbound					Churn Creek Road Westbound					Rancho Road Northbound					Churn Creek Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	7	0	63	0	70	0	13	6	0	19	0	0	0	0	0	70	42	0	0	112	201
17:15	9	0	59	0	68	0	28	9	0	37	0	0	0	0	0	72	50	0	0	122	227
17:30	6	0	51	0	57	0	27	10	0	37	0	0	0	0	0	47	28	0	0	75	169
17:45	7	0	37	0	44	0	26	3	0	29	0	0	0	0	0	45	27	0	0	72	145
Total Volume	29	0	210	0	239	0	94	28	0	122	0	0	0	0	0	234	147	0	0	381	742
% App Total	12.1%	0.0%	87.9%	0.0%		0.0%	77.0%	23.0%	0.0%		0.0%	0.0%	0.0%	0.0%		61.4%	38.6%	0.0%	0.0%		
PHF	.806	.000	.833	.000	.854	.000	.839	.700	.000	.824	.000	.000	.000	.000	.000	.813	.735	.000	.000	.781	.817

ALL TRAFFIC DATA

City of Redding

All Vehicles & Uturns On Unshifted

Nothing On Bank 1

Nothing On Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 16-7487-021 I-5 NB Off Ramp/McMurray Drive & Balls Ferry Road

Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	I-5 NB Off Ramp/McMurray Drive Southbound					Balls Ferry Road Westbound					I-5 NB Off Ramp/McMurray Drive Northbound					Balls Ferry Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	37	0	38	0	75	0	67	34	0	101	11	18	19	0	48	13	29	0	0	42	266	0
17:15	45	0	27	0	72	0	90	36	0	126	12	25	32	0	69	4	26	0	0	30	297	0
17:30	30	0	21	0	51	0	72	28	0	100	3	17	26	0	46	8	15	0	0	23	220	0
17:45	29	0	27	0	56	0	51	40	0	91	7	16	18	0	41	8	25	0	0	33	221	0
Total	141	0	113	0	254	0	280	138	0	418	33	76	95	0	204	33	95	0	0	128	1004	0
18:00	34	0	27	0	61	0	50	27	0	77	6	15	26	0	47	7	29	0	0	36	221	0
18:15	29	0	25	0	54	0	52	29	0	81	8	26	26	0	60	2	22	0	0	24	219	0
18:30	36	0	16	0	52	0	54	32	0	86	7	25	24	0	56	8	23	0	0	31	225	0
18:45	23	0	19	0	42	0	53	29	0	82	3	11	25	0	39	11	24	0	0	35	198	0
Total	122	0	87	0	209	0	209	117	0	326	24	77	101	0	202	28	98	0	0	126	863	0
Grand Total	263	0	200	0	463	0	489	255	0	744	57	153	196	0	406	61	193	0	0	254	1867	0
Apprch %	56.8%	0.0%	43.2%	0.0%		0.0%	65.7%	34.3%	0.0%		14.0%	37.7%	48.3%	0.0%		24.0%	76.0%	0.0%	0.0%			
Total %	14.1%	0.0%	10.7%	0.0%	24.8%	0.0%	26.2%	13.7%	0.0%	39.9%	3.1%	8.2%	10.5%	0.0%	21.7%	3.3%	10.3%	0.0%	0.0%	13.6%	100.0%	

PM PEAK HOUR	I-5 NB Off Ramp/McMurray Drive Southbound					Balls Ferry Road Westbound					I-5 NB Off Ramp/McMurray Drive Northbound					Balls Ferry Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	37	0	38	0	75	0	67	34	0	101	11	18	19	0	48	13	29	0	0	42	266
17:15	45	0	27	0	72	0	90	36	0	126	12	25	32	0	69	4	26	0	0	30	297
17:30	30	0	21	0	51	0	72	28	0	100	3	17	26	0	46	8	15	0	0	23	220
17:45	29	0	27	0	56	0	51	40	0	91	7	16	18	0	41	8	25	0	0	33	221
Total Volume	141	0	113	0	254	0	280	138	0	418	33	76	95	0	204	33	95	0	0	128	1004
% App Total	55.5%	0.0%	44.5%	0.0%		0.0%	67.0%	33.0%	0.0%		16.2%	37.3%	46.6%	0.0%		25.8%	74.2%	0.0%	0.0%		
PHF	.783	.000	.743	.000	.847	.000	.778	.863	.000	.829	.688	.760	.742	.000	.739	.635	.819	.000	.000	.762	.845

ALL TRAFFIC DATA

City of Redding

All Vehicles & Uturns On Unshifted

Nothing On Bank 1

Nothing On Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 16-7487-021 I-5 NB Off Ramp/McMurray Drive & Balls Ferry Road

Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	I-5 NB Off Ramp/McMurray Drive Southbound					Balls Ferry Road Westbound					I-5 NB Off Ramp/McMurray Drive Northbound					Balls Ferry Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	55	0	32	0	87	0	86	59	0	145	15	18	52	0	85	21	51	0	0	72	389	0
17:15	64	0	34	0	98	0	89	45	0	134	12	34	45	0	91	16	44	0	0	60	383	0
17:30	46	0	39	0	85	0	94	48	0	142	12	29	37	0	78	16	45	0	0	61	366	0
17:45	37	0	27	0	64	0	81	46	0	127	10	21	30	0	61	9	38	0	0	47	299	0
Total	202	0	132	0	334	0	350	198	0	548	49	102	164	0	315	62	178	0	0	240	1437	0
18:00	35	0	27	0	62	0	78	31	0	109	12	25	42	0	79	9	29	0	0	38	288	0
18:15	44	0	29	0	73	0	57	31	0	88	5	33	46	0	84	3	33	0	0	36	281	0
18:30	37	0	39	0	76	0	62	43	0	105	6	23	38	0	67	9	37	0	0	46	294	0
18:45	38	0	31	0	69	0	60	33	0	93	8	20	30	0	58	11	34	0	0	45	265	0
Total	154	0	126	0	280	0	257	138	0	395	31	101	156	0	288	32	133	0	0	165	1128	0
Grand Total	356	0	258	0	614	0	607	336	0	943	80	203	320	0	603	94	311	0	0	405	2565	0
Apprch %	58.0%	0.0%	42.0%	0.0%		0.0%	64.4%	35.6%	0.0%		13.3%	33.7%	53.1%	0.0%		23.2%	76.8%	0.0%	0.0%			
Total %	13.9%	0.0%	10.1%	0.0%	23.9%	0.0%	23.7%	13.1%	0.0%	36.8%	3.1%	7.9%	12.5%	0.0%	23.5%	3.7%	12.1%	0.0%	0.0%	15.8%	100.0%	

PM PEAK HOUR	I-5 NB Off Ramp/McMurray Drive Southbound					Balls Ferry Road Westbound					I-5 NB Off Ramp/McMurray Drive Northbound					Balls Ferry Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	55	0	32	0	87	0	86	59	0	145	15	18	52	0	85	21	51	0	0	72	389
17:15	64	0	34	0	98	0	89	45	0	134	12	34	45	0	91	16	44	0	0	60	383
17:30	46	0	39	0	85	0	94	48	0	142	12	29	37	0	78	16	45	0	0	61	366
17:45	37	0	27	0	64	0	81	46	0	127	10	21	30	0	61	9	38	0	0	47	299
Total Volume	202	0	132	0	334	0	350	198	0	548	49	102	164	0	315	62	178	0	0	240	1437
% App Total	60.5%	0.0%	39.5%	0.0%		0.0%	63.9%	36.1%	0.0%		15.6%	32.4%	52.1%	0.0%		25.8%	74.2%	0.0%	0.0%		
PHF	.789	.000	.846	.000	.852	.000	.931	.839	.000	.945	.817	.750	.788	.000	.865	.738	.873	.000	.000	.833	.924

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-020 I-5 SB On Ramp/Ventura Street & Balls Ferry Road
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	I-5 SB On Ramp/Ventura Street Southbound					Balls Ferry Road Westbound					I-5 SB On Ramp/Ventura Street Northbound					Balls Ferry Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	2	14	1	0	17	64	59	3	0	126	0	0	0	0	0	1	69	18	0	88	231	0
17:15	3	14	2	0	19	80	52	5	0	137	0	0	0	0	0	1	55	7	0	63	219	0
17:30	5	16	1	0	22	76	64	6	0	146	0	0	0	0	0	0	56	7	0	63	231	0
17:45	2	15	1	0	18	65	49	5	0	119	0	0	0	0	0	1	44	10	0	55	192	0
Total	12	59	5	0	76	285	224	19	0	528	0	0	0	0	0	3	224	42	0	269	873	0
18:00	5	16	6	0	27	58	47	6	0	111	0	0	0	0	0	0	33	10	0	43	181	0
18:15	3	11	4	0	18	46	45	2	0	93	0	0	0	0	0	0	35	3	0	38	149	0
18:30	3	8	2	0	13	69	41	1	0	111	0	0	0	0	0	2	46	10	0	58	182	0
18:45	2	14	2	0	18	56	38	2	0	96	0	0	0	0	0	0	42	6	0	48	162	0
Total	13	49	14	0	76	229	171	11	0	411	0	0	0	0	0	2	156	29	0	187	674	0
Grand Total	25	108	19	0	152	514	395	30	0	939	0	0	0	0	0	5	380	71	0	456	1547	0
Apprch %	16.4%	71.1%	12.5%	0.0%		54.7%	42.1%	3.2%	0.0%		0.0%	0.0%	0.0%	0.0%		1.1%	83.3%	15.6%	0.0%			
Total %	1.6%	7.0%	1.2%	0.0%	9.8%	33.2%	25.5%	1.9%	0.0%	60.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	24.6%	4.6%	0.0%	29.5%	100.0%	

PM PEAK HOUR	I-5 SB On Ramp/Ventura Street Southbound					Balls Ferry Road Westbound					I-5 SB On Ramp/Ventura Street Northbound					Balls Ferry Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	2	14	1	0	17	64	59	3	0	126	0	0	0	0	0	1	69	18	0	88	231
17:15	3	14	2	0	19	80	52	5	0	137	0	0	0	0	0	1	55	7	0	63	219
17:30	5	16	1	0	22	76	64	6	0	146	0	0	0	0	0	0	56	7	0	63	231
17:45	2	15	1	0	18	65	49	5	0	119	0	0	0	0	0	1	44	10	0	55	192
Total Volume	12	59	5	0	76	285	224	19	0	528	0	0	0	0	0	3	224	42	0	269	873
% App Total	15.8%	77.6%	6.6%	0.0%		54.0%	42.4%	3.6%	0.0%		0.0%	0.0%	0.0%	0.0%		1.1%	83.3%	15.6%	0.0%		
PHF	.600	.922	.625	.000	.864	.891	.875	.792	.000	.904	.000	.000	.000	.000	.000	.750	.812	.583	.000	.764	.945

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-020 I-5 SB On Ramp/Ventura Street & Balls Ferry Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	I-5 SB On Ramp/Ventura Street Southbound					Balls Ferry Road Westbound					I-5 SB On Ramp/Ventura Street Northbound					Balls Ferry Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	1	8	4	0	13	67	45	5	0	117	0	0	0	0	0	0	41	9	0	50	180	0
17:15	2	9	3	0	14	70	55	6	0	131	0	0	0	0	0	0	27	6	0	33	178	0
17:30	2	8	4	0	14	57	42	1	0	100	0	0	0	0	0	1	21	7	0	29	143	0
17:45	3	12	5	0	20	45	40	3	0	88	0	0	0	0	0	1	33	9	0	43	151	0
Total	8	37	16	0	61	239	182	15	0	436	0	0	0	0	0	2	122	31	0	155	652	0
18:00	0	9	2	0	11	37	40	4	0	81	0	0	0	0	0	1	35	5	0	41	133	0
18:15	2	6	3	0	11	40	42	3	0	85	0	0	0	0	0	0	25	3	0	28	124	0
18:30	1	10	0	0	11	49	32	4	0	85	0	0	0	0	0	4	33	5	0	42	138	0
18:45	1	14	1	0	16	37	28	5	0	70	0	0	0	0	0	0	37	4	0	41	127	0
Total	4	39	6	0	49	163	142	16	0	321	0	0	0	0	0	5	130	17	0	152	522	0
Grand Total	12	76	22	0	110	402	324	31	0	757	0	0	0	0	0	7	252	48	0	307	1174	0
Apprch %	10.9%	69.1%	20.0%	0.0%		53.1%	42.8%	4.1%	0.0%		0.0%	0.0%	0.0%	0.0%		2.3%	82.1%	15.6%	0.0%			
Total %	1.0%	6.5%	1.9%	0.0%	9.4%	34.2%	27.6%	2.6%	0.0%	64.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	21.5%	4.1%	0.0%	26.1%	100.0%	

PM PEAK HOUR	I-5 SB On Ramp/Ventura Street Southbound					Balls Ferry Road Westbound					I-5 SB On Ramp/Ventura Street Northbound					Balls Ferry Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	1	8	4	0	13	67	45	5	0	117	0	0	0	0	0	0	41	9	0	50	180
17:15	2	9	3	0	14	70	55	6	0	131	0	0	0	0	0	0	27	6	0	33	178
17:30	2	8	4	0	14	57	42	1	0	100	0	0	0	0	0	1	21	7	0	29	143
17:45	3	12	5	0	20	45	40	3	0	88	0	0	0	0	0	1	33	9	0	43	151
Total Volume	8	37	16	0	61	239	182	15	0	436	0	0	0	0	0	2	122	31	0	155	652
% App Total	13.1%	60.7%	26.2%	0.0%		54.8%	41.7%	3.4%	0.0%		0.0%	0.0%	0.0%	0.0%		1.3%	78.7%	20.0%	0.0%		
PHF	.667	.771	.800	.000	.763	.854	.827	.625	.000	.832	.000	.000	.000	.000	.000	.500	.744	.861	.000	.775	.906

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-019 Oak Street & Balls Ferry Road
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	Oak Street Southbound					Balls Ferry Road Westbound					Oak Street Northbound					Balls Ferry Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	3	0	1	0	4	11	36	1	0	48	2	2	9	0	13	0	39	0	0	39	104	0
17:15	3	1	1	0	5	7	52	2	0	61	3	2	3	0	8	1	27	1	0	29	103	0
17:30	4	3	0	0	7	13	30	1	0	44	1	0	8	0	9	0	17	3	0	20	80	0
17:45	2	1	0	0	3	6	39	1	0	46	4	0	9	0	13	0	31	0	0	31	93	0
Total	12	5	2	0	19	37	157	5	0	199	10	4	29	0	43	1	114	4	0	119	380	0
18:00	4	1	0	0	5	2	39	1	0	42	3	0	4	0	7	0	32	3	0	35	89	0
18:15	3	0	0	0	3	10	35	0	0	45	3	0	2	0	5	0	23	1	0	24	77	0
18:30	4	1	0	0	5	4	24	2	0	30	5	1	6	0	12	0	35	0	0	35	82	0
18:45	0	0	0	0	0	1	27	2	0	30	1	0	9	0	10	0	29	0	0	29	69	0
Total	11	2	0	0	13	17	125	5	0	147	12	1	21	0	34	0	119	4	0	123	317	0
Grand Total	23	7	2	0	32	54	282	10	0	346	22	5	50	0	77	1	233	8	0	242	697	0
Apprch %	71.9%	21.9%	6.3%	0.0%		15.6%	81.5%	2.9%	0.0%		28.6%	6.5%	64.9%	0.0%		0.4%	96.3%	3.3%	0.0%			
Total %	3.3%	1.0%	0.3%	0.0%	4.6%	7.7%	40.5%	1.4%	0.0%	49.6%	3.2%	0.7%	7.2%	0.0%	11.0%	0.1%	33.4%	1.1%	0.0%	34.7%	100.0%	

PM PEAK HOUR	Oak Street Southbound					Balls Ferry Road Westbound					Oak Street Northbound					Balls Ferry Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	3	0	1	0	4	11	36	1	0	48	2	2	9	0	13	0	39	0	0	39	104
17:15	3	1	1	0	5	7	52	2	0	61	3	2	3	0	8	1	27	1	0	29	103
17:30	4	3	0	0	7	13	30	1	0	44	1	0	8	0	9	0	17	3	0	20	80
17:45	2	1	0	0	3	6	39	1	0	46	4	0	9	0	13	0	31	0	0	31	93
Total Volume	12	5	2	0	19	37	157	5	0	199	10	4	29	0	43	1	114	4	0	119	380
% App Total	63.2%	26.3%	10.5%	0.0%		18.6%	78.9%	2.5%	0.0%		23.3%	9.3%	67.4%	0.0%		0.8%	95.8%	3.4%	0.0%		
PHF	.750	.417	.500	.000	.679	.712	.755	.625	.000	.816	.625	.500	.806	.000	.827	.250	.731	.333	.000	.763	.913

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-019 Oak Street & Balls Ferry Road
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	Oak Street Southbound					Balls Ferry Road Westbound					Oak Street Northbound					Balls Ferry Road Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	9	0	0	0	9	6	53	2	0	61	2	3	21	0	26	0	56	2	0	58	154	0
17:15	5	0	0	0	5	7	46	4	0	57	0	0	11	0	11	0	49	4	0	53	126	0
17:30	4	0	0	0	4	6	54	3	0	63	3	0	5	0	8	1	53	2	0	56	131	0
17:45	5	0	0	0	5	3	47	2	0	52	8	0	9	0	17	0	43	3	0	46	120	0
Total	23	0	0	0	23	22	200	11	0	233	13	3	46	0	62	1	201	11	0	213	531	0
18:00	0	1	0	0	1	9	42	3	0	54	2	2	6	0	10	0	39	3	0	42	107	0
18:15	1	1	0	0	2	9	38	1	0	48	3	4	2	0	9	0	33	1	0	34	93	0
18:30	1	1	1	0	3	5	34	2	0	41	4	0	10	0	14	0	51	3	0	54	112	0
18:45	2	1	0	0	3	2	40	0	0	42	0	0	6	0	6	0	37	2	0	39	90	0
Total	4	4	1	0	9	25	154	6	0	185	9	6	24	0	39	0	160	9	0	169	402	0
Grand Total	27	4	1	0	32	47	354	17	0	418	22	9	70	0	101	1	361	20	0	382	933	0
Apprch %	84.4%	12.5%	3.1%	0.0%		11.2%	84.7%	4.1%	0.0%		21.8%	8.9%	69.3%	0.0%		0.3%	94.5%	5.2%	0.0%			
Total %	2.9%	0.4%	0.1%	0.0%	3.4%	5.0%	37.9%	1.8%	0.0%	44.8%	2.4%	1.0%	7.5%	0.0%	10.8%	0.1%	38.7%	2.1%	0.0%	40.9%	100.0%	

PM PEAK HOUR	Oak Street Southbound					Balls Ferry Road Westbound					Oak Street Northbound					Balls Ferry Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	9	0	0	0	9	6	53	2	0	61	2	3	21	0	26	0	56	2	0	58	154
17:15	5	0	0	0	5	7	46	4	0	57	0	0	11	0	11	0	49	4	0	53	126
17:30	4	0	0	0	4	6	54	3	0	63	3	0	5	0	8	1	53	2	0	56	131
17:45	5	0	0	0	5	3	47	2	0	52	8	0	9	0	17	0	43	3	0	46	120
Total Volume	23	0	0	0	23	22	200	11	0	233	13	3	46	0	62	1	201	11	0	213	531
% App Total	100.0%	0.0%	0.0%	0.0%		9.4%	85.8%	4.7%	0.0%		21.0%	4.8%	74.2%	0.0%		0.5%	94.4%	5.2%	0.0%		
PHF	.639	.000	.000	.000	.639	.786	.926	.688	.000	.925	.406	.250	.548	.000	.596	.250	.897	.688	.000	.918	.862

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-018 I-5 NB On Ramp/McMurray Drive & North Street
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	I-5 NB On Ramp/McMurray Drive Southbound					North Street Westbound					I-5 NB On Ramp/McMurray Drive Northbound					North Street Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	0	0	0	0	24	27	7	0	58	14	40	26	0	80	18	28	55	0	101	239	0
17:15	0	0	0	0	0	28	27	2	0	57	16	23	29	0	68	20	27	41	0	88	213	0
17:30	0	0	0	0	0	24	27	11	0	62	9	31	26	0	66	18	30	45	0	93	221	0
17:45	0	0	0	0	0	13	23	7	0	43	14	22	35	0	71	17	27	48	0	92	206	0
Total	0	0	0	0	0	89	104	27	0	220	53	116	116	0	285	73	112	189	0	374	879	0
18:00	0	0	0	0	0	16	21	4	0	41	21	25	11	0	57	14	21	45	0	80	178	0
18:15	0	0	0	0	0	17	22	6	0	45	9	29	31	0	69	15	15	38	0	68	182	0
18:30	0	0	0	0	0	23	30	9	0	62	12	26	22	0	60	16	31	44	0	91	213	0
18:45	0	0	0	0	0	14	24	3	0	41	11	18	27	0	56	12	27	31	0	70	167	0
Total	0	0	0	0	0	70	97	22	0	189	53	98	91	0	242	57	94	158	0	309	740	0
Grand Total	0	0	0	0	0	159	201	49	0	409	106	214	207	0	527	130	206	347	0	683	1619	0
Apprch %	0.0%	0.0%	0.0%	0.0%		38.9%	49.1%	12.0%	0.0%		20.1%	40.6%	39.3%	0.0%		19.0%	30.2%	50.8%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	9.8%	12.4%	3.0%	0.0%	25.3%	6.5%	13.2%	12.8%	0.0%	32.6%	8.0%	12.7%	21.4%	0.0%	42.2%	100.0%	

PM PEAK HOUR	I-5 NB On Ramp/McMurray Drive Southbound					North Street Westbound					I-5 NB On Ramp/McMurray Drive Northbound					North Street Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	24	27	7	0	58	14	40	26	0	80	18	28	55	0	101	239
17:15	0	0	0	0	0	28	27	2	0	57	16	23	29	0	68	20	27	41	0	88	213
17:30	0	0	0	0	0	24	27	11	0	62	9	31	26	0	66	18	30	45	0	93	221
17:45	0	0	0	0	0	13	23	7	0	43	14	22	35	0	71	17	27	48	0	92	206
Total Volume	0	0	0	0	0	89	104	27	0	220	53	116	116	0	285	73	112	189	0	374	879
% App Total	0.0%	0.0%	0.0%	0.0%		40.5%	47.3%	12.3%	0.0%		18.6%	40.7%	40.7%	0.0%		19.5%	29.9%	50.5%	0.0%		
PHF	.000	.000	.000	.000	.000	.795	.963	.614	.000	.887	.828	.725	.829	.000	.891	.913	.933	.859	.000	.926	.919

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-018 I-5 NB On Ramp/McMurray Drive & North Street
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	I-5 NB On Ramp/McMurray Drive Southbound					North Street Westbound					I-5 NB On Ramp/McMurray Drive Northbound					North Street Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	0	0	0	0	33	53	6	0	92	32	55	29	0	116	40	44	75	0	159	367	0
17:15	0	0	0	0	0	38	40	7	0	85	16	48	44	0	108	24	28	97	0	149	342	0
17:30	0	0	0	0	0	20	46	5	0	71	22	48	33	0	103	28	49	52	0	129	303	0
17:45	0	0	0	0	0	27	50	7	0	84	10	41	33	0	84	38	40	59	0	137	305	0
Total	0	0	0	0	0	118	189	25	0	332	80	192	139	0	411	130	161	283	0	574	1317	0
18:00	0	0	0	0	0	33	39	5	0	77	25	34	35	0	94	24	40	49	0	113	284	0
18:15	0	0	0	0	0	17	35	5	0	57	18	34	24	0	76	24	27	60	0	111	244	0
18:30	0	0	0	0	0	21	28	4	0	53	17	32	39	0	88	31	32	51	0	114	255	0
18:45	0	0	0	0	0	29	26	10	0	65	16	23	24	0	63	25	23	41	0	89	217	0
Total	0	0	0	0	0	100	128	24	0	252	76	123	122	0	321	104	122	201	0	427	1000	0
Grand Total	0	0	0	0	0	218	317	49	0	584	156	315	261	0	732	234	283	484	0	1001	2317	0
Apprch %	0.0%	0.0%	0.0%	0.0%		37.3%	54.3%	8.4%	0.0%		21.3%	43.0%	35.7%	0.0%		23.4%	28.3%	48.4%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	9.4%	13.7%	2.1%	0.0%	25.2%	6.7%	13.6%	11.3%	0.0%	31.6%	10.1%	12.2%	20.9%	0.0%	43.2%	100.0%	

PM PEAK HOUR	I-5 NB On Ramp/McMurray Drive Southbound					North Street Westbound					I-5 NB On Ramp/McMurray Drive Northbound					North Street Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	33	53	6	0	92	32	55	29	0	116	40	44	75	0	159	367
17:15	0	0	0	0	0	38	40	7	0	85	16	48	44	0	108	24	28	97	0	149	342
17:30	0	0	0	0	0	20	46	5	0	71	22	48	33	0	103	28	49	52	0	129	303
17:45	0	0	0	0	0	27	50	7	0	84	10	41	33	0	84	38	40	59	0	137	305
Total Volume	0	0	0	0	0	118	189	25	0	332	80	192	139	0	411	130	161	283	0	574	1317
% App Total	0.0%	0.0%	0.0%	0.0%		35.5%	56.9%	7.5%	0.0%		19.5%	46.7%	33.8%	0.0%		22.6%	28.0%	49.3%	0.0%		
PHF	.000	.000	.000	.000	.000	.776	.892	.893	.000	.902	.625	.873	.790	.000	.886	.813	.821	.729	.000	.903	.897

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-017 I-5 SB Off Ramp & North Street
Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

	I-5 SB Off Ramp Southbound					North Street Westbound					I-5 SB Off Ramp Northbound					North Street Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	64	0	41	0	105	0	85	0	0	85	0	0	0	0	0	0	89	0	0	89	279	0
17:15	79	0	47	0	126	0	56	0	0	56	0	0	0	0	0	0	72	0	0	72	254	0
17:30	40	0	29	0	69	0	69	0	0	69	0	0	0	0	0	0	85	0	0	85	223	0
17:45	49	0	44	0	93	0	61	0	0	61	0	0	0	0	0	0	94	0	0	94	248	0
Total	232	0	161	0	393	0	271	0	0	271	0	0	0	0	0	0	340	0	0	340	1004	0
18:00	40	0	33	0	73	0	64	0	0	64	0	0	0	0	0	0	72	0	0	72	209	0
18:15	46	0	22	0	68	0	52	0	0	52	0	0	0	0	0	0	66	0	0	66	186	0
18:30	49	0	24	0	73	0	45	0	0	45	0	0	0	0	0	0	63	0	0	63	181	0
18:45	35	0	29	0	64	0	39	0	0	39	0	0	0	0	0	0	54	0	0	54	157	0
Total	170	0	108	0	278	0	200	0	0	200	0	0	0	0	0	0	255	0	0	255	733	0
Grand Total	402	0	269	0	671	0	471	0	0	471	0	0	0	0	0	0	595	0	0	595	1737	0
Apprch %	59.9%	0.0%	40.1%	0.0%		0.0%	100.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%			
Total %	23.1%	0.0%	15.5%	0.0%	38.6%	0.0%	27.1%	0.0%	0.0%	27.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	34.3%	0.0%	0.0%	34.3%	100.0%	

PM PEAK HOUR	I-5 SB Off Ramp Southbound					North Street Westbound					I-5 SB Off Ramp Northbound					North Street Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	64	0	41	0	105	0	85	0	0	85	0	0	0	0	0	0	89	0	0	89	279
17:15	79	0	47	0	126	0	56	0	0	56	0	0	0	0	0	0	72	0	0	72	254
17:30	40	0	29	0	69	0	69	0	0	69	0	0	0	0	0	0	85	0	0	85	223
17:45	49	0	44	0	93	0	61	0	0	61	0	0	0	0	0	0	94	0	0	94	248
Total Volume	232	0	161	0	393	0	271	0	0	271	0	0	0	0	0	0	340	0	0	340	1004
% App Total	59.0%	0.0%	41.0%	0.0%		0.0%	100.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		
PHF	.734	.000	.856	.000	.780	.000	.797	.000	.000	.797	.000	.000	.000	.000	.000	.000	.904	.000	.000	.904	.900

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-017 I-5 SB Off Ramp & North Street
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	I-5 SB Off Ramp Southbound					North Street Westbound					I-5 SB Off Ramp Northbound					North Street Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	40	0	24	0	64	0	40	0	0	40	0	0	0	0	0	0	60	0	0	60	164	0
17:15	35	0	24	0	59	0	43	0	0	43	0	0	0	0	0	0	53	0	0	53	155	0
17:30	32	0	24	0	56	0	34	0	0	34	0	0	0	0	0	0	64	0	0	64	154	0
17:45	32	0	28	0	60	0	38	0	0	38	0	0	0	0	0	0	55	0	0	55	153	0
Total	139	0	100	0	239	0	155	0	0	155	0	0	0	0	0	0	232	0	0	232	626	0
18:00	29	0	20	0	49	0	43	0	0	43	0	0	0	0	0	0	53	0	0	53	145	0
18:15	28	0	18	0	46	0	29	0	0	29	0	0	0	0	0	0	40	0	0	40	115	0
18:30	42	0	17	0	59	0	43	0	0	43	0	0	0	0	0	0	47	0	0	47	149	0
18:45	22	0	13	0	35	0	34	0	0	34	0	0	0	0	0	0	48	0	0	48	117	0
Total	121	0	68	0	189	0	149	0	0	149	0	0	0	0	0	0	188	0	0	188	526	0
Grand Total	260	0	168	0	428	0	304	0	0	304	0	0	0	0	0	0	420	0	0	420	1152	0
Apprch %	60.7%	0.0%	39.3%	0.0%		0.0%	100.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%			
Total %	22.6%	0.0%	14.6%	0.0%	37.2%	0.0%	26.4%	0.0%	0.0%	26.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	36.5%	0.0%	0.0%	36.5%	100.0%	

PM PEAK HOUR	I-5 SB Off Ramp Southbound					North Street Westbound					I-5 SB Off Ramp Northbound					North Street Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	40	0	24	0	64	0	40	0	0	40	0	0	0	0	0	0	60	0	0	60	164
17:15	35	0	24	0	59	0	43	0	0	43	0	0	0	0	0	0	53	0	0	53	155
17:30	32	0	24	0	56	0	34	0	0	34	0	0	0	0	0	0	64	0	0	64	154
17:45	32	0	28	0	60	0	38	0	0	38	0	0	0	0	0	0	55	0	0	55	153
Total Volume	139	0	100	0	239	0	155	0	0	155	0	0	0	0	0	0	232	0	0	232	626
% App Total	58.2%	0.0%	41.8%	0.0%		0.0%	100.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		
PHF	.869	.000	.893	.000	.934	.000	.901	.000	.000	.901	.000	.000	.000	.000	.000	.000	.906	.000	.000	.906	.954

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-016 Oak Street & North Street
Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

	Oak Street Southbound					North Street Westbound					Oak Street Northbound					North Street Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	12	3	2	0	17	3	41	8	0	52	0	1	4	0	5	1	45	0	0	46	120	0
17:15	10	0	1	0	11	3	45	13	0	61	2	1	1	0	4	1	44	2	0	47	123	0
17:30	12	5	5	0	22	2	40	6	0	48	1	0	1	0	2	7	42	0	0	49	121	0
17:45	7	2	0	0	9	1	49	3	0	53	0	1	5	0	6	2	39	0	0	41	109	0
Total	41	10	8	0	59	9	175	30	0	214	3	3	11	0	17	11	170	2	0	183	473	0
18:00	6	4	3	0	13	2	40	10	0	52	0	1	2	0	3	3	43	0	0	46	114	0
18:15	9	0	3	0	12	1	37	4	0	42	0	0	2	0	2	3	30	1	0	34	90	0
18:30	7	2	0	0	9	1	42	5	0	48	0	2	1	0	3	6	32	0	0	38	98	0
18:45	1	0	2	0	3	1	33	5	0	39	0	0	2	0	2	2	44	1	0	47	91	0
Total	23	6	8	0	37	5	152	24	0	181	0	3	7	0	10	14	149	2	0	165	393	0
Grand Total	64	16	16	0	96	14	327	54	0	395	3	6	18	0	27	25	319	4	0	348	866	0
Apprch %	66.7%	16.7%	16.7%	0.0%		3.5%	82.8%	13.7%	0.0%		11.1%	22.2%	66.7%	0.0%		7.2%	91.7%	1.1%	0.0%			
Total %	7.4%	1.8%	1.8%	0.0%	11.1%	1.6%	37.8%	6.2%	0.0%	45.6%	0.3%	0.7%	2.1%	0.0%	3.1%	2.9%	36.8%	0.5%	0.0%	40.2%	100.0%	

PM PEAK HOUR	Oak Street Southbound					North Street Westbound					Oak Street Northbound					North Street Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	12	3	2	0	17	3	41	8	0	52	0	1	4	0	5	1	45	0	0	46	120
17:15	10	0	1	0	11	3	45	13	0	61	2	1	1	0	4	1	44	2	0	47	123
17:30	12	5	5	0	22	2	40	6	0	48	1	0	1	0	2	7	42	0	0	49	121
17:45	7	2	0	0	9	1	49	3	0	53	0	1	5	0	6	2	39	0	0	41	109
Total Volume	41	10	8	0	59	9	175	30	0	214	3	3	11	0	17	11	170	2	0	183	473
% App Total	69.5%	16.9%	13.6%	0.0%		4.2%	81.8%	14.0%	0.0%		17.6%	17.6%	64.7%	0.0%		6.0%	92.9%	1.1%	0.0%		
PHF	.854	.500	.400	.000	.670	.750	.893	.577	.000	.877	.375	.750	.550	.000	.708	.393	.944	.250	.000	.934	.961

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7605-102 SR 273/Canyon Rd & Redding Rancheria Rd
Date : 9/9/2016

Unshifted Count = All Vehicles & Uturns

	SR 273/Canyon Rd Southbound					Redding Rancheria Rd Westbound					SR 273/Canyon Rd Northbound					Redding Rancheria Rd Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	52	3	0	0	55	83	0	45	0	128	0	1	62	0	63	0	0	0	0	0	246	0
16:15	40	3	0	0	43	96	0	47	0	143	0	0	54	0	54	0	0	0	0	0	240	0
16:30	32	3	0	0	35	85	0	44	0	129	0	4	50	0	54	0	0	0	0	0	218	0
16:45	52	3	0	0	55	88	0	39	0	127	0	2	54	0	56	0	0	0	0	0	238	0
Total	176	12	0	0	188	352	0	175	0	527	0	7	220	0	227	0	0	0	0	0	942	0
17:00	33	5	0	0	38	89	0	43	0	132	0	2	44	0	46	0	0	0	0	0	216	0
17:15	26	3	0	0	29	106	0	43	0	149	0	3	37	0	40	0	0	0	0	0	218	0
17:30	44	5	0	0	49	99	0	46	0	145	0	1	57	0	58	0	0	0	0	0	252	0
17:45	28	3	0	0	31	64	0	60	0	124	0	1	47	0	48	0	0	0	0	0	203	0
Total	131	16	0	0	147	358	0	192	0	550	0	7	185	0	192	0	0	0	0	0	889	0
Grand Total	307	28	0	0	335	710	0	367	0	1077	0	14	405	0	419	0	0	0	0	0	1831	0
Apprch %	91.6%	8.4%	0.0%	0.0%		65.9%	0.0%	34.1%	0.0%		0.0%	3.3%	96.7%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	16.8%	1.5%	0.0%	0.0%	18.3%	38.8%	0.0%	20.0%	0.0%	58.8%	0.0%	0.8%	22.1%	0.0%	22.9%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

PM PEAK HOUR	SR 273/Canyon Rd Southbound					Redding Rancheria Rd Westbound					SR 273/Canyon Rd Northbound					Redding Rancheria Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	52	3	0	0	55	83	0	45	0	128	0	1	62	0	63	0	0	0	0	0	246
16:15	40	3	0	0	43	96	0	47	0	143	0	0	54	0	54	0	0	0	0	0	240
16:30	32	3	0	0	35	85	0	44	0	129	0	4	50	0	54	0	0	0	0	0	218
16:45	52	3	0	0	55	88	0	39	0	127	0	2	54	0	56	0	0	0	0	0	238
Total Volume	176	12	0	0	188	352	0	175	0	527	0	7	220	0	227	0	0	0	0	0	942
% App Total	93.6%	6.4%	0.0%	0.0%		66.8%	0.0%	33.2%	0.0%		0.0%	3.1%	96.9%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.846	1.000	.000	.000	.855	.917	.000	.931	.000	.921	.000	.438	.887	.000	.901	.000	.000	.000	.000	.000	.957

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7605-003 SR 273 & North St
Date : 9/9/2016

Unshifted Count = All Vehicles & Uturns

	SR 273 Southbound					North St Westbound					SR 273 Northbound					North St Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	28	50	4	0	82	24	28	21	0	73	11	47	41	0	99	3	39	9	0	51	305	0
16:15	29	62	6	0	97	34	24	23	0	81	7	43	26	0	76	2	20	7	0	29	283	0
16:30	22	88	6	0	116	28	25	22	0	75	7	49	24	0	80	4	27	9	0	40	311	0
16:45	12	66	3	0	81	25	32	21	0	78	11	34	23	0	68	6	26	12	0	44	271	0
Total	91	266	19	0	376	111	109	87	0	307	36	173	114	0	323	15	112	37	0	164	1170	0
17:00	22	78	4	0	104	32	27	24	0	83	9	39	26	0	74	2	17	5	0	24	285	0
17:15	21	62	2	0	85	39	31	12	0	82	6	44	21	0	71	1	21	6	0	28	266	0
17:30	24	58	4	0	86	32	26	13	0	71	4	44	23	0	71	2	22	8	0	32	260	0
17:45	12	53	2	0	67	30	16	12	0	58	9	34	15	0	58	0	19	8	0	27	210	0
Total	79	251	12	0	342	133	100	61	0	294	28	161	85	0	274	5	79	27	0	111	1021	0
Grand Total	170	517	31	0	718	244	209	148	0	601	64	334	199	0	597	20	191	64	0	275	2191	0
Apprch %	23.7%	72.0%	4.3%	0.0%		40.6%	34.8%	24.6%	0.0%		10.7%	55.9%	33.3%	0.0%		7.3%	69.5%	23.3%	0.0%			
Total %	7.8%	23.6%	1.4%	0.0%	32.8%	11.1%	9.5%	6.8%	0.0%	27.4%	2.9%	15.2%	9.1%	0.0%	27.2%	0.9%	8.7%	2.9%	0.0%	12.6%	100.0%	

PM PEAK HOUR	SR 273 Southbound					North St Westbound					SR 273 Northbound					North St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	28	50	4	0	82	24	28	21	0	73	11	47	41	0	99	3	39	9	0	51	305
16:15	29	62	6	0	97	34	24	23	0	81	7	43	26	0	76	2	20	7	0	29	283
16:30	22	88	6	0	116	28	25	22	0	75	7	49	24	0	80	4	27	9	0	40	311
16:45	12	66	3	0	81	25	32	21	0	78	11	34	23	0	68	6	26	12	0	44	271
Total Volume	91	266	19	0	376	111	109	87	0	307	36	173	114	0	323	15	112	37	0	164	1170
% App Total	24.2%	70.7%	5.1%	0.0%		36.2%	35.5%	28.3%	0.0%		11.1%	53.6%	35.3%	0.0%		9.1%	68.3%	22.6%	0.0%		
PHF	.784	.756	.792	.000	.810	.816	.852	.946	.000	.948	.818	.883	.695	.000	.816	.625	.718	.771	.000	.804	.941

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7605-002 SR 273/Canyon Rd & Redding Rancheria Rd
Date : 9/9/2016

Unshifted Count = All Vehicles & Uturns

	SR 273/Canyon Rd Southbound					Redding Rancheria Rd Westbound					SR 273/Canyon Rd Northbound					Redding Rancheria Rd Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	0	130	112	0	242	0	0	0	0	0	18	100	0	0	118	106	0	12	0	118	478	0
16:15	0	121	122	0	243	0	0	0	0	0	18	117	0	0	135	83	0	11	0	94	472	0
16:30	0	116	120	0	236	0	0	0	0	0	12	102	0	0	114	67	0	16	0	83	433	0
16:45	0	120	103	0	223	0	0	0	0	0	17	103	0	0	120	83	0	22	0	105	448	0
Total	0	487	457	0	944	0	0	0	0	0	65	422	0	0	487	339	0	61	0	400	1831	0
17:00	0	115	119	0	234	0	0	0	0	0	18	109	0	0	127	67	0	8	0	75	436	0
17:15	0	163	144	0	307	0	0	0	0	0	12	90	0	0	102	55	0	8	0	63	472	0
17:30	0	102	132	0	234	0	0	0	0	0	15	76	0	0	91	76	0	24	0	100	425	0
17:45	0	65	106	0	171	0	0	0	0	0	12	78	0	0	90	59	0	17	0	76	337	0
Total	0	445	501	0	946	0	0	0	0	0	57	353	0	0	410	257	0	57	0	314	1670	0
Grand Total	0	932	958	0	1890	0	0	0	0	0	122	775	0	0	897	596	0	118	0	714	3501	0
Apprch %	0.0%	49.3%	50.7%	0.0%		0.0%	0.0%	0.0%	0.0%		13.6%	86.4%	0.0%	0.0%		83.5%	0.0%	16.5%	0.0%			
Total %	0.0%	26.6%	27.4%	0.0%	54.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.5%	22.1%	0.0%	0.0%	25.6%	17.0%	0.0%	3.4%	0.0%	20.4%	100.0%	

PM PEAK HOUR	SR 273/Canyon Rd Southbound					Redding Rancheria Rd Westbound					SR 273/Canyon Rd Northbound					Redding Rancheria Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	0	130	112	0	242	0	0	0	0	0	18	100	0	0	118	106	0	12	0	118	478
16:15	0	121	122	0	243	0	0	0	0	0	18	117	0	0	135	83	0	11	0	94	472
16:30	0	116	120	0	236	0	0	0	0	0	12	102	0	0	114	67	0	16	0	83	433
16:45	0	120	103	0	223	0	0	0	0	0	17	103	0	0	120	83	0	22	0	105	448
Total Volume	0	487	457	0	944	0	0	0	0	0	65	422	0	0	487	339	0	61	0	400	1831
% App Total	0.0%	51.6%	48.4%	0.0%		0.0%	0.0%	0.0%	0.0%		13.3%	86.7%	0.0%	0.0%		84.8%	0.0%	15.3%	0.0%		
PHF	.000	.937	.936	.000	.971	.000	.000	.000	.000	.000	.903	.902	.000	.000	.902	.800	.000	.693	.000	.847	.958

ALL TRAFFIC DATA

City of Redding
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 16-7605-001 SR 273 & S Bonnyview Rd

Date : 9/9/2016

Unshifted Count = All Vehicles & Uturns

	SR 273 Southbound					S Bonnyview Rd Westbound					SR 273 Northbound					S Bonnyview Rd Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	63	154	3	0	220	102	10	48	0	160	15	100	93	0	208	1	9	12	0	22	610	0
16:15	62	111	3	0	176	112	13	65	0	190	10	108	93	1	212	2	19	15	0	36	614	1
16:30	72	130	1	0	203	106	18	47	1	172	12	88	64	0	164	0	14	20	0	34	573	1
16:45	60	135	1	0	196	119	19	57	0	195	16	109	68	0	193	0	15	17	0	32	616	0
Total	257	530	8	0	795	439	60	217	1	717	53	405	318	1	777	3	57	64	0	124	2413	2
17:00	80	152	2	0	234	124	16	34	0	174	8	90	94	0	192	2	16	12	0	30	630	0
17:15	61	175	0	0	236	143	25	53	0	221	18	88	83	2	191	0	11	17	0	28	676	2
17:30	71	145	2	0	218	96	10	39	0	145	6	105	69	0	180	2	11	11	0	24	567	0
17:45	42	96	1	0	139	88	14	41	0	143	6	80	83	0	169	1	11	6	0	18	469	0
Total	254	568	5	0	827	451	65	167	0	683	38	363	329	2	732	5	49	46	0	100	2342	2
Grand Total	511	1098	13	0	1622	890	125	384	1	1400	91	768	647	3	1509	8	106	110	0	224	4755	4
Apprch %	31.5%	67.7%	0.8%	0.0%		63.6%	8.9%	27.4%	0.1%		6.0%	50.9%	42.9%	0.2%		3.6%	47.3%	49.1%	0.0%			
Total %	10.7%	23.1%	0.3%	0.0%	34.1%	18.7%	2.6%	8.1%	0.0%	29.4%	1.9%	16.2%	13.6%	0.1%	31.7%	0.2%	2.2%	2.3%	0.0%	4.7%	100.0%	

PM PEAK HOUR	SR 273 Southbound					S Bonnyview Rd Westbound					SR 273 Northbound					S Bonnyview Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	72	130	1	0	203	106	18	47	1	172	12	88	64	0	164	0	14	20	0	34	573
16:45	60	135	1	0	196	119	19	57	0	195	16	109	68	0	193	0	15	17	0	32	616
17:00	80	152	2	0	234	124	16	34	0	174	8	90	94	0	192	2	16	12	0	30	630
17:15	61	175	0	0	236	143	25	53	0	221	18	88	83	2	191	0	11	17	0	28	676
Total Volume	273	592	4	0	869	492	78	191	1	762	54	375	309	2	740	2	56	66	0	124	2495
% App Total	31.4%	68.1%	0.5%	0.0%		64.6%	10.2%	25.1%	0.1%		7.3%	50.7%	41.8%	0.3%		1.6%	45.2%	53.2%	0.0%		
PHF	.853	.846	.500	.000	.921	.860	.780	.838	.250	.862	.750	.860	.822	.250	.959	.250	.875	.825	.000	.912	.923

VOLUME

Oak St Bet. Project Site Dwy & North St

Day: Friday
Date: 7/15/2016

City: Redding
Project #: CA16-7488-012

DAILY TOTALS						NB	SB	EB						WB	Total
						582	604	0						0	1,186
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL				
0:00	2	0	0	0	2	12:00	7	12	0	0	19				
0:15	3	5	0	0	8	12:15	8	19	0	0	27				
0:30	3	0	0	0	3	12:30	15	9	0	0	24				
0:45	1	9	0	5	0	12:45	8	38	6	46	14	84			
1:00	1	0	0	0	1	13:00	7	13	0	0	20				
1:15	2	1	0	0	3	13:15	4	11	0	0	15				
1:30	1	1	0	0	2	13:30	12	11	0	0	23				
1:45	1	5	1	3	0	13:45	11	34	9	44	20	78			
2:00	2	3	0	0	5	14:00	9	7	0	0	16				
2:15	0	0	0	0		14:15	5	11	0	0	16				
2:30	0	0	0	0		14:30	8	4	0	0	12				
2:45	0	2	0	3	0	14:45	16	38	10	32	26	70			
3:00	0	0	0	0		15:00	15	11	0	0	26				
3:15	0	2	0	0	2	15:15	9	8	0	0	17				
3:30	0	1	0	0	1	15:30	10	11	0	0	21				
3:45	2	2	0	3	0	15:45	10	44	9	39	19	83			
4:00	1	1	0	0	2	16:00	9	8	0	0	17				
4:15	1	1	0	0	2	16:15	12	7	0	0	19				
4:30	0	1	0	0	1	16:30	9	13	0	0	22				
4:45	1	3	2	5	0	16:45	12	42	12	40	24	82			
5:00	0	0	0	0		17:00	24	9	0	0	33				
5:15	0	2	0	0	2	17:15	17	15	0	0	32				
5:30	0	3	0	0	3	17:30	13	12	0	0	25				
5:45	3	3	3	8	0	17:45	14	68	11	47	25	115			
6:00	1	4	0	0	5	18:00	17	13	0	0	30				
6:15	2	5	0	0	7	18:15	15	13	0	0	28				
6:30	1	7	0	0	8	18:30	14	11	0	0	25				
6:45	4	8	8	24	0	18:45	11	57	17	54	28	111			
7:00	4	5	0	0	9	19:00	6	9	0	0	15				
7:15	4	4	0	0	8	19:15	15	14	0	0	29				
7:30	2	12	0	0	14	19:30	9	6	0	0	15				
7:45	3	13	11	32	0	19:45	4	34	2	31	6	65			
8:00	3	4	0	0	7	20:00	9	10	0	0	19				
8:15	4	13	0	0	17	20:15	8	6	0	0	14				
8:30	5	6	0	0	11	20:30	10	4	0	0	14				
8:45	6	18	7	30	0	20:45	9	36	3	23	12	59			
9:00	7	9	0	0	16	21:00	9	10	0	0	19				
9:15	6	7	0	0	13	21:15	4	2	0	0	6				
9:30	6	8	0	0	14	21:30	6	5	0	0	11				
9:45	5	24	10	34	0	21:45	7	26	7	24	14	50			
10:00	10	7	0	0	17	22:00	7	6	0	0	13				
10:15	9	9	0	0	18	22:15	3	3	0	0	6				
10:30	4	10	0	0	14	22:30	3	5	0	0	8				
10:45	7	30	8	34	0	22:45	1	14	2	16	3	30			
11:00	10	5	0	0	15	23:00	2	2	0	0	4				
11:15	7	8	0	0	15	23:15	1	2	0	0	3				
11:30	3	2	0	0	5	23:30	1	1	0	0	2				
11:45	5	25	5	20	0	23:45	5	9	2	7	7	16			
TOTALS	142	201			343	TOTALS	440	403			843				
SPLIT %	41.4%	58.6%			28.9%	SPLIT %	52.2%	47.8%			71.1%				

DAILY TOTALS			NB	SB	EB			WB	Total		
			582	604				0			
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	17:00	18:00			17:00
AM Pk Volume	35	45			80	PM Pk Volume	68	54			115
Pk Hr Factor	0.429	0.354			0.382	Pk Hr Factor	0.868	0.750			0.871
7 - 9 Volume	31	62	0	0	93	4 - 6 Volume	110	87	0	0	197
7 - 9 Peak Hour	8:00	7:30			7:30	4 - 6 Peak Hour	17:00	16:30			17:00
7 - 9 Pk Volume	18	40	0	0	52	4 - 6 Pk Volume	68	49	0	0	115
Pk Hr Factor	0.750	0.769	0.000	0.000	0.765	Pk Hr Factor	0.708	0.817	0.000	0.000	0.871

VOLUME

Oak St Bet. Project Site Dwy & North St

Day: Saturday
Date: 7/16/2016

City: Redding
Project #: CA16-7488-012

DAILY TOTALS						NB	SB	EB						WB	Total	
						568	596							0		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL					
0:00	2	0	0	0	2	12:00	9	9	0	0	18					
0:15	1	1	0	0	2	12:15	8	13	0	0	21					
0:30	0	1	0	0	1	12:30	11	14	0	0	25					
0:45	1	4	0	2	0	12:45	10	38	10	46	0	0	20	84		
1:00	2	1	0	0	3	13:00	12	8	0	0	20					
1:15	2	2	0	0	4	13:15	14	10	0	0	24					
1:30	3	0	0	0	3	13:30	8	8	0	0	16					
1:45	1	8	1	4	0	13:45	8	42	9	35	0	0	17	77		
2:00	3	1	0	0	4	14:00	13	6	0	0	19					
2:15	0	1	0	0	1	14:15	5	4	0	0	9					
2:30	0	0	0	0	0	14:30	9	8	0	0	17					
2:45	1	4	0	2	0	14:45	18	45	10	28	0	0	28	73		
3:00	2	0	0	0	2	15:00	18	16	0	0	34					
3:15	0	0	0	0	0	15:15	8	8	0	0	16					
3:30	0	0	0	0	0	15:30	5	9	0	0	14					
3:45	0	2	0	0	0	15:45	10	41	10	43	0	0	20	84		
4:00	0	0	0	0	1	16:00	7	8	0	0	15					
4:15	0	1	0	0		16:15	13	10	0	0	23					
4:30	0	0	0	0		16:30	12	7	0	0	19					
4:45	0	0	1	0		0	16:45	9	41	14	39	0	0	23	80	
5:00	0	1	0	0	1	17:00	8	14	0	0	22					
5:15	0	0	0	0	0	17:15	12	11	0	0	23					
5:30	0	0	0	0	2	17:30	11	21	0	0	32					
5:45	0	2	3	0		0	17:45	8	39	10	56	0	0	18	95	
6:00	2	1	0	0	3	18:00	13	12	0	0	25					
6:15	1	1	0	0	2	18:15	7	10	0	0	17					
6:30	1	3	0	0	4	18:30	9	10	0	0	19					
6:45	0	4	3	8	0	18:45	7	36	2	34	0	0	9	70		
7:00	1	9	0	0	10	19:00	7	7	0	0	14					
7:15	7	1	0	0	8	19:15	5	6	0	0	11					
7:30	1	13	0	0	14	19:30	7	2	0	0	9					
7:45	7	16	4	27	0	19:45	9	28	9	24	0	0	18	52		
8:00	4	4	0	0	8	20:00	6	7	0	0	13					
8:15	0	6	0	0	6	20:15	3	3	0	0	6					
8:30	5	8	0	0	13	20:30	6	9	0	0	15					
8:45	8	17	7	25	0	20:45	10	25	8	27	0	0	18	52		
9:00	8	8	0	0	16	21:00	14	8	0	0	22					
9:15	10	10	0	0	20	21:15	7	11	0	0	18					
9:30	5	10	0	0	15	21:30	4	6	0	0	10					
9:45	6	29	14	42	0	21:45	4	29	5	30	0	0	9	59		
10:00	16	10	0	0	26	22:00	8	8	0	0	16					
10:15	8	9	0	0	17	22:15	7	4	0	0	11					
10:30	6	9	0	0	15	22:30	4	7	0	0	11					
10:45	12	42	13	41	0	22:45	4	23	3	22	0	0	7	45		
11:00	7	10	0	0	17	23:00	6	0	0	0	6					
11:15	8	19	0	0	27	23:15	7	0	0	0	7					
11:30	11	10	0	0	21	23:30	2	3	0	0	5					
11:45	13	39	14	53	0	23:45	1	16	1	4	0	0	2	20		
TOTALS	165		208		373	TOTALS	403		388		791					
SPLIT %	44.2%		55.8%		32.0%	SPLIT %	50.9%		49.1%		68.0%					

DAILY TOTALS			NB	SB	EB			WB	Total		
			568	596				0			
AM Peak Hour	10:00	11:00			11:15	PM Peak Hour	14:30	16:45			16:45
AM Pk Volume	42	53			93	PM Pk Volume	53	60			100
Pk Hr Factor	0.656	0.697			0.861	Pk Hr Factor	0.569	0.643			0.781
7 - 9 Volume	33	52	0	0	85	4 - 6 Volume	80	95	0	0	175
7 - 9 Peak Hour	7:15	7:00			7:00	4 - 6 Peak Hour	16:15	16:45			16:45
7 - 9 Pk Volume	19	27	0	0	43	4 - 6 Pk Volume	42	60	0	0	100
Pk Hr Factor	0.679	0.519	0.000	0.000	0.768	Pk Hr Factor	0.808	0.714	0.000	0.000	0.781

VOLUME

North St Bet. Oak St & I-5 SB Off Ramp

Day: Friday
Date: 7/15/2016

City: Redding
Project #: CA16-7488-011

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						5,043	4,667						9,710
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							
0:00	0	0	7	10	17		12:00	0	0	121	83	204							
0:15	0	0	6	8	14		12:15	0	0	111	81	192							
0:30	0	0	6	11	17		12:30	0	0	104	111	215							
0:45	0	0	4	23	3	32	12:45	0	0	110	446	90	365	200	811				
1:00	0	0	2	6	8		13:00	0	0	96	88	184							
1:15	0	0	8	7	15		13:15	0	0	105	73	178							
1:30	0	0	3	3	6		13:30	0	0	91	95	186							
1:45	0	0	3	16	7	23	13:45	0	0	99	391	88	344	187	735				
2:00	0	0	3	6	9		14:00	0	0	102	82	184							
2:15	0	0	2	0	2		14:15	0	0	88	87	175							
2:30	0	0	2	3	5		14:30	0	0	100	99	199							
2:45	0	0	2	9	4	13	14:45	0	0	97	387	88	356	185	743				
3:00	0	0	3	5	8		15:00	0	0	101	75	176							
3:15	0	0	3	1	4		15:15	0	0	84	87	171							
3:30	0	0	3	4	7		15:30	0	0	79	85	164							
3:45	0	0	5	14	5	15	15:45	0	0	94	358	87	334	181	692				
4:00	0	0	5	3	8		16:00	0	0	94	95	189							
4:15	0	0	6	4	10		16:15	0	0	79	110	189							
4:30	0	0	10	6	16		16:30	0	0	85	82	167							
4:45	0	0	15	36	4	17	16:45	0	0	93	351	96	383	189	734				
5:00	0	0	8	4	12		17:00	0	0	87	114	201							
5:15	0	0	13	12	25		17:15	0	0	68	86	154							
5:30	0	0	19	10	29		17:30	0	0	88	87	175							
5:45	0	0	20	60	19	45	17:45	0	0	84	327	87	374	171	701				
6:00	0	0	27	17	44		18:00	0	0	80	80	160							
6:15	0	0	28	16	44		18:15	0	0	66	66	132							
6:30	0	0	43	21	64		18:30	0	0	65	57	122							
6:45	0	0	47	145	30	84	18:45	0	0	54	265	56	259	110	524				
7:00	0	0	44	32	76		19:00	0	0	62	43	105							
7:15	0	0	65	46	111		19:15	0	0	59	53	112							
7:30	0	0	72	47	119		19:30	0	0	50	36	86							
7:45	0	0	61	242	69	194	19:45	0	0	42	213	42	174	84	387				
8:00	0	0	62	61	123		20:00	0	0	45	44	89							
8:15	0	0	73	55	128		20:15	0	0	43	38	81							
8:30	0	0	70	58	128		20:30	0	0	34	50	84							
8:45	0	0	78	283	61	235	20:45	0	0	43	165	37	169	80	334				
9:00	0	0	66	60	126		21:00	0	0	39	54	93							
9:15	0	0	71	56	127		21:15	0	0	44	45	89							
9:30	0	0	78	85	163		21:30	0	0	39	28	67							
9:45	0	0	105	320	72	273	21:45	0	0	25	147	40	167	65	314				
10:00	0	0	60	96	156		22:00	0	0	32	38	70							
10:15	0	0	82	74	156		22:15	0	0	36	25	61							
10:30	0	0	96	74	170		22:30	0	0	30	28	58							
10:45	0	0	86	324	81	325	22:45	0	0	18	116	15	106	33	222				
11:00	0	0	62	70	132		23:00	0	0	15	14	29							
11:15	0	0	94	93	187		23:15	0	0	16	18	34							
11:30	0	0	102	82	184		23:30	0	0	16	15	31							
11:45	0	0	90	348	76	321	23:45	0	0	10	57	12	59	22	116				
TOTALS					1820	1577	TOTALS					3223	3090					6313	
SPLIT %					53.6%	46.4%	SPLIT %					51.1%	48.9%					65.0%	

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						5,043	4,667						9,710
AM Peak Hour					11:45	11:45	11:45	PM Peak Hour					12:00	16:15	12:00				
AM Pk Volume					426	351	777	PM Pk Volume					446	402	811				
Pk Hr Factor					0.436	0.479	0.453	Pk Hr Factor					0.921	0.840	0.485				
7 - 9 Volume	0	0	525	429	954			4 - 6 Volume	0	0	678	757	1435						
7 - 9 Peak Hour					8:00	7:45	8:00	4 - 6 Peak Hour					16:00	16:15	16:15				
7 - 9 Pk Volume	0	0	283	243	518			4 - 6 Pk Volume	0	0	351	402	746						
Pk Hr Factor	0.000	0.000	0.907	0.880	0.932			Pk Hr Factor	0.000	0.000	0.934	0.882	0.928						

VOLUME

North St Bet. Oak St & I-5 SB Off Ramp

Day: Saturday
Date: 7/16/2016

City: Redding
Project #: CA16-7488-011

DAILY TOTALS					NB	SB	EB					WB	Total	
					0	0						3,712	3,445	7,157
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL		
0:00	0	0	9	15	24		12:00	0	0	78	74	152		
0:15	0	0	3	8	11		12:15	0	0	81	79	160		
0:30	0	0	9	10	19		12:30	0	0	74	56	130		
0:45	0	0	8	29	6	39	12:45	0	0	64	297	76	285	
					14	68						140	582	
1:00	0	0	3	6	9		13:00	0	0	87	89	176		
1:15	0	0	3	3	6		13:15	0	0	80	68	148		
1:30	0	0	1	8	9		13:30	0	0	80	72	152		
1:45	0	0	7	14	7	24	13:45	0	0	67	314	69	298	
					14	38						136	612	
2:00	0	0	9	5	14		14:00	0	0	69	73	142		
2:15	0	0	4	5	9		14:15	0	0	63	54	117		
2:30	0	0	4	0	4		14:30	0	0	64	55	119		
2:45	0	0	4	21	2	12	14:45	0	0	54	250	66	248	
					6	33						120	498	
3:00	0	0	2	3	5		15:00	0	0	69	63	132		
3:15	0	0	2	1	3		15:15	0	0	60	62	122		
3:30	0	0	2	2	4		15:30	0	0	54	62	116		
3:45	0	0	0	6	3	9	15:45	0	0	60	243	54	241	
					3	15						114	484	
4:00	0	0	4	4	8		16:00	0	0	59	63	122		
4:15	0	0	2	3	5		16:15	0	0	54	61	115		
4:30	0	0	5	5	10		16:30	0	0	60	48	108		
4:45	0	0	3	14	5	17	16:45	0	0	68	241	57	229	
					8	31						125	470	
5:00	0	0	7	1	8		17:00	0	0	62	54	116		
5:15	0	0	9	6	15		17:15	0	0	53	62	115		
5:30	0	0	11	10	21		17:30	0	0	61	45	106		
5:45	0	0	5	32	13	30	17:45	0	0	54	230	55	216	
					18	62						109	446	
6:00	0	0	13	12	25		18:00	0	0	48	51	99		
6:15	0	0	17	15	32		18:15	0	0	42	42	84		
6:30	0	0	19	10	29		18:30	0	0	42	42	84		
6:45	0	0	12	61	16	53	18:45	0	0	45	177	40	175	
					28	114						85	352	
7:00	0	0	21	16	37		19:00	0	0	44	37	81		
7:15	0	0	24	19	43		19:15	0	0	50	47	97		
7:30	0	0	48	34	82		19:30	0	0	47	48	95		
7:45	0	0	38	131	30	99	19:45	0	0	42	183	34	166	
					68	230						76	349	
8:00	0	0	31	33	64		20:00	0	0	37	28	65		
8:15	0	0	43	21	64		20:15	0	0	41	32	73		
8:30	0	0	57	34	91		20:30	0	0	26	44	70		
8:45	0	0	47	178	49	137	20:45	0	0	39	143	30	134	
					96	315						69	277	
9:00	0	0	72	48	120		21:00	0	0	32	37	69		
9:15	0	0	63	45	108		21:15	0	0	34	36	70		
9:30	0	0	60	45	105		21:30	0	0	42	30	72		
9:45	0	0	65	260	51	189	21:45	0	0	39	147	39	142	
					116	449						78	289	
10:00	0	0	75	85	160		22:00	0	0	28	30	58		
10:15	0	0	90	66	156		22:15	0	0	25	33	58		
10:30	0	0	69	59	128		22:30	0	0	22	23	45		
10:45	0	0	60	294	56	266	22:45	0	0	18	93	19	105	
					116	560						37	198	
11:00	0	0	62	62	124		23:00	0	0	8	16	24		
11:15	0	0	87	76	163		23:15	0	0	14	19	33		
11:30	0	0	62	66	128		23:30	0	0	15	16	31		
11:45	0	0	86	297	70	274	23:45	0	0	20	57	6	57	
					156	571						26	114	
TOTALS					1337	1149	TOTALS					2375	2296	4671
SPLIT %					53.8%	46.2%	SPLIT %					50.8%	49.2%	65.3%

DAILY TOTALS				NB	SB	EB				WB				Total			
				0	0									3,712	3,445	7,157	
AM Peak Hour				11:45	11:30	11:15	PM Peak Hour				13:00	12:45	12:45				
AM Pk Volume				319	289	599	PM Pk Volume				279	305	616				
Pk Hr Factor				0.477	0.709	0.919	Pk Hr Factor				0.872	0.966	0.875				
7 - 9 Volume				0	0	309	236	545	4 - 6 Volume				0	0	471	445	916
7 - 9 Peak Hour						8:00	8:00	8:00	4 - 6 Peak Hour						16:15	16:00	16:00
7 - 9 Pk Volume				0	0	178	137	315	4 - 6 Pk Volume				0	0	244	229	470
Pk Hr Factor				0.000	0.000	0.781	0.699	0.820	Pk Hr Factor				0.000	0.000	0.897	0.909	0.940

VOLUME

Oak St Bet. North St & Balls Ferry Rd

Day: Friday
Date: 7/15/2016

City: Redding
Project #: CA16-7488-010

DAILY TOTALS						NB	SB							EB	WB	Total	
						300	280							0	0	580	
AM Period	NB	SB		EB	WB	TOTAL	PM Period	NB	SB		EB	WB	TOTAL				
0:00	0	0		0	0		12:00	8	7		0	0	15				
0:15	0	1		0	0	1	12:15	4	4		0	0	8				
0:30	0	1		0	0	1	12:30	5	9		0	0	14				
0:45	1	1	0	2	0	1 3	12:45	9	26	9	29	0	0	18	55		
1:00	0	1		0	0	1	13:00	12	1		0	0	13				
1:15	0	0		0	0		13:15	5	7		0	0	12				
1:30	0	1		0	0	1	13:30	5	4		0	0	9				
1:45	0	0	2	0	0	2	13:45	7	29	4	16	0	0	11	45		
2:00	0	0		0	0		14:00	8	10		0	0	18				
2:15	1	0		0	0	1	14:15	5	7		0	0	12				
2:30	0	0		0	0		14:30	7	3		0	0	10				
2:45	0	1	0	0	0	1	14:45	9	29	5	25	0	0	14	54		
3:00	0	0		0	0		15:00	7	5		0	0	12				
3:15	0	1		0	0	1	15:15	9	6		0	0	15				
3:30	0	0		0	0		15:30	1	5		0	0	6				
3:45	0	0	1	0	0	1	15:45	3	20	10	26	0	0	13	46		
4:00	0	0		0	0		16:00	8	5		0	0	13				
4:15	0	1		0	0	1	16:15	7	6		0	0	13				
4:30	0	0		0	0		16:30	3	6		0	0	9				
4:45	0	0	1	0	0	1	16:45	8	26	5	22	0	0	13	48		
5:00	0	1		0	0	1	17:00	5	5		0	0	10				
5:15	0	1		0	0	1	17:15	5	5		0	0	10				
5:30	1	0		0	0	1	17:30	5	4		0	0	9				
5:45	2	3	2	4	0	4 7	17:45	2	17	9	23	0	0	11	40		
6:00	0	1		0	0	1	18:00	6	2		0	0	8				
6:15	1	0		0	0	1	18:15	6	5		0	0	11				
6:30	3	0		0	0	3	18:30	2	4		0	0	6				
6:45	4	8	2	3	0	6 11	18:45	1	15	3	14	0	0	4	29		
7:00	1	1		0	0	2	19:00	4	5		0	0	9				
7:15	0	1		0	0	1	19:15	4	4		0	0	8				
7:30	1	3		0	0	4	19:30	3	2		0	0	5				
7:45	5	7	5	10	0	10 17	19:45	2	13	0	11	0	0	2	24		
8:00	5	3		0	0	8	20:00	6	2		0	0	8				
8:15	3	2		0	0	5	20:15	1	2		0	0	3				
8:30	2	3		0	0	5	20:30	3	1		0	0	4				
8:45	2	12	2	10	0	4 22	20:45	4	14	1	6	0	0	5	20		
9:00	6	2		0	0	8	21:00	3	3		0	0	6				
9:15	2	4		0	0	6	21:15	1	0		0	0	1				
9:30	4	3		0	0	7	21:30	0	5		0	0	5				
9:45	10	22	3	12	0	13 34	21:45	1	5	2	10	0	0	3	15		
10:00	7	3		0	0	10	22:00	2	1		0	0	3				
10:15	5	4		0	0	9	22:15	0	0		0	0					
10:30	4	6		0	0	10	22:30	0	3		0	0	3				
10:45	4	20	6	19	0	10 39	22:45	0	2	1	5	0	0	1	7		
11:00	4	3		0	0	7	23:00	0	0		0	0					
11:15	6	6		0	0	12	23:15	0	1		0	0	1				
11:30	11	5		0	0	16	23:30	3	3		0	0	6				
11:45	4	25	9	23	0	13 48	23:45	2	5	2	6	0	0	4	11		
TOTALS	99	87				186	TOTALS	201	193				394				
SPLIT %	53.2%	46.8%				32.1%	SPLIT %	51.0%	49.0%				67.9%				

DAILY TOTALS			NB	SB	EB			WB	Total		
			300	280				0			
AM Peak Hour	11:15	11:45			11:15	PM Peak Hour	14:30	12:00			12:30
AM Pk Volume	29	29			56	PM Pk Volume	32	29			57
Pk Hr Factor	0.659	0.444			0.875	Pk Hr Factor	0.556	0.806			0.792
7 - 9 Volume	19	20	0	0	39	4 - 6 Volume	43	45	0	0	88
7 - 9 Peak Hour	7:45	7:30			7:45	4 - 6 Peak Hour	16:00	17:00			16:00
7 - 9 Pk Volume	15	13	0	0	28	4 - 6 Pk Volume	26	23	0	0	48
Pk Hr Factor	0.750	0.650	0.000	0.000	0.700	Pk Hr Factor	0.813	0.639	0.000	0.000	0.923

VOLUME

Canyon Rd Bet. SR-273 & Redbank Rd

Day: Saturday
Date: 7/16/2016

City: Redding
Project #: CA16-7488-008

DAILY TOTALS					NB	SB						EB	WB	Total	
					2,851	2,837						0	0	5,688	
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
0:00	5	17	0	0	22		12:00	48	48	0	0	96			
0:15	10	11	0	0	21		12:15	47	46	0	0	93			
0:30	5	16	0	0	21		12:30	53	45	0	0	98			
0:45	5	25	18	62	0	0	12:45	59	207	48	187	0	0	107	394
1:00	5	14	0	0	19		13:00	43	46	0	0	89			
1:15	10	10	0	0	20		13:15	60	46	0	0	106			
1:30	3	3	0	0	6		13:30	48	44	0	0	92			
1:45	3	21	3	30	0	0	13:45	52	203	61	197	0	0	113	400
2:00	2	9	0	0	11		14:00	42	57	0	0	99			
2:15	5	3	0	0	8		14:15	41	52	0	0	93			
2:30	1	5	0	0	6		14:30	28	56	0	0	84			
2:45	2	10	4	21	0	0	14:45	40	151	65	230	0	0	105	381
3:00	8	1	0	0	9		15:00	42	44	0	0	86			
3:15	2	4	0	0	6		15:15	43	57	0	0	100			
3:30	5	1	0	0	6		15:30	39	43	0	0	82			
3:45	6	21	5	11	0	0	15:45	41	165	54	198	0	0	95	363
4:00	6	6	0	0	12		16:00	46	65	0	0	111			
4:15	9	2	0	0	11		16:15	41	51	0	0	92			
4:30	7	2	0	0	9		16:30	44	61	0	0	105			
4:45	6	28	4	14	0	0	16:45	42	173	69	246	0	0	111	419
5:00	7	6	0	0	13		17:00	42	42	0	0	84			
5:15	7	6	0	0	13		17:15	32	48	0	0	80			
5:30	24	5	0	0	29		17:30	53	62	0	0	115			
5:45	19	57	7	24	0	0	17:45	37	164	52	204	0	0	89	368
6:00	9	3	0	0	12		18:00	39	62	0	0	101			
6:15	22	6	0	0	28		18:15	43	43	0	0	86			
6:30	25	6	0	0	31		18:30	33	46	0	0	79			
6:45	21	77	10	25	0	0	18:45	35	150	42	193	0	0	77	343
7:00	22	9	0	0	31		19:00	34	41	0	0	75			
7:15	31	16	0	0	47		19:15	29	46	0	0	75			
7:30	42	11	0	0	53		19:30	20	48	0	0	68			
7:45	33	128	15	51	0	0	19:45	29	112	36	171	0	0	65	283
8:00	45	17	0	0	62		20:00	21	44	0	0	65			
8:15	38	17	0	0	55		20:15	30	38	0	0	68			
8:30	38	21	0	0	59		20:30	35	36	0	0	71			
8:45	51	172	20	75	0	0	20:45	17	103	33	151	0	0	50	254
9:00	51	24	0	0	75		21:00	20	35	0	0	55			
9:15	61	31	0	0	92		21:15	30	32	0	0	62			
9:30	58	25	0	0	83		21:30	31	42	0	0	73			
9:45	66	236	35	115	0	0	21:45	34	115	32	141	0	0	66	256
10:00	45	31	0	0	76		22:00	13	35	0	0	48			
10:15	54	42	0	0	96		22:15	14	21	0	0	35			
10:30	68	43	0	0	111		22:30	13	26	0	0	39			
10:45	50	217	36	152	0	0	22:45	17	57	19	101	0	0	36	158
11:00	59	48	0	0	107		23:00	16	19	0	0	35			
11:15	51	40	0	0	91		23:15	15	14	0	0	29			
11:30	54	36	0	0	90		23:30	12	18	0	0	30			
11:45	48	212	46	170	0	0	23:45	4	47	17	68	0	0	21	115
TOTALS	1204	750			1954		TOTALS	1647	2087			3734			
SPLIT %	61.6%	38.4%			34.4%		SPLIT %	44.1%	55.9%			65.6%			

DAILY TOTALS					NB	SB						EB	WB	Total	
					2,851	2,837						0	0	5,688	
AM Peak Hour	9:00	11:45			10:15		PM Peak Hour	12:30	16:00			16:00			
AM Pk Volume	236	185			400		PM Pk Volume	215	246			419			
Pk Hr Factor	0.894	0.490			0.901		Pk Hr Factor	0.846	0.797			0.944			
7 - 9 Volume	300	126	0	0	426		4 - 6 Volume	337	450	0	0	787			
7 - 9 Peak Hour	8:00	8:00			8:00		4 - 6 Peak Hour	16:00	16:00			16:00			
7 - 9 Pk Volume	172	75	0	0	247		4 - 6 Pk Volume	173	246	0	0	419			
Pk Hr Factor	0.843	0.893	0.000	0.000	0.870		Pk Hr Factor	0.940	0.891	0.000	0.000	0.944			

VOLUME

Canyon Rd Bet. SR-273 & Redbank Rd

Day: Friday
Date: 7/15/2016

City: Redding
Project #: CA16-7488-008

DAILY TOTALS						NB	SB							EB	WB	Total	
						3,565	3,534							0	0	7,099	
AM Period	NB		SB		EB	WB	TOTAL	PM Period	NB		SB		EB	WB	TOTAL		
0:00	8		9		0	0	17	12:00	62		43		0	0	105		
0:15	4		16		0	0	20	12:15	42		54		0	0	96		
0:30	4		8		0	0	12	12:30	52		50		0	0	102		
0:45	4	20	4	37	0	0	8 57	12:45	56	212	56	203	0	0	112 415		
1:00	2		4		0	0	6	13:00	53		64		0	0	117		
1:15	5		6		0	0	11	13:15	58		47		0	0	105		
1:30	3		3		0	0	6	13:30	59		56		0	0	115		
1:45	2	12	12	25	0	0	14 37	13:45	52	222	49	216	0	0	101 438		
2:00	2		5		0	0	7	14:00	48		71		0	0	119		
2:15	0		0		0	0		14:15	43		77		0	0	120		
2:30	7		6		0	0	13	14:30	52		71		0	0	123		
2:45	5	14	4	15	0	0	9 29	14:45	53	196	55	274	0	0	108 470		
3:00	5		3		0	0	8	15:00	57		72		0	0	129		
3:15	5		5		0	0	10	15:15	44		67		0	0	111		
3:30	4		4		0	0	8	15:30	49		93		0	0	142		
3:45	5	19	4	16	0	0	9 35	15:45	56	206	86	318	0	0	142 524		
4:00	5		2		0	0	7	16:00	50		69		0	0	119		
4:15	2		4		0	0	6	16:15	59		67		0	0	126		
4:30	9		2		0	0	11	16:30	34		61		0	0	95		
4:45	8	24	0	8	0	0	8 32	16:45	51	194	80	277	0	0	131 471		
5:00	26		1		0	0	27	17:00	43		105		0	0	148		
5:15	21		4		0	0	25	17:15	45		92		0	0	137		
5:30	40		9		0	0	49	17:30	45		101		0	0	146		
5:45	37	124	2	16	0	0	39 140	17:45	47	180	83	381	0	0	130 561		
6:00	35		9		0	0	44	18:00	42		78		0	0	120		
6:15	37		11		0	0	48	18:15	53		70		0	0	123		
6:30	69		9		0	0	78	18:30	41		77		0	0	118		
6:45	63	204	9	38	0	0	72 242	18:45	44	180	58	283	0	0	102 463		
7:00	74		16		0	0	90	19:00	34		43		0	0	77		
7:15	94		26		0	0	120	19:15	35		57		0	0	92		
7:30	123		19		0	0	142	19:30	24		44		0	0	68		
7:45	88	379	24	85	0	0	112 464	19:45	27	120	41	185	0	0	68 305		
8:00	74		22		0	0	96	20:00	37		47		0	0	84		
8:15	56		17		0	0	73	20:15	28		42		0	0	70		
8:30	68		19		0	0	87	20:30	23		36		0	0	59		
8:45	71	269	28	86	0	0	99 355	20:45	16	104	31	156	0	0	47 260		
9:00	61		34		0	0	95	21:00	24		50		0	0	74		
9:15	60		41		0	0	101	21:15	21		40		0	0	61		
9:30	81		21		0	0	102	21:30	17		41		0	0	58		
9:45	52	254	45	141	0	0	97 395	21:45	19	81	46	177	0	0	65 258		
10:00	57		49		0	0	106	22:00	17		35		0	0	52		
10:15	43		49		0	0	92	22:15	17		29		0	0	46		
10:30	55		45		0	0	100	22:30	9		33		0	0	42		
10:45	56	211	39	182	0	0	95 393	22:45	14	57	26	123	0	0	40 180		
11:00	54		63		0	0	117	23:00	13		12		0	0	25		
11:15	71		45		0	0	116	23:15	10		12		0	0	22		
11:30	53		54		0	0	107	23:30	11		26		0	0	37		
11:45	59	237	57	219	0	0	116 456	23:45	12	46	23	73	0	0	35 119		
TOTALS	1767		868				2635	TOTALS	1798		2666				4464		
SPLIT %	67.1%		32.9%				37.1%	SPLIT %	40.3%		59.7%				62.9%		

DAILY TOTALS			NB	SB				EB	WB	Total		
			3,565	3,534				0	0			
AM Peak Hour	7:00	11:00			7:15	PM Peak Hour	12:45	17:00			16:45	
AM Pk Volume	379	219			470	PM Pk Volume	226	381			562	
Pk Hr Factor	0.770	0.869			0.827	Pk Hr Factor	0.919	0.822			0.949	
7 - 9 Volume	648	171	0	0	819	4 - 6 Volume	374	658	0	0	1032	
7 - 9 Peak Hour	7:00	7:15			7:15	4 - 6 Peak Hour	16:00	17:00			16:45	
7 - 9 Pk Volume	379	91	0	0	470	4 - 6 Pk Volume	194	381	0	0	562	
Pk Hr Factor	0.770	0.875	0.000	0.000	0.827	Pk Hr Factor	0.822	0.907	0.000	0.000	0.949	

VOLUME

Redding Rancheria Rd W/O RV Parking Lot

Day: Friday
Date: 7/22/2016

City: Redding
Project #: CA16-7488-007

DAILY TOTALS					NB	SB	EB					WB	Total		
					0	0	126					103	229		
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
0:00	0	0	0	0			12:00	0	0	0	0				
0:15	0	0	0	0			12:15	0	0	0	0				
0:30	0	0	0	0			12:30	0	0	0	0				
0:45	0	0	0	0			12:45	0	0	0	1			1	
1:00	0	0	1	0	1		13:00	0	0	1	0	1			
1:15	0	0	0	1	1		13:15	0	0	0	2	2			
1:30	0	0	0	0	0		13:30	0	0	1	1	2			
1:45	0	0	0	1	0		1	13:45	0	0	2	4		1	4
2:00	0	0	0	0	2		14:00	0	0	1	2	3			
2:15	0	0	0	0			14:15	0	0	2	2			4	
2:30	0	0	2	0			14:30	0	0	4	1			5	
2:45	0	0	0	2			0	14:45	0	0	2			9	1
3:00	0	0	0	0	1		15:00	0	0	1	1	2			
3:15	0	0	0	0			15:15	0	0	2	2			4	
3:30	0	0	0	0			15:30	0	0	3	2			5	
3:45	0	0	1	1			0	15:45	0	0	2			8	1
4:00	0	0	0	1	1		16:00	0	0	2	4	6			
4:15	0	0	0	0	16:15		0	0	2	2	4				
4:30	0	0	0	0	16:30		0	0	2	2	4				
4:45	0	0	0	0	1		16:45	0	0	2	8			2	10
5:00	0	0	1	0	1		17:00	0	0	0	1	1			
5:15	0	0	0	0	17:15		0	0	1	2	3				
5:30	0	0	0	0	17:30		0	0	1	2	3				
5:45	0	0	0	1	0		17:45	0	0	1	3			2	7
6:00	0	0	1	0	1		18:00	0	0	2	0	2			
6:15	0	0	0	0	18:15		0	0	0	0	1				
6:30	0	0	0	0	18:30		0	0	0	1	1				
6:45	0	0	2	3	0		18:45	0	0	2	4			1	2
7:00	0	0	0	1	1		19:00	0	0	1	4	5			
7:15	0	0	1	0	1		19:15	0	0	5	4			9	
7:30	0	0	1	0	1		19:30	0	0	1	1			2	
7:45	0	0	0	2	0		1	19:45	0	0	3			10	3
8:00	0	0	0	0	3		20:00	0	0	4	1	5			
8:15	0	0	1	2			20:15	0	0	2	2			4	
8:30	0	0	1	1			20:30	0	0	9	3			12	
8:45	0	0	7	9			0	3	20:45	0	0			3	18
9:00	0	0	1	4	5		21:00	0	0	1	4	5			
9:15	0	0	1	3	4		21:15	0	0	8	4			12	
9:30	0	0	2	1	3		21:30	0	0	0	2			2	
9:45	0	0	0	4	0		8	21:45	0	0	2			11	2
10:00	0	0	2	1	3		22:00	0	0	2	2	4			
10:15	0	0	0	3	3		22:15	0	0	5	1			6	
10:30	0	0	0	0	0		22:30	0	0	2	5			7	
10:45	0	0	0	2	0		4	22:45	0	0	6			15	3
11:00	0	0	0	0			23:00	0	0	4	2	6			
11:15	0	0	0	0			23:15	0	0	2	2			4	
11:30	0	0	0	0			23:30	0	0	3	1			4	
11:45	0	0	0	0			23:45	0	0	2	11			3	8
TOTALS	25				18	43	TOTALS	101				85	186		
SPLIT %	58.1%				41.9%	18.8%	SPLIT %	54.3%				45.7%	81.2%		

DAILY TOTALS				NB	SB	EB				WB				Total			
				0	0									126	103	229	
AM Peak Hour				8:45	8:30	8:45	PM Peak Hour				20:30	19:00	20:30				
AM Pk Volume				11	8	19	PM Pk Volume				11	12	32				
Pk Hr Factor				0.393	0.500	0.679	Pk Hr Factor				0.344	0.583	0.667				
7 - 9 Volume				0	0	11	4	15	4 - 6 Volume				0	0	11	17	28
7 - 9 Peak Hour				8:00	7:45	8:00	4 - 6 Peak Hour				16:00	16:00	16:00				
7 - 9 Pk Volume				0	0	9	3	12	4 - 6 Pk Volume				0	0	8	10	18
Pk Hr Factor				0.000	0.000	0.321	0.375	0.429	Pk Hr Factor				0.000	0.000	1.000	0.625	0.750

VOLUME

SR-273 Bet. Westside Rd/Girvan Rd & Redding Rancheria Rd/Canyon Rd

Day: Saturday
Date: 7/16/2016

City: Redding
Project #: CA16-7488-005

DAILY TOTALS						NB	SB	EB						WB	Total	
						8,857	8,897							0		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL					
0:00	40	49	0	0	89	12:00	144	165	0	0	309					
0:15	47	40	0	0	87	12:15	160	143	0	0	303					
0:30	31	38	0	0	69	12:30	153	146	0	0	299					
0:45	31	149	42	169	0	0	73	318	145	602	140	594	0	0	285	1196
1:00	33	28	0	0	61	13:00	152	183	0	0	335					
1:15	33	29	0	0	62	13:15	148	151	0	0	299					
1:30	29	15	0	0	44	13:30	148	152	0	0	300					
1:45	25	120	17	89	0	0	42	209	157	605	175	661	0	0	332	1266
2:00	34	24	0	0	58	14:00	135	141	0	0	276					
2:15	34	23	0	0	57	14:15	156	152	0	0	308					
2:30	16	25	0	0	41	14:30	109	161	0	0	270					
2:45	24	108	9	81	0	0	33	189	135	535	135	589	0	0	270	1124
3:00	28	11	0	0	39	15:00	136	127	0	0	263					
3:15	26	19	0	0	45	15:15	124	142	0	0	266					
3:30	14	13	0	0	27	15:30	136	124	0	0	260					
3:45	18	86	8	51	0	0	26	137	120	516	172	565	0	0	292	1081
4:00	25	16	0	0	41	16:00	140	160	0	0	300					
4:15	25	15	0	0	40	16:15	123	158	0	0	281					
4:30	32	29	0	0	61	16:30	98	172	0	0	270					
4:45	24	106	21	81	0	0	45	187	141	502	157	647	0	0	298	1149
5:00	27	27	0	0	54	17:00	109	121	0	0	230					
5:15	27	27	0	0	54	17:15	117	148	0	0	265					
5:30	42	40	0	0	82	17:30	149	163	0	0	312					
5:45	43	139	62	156	0	0	105	295	103	478	131	563	0	0	234	1041
6:00	53	33	0	0	86	18:00	115	154	0	0	269					
6:15	75	36	0	0	111	18:15	93	152	0	0	245					
6:30	68	29	0	0	97	18:30	99	165	0	0	264					
6:45	65	261	43	141	0	0	108	402	89	396	135	606	0	0	224	1002
7:00	56	43	0	0	99	19:00	93	142	0	0	235					
7:15	64	60	0	0	124	19:15	83	148	0	0	231					
7:30	101	60	0	0	161	19:30	75	131	0	0	206					
7:45	83	304	71	234	0	0	154	538	102	353	107	528	0	0	209	881
8:00	113	62	0	0	175	20:00	76	121	0	0	197					
8:15	98	63	0	0	161	20:15	82	101	0	0	183					
8:30	108	85	0	0	193	20:30	83	104	0	0	187					
8:45	133	452	77	287	0	0	210	739	82	323	96	422	0	0	178	745
9:00	133	85	0	0	218	21:00	77	104	0	0	181					
9:15	129	125	0	0	254	21:15	101	99	0	0	200					
9:30	131	107	0	0	238	21:30	93	107	0	0	200					
9:45	131	524	136	453	0	0	267	977	77	348	84	394	0	0	161	742
10:00	133	97	0	0	230	22:00	82	82	0	0	164					
10:15	161	148	0	0	309	22:15	60	74	0	0	134					
10:30	170	137	0	0	307	22:30	68	69	0	0	137					
10:45	157	621	140	522	0	0	297	1143	67	277	76	301	0	0	143	578
11:00	180	140	0	0	320	23:00	72	63	0	0	135					
11:15	195	137	0	0	332	23:15	127	60	0	0	187					
11:30	176	118	0	0	294	23:30	71	49	0	0	120					
11:45	174	725	137	532	0	0	311	1257	57	327	59	231	0	0	116	558
TOTALS	3595		2796		6391		TOTALS	5262		6101		11363				
SPLIT %	56.3%		43.7%		36.0%		SPLIT %	46.3%		53.7%		64.0%				

DAILY TOTALS			NB	SB	EB	WB	Total				
			8,857	8,897		0				0	
AM Peak Hour	11:00	11:45	11:00			PM Peak Hour	12:15	15:45	13:00		
AM Pk Volume	725	591	1257			PM Pk Volume	610	662	1266		
Pk Hr Factor	0.929	0.458	0.947			Pk Hr Factor	0.975	0.884	0.945		
7 - 9 Volume	756	521	0	0	1277	4 - 6 Volume	980	1210	0	0	2190
7 - 9 Peak Hour	8:00	8:00	8:00			4 - 6 Peak Hour	16:45	16:00			16:00
7 - 9 Pk Volume	452	287	0	0	739	4 - 6 Pk Volume	516	647	0	0	1149
Pk Hr Factor	0.850	0.844	0.000	0.000	0.880	Pk Hr Factor	0.866	0.940	0.000	0.000	0.958

VOLUME

SR-273 Bet. Westside Rd/Girvan Rd & Redding Rancheria Rd/Canyon Rd

Day: Friday
Date: 7/15/2016

City: Redding
Project #: CA16-7488-005

DAILY TOTALS						NB	SB	EB						WB	Total
						10,852	10,999							0	0
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL				
0:00	42	35	0	0	77	12:00	191	167	0	0	358				
0:15	21	26	0	0	47	12:15	162	158	0	0	320				
0:30	24	40	0	0	64	12:30	171	184	0	0	355				
0:45	20	107	16	117	0	12:45	183	707	151	660	0	0	334	1367	
1:00	22	24	0	0	46	13:00	172	209	0	0	381				
1:15	16	20	0	0	36	13:15	174	171	0	0	345				
1:30	18	15	0	0	33	13:30	185	163	0	0	348				
1:45	24	80	22	81	0	13:45	176	707	194	737	0	0	370	1444	
2:00	24	18	0	0	42	14:00	149	200	0	0	349				
2:15	25	13	0	0	38	14:15	153	213	0	0	366				
2:30	13	10	0	0	23	14:30	175	216	0	0	391				
2:45	19	81	14	55	0	14:45	189	666	197	826	0	0	386	1492	
3:00	25	12	0	0	37	15:00	183	204	0	0	387				
3:15	20	12	0	0	32	15:15	174	217	0	0	391				
3:30	18	18	0	0	36	15:30	182	239	0	0	421				
3:45	16	79	9	51	0	15:45	180	719	229	889	0	0	409	1608	
4:00	28	25	0	0	53	16:00	184	206	0	0	390				
4:15	28	28	0	0	56	16:15	190	185	0	0	375				
4:30	38	24	0	0	62	16:30	196	241	0	0	437				
4:45	30	124	29	106	0	16:45	177	747	234	866	0	0	411	1613	
5:00	50	16	0	0	66	17:00	163	268	0	0	431				
5:15	50	42	0	0	92	17:15	174	264	0	0	438				
5:30	59	68	0	0	127	17:30	149	218	0	0	367				
5:45	86	245	64	190	0	17:45	183	669	185	935	0	0	368	1604	
6:00	82	58	0	0	140	18:00	118	165	0	0	283				
6:15	117	60	0	0	177	18:15	120	167	0	0	287				
6:30	139	52	0	0	191	18:30	115	156	0	0	271				
6:45	130	468	96	266	0	18:45	126	479	146	634	0	0	272	1113	
7:00	153	87	0	0	240	19:00	112	112	0	0	224				
7:15	184	93	0	0	277	19:15	105	136	0	0	241				
7:30	229	100	0	0	329	19:30	73	129	0	0	202				
7:45	196	762	118	398	0	19:45	86	376	107	484	0	0	193	860	
8:00	162	108	0	0	270	20:00	83	103	0	0	186				
8:15	154	103	0	0	257	20:15	76	115	0	0	191				
8:30	189	117	0	0	306	20:30	102	108	0	0	210				
8:45	178	683	134	462	0	20:45	61	322	96	422	0	0	157	744	
9:00	164	102	0	0	266	21:00	87	112	0	0	199				
9:15	156	134	0	0	290	21:15	74	108	0	0	182				
9:30	212	144	0	0	356	21:30	71	104	0	0	175				
9:45	174	706	140	520	0	21:45	72	304	111	435	0	0	183	739	
10:00	168	163	0	0	331	22:00	82	79	0	0	161				
10:15	153	152	0	0	305	22:15	66	88	0	0	154				
10:30	187	144	0	0	331	22:30	51	89	0	0	140				
10:45	153	661	128	587	0	22:45	57	256	74	330	0	0	131	586	
11:00	177	183	0	0	360	23:00	62	44	0	0	106				
11:15	183	165	0	0	348	23:15	55	62	0	0	117				
11:30	178	174	0	0	352	23:30	48	74	0	0	122				
11:45	159	697	178	700	0	23:45	42	207	68	248	0	0	110	455	
TOTALS	4693	3533			8226	TOTALS	6159	7466			13625				
SPLIT %	57.1%	42.9%			37.6%	SPLIT %	45.2%	54.8%			62.4%				

DAILY TOTALS			NB		SB		EB			WB		Total	
			10,852		10,999					0		0	
AM Peak Hour	7:15	11:00			11:00	PM Peak Hour	15:45	16:30			16:30		
AM Pk Volume	771	700			1397	PM Pk Volume	750	1007			1717		
Pk Hr Factor	0.842	0.956			0.970	Pk Hr Factor	0.926	0.872			0.980		
7 - 9 Volume	1445	860	0	0	2305	4 - 6 Volume	1416	1801	0	0	3217		
7 - 9 Peak Hour	7:15	8:00			7:15	4 - 6 Peak Hour	16:00	16:30			16:30		
7 - 9 Pk Volume	771	462	0	0	1190	4 - 6 Pk Volume	747	1007	0	0	1717		
Pk Hr Factor	0.842	0.862	0.000	0.000	0.904	Pk Hr Factor	0.953	0.939	0.000	0.000	0.980		

VOLUME

Smith Rd Bet. I-5 & Churn Creek Rd

Day: Saturday
Date: 7/16/2016

City: Redding
Project #: CA16-7488-004

DAILY TOTALS					NB	SB	EB					WB	Total	
					0	0	173					203	376	
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL		
0:00	0	0	1	1	2		12:00	0	0	5	4	9		
0:15	0	0	3	0	3		12:15	0	0	3	4	7		
0:30	0	0	0	0			12:30	0	0	3	5	8		
0:45	0	0	0	4	0	1	12:45	0	0	5	16	4	17	33
1:00	0	0	1	1	2		13:00	0	0	3	3	6		
1:15	0	0	0	0			13:15	0	0	1	4	5		
1:30	0	0	0	0			13:30	0	0	7	5	12		
1:45	0	0	0	1	0	1	13:45	0	0	4	15	7	19	34
2:00	0	0	1	1	2		14:00	0	0	2	3	5		
2:15	0	0	0	0			14:15	0	0	1	4	5		
2:30	0	0	0	0			14:30	0	0	2	1	3		
2:45	0	0	0	1	0	1	14:45	0	0	1	6	8	16	22
3:00	0	0	1	0	1		15:00	0	0	0	3	3		
3:15	0	0	1	0	1		15:15	0	0	4	3	7		
3:30	0	0	0	0			15:30	0	0	2	3	5		
3:45	0	0	0	2	2	2	15:45	0	0	2	8	2	11	19
4:00	0	0	0	0			16:00	0	0	1	3	4		
4:15	0	0	0	0			16:15	0	0	4	3	7		
4:30	0	0	0	0			16:30	0	0	2	3	5		
4:45	0	0	0	0			16:45	0	0	3	10	4	13	23
5:00	0	0	0	0			17:00	0	0	1	3	4		
5:15	0	0	0	2	2		17:15	0	0	2	2	4		
5:30	0	0	2	0	2		17:30	0	0	3	7	10		
5:45	0	0	1	3	0	2	17:45	0	0	5	11	6	18	29
6:00	0	0	0	0			18:00	0	0	2	4	6		
6:15	0	0	1	0	1		18:15	0	0	2	5	7		
6:30	0	0	1	3	4		18:30	0	0	2	1	3		
6:45	0	0	3	5	1	4	18:45	0	0	4	10	7	17	27
7:00	0	0	1	4	5		19:00	0	0	2	0	2		
7:15	0	0	1	1	2		19:15	0	0	2	2	4		
7:30	0	0	2	1	3		19:30	0	0	2	2	4		
7:45	0	0	3	7	1	7	19:45	0	0	2	8	4	8	16
8:00	0	0	0	2	2		20:00	0	0	4	0	4		
8:15	0	0	3	1	4		20:15	0	0	1	2	3		
8:30	0	0	1	2	3		20:30	0	0	0	2	2		
8:45	0	0	1	5	1	6	20:45	0	0	3	8	3	7	15
9:00	0	0	2	2	4		21:00	0	0	2	6	8		
9:15	0	0	2	2	4		21:15	0	0	2	4	6		
9:30	0	0	5	2	7		21:30	0	0	1	3	4		
9:45	0	0	7	16	1	7	21:45	0	0	2	7	2	15	22
10:00	0	0	2	5	7		22:00	0	0	1	1	2		
10:15	0	0	3	4	7		22:15	0	0	1	0	1		
10:30	0	0	3	1	4		22:30	0	0	0	1	1		
10:45	0	0	3	11	1	11	22:45	0	0	0	2	0	2	4
11:00	0	0	3	2	5		23:00	0	0	0	2	2		
11:15	0	0	5	3	8		23:15	0	0	1	2	3		
11:30	0	0	5	4	9		23:30	0	0	1	1	2		
11:45	0	0	1	14	3	12	23:45	0	0	1	3	1	6	9
TOTALS					69	54	TOTALS					104	149	253
SPLIT %					56.1%	43.9%	SPLIT %					41.1%	58.9%	67.3%

DAILY TOTALS			NB	SB	EB			WB			Total				
			0	0							173	203	376		
AM Peak Hour			9:30	11:45	11:15	PM Peak Hour			12:00	17:30	13:00				
AM Pk Volume			17	16	30	PM Pk Volume			16	22	34				
Pk Hr Factor			0.607	0.438	0.833	Pk Hr Factor			0.800	0.607	0.708				
7 - 9 Volume			0	0	12	13	25	4 - 6 Volume			0	0	21	31	52
7 - 9 Peak Hour			7:30	7:00	7:00	4 - 6 Peak Hour			17:00	17:00	17:00				
7 - 9 Pk Volume			0	0	8	7	14	4 - 6 Pk Volume			0	0	11	18	29
Pk Hr Factor			0.000	0.000	0.667	0.438	0.700	Pk Hr Factor			0.000	0.000	0.550	0.643	0.659

AM Peak Hour			7:00	10:15	11:00	PM Peak Hour			17:30	17:00	17:00
AM Pk Volume			24	12	31	PM Pk Volume			15	36	52
Pk Hr Factor			0.750	0.600	0.775	Pk Hr Factor			0.625	0.781	0.813
7 - 9 Volume	0	0	36	15	51	4 - 6 Volume	0	0	31	52	83
7 - 9 Peak Hour			7:00	7:45	7:00	4 - 6 Peak Hour			16:30	17:00	17:00
7 - 9 Pk Volume	0	0	24	10	30	4 - 6 Pk Volume	0	0	17	36	52
Pk Hr Factor	0.000	0.000	0.750	0.833	0.938	Pk Hr Factor	0.000	0.000	0.708	0.750	0.813

VOLUME

S Bonnyview Rd Bet. Alrose Ln & Hartmeyer Ln

Day: Saturday
Date: 7/16/2016

City: Redding
Project #: CA16-7488-003

DAILY TOTALS					NB	SB	EB					WB	Total	
					0	0	4,215					4,142	8,357	
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL		
0:00	0	0	24	10	34		12:00	0	0	91	66	157		
0:15	0	0	17	12	29		12:15	0	0	81	82	163		
0:30	0	0	14	12	26		12:30	0	0	67	87	154		
0:45	0	0	10	65	8	42	12:45	0	0	84	323	69	304	
1:00	0	0	11	11	22		13:00	0	0	80	66	146		
1:15	0	0	12	7	19		13:15	0	0	83	71	154		
1:30	0	0	8	6	14		13:30	0	0	78	72	150		
1:45	0	0	7	38	6	30	13:45	0	0	78	319	64	273	
2:00	0	0	10	5	15		14:00	0	0	73	80	153		
2:15	0	0	9	5	14		14:15	0	0	79	77	156		
2:30	0	0	9	5	14		14:30	0	0	66	72	138		
2:45	0	0	5	33	5	20	14:45	0	0	77	295	65	294	
3:00	0	0	5	3	8		15:00	0	0	70	82	152		
3:15	0	0	6	6	12		15:15	0	0	66	66	132		
3:30	0	0	5	4	9		15:30	0	0	61	71	132		
3:45	0	0	3	19	7	20	15:45	0	0	68	265	79	298	
4:00	0	0	2	17	19		16:00	0	0	75	59	134		
4:15	0	0	5	3	8		16:15	0	0	66	63	129		
4:30	0	0	4	8	12		16:30	0	0	67	63	130		
4:45	0	0	7	18	8	36	16:45	0	0	86	294	53	238	
5:00	0	0	9	7	16		17:00	0	0	60	67	127		
5:15	0	0	2	9	11		17:15	0	0	67	56	123		
5:30	0	0	5	18	23		17:30	0	0	63	53	116		
5:45	0	0	8	24	18	52	17:45	0	0	64	254	50	226	
6:00	0	0	15	17	32		18:00	0	0	65	61	126		
6:15	0	0	12	17	29		18:15	0	0	64	39	103		
6:30	0	0	15	24	39		18:30	0	0	74	64	138		
6:45	0	0	23	65	29	87	18:45	0	0	51	254	56	220	
7:00	0	0	34	36	70		19:00	0	0	59	49	108		
7:15	0	0	25	46	71		19:15	0	0	60	51	111		
7:30	0	0	30	39	69		19:30	0	0	63	45	108		
7:45	0	0	40	129	57	178	19:45	0	0	57	239	44	189	
8:00	0	0	28	52	80		20:00	0	0	47	47	94		
8:15	0	0	48	57	105		20:15	0	0	55	43	98		
8:30	0	0	41	60	101		20:30	0	0	57	47	104		
8:45	0	0	49	166	59	228	20:45	0	0	50	209	40	177	
9:00	0	0	38	90	128		21:00	0	0	48	41	89		
9:15	0	0	49	75	124		21:15	0	0	44	40	84		
9:30	0	0	61	66	127		21:30	0	0	48	32	80		
9:45	0	0	86	234	64	295	21:45	0	0	45	185	31	144	
10:00	0	0	62	65	127		22:00	0	0	35	23	58		
10:15	0	0	64	81	145		22:15	0	0	33	30	63		
10:30	0	0	65	74	139		22:30	0	0	36	25	61		
10:45	0	0	61	252	68	288	22:45	0	0	28	132	28	106	
11:00	0	0	59	75	134		23:00	0	0	24	20	44		
11:15	0	0	77	76	153		23:15	0	0	28	24	52		
11:30	0	0	79	84	163		23:30	0	0	29	19	48		
11:45	0	0	85	300	78	313	23:45	0	0	22	103	21	84	
TOTALS					1343	1589	TOTALS					2872	2553	5425
SPLIT %					45.8%	54.2%	SPLIT %					52.9%	47.1%	64.9%

DAILY TOTALS				NB	SB	EB				WB		Total	
				0	0							4,215	4,142
AM Peak Hour				11:30	11:00	11:30	PM Peak Hour				12:45	12:00	12:00
AM Pk Volume				336	313	646	PM Pk Volume				312	304	627
Pk Hr Factor				0.701	0.932	0.741	Pk Hr Factor				0.940	0.874	0.491
7 - 9 Volume				0	0	295	4 - 6 Volume		0	0	548	464	1012
7 - 9 Peak Hour				8:00	8:00	8:00	4 - 6 Peak Hour				16:00	16:15	16:00
7 - 9 Pk Volume				0	0	166	4 - 6 Pk Volume		0	0	294	246	532
Pk Hr Factor				0.000	0.000	0.847	Pk Hr Factor		0.000	0.000	0.855	0.918	0.957

VOLUME

S Bonnyview Rd Bet. Alrose Ln & Hartmeyer Ln

Day: Friday
Date: 7/15/2016

City: Redding
Project #: CA16-7488-003

DAILY TOTALS					NB	SB	EB					WB	Total
					0	0						5,439	5,408
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
0:00	0	0	11	14	25		12:00	0	0	88	78	166	
0:15	0	0	13	11	24		12:15	0	0	89	77	166	
0:30	0	0	14	4	18		12:30	0	0	87	87	174	
0:45	0	0	12	50	10	39	12:45	0	0	86	350	119	361
1:00	0	0	11	7	18		13:00	0	0	86	87	173	
1:15	0	0	11	7	18		13:15	0	0	83	80	163	
1:30	0	0	6	5	11		13:30	0	0	101	108	209	
1:45	0	0	6	34	11	30	13:45	0	0	98	368	91	366
2:00	0	0	10	6	16		14:00	0	0	87	101	188	
2:15	0	0	8	3	11		14:15	0	0	84	85	169	
2:30	0	0	4	4	8		14:30	0	0	85	77	162	
2:45	0	0	5	27	4	17	14:45	0	0	102	358	86	349
3:00	0	0	8	4	12		15:00	0	0	101	85	186	
3:15	0	0	3	6	9		15:15	0	0	97	86	183	
3:30	0	0	7	9	16		15:30	0	0	86	94	180	
3:45	0	0	5	23	9	28	15:45	0	0	115	399	79	344
4:00	0	0	10	7	17		16:00	0	0	103	80	183	
4:15	0	0	3	8	11		16:15	0	0	116	89	205	
4:30	0	0	6	15	21		16:30	0	0	91	109	200	
4:45	0	0	12	31	23	53	16:45	0	0	118	428	80	358
5:00	0	0	5	13	18		17:00	0	0	133	97	230	
5:15	0	0	15	22	37		17:15	0	0	156	102	258	
5:30	0	0	15	29	44		17:30	0	0	110	89	199	
5:45	0	0	30	65	41	105	17:45	0	0	89	488	84	372
6:00	0	0	28	46	74		18:00	0	0	90	79	169	
6:15	0	0	26	36	62		18:15	0	0	75	61	136	
6:30	0	0	38	61	99		18:30	0	0	76	76	152	
6:45	0	0	50	142	66	209	18:45	0	0	64	305	79	295
7:00	0	0	46	72	118		19:00	0	0	73	45	118	
7:15	0	0	54	89	143		19:15	0	0	64	42	106	
7:30	0	0	77	117	194		19:30	0	0	53	48	101	
7:45	0	0	74	251	133	411	19:45	0	0	58	248	49	184
8:00	0	0	88	76	164		20:00	0	0	50	40	90	
8:15	0	0	63	100	163		20:15	0	0	46	52	98	
8:30	0	0	72	99	171		20:30	0	0	60	46	106	
8:45	0	0	73	296	93	368	20:45	0	0	43	199	50	188
9:00	0	0	74	68	142		21:00	0	0	53	41	94	
9:15	0	0	80	81	161		21:15	0	0	40	37	77	
9:30	0	0	69	96	165		21:30	0	0	52	36	88	
9:45	0	0	88	311	84	329	21:45	0	0	48	193	38	152
10:00	0	0	84	86	170		22:00	0	0	68	30	98	
10:15	0	0	63	83	146		22:15	0	0	44	17	61	
10:30	0	0	74	81	155		22:30	0	0	27	22	49	
10:45	0	0	62	283	77	327	22:45	0	0	40	179	19	88
11:00	0	0	88	100	188		23:00	0	0	27	22	49	
11:15	0	0	81	88	169		23:15	0	0	24	21	45	
11:30	0	0	80	70	150		23:30	0	0	20	25	45	
11:45	0	0	78	327	94	352	23:45	0	0	13	84	15	83
TOTALS	1840				2268	4108	TOTALS	3599				3140	6739
SPLIT %	44.8%				55.2%	37.9%	SPLIT %	53.4%				46.6%	62.1%

DAILY TOTALS				NB	SB	EB				WB				Total	
				0	0									5,439	5,408
AM Peak Hour				11:45	7:30	7:30	PM Peak Hour				16:45	12:45	16:30		
AM Pk Volume				342	426	728	PM Pk Volume				445	394	886		
Pk Hr Factor				0.472	0.801	0.879	Pk Hr Factor				0.713	0.880	0.859		
7 - 9 Volume				0	0	547	4 - 6 Volume				0	0	916	730	1646
7 - 9 Peak Hour				7:30	7:30	7:30	4 - 6 Peak Hour				16:45	16:30	16:30		
7 - 9 Pk Volume				0	0	302	4 - 6 Pk Volume				0	0	517	388	886
Pk Hr Factor				0.000	0.000	0.858	Pk Hr Factor				0.000	0.000	0.829	0.890	0.859

VOLUME
Bechelli Ln S/O S Bonnyview Rd

Day: Saturday
Date: 7/16/2016

City: Redding
Project #: CA16-7488-002

DAILY TOTALS					NB	SB						EB	WB						Total
					467	289						0	0						756
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							
0:00	2	0	0	0	2		12:00	6	6	0	0	12							
0:15	0	0	0	0			12:15	7	4	0	0	11							
0:30	2	1	0	0	3		12:30	7	4	0	0	11							
0:45	0	4	0	1	0	5	12:45	7	27	5	19	12	46						
1:00	0	0	0	0			13:00	8	4	0	0	12							
1:15	1	1	0	0	2		13:15	8	1	0	0	9							
1:30	0	0	0	0			13:30	8	6	0	0	14							
1:45	1	2	1	2	2	4	13:45	12	36	4	15	16	51						
2:00	1	0	0	0	1		14:00	10	5	0	0	15							
2:15	0	0	0	0			14:15	7	8	0	0	15							
2:30	0	0	0	0			14:30	4	5	0	0	9							
2:45	1	2	0	0	1	2	14:45	5	26	8	26	13	52						
3:00	1	1	0	0	2		15:00	8	5	0	0	13							
3:15	3	1	0	0	4		15:15	13	3	0	0	16							
3:30	0	0	0	0			15:30	4	5	0	0	9							
3:45	0	4	0	2	0	6	15:45	7	32	6	19	13	51						
4:00	0	0	0	0			16:00	2	7	0	0	9							
4:15	0	0	0	0			16:15	11	3	0	0	14							
4:30	1	1	0	0	2		16:30	11	3	0	0	14							
4:45	0	1	0	1	0	2	16:45	7	31	6	19	13	50						
5:00	1	0	0	0	1		17:00	7	3	0	0	10							
5:15	0	3	0	0	3		17:15	5	6	0	0	11							
5:30	3	1	0	0	4		17:30	9	6	0	0	15							
5:45	3	7	0	4	3	11	17:45	5	26	2	17	7	43						
6:00	3	4	0	0	7		18:00	3	0	0	0	3							
6:15	4	3	0	0	7		18:15	8	12	0	0	20							
6:30	5	1	0	0	6		18:30	2	5	0	0	7							
6:45	6	18	1	9	7	27	18:45	5	18	5	22	10	40						
7:00	3	0	0	0	3		19:00	10	4	0	0	14							
7:15	4	0	0	0	4		19:15	11	9	0	0	20							
7:30	3	1	0	0	4		19:30	11	6	0	0	17							
7:45	4	14	1	2	5	16	19:45	5	37	2	21	7	58						
8:00	8	2	0	0	10		20:00	6	5	0	0	11							
8:15	2	2	0	0	4		20:15	8	4	0	0	12							
8:30	5	5	0	0	10		20:30	3	4	0	0	7							
8:45	13	28	3	12	16	40	20:45	6	23	7	20	13	43						
9:00	6	1	0	0	7		21:00	6	2	0	0	8							
9:15	2	3	0	0	5		21:15	2	3	0	0	5							
9:30	2	2	0	0	4		21:30	1	6	0	0	7							
9:45	3	13	0	6	3	19	21:45	5	14	5	16	10	30						
10:00	9	3	0	0	12		22:00	3	4	0	0	7							
10:15	9	2	0	0	11		22:15	5	2	0	0	7							
10:30	7	4	0	0	11		22:30	8	2	0	0	10							
10:45	10	35	8	17	18	52	22:45	2	18	3	11	5	29						
11:00	8	5	0	0	13		23:00	4	3	0	0	7							
11:15	6	3	0	0	9		23:15	5	6	0	0	11							
11:30	9	2	0	0	11		23:30	5	0	0	0	5							
11:45	9	32	7	17	16	49	23:45	5	19	2	11	7	30						
TOTALS	160	73			233		TOTALS	307	216			523							
SPLIT %	68.7%	31.3%			30.8%		SPLIT %	58.7%	41.3%			69.2%							

DAILY TOTALS					NB	SB						EB	WB						Total
					467	289						0	0						756
AM Peak Hour	10:00	11:45			10:15		PM Peak Hour	13:15	14:00			18:45							
AM Pk Volume	35	21			53		PM Pk Volume	38	26			61							
Pk Hr Factor	0.875	0.464			0.736		Pk Hr Factor	0.688	0.656			0.763							
7 - 9 Volume	42	14	0	0	56		4 - 6 Volume	57	36	0	0	93							
7 - 9 Peak Hour	8:00	8:00			8:00		4 - 6 Peak Hour	16:15	16:45			16:15							
7 - 9 Pk Volume	28	12	0	0	40		4 - 6 Pk Volume	36	21	0	0	51							
Pk Hr Factor	0.538	0.600	0.000	0.000	0.625		Pk Hr Factor	0.818	0.875	0.000	0.000	0.911							

VOLUME

Bechelli Ln S/O S Bonnyview Rd

Day: Friday
Date: 7/15/2016

City: Redding
Project #: CA16-7488-002

DAILY TOTALS					NB	SB						EB	WB						Total
					627	394						0	0						1,021
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							
0:00	2	2	0	0	4		12:00	7	10	0	0	17							
0:15	2	0	0	0	2		12:15	13	12	0	0	25							
0:30	0	1	0	0	1		12:30	12	8	0	0	20							
0:45	0	4	0	3	0	7	12:45	12	44	5	35	17	79						
1:00	0	0	0	0			13:00	12	7	0	0	19							
1:15	0	0	0	0			13:15	9	11	0	0	20							
1:30	0	0	0	0			13:30	12	9	0	0	21							
1:45	0	0	0	0			13:45	11	44	7	34	18	78						
2:00	0	0	0	0			14:00	12	6	0	0	18							
2:15	0	1	0	0	1		14:15	11	9	0	0	20							
2:30	0	1	0	0	1		14:30	11	10	0	0	21							
2:45	0	1	3	0	1	3	14:45	9	43	9	34	18	77						
3:00	0	0	0	0			15:00	10	6	0	0	16							
3:15	3	1	0	0	4		15:15	6	4	0	0	10							
3:30	1	1	0	0	2		15:30	18	6	0	0	24							
3:45	0	4	0	2	0	6	15:45	13	47	6	22	19	69						
4:00	0	0	0	0			16:00	3	8	0	0	11							
4:15	0	0	0	0			16:15	12	12	0	0	24							
4:30	1	2	0	0	3		16:30	7	10	0	0	17							
4:45	0	1	1	3	1	4	16:45	11	33	11	41	22	74						
5:00	0	0	0	0			17:00	12	6	0	0	18							
5:15	3	2	0	0	5		17:15	11	6	0	0	17							
5:30	0	0	0	0			17:30	6	2	0	0	8							
5:45	7	10	1	3	8	13	17:45	11	40	6	20	17	60						
6:00	6	3	0	0	9		18:00	10	2	0	0	12							
6:15	3	0	0	0	3		18:15	5	7	0	0	12							
6:30	3	3	0	0	6		18:30	7	5	0	0	12							
6:45	11	23	2	8	13	31	18:45	8	30	5	19	13	49						
7:00	7	6	0	0	13		19:00	5	5	0	0	10							
7:15	10	2	0	0	12		19:15	6	6	0	0	12							
7:30	17	3	0	0	20		19:30	6	5	0	0	11							
7:45	13	47	9	20	22	67	19:45	9	26	4	20	13	46						
8:00	9	5	0	0	14		20:00	4	4	0	0	8							
8:15	11	6	0	0	17		20:15	4	4	0	0	8							
8:30	9	7	0	0	16		20:30	6	2	0	0	8							
8:45	9	38	1	19	10	57	20:45	8	22	2	12	10	34						
9:00	4	2	0	0	6		21:00	6	4	0	0	10							
9:15	7	3	0	0	10		21:15	10	7	0	0	17							
9:30	7	3	0	0	10		21:30	7	4	0	0	11							
9:45	6	24	9	17	15	41	21:45	6	29	2	17	8	46						
10:00	11	5	0	0	16		22:00	9	4	0	0	13							
10:15	7	2	0	0	9		22:15	5	2	0	0	7							
10:30	8	6	0	0	14		22:30	5	4	0	0	9							
10:45	6	32	8	21	14	53	22:45	10	29	3	13	13	42						
11:00	10	5	0	0	15		23:00	2	2	0	0	4							
11:15	11	5	0	0	16		23:15	1	1	0	0	2							
11:30	18	4	0	0	22		23:30	4	5	0	0	9							
11:45	9	48	5	19	14	67	23:45	2	9	1	9	3	18						
TOTALS	231	118			349		TOTALS	396	276			672							
SPLIT %	66.2%	33.8%			34.2%		SPLIT %	58.9%	41.1%			65.8%							

DAILY TOTALS					NB	SB						EB	WB						Total
					627	394						0	0						1,021
AM Peak Hour	7:30	11:45			11:30		PM Peak Hour	12:15	16:00			12:15							
AM Pk Volume	50	35			78		PM Pk Volume	49	41			81							
Pk Hr Factor	0.735	0.375			0.602		Pk Hr Factor	0.938	0.750			0.810							
7 - 9 Volume	85	39	0	0	124		4 - 6 Volume	73	61	0	0	134							
7 - 9 Peak Hour	7:30	7:45			7:30		4 - 6 Peak Hour	16:15	16:00			16:15							
7 - 9 Pk Volume	50	27	0	0	73		4 - 6 Pk Volume	42	41	0	0	81							
Pk Hr Factor	0.735	0.750	0.000	0.000	0.830		Pk Hr Factor	0.875	0.854	0.000	0.000	0.844							

VOLUME

S Bonnyview Rd Bet. Bechelli Ln & Indianwood Dr

Day: Saturday
Date: 7/16/2016

City: Redding
Project #: CA16-7488-001

DAILY TOTALS						NB	SB	EB						WB	Total
						0	0							10,450	10,601
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
0:00	0	0	35	52	87		12:00	0	0	182	186	368			
0:15	0	0	38	34	72		12:15	0	0	184	198	382			
0:30	0	0	31	43	74		12:30	0	0	182	179	361			
0:45	0	0	32	136	43	172	12:45	0	0	183	731	185	748	368	1479
1:00	0	0	26	30	56		13:00	0	0	186	163	349			
1:15	0	0	30	28	58		13:15	0	0	177	199	376			
1:30	0	0	18	29	47		13:30	0	0	168	185	353			
1:45	0	0	26	100	23	110	13:45	0	0	174	705	200	747	374	1452
2:00	0	0	21	25	46		14:00	0	0	172	178	350			
2:15	0	0	24	16	40		14:15	0	0	168	166	334			
2:30	0	0	22	24	46		14:30	0	0	159	168	327			
2:45	0	0	15	82	17	82	14:45	0	0	183	682	163	675	346	1357
3:00	0	0	19	11	30		15:00	0	0	158	184	342			
3:15	0	0	21	16	37		15:15	0	0	145	188	333			
3:30	0	0	22	13	35		15:30	0	0	146	169	315			
3:45	0	0	16	78	16	56	15:45	0	0	146	595	176	717	322	1312
4:00	0	0	31	17	48		16:00	0	0	150	190	340			
4:15	0	0	31	18	49		16:15	0	0	180	199	379			
4:30	0	0	25	18	43		16:30	0	0	180	197	377			
4:45	0	0	29	116	16	69	16:45	0	0	170	680	162	748	332	1428
5:00	0	0	29	25	54		17:00	0	0	135	208	343			
5:15	0	0	29	27	56		17:15	0	0	159	156	315			
5:30	0	0	34	49	83		17:30	0	0	159	158	317			
5:45	0	0	52	144	38	139	17:45	0	0	141	594	158	680	299	1274
6:00	0	0	48	36	84		18:00	0	0	146	175	321			
6:15	0	0	65	46	111		18:15	0	0	143	175	318			
6:30	0	0	60	55	115		18:30	0	0	135	183	318			
6:45	0	0	86	259	61	198	18:45	0	0	122	546	141	674	263	1220
7:00	0	0	68	68	136		19:00	0	0	135	176	311			
7:15	0	0	98	95	193		19:15	0	0	112	158	270			
7:30	0	0	117	60	177		19:30	0	0	127	123	250			
7:45	0	0	110	393	96	319	19:45	0	0	111	485	130	587	241	1072
8:00	0	0	128	87	215		20:00	0	0	126	126	252			
8:15	0	0	128	107	235		20:15	0	0	99	120	219			
8:30	0	0	144	103	247		20:30	0	0	102	112	214			
8:45	0	0	168	568	129	426	20:45	0	0	117	444	92	450	209	894
9:00	0	0	153	127	280		21:00	0	0	88	109	197			
9:15	0	0	149	126	275		21:15	0	0	90	109	199			
9:30	0	0	182	144	326		21:30	0	0	99	115	214			
9:45	0	0	199	683	148	545	21:45	0	0	96	373	108	441	204	814
10:00	0	0	151	168	319		22:00	0	0	83	99	182			
10:15	0	0	158	166	324		22:15	0	0	95	100	195			
10:30	0	0	194	175	369		22:30	0	0	69	78	147			
10:45	0	0	208	711	152	661	22:45	0	0	58	305	94	371	152	676
11:00	0	0	185	169	354		23:00	0	0	60	70	130			
11:15	0	0	212	189	401		23:15	0	0	65	79	144			
11:30	0	0	208	176	384		23:30	0	0	54	47	101			
11:45	0	0	206	811	191	725	23:45	0	0	50	229	65	261	115	490
TOTALS	4081					3502	7583	TOTALS	6369					7099	13468
SPLIT %	53.8%					46.2%	36.0%	SPLIT %	47.3%					52.7%	64.0%

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						10,450	10,601						21,051
AM Peak Hour					10:45	11:45	11:15	PM Peak Hour					12:15	16:15	12:00				
AM Pk Volume					813	754	1550	PM Pk Volume					714	766	1479				
Pk Hr Factor					0.959	0.493	0.966	Pk Hr Factor					0.960	0.822	0.491				
7 - 9 Volume	0	0	961	745	1706					4 - 6 Volume	0	0	1274	1428	2702				
7 - 9 Peak Hour					8:00	8:00	8:00	4 - 6 Peak Hour					16:00	16:15	16:15				
7 - 9 Pk Volume	0	0	568	426	994					4 - 6 Pk Volume	0	0	680	766	1431				
Pk Hr Factor	0.000	0.000	0.845	0.826	0.837					Pk Hr Factor	0.000	0.000	0.944	0.921	0.944				

VOLUME

S Bonnyview Rd Bet. Bechelli Ln & Indianwood Dr

Day: Friday
Date: 7/15/2016

City: Redding
Project #: CA16-7488-001

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						13,994	14,345						28,339
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							TOTAL
0:00	0	0	37	32	69		12:00	0	0	252	241	493							
0:15	0	0	25	42	67		12:15	0	0	227	233	460							
0:30	0	0	34	25	59		12:30	0	0	211	240	451							
0:45	0	0	13	109	26	125	12:45	0	0	238	928	243	957	481	1885				
1:00	0	0	24	24	48		13:00	0	0	219	229	448							
1:15	0	0	15	17	32		13:15	0	0	218	244	462							
1:30	0	0	12	21	33		13:30	0	0	221	241	462							
1:45	0	0	19	70	27	89	13:45	0	0	209	867	247	961	456	1828				
2:00	0	0	23	23	46		14:00	0	0	214	237	451							
2:15	0	0	12	20	32		14:15	0	0	217	240	457							
2:30	0	0	12	22	34		14:30	0	0	195	230	425							
2:45	0	0	14	61	12	77	14:45	0	0	252	878	254	961	506	1839				
3:00	0	0	26	21	47		15:00	0	0	261	261	522							
3:15	0	0	17	13	30		15:15	0	0	233	266	499							
3:30	0	0	34	17	51		15:30	0	0	226	259	485							
3:45	0	0	22	99	18	69	15:45	0	0	236	956	278	1064	514	2020				
4:00	0	0	22	26	48		16:00	0	0	241	278	519							
4:15	0	0	25	33	58		16:15	0	0	255	241	496							
4:30	0	0	41	27	68		16:30	0	0	266	296	562							
4:45	0	0	40	128	39	125	16:45	0	0	250	1012	286	1101	536	2113				
5:00	0	0	44	37	81		17:00	0	0	323	309	632							
5:15	0	0	59	57	116		17:15	0	0	274	318	592							
5:30	0	0	87	81	168		17:30	0	0	226	253	479							
5:45	0	0	98	288	91	266	17:45	0	0	233	1056	229	1109	462	2165				
6:00	0	0	90	67	157		18:00	0	0	202	232	434							
6:15	0	0	128	91	219		18:15	0	0	180	219	399							
6:30	0	0	156	124	280		18:30	0	0	191	200	391							
6:45	0	0	183	557	142	424	18:45	0	0	153	726	182	833	335	1559				
7:00	0	0	156	130	286		19:00	0	0	153	166	319							
7:15	0	0	204	194	398		19:15	0	0	152	153	305							
7:30	0	0	242	238	480		19:30	0	0	121	172	293							
7:45	0	0	283	885	291	853	19:45	0	0	103	529	142	633	245	1162				
8:00	0	0	191	160	351		20:00	0	0	95	133	228							
8:15	0	0	217	175	392		20:15	0	0	125	136	261							
8:30	0	0	215	201	416		20:30	0	0	100	122	222							
8:45	0	0	232	855	183	719	20:45	0	0	76	396	117	508	193	904				
9:00	0	0	201	146	347		21:00	0	0	108	139	247							
9:15	0	0	218	157	375		21:15	0	0	104	151	255							
9:30	0	0	247	175	422		21:30	0	0	86	127	213							
9:45	0	0	278	944	166	644	21:45	0	0	82	380	118	535	200	915				
10:00	0	0	219	193	412		22:00	0	0	99	114	213							
10:15	0	0	200	198	398		22:15	0	0	86	102	188							
10:30	0	0	202	184	386		22:30	0	0	73	81	154							
10:45	0	0	214	835	204	779	22:45	0	0	66	324	90	387	156	711				
11:00	0	0	222	198	420		23:00	0	0	68	77	145							
11:15	0	0	249	227	476		23:15	0	0	52	55	107							
11:30	0	0	203	208	411		23:30	0	0	40	68	108							
11:45	0	0	231	905	232	865	23:45	0	0	46	206	61	261	107	467				
TOTALS					5736	5035	TOTALS					8258	9310					17568	
SPLIT %					53.3%	46.7%	SPLIT %					47.0%	53.0%					62.0%	

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						13,994	14,345						28,339
AM Peak Hour					9:15	11:45	11:45	PM Peak Hour					16:30	16:30	16:30				
AM Pk Volume					962	946	1867	PM Pk Volume					1056	1209	2322				
Pk Hr Factor					0.865	0.491	0.485	Pk Hr Factor					0.817	0.872	0.919				
7 - 9 Volume	0	0	1740	1572	3312					4 - 6 Volume	0	0	2068	2210	4278				
7 - 9 Peak Hour					7:30	7:15	7:15	4 - 6 Peak Hour					16:30	16:30	16:30				
7 - 9 Pk Volume	0	0	933	883	1803					4 - 6 Pk Volume	0	0	1113	1209	2322				
Pk Hr Factor	0.000	0.000	0.824	0.759	0.785					Pk Hr Factor	0.000	0.000	0.861	0.950	0.919				

VOLUME

North St Bet. Oak St & I-5 SB Off-Ramp

Day: Friday
Date: 9/9/2016City: Redding
Project #: CA16_7606_003

DAILY TOTALS					NB	SB	EB					WB	Total
					5,737	5,386						0	0
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
00:00	7	11			18		12:00	98	85			183	
00:15	2	3			5		12:15	103	96			199	
00:30	5	7			12		12:30	105	92			197	
00:45	4	18	5	26	9	44	12:45	97	403	102	375	199	778
01:00	4	4			8		13:00	98	90			188	
01:15	2	5			7		13:15	77	88			165	
01:30	1	2			3		13:30	93	84			177	
01:45	3	10	3	14	6	24	13:45	104	372	97	359	201	731
02:00	6	3			9		14:00	105	95			200	
02:15	2	4			6		14:15	100	127			227	
02:30	4	5			9		14:30	135	126			261	
02:45	4	16	3	15	7	31	14:45	128	468	119	467	247	935
03:00	1	4			5		15:00	164	132			296	
03:15	0	0			0		15:15	130	111			241	
03:30	3	0			3		15:30	118	109			227	
03:45	3	7	6	10	9	17	15:45	120	532	106	458	226	990
04:00	5	2			7		16:00	128	100			228	
04:15	5	3			8		16:15	97	93			190	
04:30	8	4			12		16:30	101	90			191	
04:45	6	24	5	14	11	38	16:45	84	410	98	381	182	791
05:00	5	3			8		17:00	106	89			195	
05:15	12	4			16		17:15	92	101			193	
05:30	29	7			36		17:30	101	107			208	
05:45	15	61	20	34	35	95	17:45	70	369	87	384	157	753
06:00	23	15			38		18:00	85	77			162	
06:15	36	19			55		18:15	75	69			144	
06:30	49	30			79		18:30	76	73			149	
06:45	46	154	44	108	90	262	18:45	61	297	80	299	141	596
07:00	75	63			138		19:00	65	73			138	
07:15	108	104			212		19:15	44	64			108	
07:30	168	142			310		19:30	50	63			113	
07:45	145	496	134	443	279	939	19:45	54	213	54	254	108	467
08:00	105	67			172		20:00	48	44			92	
08:15	65	70			135		20:15	41	36			77	
08:30	91	82			173		20:30	37	37			74	
08:45	70	331	78	297	148	628	20:45	33	159	40	157	73	316
09:00	95	71			166		21:00	34	31			65	
09:15	74	78			152		21:15	38	33			71	
09:30	84	72			156		21:30	33	31			64	
09:45	84	337	89	310	173	647	21:45	21	126	24	119	45	245
10:00	86	80			166		22:00	15	23			38	
10:15	106	84			190		22:15	14	28			42	
10:30	102	85			187		22:30	22	16			38	
10:45	90	384	115	364	205	748	22:45	17	68	15	82	32	150
11:00	109	101			210		23:00	13	7			20	
11:15	115	100			215		23:15	12	14			26	
11:30	105	99			204		23:30	10	11			21	
11:45	103	432	68	368	171	800	23:45	15	50	16	48	31	98
TOTALS	2270	2003			4273		TOTALS	3467	3383			6850	
SPLIT %	53.1%	46.9%			38.4%		SPLIT %	50.6%	49.4%			61.6%	

DAILY TOTALS			NB	SB	EB			WB	Total		
			5,737	5,386				0			
AM Peak Hour	07:15	07:15	07:15			PM Peak Hour	14:30	14:15	14:30		
AM Pk Volume	526	447	973			PM Pk Volume	557	504	1045		
Pk Hr Factor	0.783	0.787	0.785			Pk Hr Factor	0.849	0.955	0.883		
7 - 9 Volume	827	740	0	0	1567	4 - 6 Volume	779	765	0	0	1544
7 - 9 Peak Hour	07:15	07:15	07:15			4 - 6 Peak Hour	16:00	16:45	16:00		
7 - 9 Pk Volume	526	447	0	0	973	4 - 6 Pk Volume	410	395	0	0	791
Pk Hr Factor	0.783	0.787	0.000	0.000	0.785	Pk Hr Factor	0.801	0.923	0.000	0.000	0.867

VOLUME

SR 273 Bet. Westside Rd/Girvan Rd & Redding Rancheria Rd/Canyon Rd

Day: Saturday
Date: 9/10/2016City: Redding
Project #: CA16_7606_002

DAILY TOTALS					NB	SB						EB	WB	Total	
					8,473	8,593						0	0		
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00	29	41			70		12:00	146	169			315			
00:15	28	28			56		12:15	156	154			310			
00:30	37	29			66		12:30	151	170			321			
00:45	32	126	30	128	62	254	12:45	148	601	149	642	297	1243		
01:00	19	23			42		13:00	140	163			303			
01:15	30	14			44		13:15	132	116			248			
01:30	38	30			68		13:30	133	160			293			
01:45	40	127	26	93	66	220	13:45	153	558	174	613	327	1171		
02:00	23	19			42		14:00	147	142			289			
02:15	23	21			44		14:15	163	154			317			
02:30	25	23			48		14:30	143	170			313			
02:45	20	91	16	79	36	170	14:45	155	608	159	625	314	1233		
03:00	30	14			44		15:00	131	165			296			
03:15	23	20			43		15:15	141	149			290			
03:30	22	11			33		15:30	137	153			290			
03:45	22	97	10	55	32	152	15:45	139	548	159	626	298	1174		
04:00	19	17			36		16:00	121	150			271			
04:15	30	13			43		16:15	126	133			259			
04:30	24	12			36		16:30	122	141			263			
04:45	22	95	17	59	39	154	16:45	134	503	127	551	261	1054		
05:00	22	12			34		17:00	135	129			264			
05:15	26	29			55		17:15	125	150			275			
05:30	38	26			64		17:30	121	127			248			
05:45	44	130	37	104	81	234	17:45	98	479	118	524	216	1003		
06:00	41	30			71		18:00	104	102			206			
06:15	43	43			86		18:15	100	130			230			
06:30	62	33			95		18:30	109	109			218			
06:45	77	223	43	149	120	372	18:45	102	415	99	440	201	855		
07:00	68	67			135		19:00	112	136			248			
07:15	77	51			128		19:15	90	107			197			
07:30	95	61			156		19:30	80	112			192			
07:45	93	333	80	259	173	592	19:45	78	360	97	452	175	812		
08:00	87	75			162		20:00	79	85			164			
08:15	107	92			199		20:15	88	102			190			
08:30	113	93			206		20:30	74	99			173			
08:45	115	422	89	349	204	771	20:45	79	320	93	379	172	699		
09:00	126	97			223		21:00	79	80			159			
09:15	128	113			241		21:15	62	89			151			
09:30	131	96			227		21:30	66	67			133			
09:45	140	525	125	431	265	956	21:45	51	258	76	312	127	570		
10:00	138	147			285		22:00	63	79			142			
10:15	143	131			274		22:15	50	89			139			
10:30	177	140			317		22:30	50	79			129			
10:45	167	625	150	568	317	1193	22:45	59	222	77	324	136	546		
11:00	135	168			303		23:00	52	47			99			
11:15	163	146			309		23:15	42	66			108			
11:30	175	150			325		23:30	54	50			104			
11:45	153	626	148	612	301	1238	23:45	33	181	56	219	89	400		
TOTALS	3420	2886			6306		TOTALS	5053	5707			10760			
SPLIT %	54.2%	45.8%			37.0%		SPLIT %	47.0%	53.0%			63.0%			

DAILY TOTALS			NB	SB	EB			WB	Total		
			8,473	8,593				0			
AM Peak Hour	10:30	11:45	10:45			PM Peak Hour	14:00	14:15	13:45		
AM Pk Volume	642	641	1254			PM Pk Volume	608	648	1246		
Pk Hr Factor	0.907	0.943	0.965			Pk Hr Factor	0.933	0.953	0.953		
7 - 9 Volume	755	608	0	0	1363	4 - 6 Volume	982	1075	0	0	2057
7 - 9 Peak Hour	08:00	08:00	08:00			4 - 6 Peak Hour	16:15	16:00	16:30		
7 - 9 Pk Volume	422	349	0	0	771	4 - 6 Pk Volume	517	551	0	0	1063
Pk Hr Factor	0.917	0.938	0.000	0.000	0.936	Pk Hr Factor	0.957	0.918	0.000	0.000	0.966

VOLUME

SR 273 Bet. Westside Rd/Girvan Rd & Redding Rancheria Rd/Canyon Rd

Day: Friday

City: Redding

Date: 9/9/2016

Project #: CA16_7606_002

DAILY TOTALS					NB	SB	EB					WB	Total
					11,115	11,112						0	0
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
00:00	23	20			43		12:00	212	200			412	
00:15	22	17			39		12:15	156	202			358	
00:30	19	22			41		12:30	184	171			355	
00:45	30	94	20	79	50	173	12:45	184	736	214	787	398	1523
01:00	21	20			41		13:00	171	187			358	
01:15	23	15			38		13:15	188	203			391	
01:30	19	24			43		13:30	214	177			391	
01:45	24	87	14	73	38	160	13:45	149	722	242	809	391	1531
02:00	24	24			48		14:00	170	201			371	
02:15	24	16			40		14:15	182	199			381	
02:30	23	13			36		14:30	202	193			395	
02:45	19	90	14	67	33	157	14:45	169	723	189	782	358	1505
03:00	16	18			34		15:00	204	212			416	
03:15	14	13			27		15:15	175	229			404	
03:30	15	18			33		15:30	194	235			429	
03:45	25	70	22	71	47	141	15:45	213	786	226	902	439	1688
04:00	20	29			49		16:00	185	231			416	
04:15	27	14			41		16:15	208	231			439	
04:30	31	16			47		16:30	158	221			379	
04:45	38	116	30	89	68	205	16:45	183	734	217	900	400	1634
05:00	31	13			44		17:00	174	219			393	
05:15	33	25			58		17:15	147	289			436	
05:30	82	29			111		17:30	138	215			353	
05:45	76	222	51	118	127	340	17:45	146	605	163	886	309	1491
06:00	74	61			135		18:00	132	190			322	
06:15	91	62			153		18:15	122	151			273	
06:30	132	78			210		18:30	127	156			283	
06:45	154	451	101	302	255	753	18:45	106	487	136	633	242	1120
07:00	171	113			284		19:00	109	134			243	
07:15	247	132			379		19:15	108	120			228	
07:30	255	141			396		19:30	103	118			221	
07:45	307	980	165	551	472	1531	19:45	91	411	119	491	210	902
08:00	212	131			343		20:00	109	112			221	
08:15	171	122			293		20:15	81	103			184	
08:30	169	143			312		20:30	91	118			209	
08:45	192	744	157	553	349	1297	20:45	61	342	100	433	161	775
09:00	151	120			271		21:00	74	97			171	
09:15	195	137			332		21:15	62	94			156	
09:30	192	125			317		21:30	72	77			149	
09:45	174	712	132	514	306	1226	21:45	61	269	69	337	130	606
10:00	159	150			309		22:00	62	83			145	
10:15	160	144			304		22:15	60	69			129	
10:30	176	148			324		22:30	37	56			93	
10:45	194	689	157	599	351	1288	22:45	48	207	57	265	105	472
11:00	176	158			334		23:00	47	70			117	
11:15	160	179			339		23:15	41	43			84	
11:30	154	167			321		23:30	42	44			86	
11:45	179	669	169	673	348	1342	23:45	39	169	41	198	80	367
TOTALS	4924	3689			8613		TOTALS	6191	7423			13614	
SPLIT %	57.2%	42.8%			38.8%		SPLIT %	45.5%	54.5%			61.2%	

DAILY TOTALS				NB	SB	EB				WB	Total			
				11,115	11,112					0				
AM Peak Hour	07:15	11:45			07:15		PM Peak Hour	15:30	16:30			15:30		
AM Pk Volume	1021	742			1590		PM Pk Volume	800	946			1723		
Pk Hr Factor	0.831	0.918			0.842		Pk Hr Factor	0.939	0.818			0.981		
7 - 9 Volume	1724	1104	0	0	2828		4 - 6 Volume	1339	1786	0	0	3125		
7 - 9 Peak Hour	07:15	07:15			07:15		4 - 6 Peak Hour	16:00	16:30			16:00		
7 - 9 Pk Volume	1021	569	0	0	1590		4 - 6 Pk Volume	734	946	0	0	1634		
Pk Hr Factor	0.831	0.862	0.000	0.000	0.842		Pk Hr Factor	0.882	0.818	0.000	0.000	0.931		

VOLUME

S Bonnyview Rd Bet. Bechelli Ln & Indianwood Dr

Day: Saturday
Date: 9/10/2016City: Redding
Project #: CA16_7606_001

DAILY TOTALS					NB	SB	EB					WB	Total
					0	0						10,579	10,683
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
00:00			34	38	72		12:00			184	183	367	
00:15			26	39	65		12:15			213	188	401	
00:30			42	37	79		12:30			196	186	382	
00:45			35	137	34	148	12:45			184	777	182	739
01:00			18	25	43		13:00			179	201	380	
01:15			19	20	39		13:15			181	199	380	
01:30			20	29	49		13:30			185	184	369	
01:45			26	83	17	91	13:45			167	712	175	759
02:00			24	10	34		14:00			174	202	376	
02:15			15	25	40		14:15			180	199	379	
02:30			17	19	36		14:30			203	203	406	
02:45			20	76	13	67	14:45			176	733	188	792
03:00			20	18	38		15:00			170	197	367	
03:15			23	11	34		15:15			167	189	356	
03:30			17	7	24		15:30			161	223	384	
03:45			21	81	14	50	15:45			149	647	186	795
04:00			24	12	36		16:00			150	208	358	
04:15			27	12	39		16:15			174	200	374	
04:30			32	18	50		16:30			197	177	374	
04:45			29	112	21	63	16:45			179	700	171	756
05:00			31	21	52		17:00			153	200	353	
05:15			30	30	60		17:15			170	192	362	
05:30			50	39	89		17:30			152	177	329	
05:45			37	148	32	122	17:45			163	638	166	735
06:00			35	46	81		18:00			124	139	263	
06:15			64	45	109		18:15			131	172	303	
06:30			66	61	127		18:30			136	145	281	
06:45			97	262	72	224	18:45			143	534	130	586
07:00			81	71	152		19:00			136	146	282	
07:15			103	63	166		19:15			131	133	264	
07:30			118	94	212		19:30			100	141	241	
07:45			149	451	90	318	19:45			112	479	124	544
08:00			146	80	226		20:00			125	125	250	
08:15			167	94	261		20:15			82	142	224	
08:30			161	111	272		20:30			91	132	223	
08:45			170	644	136	421	20:45			96	394	97	496
09:00			154	114	268		21:00			89	99	188	
09:15			171	131	302		21:15			78	101	179	
09:30			175	129	304		21:30			61	106	167	
09:45			179	679	158	532	21:45			82	310	94	400
10:00			174	153	327		22:00			75	105	180	
10:15			180	163	343		22:15			57	110	167	
10:30			192	156	348		22:30			60	70	130	
10:45			209	755	189	661	22:45			47	239	100	385
11:00			177	176	353		23:00			61	73	134	
11:15			196	203	399		23:15			49	64	113	
11:30			196	196	392		23:30			50	49	99	
11:45			222	791	191	766	23:45			37	197	47	233
TOTALS			4219	3463	7682		TOTALS			6360	7220	13580	
SPLIT %			54.9%	45.1%	36.1%		SPLIT %			46.8%	53.2%	63.9%	

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						10,579	10,683						21,262
AM Peak Hour			11:30	11:15	11:30		PM Peak Hour			12:00	15:30	12:15							
AM Pk Volume			815	773	1573		PM Pk Volume			777	817	1529							
Pk Hr Factor			0.918	0.952	0.952		Pk Hr Factor			0.912	0.916	0.953							
7 - 9 Volume	0	0	1095	739	1834		4 - 6 Volume	0	0	1338	1491	2829							
7 - 9 Peak Hour			08:00	08:00	08:00		4 - 6 Peak Hour			16:15	16:00	16:00							
7 - 9 Pk Volume	0	0	644	421	1065		4 - 6 Pk Volume	0	0	703	756	1456							
Pk Hr Factor	0.000	0.000	0.947	0.774	0.870		Pk Hr Factor	0.000	0.000	0.892	0.909	0.973							

VOLUME

S Bonnyview Rd Bet. Bechelli Ln & Indianwood Dr

Day: Friday
Date: 9/9/2016City: Redding
Project #: CA16_7606_001

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						14,320	14,328						28,648
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							TOTAL
00:00			31	21	52		12:00			236	254	490							
00:15			16	25	41		12:15			245	228	473							
00:30			14	20	34		12:30			222	262	484							
00:45			28	89	33	99	12:45			221	924	237	981	458	1905				
01:00			23	20	43		13:00			213	229	442							
01:15			19	27	46		13:15			231	225	456							
01:30			14	25	39		13:30			260	243	503							
01:45			15	71	24	96	13:45			246	950	237	934	483	1884				
02:00			18	14	32		14:00			240	226	466							
02:15			17	11	28		14:15			240	227	467							
02:30			18	11	29		14:30			256	246	502							
02:45			16	69	17	53	14:45			239	975	251	950	490	1925				
03:00			18	13	31		15:00			239	274	513							
03:15			25	8	33		15:15			261	300	561							
03:30			10	12	22		15:30			248	267	515							
03:45			18	71	16	49	15:45			231	979	291	1132	522	2111				
04:00			33	24	57		16:00			285	240	525							
04:15			26	15	41		16:15			289	267	556							
04:30			43	22	65		16:30			264	305	569							
04:45			33	135	40	101	16:45			223	1061	279	1091	502	2152				
05:00			34	29	63		17:00			335	287	622							
05:15			54	46	100		17:15			273	326	599							
05:30			69	73	142		17:30			235	230	465							
05:45			90	247	76	224	17:45			237	1080	252	1095	489	2175				
06:00			82	82	164		18:00			200	242	442							
06:15			126	100	226		18:15			161	203	364							
06:30			154	128	282		18:30			189	169	358							
06:45			209	571	172	482	18:45			168	718	161	775	329	1493				
07:00			189	160	349		19:00			143	179	322							
07:15			280	219	499		19:15			127	157	284							
07:30			336	246	582		19:30			123	151	274							
07:45			349	1154	314	939	19:45			84	477	135	622	219	1099				
08:00			273	228	501		20:00			105	136	241							
08:15			215	196	411		20:15			123	142	265							
08:30			213	233	446		20:30			95	141	236							
08:45			255	956	190	847	20:45			84	407	141	560	225	967				
09:00			224	176	400		21:00			88	109	197							
09:15			209	158	367		21:15			87	121	208							
09:30			227	185	412		21:30			76	106	182							
09:45			229	889	190	709	21:45			73	324	91	427	164	751				
10:00			206	165	371		22:00			72	99	171							
10:15			203	182	385		22:15			75	87	162							
10:30			226	180	406		22:30			65	79	144							
10:45			236	871	186	713	22:45			63	275	79	344	142	619				
11:00			187	216	403		23:00			46	76	122							
11:15			223	209	432		23:15			38	67	105							
11:30			255	224	479		23:30			40	46	86							
11:45			206	871	227	876	23:45			32	156	40	229	72	385				
TOTALS			5994	5188	11182		TOTALS			8326	9140	17466							
SPLIT %			53.6%	46.4%	39.0%		SPLIT %			47.7%	52.3%	61.0%							

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						14,320	14,328						28,648
AM Peak Hour			07:15	07:15	07:15		PM Peak Hour			16:15	16:30	16:30							
AM Pk Volume			1238	1007	2245		PM Pk Volume			1111	1197	2292							
Pk Hr Factor			0.887	0.802	0.847		Pk Hr Factor			0.829	0.918	0.921							
7 - 9 Volume	0	0	2110	1786	3896		4 - 6 Volume	0	0	2141	2186	4327							
7 - 9 Peak Hour			07:15	07:15	07:15		4 - 6 Peak Hour			16:15	16:30	16:30							
7 - 9 Pk Volume	0	0	1238	1007	2245		4 - 6 Pk Volume	0	0	1111	1197	2292							
Pk Hr Factor	0.000	0.000	0.887	0.802	0.847		Pk Hr Factor	0.000	0.000	0.829	0.918	0.921							

VOLUME

North St Bet. Oak St & I-5 SB Off-Ramp

Day: Saturday
Date: 9/10/2016City: Redding
Project #: CA16_7606_003

























DAILY TOTALS					NB	SB	EB					WB	Total	
					4,063	3,809						0		
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL		
00:00	10	12			22		12:00	109	65			174		
00:15	7	10			17		12:15	92	63			155		
00:30	10	7			17		12:30	79	88			167		
00:45	5	32	12	41	17	73	12:45	72	352	67	283	139	635	
01:00	19	10			29		13:00	87	72			159		
01:15	5	6			11		13:15	94	71			165		
01:30	8	3			11		13:30	86	81			167		
01:45	3	35	4	23	7	58	13:45	87	354	84	308	171	662	
02:00	5	6			11		14:00	78	84			162		
02:15	4	9			13		14:15	80	82			162		
02:30	1	3			4		14:30	85	68			153		
02:45	7	17	5	23	12	40	14:45	74	317	83	317	157	634	
03:00	5	4			9		15:00	76	64			140		
03:15	1	2			3		15:15	67	79			146		
03:30	1	1			2		15:30	69	68			137		
03:45	2	9	4	11	6	20	15:45	68	280	62	273	130	553	
04:00	4	3			7		16:00	47	60			107		
04:15	3	2			5		16:15	72	68			140		
04:30	3	4			7		16:30	65	60			125		
04:45	6	16	4	13	10	29	16:45	67	251	54	242	121	493	
05:00	8	3			11		17:00	65	56			121		
05:15	8	2			10		17:15	61	52			113		
05:30	9	9			18		17:30	50	50			100		
05:45	8	33	13	27	21	60	17:45	54	230	42	200	96	430	
06:00	10	4			14		18:00	42	60			102		
06:15	12	5			17		18:15	57	65			122		
06:30	18	16			34		18:30	55	48			103		
06:45	14	54	28	53	42	107	18:45	53	207	47	220	100	427	
07:00	13	28			41		19:00	52	51			103		
07:15	26	31			57		19:15	57	58			115		
07:30	43	18			61		19:30	48	44			92		
07:45	50	132	36	113	86	245	19:45	42	199	46	199	88	398	
08:00	52	40			92		20:00	36	51			87		
08:15	43	42			85		20:15	39	47			86		
08:30	64	47			111		20:30	32	36			68		
08:45	48	207	52	181	100	388	20:45	32	139	36	170	68	309	
09:00	71	59			130		21:00	21	45			66		
09:15	74	50			124		21:15	29	39			68		
09:30	76	63			139		21:30	24	28			52		
09:45	76	297	67	239	143	536	21:45	27	101	29	141	56	242	
10:00	88	71			159		22:00	24	32			56		
10:15	73	66			139		22:15	21	25			46		
10:30	100	75			175		22:30	21	11			32		
10:45	88	349	91	303	179	652	22:45	16	82	16	84	32	166	
11:00	86	78			164		23:00	7	10			17		
11:15	83	84			167		23:15	9	14			23		
11:30	87	69			156		23:30	8	6			14		
11:45	81	337	73	304	154	641	23:45	9	33	11	41	20	74	
TOTALS	1518	1331			2849		TOTALS	2545	2478			5023		
SPLIT %	53.3%	46.7%			36.2%		SPLIT %	50.7%	49.3%			63.8%		

DAILY TOTALS				NB	SB	EB				WB	Total			
				4,063	3,809					0				
AM Peak Hour	11:30	10:30			10:30		PM Peak Hour	13:00	13:30			13:15		
AM Pk Volume	369	328			685		PM Pk Volume	354	331			665		
Pk Hr Factor	0.846	0.901			0.957		Pk Hr Factor	0.941	0.985			0.972		
7 - 9 Volume	339	294	0	0	633		4 - 6 Volume	481	442	0	0	923		
7 - 9 Peak Hour	07:45	08:00			08:00		4 - 6 Peak Hour	16:15	16:00			16:15		
7 - 9 Pk Volume	209	181	0	0	388		4 - 6 Pk Volume	269	242	0	0	507		
Pk Hr Factor	0.816	0.870	0.000	0.000	0.874		Pk Hr Factor	0.934	0.890	0.000	0.000	0.905		

EXISTING ANALYSIS




















Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Existing Conditions
Timing Plan: Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	56	66	492	78	191	54	375	309	273	592	4
Future Volume (veh/h)	2	56	66	492	78	191	54	375	309	273	592	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	2	61	72	535	177	146	59	408	336	297	643	4
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	5	317	142	736	548	466	259	1014	454	445	956	428
Arrive On Green	0.00	0.09	0.09	0.21	0.29	0.29	0.15	0.29	0.29	0.13	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	2	61	72	535	177	146	59	408	336	297	643	4
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.1	0.9	2.4	7.8	4.1	2.4	1.6	5.2	10.7	4.6	9.0	0.1
Cycle Q Clear(g_c), s	0.1	0.9	2.4	7.8	4.1	2.4	1.6	5.2	10.7	4.6	9.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	5	317	142	736	548	466	259	1014	454	445	956	428
V/C Ratio(X)	0.41	0.19	0.51	0.73	0.32	0.31	0.23	0.40	0.74	0.67	0.67	0.01
Avail Cap(c_a), veh/h	175	2573	1151	955	1672	1421	259	2014	901	1038	2732	1222
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	23.5	24.2	20.6	15.3	5.7	21.0	16.0	18.0	23.1	18.1	9.5
Incr Delay (d2), s/veh	47.6	0.3	2.8	2.0	0.3	0.4	0.4	0.3	2.4	1.7	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.4	1.2	4.0	2.2	1.6	0.8	2.5	4.9	2.3	4.5	0.0
LnGrp Delay(d),s/veh	75.4	23.8	27.0	22.6	15.7	6.1	21.5	16.3	20.4	24.9	19.0	9.5
LnGrp LOS	E	C	C	C	B	A	C	B	C	C	B	A
Approach Vol, veh/h		135			858			803			944	
Approach Delay, s/veh		26.2			18.4			18.4			20.8	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	20.0	15.6	9.0	12.1	19.0	4.2	20.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	16.8	31.7	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.6	12.7	9.8	4.4	3.6	11.0	2.1	6.1				
Green Ext Time (p_c), s	0.7	3.3	1.7	0.6	0.2	4.0	0.0	3.6				
Intersection Summary												
HCM 2010 Ctrl Delay			19.6									
HCM 2010 LOS			B									
Notes												























Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Existing Conditions
Timing Plan: Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	846	0	0	960	185	0	0	0	260	1	39
Future Volume (veh/h)	41	846	0	0	960	185	0	0	0	260	1	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	45	920	0	0	1043	201	0	0	0	283	1	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	2050	0	3	1643	735	0	522	0	467	1	52
Arrive On Green	0.04	0.58	0.00	0.00	0.46	0.46	0.00	0.00	0.00	0.28	0.28	0.28
Sat Flow, veh/h	1774	3632	0	1774	3539	1583	0	1863	0	1244	4	185
Grp Volume(v), veh/h	45	920	0	0	1043	201	0	0	0	326	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	1583	0	1863	0	1433	0	0
Q Serve(g_s), s	1.4	8.4	0.0	0.0	12.7	4.4	0.0	0.0	0.0	12.1	0.0	0.0
Cycle Q Clear(g_c), s	1.4	8.4	0.0	0.0	12.7	4.4	0.0	0.0	0.0	12.1	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	0.00		0.00	0.87		0.13
Lane Grp Cap(c), veh/h	79	2050	0	3	1643	735	0	522	0	519	0	0
V/C Ratio(X)	0.57	0.45	0.00	0.00	0.63	0.27	0.00	0.00	0.00	0.63	0.00	0.00
Avail Cap(c_a), veh/h	156	2050	0	156	1992	891	0	1343	0	1151	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.6	6.8	0.0	0.0	11.6	9.3	0.0	0.0	0.0	19.1	0.0	0.0
Incr Delay (d2), s/veh	6.2	0.2	0.0	0.0	0.5	0.2	0.0	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	4.1	0.0	0.0	6.2	1.9	0.0	0.0	0.0	4.9	0.0	0.0
LnGrp Delay(d),s/veh	32.8	7.0	0.0	0.0	12.1	9.5	0.0	0.0	0.0	20.3	0.0	0.0
LnGrp LOS	C	A			B	A				C		
Approach Vol, veh/h	965				1244		0				326	
Approach Delay, s/veh	8.2				11.6		0.0				20.3	
Approach LOS	A				B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	19.9		0.0	36.9	19.9		6.5	30.4				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	41.0		5.0	32.0	41.0		5.0	32.0				
Max Q Clear Time (g_c+I1), s	0.0		0.0	10.4	14.1		3.4	14.7				
Green Ext Time (p_c), s	0.0		0.0	14.5	2.0		0.0	11.7				
Intersection Summary												
HCM 2010 Ctrl Delay	11.4											
HCM 2010 LOS	B											













Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Existing Conditions
Timing Plan: Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	984	10	11	921	114	17	13	29	226	5	227
Future Volume (veh/h)	127	984	10	11	921	114	17	13	29	226	5	227
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	138	1070	11	12	1001	124	18	14	32	250	0	247
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	1824	19	26	1549	693	52	40	80	706	0	315
Arrive On Green	0.09	0.51	0.51	0.01	0.44	0.44	0.05	0.05	0.05	0.20	0.00	0.20
Sat Flow, veh/h	1774	3589	37	1774	3539	1583	1019	793	1583	3548	0	1583
Grp Volume(v), veh/h	138	528	553	12	1001	124	32	0	32	250	0	247
Grp Sat Flow(s),veh/h/ln	1774	1770	1856	1774	1770	1583	1812	0	1583	1774	0	1583
Q Serve(g_s), s	5.4	14.7	14.7	0.5	15.6	3.4	1.2	0.0	1.4	4.3	0.0	10.4
Cycle Q Clear(g_c), s	5.4	14.7	14.7	0.5	15.6	3.4	1.2	0.0	1.4	4.3	0.0	10.4
Prop In Lane	1.00		0.02	1.00		1.00	0.56		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	151	899	943	26	1549	693	92	0	80	706	0	315
V/C Ratio(X)	0.91	0.59	0.59	0.46	0.65	0.18	0.35	0.00	0.40	0.35	0.00	0.78
Avail Cap(c_a), veh/h	151	942	988	126	1834	821	476	0	416	1663	0	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	12.1	12.1	34.4	15.5	12.1	32.3	0.0	32.4	24.3	0.0	26.8
Incr Delay (d2), s/veh	48.3	0.9	0.8	11.8	0.6	0.1	2.2	0.0	3.2	0.3	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	7.4	7.8	0.3	7.6	1.5	0.7	0.0	0.7	2.1	0.0	4.9
LnGrp Delay(d),s/veh	80.3	13.0	13.0	46.2	16.1	12.2	34.5	0.0	35.6	24.6	0.0	31.0
LnGrp LOS	F	B	B	D	B	B	C		D	C		C
Approach Vol, veh/h	1219			1137			64			497		
Approach Delay, s/veh	20.6			16.0			35.1			27.8		
Approach LOS	C			B			D			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		7.6	5.0	39.8		18.0	10.0	34.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		3.4	2.5	16.7		12.4	7.4	17.6				
Green Ext Time (p_c), s		0.1	0.0	14.2		1.6	0.0	13.2				
Intersection Summary												
HCM 2010 Ctrl Delay	20.4											
HCM 2010 LOS	C											
Notes												

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Existing Conditions
Timing Plan: Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↑	↑↑						↑	↑
Traffic Volume (veh/h)	0	923	318	214	601	0	0	0	0	152	1	481
Future Volume (veh/h)	0	923	318	214	601	0	0	0	0	152	1	481
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1003	346	233	653	0				165	1	523
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1382	476	282	2073	0				529	3	475
Arrive On Green	0.00	0.37	0.37	0.05	0.19	0.00				0.30	0.30	0.30
Sat Flow, veh/h	0	3905	1288	1774	3632	0				1764	11	1583
Grp Volume(v), veh/h	0	910	439	233	653	0				166	0	523
Grp Sat Flow(s),veh/h/ln	0	1695	1635	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	16.2	16.2	9.1	11.1	0.0				5.1	0.0	21.0
Cycle Q Clear(g_c), s	0.0	16.2	16.2	9.1	11.1	0.0				5.1	0.0	21.0
Prop In Lane	0.00		0.79	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1254	605	282	2073	0				532	0	475
V/C Ratio(X)	0.00	0.73	0.73	0.83	0.32	0.00				0.31	0.00	1.10
Avail Cap(c_a), veh/h	0	1254	605	329	2073	0				532	0	475
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.84	0.84	0.71	0.71	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.0	19.0	32.2	16.2	0.0				18.9	0.0	24.5
Incr Delay (d2), s/veh	0.0	3.1	6.3	10.4	0.3	0.0				0.3	0.0	71.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.1	8.4	5.3	5.5	0.0				2.5	0.0	18.6
LnGrp Delay(d),s/veh	0.0	22.1	25.3	42.7	16.5	0.0				19.3	0.0	96.2
LnGrp LOS		C	C	D	B					B		F
Approach Vol, veh/h		1349			886						689	
Approach Delay, s/veh		23.2			23.3						77.6	
Approach LOS		C			C						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			15.1	29.9		25.0		45.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			13.0	24.0		21.0		41.0				
Max Q Clear Time (g_c+I1), s			11.1	18.2		23.0		13.1				
Green Ext Time (p_c), s			0.1	4.8		0.0		16.3				
Intersection Summary												
HCM 2010 Ctrl Delay			36.1									
HCM 2010 LOS			D									






















Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Existing Conditions
Timing Plan: Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	508	569	0	0	587	141	225	3	161	0	0	0
Future Volume (veh/h)	508	569	0	0	587	141	225	3	161	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	552	618	0	0	638	153	245	3	175			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	355	2505	0	0	1595	714	312	4	282			
Arrive On Green	0.40	1.00	0.00	0.00	0.45	0.45	0.18	0.18	0.18			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1754	21	1583			
Grp Volume(v), veh/h	552	618	0	0	638	153	248	0	175			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	14.0	0.0	0.0	0.0	8.5	4.1	9.3	0.0	7.2			
Cycle Q Clear(g_c), s	14.0	0.0	0.0	0.0	8.5	4.1	9.3	0.0	7.2			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	355	2505	0	0	1595	714	316	0	282			
V/C Ratio(X)	1.56	0.25	0.00	0.00	0.40	0.21	0.79	0.00	0.62			
Avail Cap(c_a), veh/h	355	2505	0	0	1595	714	469	0	418			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.70	0.70	0.00	0.00	0.82	0.82	1.00	0.00	1.00			
Uniform Delay (d), s/veh	21.0	0.0	0.0	0.0	12.9	11.7	27.5	0.0	26.6			
Incr Delay (d2), s/veh	259.6	0.2	0.0	0.0	0.6	0.6	5.2	0.0	2.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	32.3	0.1	0.0	0.0	4.2	1.9	5.0	0.0	3.3			
LnGrp Delay(d),s/veh	280.6	0.2	0.0	0.0	13.5	12.3	32.7	0.0	28.8			
LnGrp LOS	F	A			B	B	C		C			
Approach Vol, veh/h	1170				791			423				
Approach Delay, s/veh	132.5				13.3			31.1				
Approach LOS	F				B			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		16.5		53.5			18.0	35.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		43.5			14.0	25.5				
Max Q Clear Time (g_c+I1), s		11.3		2.0			16.0	10.5				
Green Ext Time (p_c), s		1.1		11.2			0.0	7.5				
Intersection Summary												
HCM 2010 Ctrl Delay				74.9								
HCM 2010 LOS				E								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Existing Conditions
Timing Plan: Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	499	10	0	411	67	5	2	1	102	3	316
Future Volume (veh/h)	221	499	10	0	411	67	5	2	1	102	3	316
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	240	542	11	0	447	73	5	2	1	111	3	343
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	376	1641	734	4	819	133	14	5	17	463	13	424
Arrive On Green	0.11	0.46	0.46	0.00	0.27	0.27	0.01	0.01	0.01	0.27	0.27	0.27
Sat Flow, veh/h	3442	3539	1583	1774	3050	495	1285	514	1583	1730	47	1583
Grp Volume(v), veh/h	240	542	11	0	258	262	7	0	1	114	0	343
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1775	1799	0	1583	1776	0	1583
Q Serve(g_s), s	3.1	4.5	0.2	0.0	5.8	5.9	0.2	0.0	0.0	2.3	0.0	9.4
Cycle Q Clear(g_c), s	3.1	4.5	0.2	0.0	5.8	5.9	0.2	0.0	0.0	2.3	0.0	9.4
Prop In Lane	1.00		1.00	1.00		0.28	0.71		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	376	1641	734	4	475	477	19	0	17	475	0	424
V/C Ratio(X)	0.64	0.33	0.01	0.00	0.54	0.55	0.37	0.00	0.06	0.24	0.00	0.81
Avail Cap(c_a), veh/h	592	1641	734	191	704	706	735	0	647	707	0	630
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	7.9	6.7	0.0	14.6	14.6	22.9	0.0	22.8	13.3	0.0	15.9
Incr Delay (d2), s/veh	1.8	0.1	0.0	0.0	1.0	1.0	11.5	0.0	1.5	0.3	0.0	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.2	0.1	0.0	2.9	3.0	0.1	0.0	0.0	1.2	0.0	4.7
LnGrp Delay(d),s/veh	21.6	8.0	6.7	0.0	15.5	15.6	34.3	0.0	24.3	13.6	0.0	20.8
LnGrp LOS	C	A	A		B	B	C		C	B		C
Approach Vol, veh/h	793				520		8				457	
Approach Delay, s/veh	12.1				15.6		33.1				19.0	
Approach LOS	B				B		C				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	4.5		0.0	25.6	16.4		9.1	16.5				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	19.0		5.0	21.5	18.5		8.0	18.5				
Max Q Clear Time (g_c+I1), s	2.2		0.0	6.5	11.4		5.1	7.9				
Green Ext Time (p_c), s	0.0		0.0	5.7	1.1		0.2	4.6				
Intersection Summary												
HCM 2010 Ctrl Delay			15.0									
HCM 2010 LOS			B									

Redding Rancheria
7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Existing Conditions
Timing Plan: Friday PM Peak

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	98	489	378	16	25	92
Future Vol, veh/h	98	489	378	16	25	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	107	532	411	17	27	100

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	428 0	- 0	899 214
Stage 1	- -	- -	420 -
Stage 2	- -	- -	479 -
Critical Hdwy	4.14 -	- -	6.84 6.94
Critical Hdwy Stg 1	- -	- -	5.84 -
Critical Hdwy Stg 2	- -	- -	5.84 -
Follow-up Hdwy	2.22 -	- -	3.52 3.32
Pot Cap-1 Maneuver	1128 -	- -	279 791
Stage 1	- -	- -	631 -
Stage 2	- -	- -	589 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1128 -	- -	241 791
Mov Cap-2 Maneuver	- -	- -	241 -
Stage 1	- -	- -	631 -
Stage 2	- -	- -	509 -

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	12.7
HCM LOS			B





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1128	-	-	-	241	791
HCM Lane V/C Ratio	0.094	-	-	-	0.113	0.126
HCM Control Delay (s)	8.5	-	-	-	21.8	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.4	0.4

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Existing Conditions
Timing Plan: Friday PM Peak

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	144	346	261	67	62	102
Future Vol, veh/h	144	346	261	67	62	102
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	157	376	284	73	67	111

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	357	0	1009
Stage 1	-	-	320
Stage 2	-	-	689
Critical Hdwy	4.12	-	7.12
Critical Hdwy Stg 1	-	-	6.12
Critical Hdwy Stg 2	-	-	6.12
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1202	-	219
Stage 1	-	-	692
Stage 2	-	-	436
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1202	-	197
Mov Cap-2 Maneuver	-	-	197
Stage 1	-	-	602
Stage 2	-	-	379

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	24.5
HCM LOS			C





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1202	-	-	-	359
HCM Lane V/C Ratio	0.13	-	-	-	0.497
HCM Control Delay (s)	8.4	-	-	-	24.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.6

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Existing Conditions
Timing Plan: Friday PM Peak

Intersection

Int Delay, s/veh 6.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	234	157	101	28	31	225
Future Vol, veh/h	234	157	101	28	31	225
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	254	171	110	30	34	245

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	140	0	804
Stage 1	-	-	125
Stage 2	-	-	679
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1443	-	352
Stage 1	-	-	901
Stage 2	-	-	504
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1443	-	290
Mov Cap-2 Maneuver	-	-	290
Stage 1	-	-	901
Stage 2	-	-	415

Approach	EB	WB	SB
HCM Control Delay, s	4.8	0	12.9
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1443	-	-	-	732
HCM Lane V/C Ratio	0.176	-	-	-	0.38
HCM Control Delay (s)	8	-	-	-	12.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.8

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Existing Conditions
Timing Plan: Friday PM Peak

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	3	7	109	133	29
Future Vol, veh/h	15	3	7	109	133	29
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	3	8	118	145	32













Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	294	160	176	0	-	0
Stage 1	160	-	-	-	-	-
Stage 2	134	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	697	885	1400	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	693	885	1400	-	-	-
Mov Cap-2 Maneuver	693	-	-	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	887	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1400	-	719	-	-
HCM Lane V/C Ratio	0.005	-	0.027	-	-
HCM Control Delay (s)	7.6	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-













Redding Rancheria
11: SR-273 & Westwood Ave

Existing Conditions
Timing Plan: Friday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	270	227	145	534	714	409		
Future Volume (veh/h)	270	227	145	534	714	409		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	293	247	158	580	776	445		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	761	350	205	2123	1397	625		
Arrive On Green	0.22	0.22	0.12	0.60	0.39	0.39		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	293	247	158	580	776	445		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	3.2	6.4	3.9	3.5	7.6	10.6		
Cycle Q Clear(g_c), s	3.2	6.4	3.9	3.5	7.6	10.6		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	761	350	205	2123	1397	625		
V/C Ratio(X)	0.39	0.71	0.77	0.27	0.56	0.71		
Avail Cap(c_a), veh/h	1387	638	397	2695	1585	709		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	14.8	16.0	19.2	4.3	10.5	11.4		
Incr Delay (d2), s/veh	0.3	2.6	6.1	0.1	0.3	2.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	5.7	2.2	1.7	3.7	5.1		
LnGrp Delay(d),s/veh	15.1	18.7	25.3	4.3	10.8	14.3		
LnGrp LOS	B	B	C	A	B	B		
Approach Vol, veh/h	540			738	1221			
Approach Delay, s/veh	16.7			8.8	12.1			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		30.8		13.9	9.1	21.6		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		34.0		18.0	10.0	20.0		
Max Q Clear Time (g_c+I1), s		5.5		8.4	5.9	12.6		
Green Ext Time (p_c), s		11.7		1.5	0.1	5.1		
Intersection Summary								
HCM 2010 Ctrl Delay			12.1					
HCM 2010 LOS			B					











Redding Rancheria
12: SR-273 & Clear Creek Rd

Existing Conditions
Timing Plan: Friday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	120	32	17	570	865	72		
Future Volume (veh/h)	120	32	17	570	865	72		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	130	35	18	620	940	78		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	215	192	41	2214	1683	753		
Arrive On Green	0.12	0.12	0.02	0.63	0.48	0.48		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	130	35	18	620	940	78		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	2.2	0.6	0.3	2.5	6.0	0.9		
Cycle Q Clear(g_c), s	2.2	0.6	0.3	2.5	6.0	0.9		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	215	192	41	2214	1683	753		
V/C Ratio(X)	0.60	0.18	0.44	0.28	0.56	0.10		
Avail Cap(c_a), veh/h	2079	1856	281	6727	5718	2558		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.2	12.5	15.2	2.7	5.9	4.6		
Incr Delay (d2), s/veh	2.7	0.5	7.2	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	0.6	0.2	1.2	2.9	0.4		
LnGrp Delay(d),s/veh	15.9	12.9	22.4	2.8	6.2	4.6		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	165			638	1018			
Approach Delay, s/veh	15.3			3.3	6.1			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		23.7		7.8	4.7	19.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+I1), s		4.5		4.2	2.3	8.0		
Green Ext Time (p_c), s		4.0		0.4	1.0	7.0		
Intersection Summary								
HCM 2010 Ctrl Delay			5.9					
HCM 2010 LOS			A					












Redding Rancheria
13: SR-273 & Westside Rd/Girvan Rd

Existing Conditions
Timing Plan: Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	15	43	157	14	61	26	521	146	93	751	25
Future Volume (veh/h)	6	15	43	157	14	61	26	521	146	93	751	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	7	16	47	171	15	66	28	566	159	101	816	27
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	11	26	76	268	46	200	60	939	420	182	1184	530
Arrive On Green	0.07	0.07	0.07	0.15	0.15	0.15	0.03	0.27	0.27	0.10	0.33	0.33
Sat Flow, veh/h	166	379	1113	1774	302	1327	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	70	0	0	171	0	81	28	566	159	101	816	27
Grp Sat Flow(s),veh/h/ln	1658	0	0	1774	0	1629	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	1.6	0.0	0.0	3.5	0.0	1.7	0.6	5.4	3.2	2.1	7.7	0.4
Cycle Q Clear(g_c), s	1.6	0.0	0.0	3.5	0.0	1.7	0.6	5.4	3.2	2.1	7.7	0.4
Prop In Lane	0.10		0.67	1.00		0.81	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	113	0	0	268	0	246	60	939	420	182	1184	530
V/C Ratio(X)	0.62	0.00	0.00	0.64	0.00	0.33	0.47	0.60	0.38	0.55	0.69	0.05
Avail Cap(c_a), veh/h	1583	0	0	847	0	777	229	1689	756	229	1689	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.6	0.0	0.0	15.5	0.0	14.7	18.4	12.5	11.6	16.5	11.2	8.7
Incr Delay (d2), s/veh	5.4	0.0	0.0	2.5	0.0	0.8	5.7	0.6	0.6	2.6	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	1.9	0.0	0.8	0.4	2.7	1.4	1.1	3.9	0.2
LnGrp Delay(d),s/veh	23.0	0.0	0.0	18.0	0.0	15.5	24.1	13.1	12.2	19.2	11.9	8.8
LnGrp LOS	C			B		B	C	B	B	B	B	A
Approach Vol, veh/h	70				252				753		944	
Approach Delay, s/veh	23.0				17.2				13.3		12.6	
Approach LOS	C				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	8.0	14.3			6.6	5.3	17.0	9.8				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.5	18.5			37.0	5.0	18.5	18.5				
Max Q Clear Time (g_c+I1), s	7.4	7.4			3.6	2.6	9.7	5.5				
Green Ext Time (p_c), s	0.0	2.9			0.4	0.1	3.2	0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			13.8									
HCM 2010 LOS			B									













Redding Rancheria
14: SR-273 & Canyon Rd

Existing Conditions
Timing Plan: Friday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	339	61	65	422	487	457		
Future Volume (veh/h)	339	61	65	422	487	457		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	430	0	71	459	529	0		
Adj No. of Lanes	2	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	754	343	128	1935	1253	986		
Arrive On Green	0.21	0.00	0.07	0.55	0.35	0.00		
Sat Flow, veh/h	3548	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	430	0	71	459	529	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	3.6	0.0	1.3	2.2	3.8	0.0		
Cycle Q Clear(g_c), s	3.6	0.0	1.3	2.2	3.8	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	754	343	128	1935	1253	986		
V/C Ratio(X)	0.57	0.00	0.55	0.24	0.42	0.00		
Avail Cap(c_a), veh/h	3204	1458	427	4474	3196	2516		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	11.7	0.0	14.9	3.9	8.2	0.0		
Incr Delay (d2), s/veh	0.7	0.0	3.7	0.1	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.8	1.1	1.9	0.0		
LnGrp Delay(d),s/veh	12.4	0.0	18.6	4.0	8.4	0.0		
LnGrp LOS	B		B	A	A			
Approach Vol, veh/h	430			530	529			
Approach Delay, s/veh	12.4			5.9	8.4			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		22.2		11.1	6.4	15.8		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		
Max Q Clear Time (g_c+I1), s		4.2		5.6	3.3	5.8		
Green Ext Time (p_c), s		6.5		1.6	0.0	6.0		
Intersection Summary								
HCM 2010 Ctrl Delay			8.7					
HCM 2010 LOS			A					
Notes								












Redding Rancheria
15: Canyon Rd & Redding Rancheria Rd

Existing Conditions
Timing Plan: Friday PM Peak

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	352	175	7	220	176	12		
Future Volume (veh/h)	352	175	7	220	176	12		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	383	0	0	244	200	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	529	472	277	470	490	257		
Arrive On Green	0.30	0.00	0.00	0.15	0.14	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	383	0	0	244	200	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	5.6	0.0	0.0	2.1	1.5	0.0		
Cycle Q Clear(g_c), s	5.6	0.0	0.0	2.1	1.5	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	529	472	277	470	490	257		
V/C Ratio(X)	0.72	0.00	0.00	0.52	0.41	0.00		
Avail Cap(c_a), veh/h	1276	1139	1198	2037	2282	1198		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.1	0.0	0.0	11.4	11.4	0.0		
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.9	0.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	0.9	0.8	0.0		
LnGrp Delay(d),s/veh	11.0	0.0	0.0	12.2	11.9	0.0		
LnGrp LOS	B			B	B			
Approach Vol, veh/h	383		244			200		
Approach Delay, s/veh	11.0		12.2			11.9		
Approach LOS	B		B			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.3				8.0		12.6
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		18.6				18.6		20.8
Max Q Clear Time (g_c+I1), s		4.1				3.5		7.6
Green Ext Time (p_c), s		0.8				0.6		1.0
Intersection Summary								
HCM 2010 Ctrl Delay		11.6						
HCM 2010 LOS		B						
Notes								
























Redding Rancheria
16: SR-273 & Happy Valley Rd

Existing Conditions
Timing Plan: Friday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	63	75	74	325	411	69		
Future Volume (veh/h)	63	75	74	325	411	69		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	68	82	80	353	447	75		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	93	113	148	2067	1256	562		
Arrive On Green	0.12	0.12	0.08	0.58	0.35	0.35		
Sat Flow, veh/h	750	905	1774	3632	3632	1583		
Grp Volume(v), veh/h	151	0	80	353	447	75		
Grp Sat Flow(s),veh/h/ln	1666	0	1774	1770	1770	1583		
Q Serve(g_s), s	2.4	0.0	1.2	1.3	2.6	0.9		
Cycle Q Clear(g_c), s	2.4	0.0	1.2	1.3	2.6	0.9		
Prop In Lane	0.45	0.54	1.00			1.00		
Lane Grp Cap(c), veh/h	207	0	148	2067	1256	562		
V/C Ratio(X)	0.73	0.00	0.54	0.17	0.36	0.13		
Avail Cap(c_a), veh/h	1821	0	453	6061	4643	2077		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.6	0.0	12.1	2.6	6.5	6.0		
Incr Delay (d2), s/veh	4.8	0.0	3.1	0.0	0.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.7	0.6	1.3	0.4		
LnGrp Delay(d),s/veh	16.4	0.0	15.2	2.7	6.7	6.1		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	151			433	522			
Approach Delay, s/veh	16.4			5.0	6.6			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		20.0		7.4	6.3	13.7		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+I1), s		3.3		4.4	3.2	4.6		
Green Ext Time (p_c), s		5.4		0.4	0.0	5.2		
Intersection Summary								
HCM 2010 Ctrl Delay			7.3					
HCM 2010 LOS			A					
Notes								

Redding Rancheria
17: SR-273 & North St

Existing Conditions
Timing Plan: Friday PM Peak







	<div></div>											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	112	37	111	109	87	36	173	114	91	266	19
Future Volume (veh/h)	15	112	37	111	109	87	36	173	114	91	266	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	16	122	40	121	118	95	39	188	124	99	289	21
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	249	188	62	252	265	225	79	685	306	154	834	373
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.04	0.19	0.19	0.09	0.24	0.24
Sat Flow, veh/h	1774	1344	441	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	16	0	162	121	118	95	39	188	124	99	289	21
Grp Sat Flow(s),veh/h/ln	1774	0	1785	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.3	0.0	3.1	2.3	2.1	2.0	0.8	1.7	2.5	2.0	2.5	0.4
Cycle Q Clear(g_c), s	0.3	0.0	3.1	2.3	2.1	2.0	0.8	1.7	2.5	2.0	2.5	0.4
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	249	0	250	252	265	225	79	685	306	154	834	373
V/C Ratio(X)	0.06	0.00	0.65	0.48	0.45	0.42	0.49	0.27	0.40	0.64	0.35	0.06
Avail Cap(c_a), veh/h	1746	0	1757	873	917	779	291	1742	779	339	1838	822
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	0.0	14.9	14.4	14.4	14.3	17.1	12.6	12.9	16.2	11.6	10.8
Incr Delay (d2), s/veh	0.1	0.0	2.8	1.4	1.2	1.3	4.6	0.2	0.9	4.4	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.7	1.2	1.2	0.9	0.5	0.8	1.2	1.2	1.2	0.2
LnGrp Delay(d),s/veh	13.8	0.0	17.7	15.9	15.5	15.6	21.7	12.8	13.8	20.6	11.9	10.9
LnGrp LOS	B		B	B	B	B	C	B	B	C	B	B
Approach Vol, veh/h	178				334		351				409	
Approach Delay, s/veh	17.3				15.7		14.1				13.9	
Approach LOS	B				B		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	7.2	11.1			9.1	5.6	12.6	9.2				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.0				36.0	6.0	19.0	18.0				
Max Q Clear Time (g_c+I1), s	4.5				5.1	2.8	4.5	4.3				
Green Ext Time (p_c), s	0.0	2.6			1.0	0.0	2.7	1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			14.9									
HCM 2010 LOS			B									

Redding Rancheria
18: Oak St & North St

Existing Conditions
Timing Plan: Friday PM Peak

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	304	4	12	382	42	3	7	16	39	6	10
Future Vol, veh/h	21	304	4	12	382	42	3	7	16	39	6	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	330	4	13	415	46	3	8	17	42	7	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	461	0	0	335	0	0	615	865	333	855	844	230
Stage 1	-	-	-	-	-	-	378	378	-	464	464	-
Stage 2	-	-	-	-	-	-	237	487	-	391	380	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1098	-	-	1223	-	-	389	291	708	265	299	773
Stage 1	-	-	-	-	-	-	643	614	-	548	563	-
Stage 2	-	-	-	-	-	-	746	550	-	633	613	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1098	-	-	1223	-	-	368	282	708	247	290	773
Mov Cap-2 Maneuver	-	-	-	-	-	-	368	282	-	247	290	-
Stage 1	-	-	-	-	-	-	630	601	-	537	557	-
Stage 2	-	-	-	-	-	-	719	544	-	597	600	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	13.2	20.8
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	468	1098	-	-	1223	-	-	287
HCM Lane V/C Ratio	0.06	0.021	-	-	0.011	-	-	0.208
HCM Control Delay (s)	13.2	8.3	-	-	8	-	-	20.8
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.8

Redding Rancheria
19: North St & I-5 SB Off Ramp

Existing Conditions
Timing Plan: Friday PM Peak

Intersection

Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↑↑		↑↑			↓	↑
Traffic Vol, veh/h	0	0	391	0	312	0	0	232	161
Future Vol, veh/h	0	0	391	0	312	0	0	232	161
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	425	0	339	0	0	252	175
Number of Lanes	0	0	2	0	2	0	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	10.8	10.3	13.6
HCM LOS	B	B	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	196	196	156	156	232	161
LT Vol	0	0	0	0	232	0
Through Vol	196	196	156	156	0	0
RT Vol	0	0	0	0	0	161
Lane Flow Rate	212	212	170	170	252	175
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.371	0.267	0.3	0.217	0.479	0.273
Departure Headway (Hd)	6.278	4.515	6.379	4.614	6.835	5.622
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	572	793	563	775	527	639
Service Time	4.027	2.263	4.132	2.365	4.577	3.364
HCM Lane V/C Ratio	0.371	0.267	0.302	0.219	0.478	0.274
HCM Control Delay	12.7	8.9	11.9	8.7	15.7	10.5
HCM Lane LOS	B	A	B	A	C	B
HCM 95th-tile Q	1.7	1.1	1.3	0.8	2.6	1.1







Redding Rancheria
20: McMurray Dr/I-5 NB On Ramp & North St

Existing Conditions
Timing Plan: Friday PM Peak

Intersection

Intersection Delay, s/veh22.6

Intersection LOS C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	130	185	283	0	118	217	25	0	92	192	160	0	0	0	0
Future Vol, veh/h	0	130	185	283	0	118	217	25	0	92	192	160	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	141	201	308	0	128	236	27	0	100	209	174	0	0	0	0
Number of Lanes	0	1	2	0	0	1	2	0	0	1	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	21.8	14.8	29.9
HCM LOS	C	B	D







Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	55%	0%	100%	18%	0%	100%	74%
Vol Right, %	0%	45%	0%	0%	82%	0%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	92	352	130	123	345	118	145	97
LT Vol	92	0	130	0	0	118	0	0
Through Vol	0	192	0	123	62	0	145	72
RT Vol	0	160	0	0	283	0	0	25
Lane Flow Rate	100	383	141	134	375	128	157	106
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.232	0.799	0.322	0.286	0.738	0.31	0.357	0.235
Departure Headway (Hd)	8.345	7.521	8.196	7.681	7.089	8.699	8.182	7.996
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	430	482	438	467	510	413	439	448
Service Time	6.106	5.282	5.958	5.442	4.849	6.47	5.953	5.767
HCM Lane V/C Ratio	0.233	0.795	0.322	0.287	0.735	0.31	0.358	0.237
HCM Control Delay	13.6	34.1	14.8	13.5	27.4	15.4	15.5	13.2
HCM Lane LOS	B	D	B	B	D	C	C	B
HCM 95th-tile Q	0.9	7.4	1.4	1.2	6.2	1.3	1.6	0.9

Redding Rancheria
21: Oak St & Balls Ferry Rd

Existing Conditions
Timing Plan: Friday PM Peak

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	231	11	22	230	11	15	3	53	26	0	0
Future Vol, veh/h	1	231	11	22	230	11	15	3	53	26	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	251	12	24	250	12	16	3	58	28	0	0




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	262	0	0	263	0	0	432	569	132	433	-	-
Stage 1	-	-	-	-	-	-	259	259	-	304	-	-
Stage 2	-	-	-	-	-	-	173	310	-	129	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	-
Pot Cap-1 Maneuver	1299	-	-	1298	-	-	507	430	893	507	0	0
Stage 1	-	-	-	-	-	-	723	692	-	681	0	0
Stage 2	-	-	-	-	-	-	812	658	-	861	0	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1299	-	-	1298	-	-	500	422	893	465	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	500	422	-	465	-	-
Stage 1	-	-	-	-	-	-	722	691	-	680	-	-
Stage 2	-	-	-	-	-	-	797	646	-	801	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.7	10.5	13.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	736	1299	-	-	1298	-	-	465
HCM Lane V/C Ratio	0.105	0.001	-	-	0.018	-	-	0.061
HCM Control Delay (s)	10.5	7.8	-	-	7.8	-	-	13.2
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.2










Redding Rancheria
22: I-5 SB On Ramp/Ventura St & Balls Ferry Rd

Existing Conditions
Timing Plan: Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	258	42	285	258	19	0	0	0	14	59	6
Future Volume (veh/h)	3	258	42	285	258	19	0	0	0	14	59	6
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	3	280	46	310	280	21				15	64	7
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	7	380	62	1241	2902	1298				99	92	10
Arrive On Green	0.00	0.12	0.12	0.70	0.82	0.82				0.06	0.06	0.06
Sat Flow, veh/h	1774	3050	495	1774	3539	1583				1774	1650	181
Grp Volume(v), veh/h	3	161	165	310	280	21				15	0	71
Grp Sat Flow(s),veh/h/ln	1774	1770	1775	1774	1770	1583				1774	0	1831
Q Serve(g_s), s	0.2	8.8	9.0	6.4	1.5	0.2				0.8	0.0	3.8
Cycle Q Clear(g_c), s	0.2	8.8	9.0	6.4	1.5	0.2				0.8	0.0	3.8
Prop In Lane	1.00		0.28	1.00		1.00				1.00		0.10
Lane Grp Cap(c), veh/h	7	220	221	1241	2902	1298				99	0	103
V/C Ratio(X)	0.42	0.73	0.75	0.25	0.10	0.02				0.15	0.00	0.69
Avail Cap(c_a), veh/h	89	442	444	1241	2902	1298				550	0	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.7	42.2	42.2	5.5	1.8	1.6				44.9	0.0	46.4
Incr Delay (d2), s/veh	35.4	19.1	20.3	0.1	0.1	0.0				0.7	0.0	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.5	5.6	3.1	0.8	0.1				0.4	0.0	2.2
LnGrp Delay(d),s/veh	85.1	61.3	62.5	5.6	1.8	1.7				45.6	0.0	54.4
LnGrp LOS	F	E	E	A	A	A				D		D
Approach Vol, veh/h		329			611						86	
Approach Delay, s/veh		62.1			3.7						52.9	
Approach LOS		E			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			73.9	16.5		9.6	4.4	86.0				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			32.0	25.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			8.4	11.0		5.8	2.2	3.5				
Green Ext Time (p_c), s			2.7	1.5		0.4	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			26.6									
HCM 2010 LOS			C									




Redding Rancheria
23: I-5 NB Off Ramp/McMurray Dr & Balls Ferry Rd

Existing Conditions
Timing Plan: Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	205	0	0	402	198	49	102	164	232	0	152
Future Volume (veh/h)	62	205	0	0	402	198	49	102	164	232	0	152
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	67	223	0	0	437	215	53	111	178	252	0	165
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	85	2758	0	0	1595	778	250	262	223	0	0	0
Arrive On Green	0.10	1.00	0.00	0.00	0.69	0.69	0.14	0.14	0.14	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2401	1126	1774	1863	1583		0	
Grp Volume(v), veh/h	67	223	0	0	334	318	53	111	178		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1664	1774	1863	1583			
Q Serve(g_s), s	3.7	0.0	0.0	0.0	7.2	7.3	2.6	5.4	10.9			
Cycle Q Clear(g_c), s	3.7	0.0	0.0	0.0	7.2	7.3	2.6	5.4	10.9			
Prop In Lane	1.00		0.00	0.00		0.68	1.00		1.00			
Lane Grp Cap(c), veh/h	85	2758	0	0	1223	1150	250	262	223			
V/C Ratio(X)	0.79	0.08	0.00	0.00	0.27	0.28	0.21	0.42	0.80			
Avail Cap(c_a), veh/h	89	2758	0	0	1223	1150	603	633	538			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.99	0.99	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	44.7	0.0	0.0	0.0	5.9	5.9	38.1	39.3	41.6			
Incr Delay (d2), s/veh	34.8	0.1	0.0	0.0	0.6	0.6	0.4	1.1	6.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.0	0.0	3.6	3.5	1.3	2.9	5.1			
LnGrp Delay(d),s/veh	79.5	0.1	0.0	0.0	6.4	6.5	38.5	40.3	48.1			
LnGrp LOS	E	A			A	A	D	D	D			
Approach Vol, veh/h		290			652			342				
Approach Delay, s/veh		18.4			6.5			44.1				
Approach LOS		B			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		18.1		81.9			8.8	73.1				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+I1), s		12.9		2.0			5.7	9.3				
Green Ext Time (p_c), s		1.2		6.2			0.0	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay				19.2								
HCM 2010 LOS				B								

























Redding Rancheria
24: Smith Rd & Casino Dwy

Existing Conditions
Timing Plan: Friday PM Peak

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	36	0	0	0
Future Vol, veh/h	0	18	36	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	39	0	0	0
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	39	0	-	0	59	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1571	-	-	-	948	1033
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1571	-	-	-	948	1033
Mov Cap-2 Maneuver	-	-	-	-	948	-
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	1003	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1571	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	-	-	0	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	-	




















Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Existing Conditions
Timing Plan: Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	31	52	351	56	123	34	312	222	192	341	2
Future Volume (veh/h)	0	31	52	351	56	123	34	312	222	192	341	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	34	57	382	116	98	37	339	241	209	371	2
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	418	187	475	651	553	288	882	395	375	693	310
Arrive On Green	0.00	0.12	0.12	0.13	0.35	0.35	0.16	0.25	0.25	0.11	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	34	57	382	116	98	37	339	241	209	371	2
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.4	1.4	4.3	1.8	0.9	0.7	3.3	5.5	2.4	3.9	0.0
Cycle Q Clear(g_c), s	0.0	0.4	1.4	4.3	1.8	0.9	0.7	3.3	5.5	2.4	3.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	418	187	475	651	553	288	882	395	375	693	310
V/C Ratio(X)	0.00	0.08	0.30	0.80	0.18	0.18	0.13	0.38	0.61	0.56	0.54	0.01
Avail Cap(c_a), veh/h	238	3492	1562	475	1838	1562	288	3129	1400	981	3664	1639
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	16.1	16.6	17.3	9.3	2.6	14.7	12.8	13.6	17.3	14.8	10.3
Incr Delay (d2), s/veh	0.0	0.1	0.9	9.7	0.1	0.2	0.2	0.3	1.5	1.3	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.6	2.7	0.9	0.7	0.4	1.6	2.6	1.2	1.9	0.0
LnGrp Delay(d),s/veh	0.0	16.2	17.5	26.9	9.4	2.8	14.9	13.1	15.2	18.6	15.5	10.3
LnGrp LOS		B	B	C	A	A	B	B	B	B	B	B
Approach Vol, veh/h		91			596			617			582	
Approach Delay, s/veh		17.0			19.5			14.0			16.6	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	14.2	9.5	8.8	10.7	12.0	0.0	18.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	11.7	36.3	5.5	40.5	5.5	42.5	5.5	40.5				
Max Q Clear Time (g_c+I1), s	4.4	7.5	6.3	3.4	2.7	5.9	0.0	3.8				
Green Ext Time (p_c), s	0.4	2.7	0.0	0.3	0.2	2.2	0.0	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			16.7									
HCM 2010 LOS			B									
Notes												























Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Existing Conditions
Timing Plan: Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	575	0	0	669	101	0	0	0	92	0	25
Future Volume (veh/h)	17	575	0	0	669	101	0	0	0	92	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	18	625	0	0	727	110	0	0	0	100	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	2271	0	5	1760	787	0	214	0	327	0	35
Arrive On Green	0.02	0.64	0.00	0.00	0.50	0.50	0.00	0.00	0.00	0.12	0.00	0.12
Sat Flow, veh/h	1774	3632	0	1774	3539	1583	0	1863	0	1138	0	307
Grp Volume(v), veh/h	18	625	0	0	727	110	0	0	0	127	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	1583	0	1863	0	1445	0	0
Q Serve(g_s), s	0.3	2.5	0.0	0.0	4.3	1.2	0.0	0.0	0.0	2.8	0.0	0.0
Cycle Q Clear(g_c), s	0.3	2.5	0.0	0.0	4.3	1.2	0.0	0.0	0.0	2.8	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	0.00		0.00	0.79		0.21
Lane Grp Cap(c), veh/h	41	2271	0	5	1760	787	0	214	0	362	0	0
V/C Ratio(X)	0.44	0.28	0.00	0.00	0.41	0.14	0.00	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	270	3227	0	270	3227	1443	0	2434	0	2084	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.9	2.6	0.0	0.0	5.2	4.5	0.0	0.0	0.0	14.1	0.0	0.0
Incr Delay (d2), s/veh	7.3	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.2	0.0	0.0	2.1	0.5	0.0	0.0	0.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	23.1	2.6	0.0	0.0	5.4	4.6	0.0	0.0	0.0	14.7	0.0	0.0
LnGrp LOS	C	A			A	A				B		
Approach Vol, veh/h		643			837			0			127	
Approach Delay, s/veh		3.2			5.3			0.0			14.7	
Approach LOS		A			A						B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		7.8	0.0	25.1		7.8	4.8	20.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		43.0	5.0	30.0		43.0	5.0	30.0				
Max Q Clear Time (g_c+I1), s		0.0	0.0	4.5		4.8	2.3	6.3				
Green Ext Time (p_c), s		0.0	0.0	10.4		0.7	0.0	10.1				
Intersection Summary												
HCM 2010 Ctrl Delay				5.2								
HCM 2010 LOS				A								


Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Existing Conditions
Timing Plan: Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	617	10	5	696	65	15	4	13	81	3	96
Future Volume (veh/h)	69	617	10	5	696	65	15	4	13	81	3	96
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	75	671	11	5	757	71	16	4	14	90	0	104
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	1762	29	12	1536	687	55	14	61	388	0	173
Arrive On Green	0.07	0.49	0.49	0.01	0.43	0.43	0.04	0.04	0.04	0.11	0.00	0.11
Sat Flow, veh/h	1774	3564	58	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	75	333	349	5	757	71	20	0	14	90	0	104
Grp Sat Flow(s),veh/h/ln	1774	1770	1852	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	1.9	5.3	5.3	0.1	7.0	1.2	0.5	0.0	0.4	1.1	0.0	2.9
Cycle Q Clear(g_c), s	1.9	5.3	5.3	0.1	7.0	1.2	0.5	0.0	0.4	1.1	0.0	2.9
Prop In Lane	1.00		0.03	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	119	875	916	12	1536	687	69	0	61	388	0	173
V/C Ratio(X)	0.63	0.38	0.38	0.42	0.49	0.10	0.29	0.00	0.23	0.23	0.00	0.60
Avail Cap(c_a), veh/h	234	1456	1524	195	2835	1268	727	0	643	2569	0	1147
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.7	7.2	7.2	22.5	9.3	7.6	21.3	0.0	21.3	18.5	0.0	19.4
Incr Delay (d2), s/veh	5.3	0.3	0.3	21.7	0.2	0.1	2.3	0.0	1.9	0.3	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.7	2.8	0.1	3.4	0.5	0.3	0.0	0.2	0.5	0.0	1.4
LnGrp Delay(d),s/veh	26.0	7.4	7.4	44.2	9.5	7.7	23.6	0.0	23.2	18.9	0.0	22.7
LnGrp LOS	C	A	A	D	A	A	C		C	B		C
Approach Vol, veh/h	757					833		34		194		
Approach Delay, s/veh	9.3					9.6		23.4		20.9		
Approach LOS	A					A		C		C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	5.7		4.3		26.5		9.0		7.1		23.8	
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0		4.0		4.0	
Max Green Setting (Gmax), s	18.5		5.0		37.5		33.0		6.0		36.5	
Max Q Clear Time (g_c+I1), s	2.5		2.1		7.3		4.9		3.9		9.0	
Green Ext Time (p_c), s	0.1		0.0		11.1		0.6		0.0		10.8	
Intersection Summary												
HCM 2010 Ctrl Delay	10.9											
HCM 2010 LOS	B											
Notes												

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Existing Conditions
Timing Plan: Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	560	162	127	426	0	0	0	0	94	1	339
Future Volume (veh/h)	0	560	162	127	426	0	0	0	0	94	1	339
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	609	176	138	463	0				102	1	368
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	884	251	649	2265	0				457	4	412
Arrive On Green	0.00	0.22	0.22	0.73	1.00	0.00				0.26	0.26	0.26
Sat Flow, veh/h	0	4107	1116	1774	3632	0				1758	17	1583
Grp Volume(v), veh/h	0	522	263	138	463	0				103	0	368
Grp Sat Flow(s),veh/h/ln	0	1695	1666	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	11.3	11.6	2.0	0.0	0.0				3.6	0.0	17.9
Cycle Q Clear(g_c), s	0.0	11.3	11.6	2.0	0.0	0.0				3.6	0.0	17.9
Prop In Lane	0.00		0.67	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	761	374	649	2265	0				461	0	412
V/C Ratio(X)	0.00	0.69	0.70	0.21	0.20	0.00				0.22	0.00	0.89
Avail Cap(c_a), veh/h	0	1229	604	649	2265	0				555	0	495
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.97	0.97	0.97	0.97	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	28.4	28.6	7.1	0.0	0.0				23.3	0.0	28.5
Incr Delay (d2), s/veh	0.0	4.8	10.2	0.2	0.2	0.0				0.2	0.0	16.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.8	6.4	0.9	0.1	0.0				1.8	0.0	9.6
LnGrp Delay(d),s/veh	0.0	33.3	38.8	7.2	0.2	0.0				23.5	0.0	45.0
LnGrp LOS		C	D	A	A					C		D
Approach Vol, veh/h		785			601						471	
Approach Delay, s/veh		35.1			1.8						40.3	
Approach LOS		D			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			33.2	22.0		24.8		55.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			14.0	29.0		25.0		47.0				
Max Q Clear Time (g_c+I1), s			4.0	13.6		19.9		2.0				
Green Ext Time (p_c), s			2.3	4.3		0.9		3.5				
Intersection Summary												
HCM 2010 Ctrl Delay			25.6									
HCM 2010 LOS			C									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Existing Conditions
Timing Plan: Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	322	335	0	0	400	110	143	2	119	0	0	0
Future Volume (veh/h)	322	335	0	0	400	110	143	2	119	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	350	364	0	0	435	120	155	2	129			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	385	2760	0	0	1814	812	211	3	190			
Arrive On Green	0.43	1.00	0.00	0.00	1.00	1.00	0.12	0.12	0.12			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	23	1583			
Grp Volume(v), veh/h	350	364	0	0	435	120	157	0	129			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	14.7	0.0	0.0	0.0	0.0	0.0	6.8	0.0	6.2			
Cycle Q Clear(g_c), s	14.7	0.0	0.0	0.0	0.0	0.0	6.8	0.0	6.2			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	385	2760	0	0	1814	812	214	0	190			
V/C Ratio(X)	0.91	0.13	0.00	0.00	0.24	0.15	0.74	0.00	0.68			
Avail Cap(c_a), veh/h	532	2760	0	0	1814	812	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.97	0.97	0.00	0.00	0.80	0.80	1.00	0.00	1.00			
Uniform Delay (d), s/veh	21.9	0.0	0.0	0.0	0.0	0.0	34.0	0.0	33.7			
Incr Delay (d2), s/veh	15.2	0.1	0.0	0.0	0.2	0.3	4.9	0.0	4.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.6	0.0	0.0	0.0	0.1	0.1	3.6	0.0	2.9			
LnGrp Delay(d),s/veh	37.1	0.1	0.0	0.0	0.2	0.3	38.8	0.0	37.9			
LnGrp LOS	D	A			A	A	D		D			
Approach Vol, veh/h		714			555			286				
Approach Delay, s/veh		18.2			0.3			38.4				
Approach LOS		B			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		13.6		66.4			21.4	45.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		8.8		2.0			16.7	2.0				
Green Ext Time (p_c), s		0.8		6.3			0.6	5.6				
Intersection Summary												
HCM 2010 Ctrl Delay			15.5									
HCM 2010 LOS			B									

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Existing Conditions
Timing Plan: Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↻	↻	↰	↻	↻		↻	↻		↻	↻
Traffic Volume (veh/h)	176	263	13	2	243	41	7	1	2	91	0	198
Future Volume (veh/h)	176	263	13	2	243	41	7	1	2	91	0	198
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	191	286	14	2	264	45	8	1	2	99	0	215
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	758	339	5	422	71	665	83	664	291	0	259
Arrive On Green	0.16	0.43	0.43	0.00	0.14	0.14	0.42	0.42	0.42	0.16	0.00	0.16
Sat Flow, veh/h	3442	3539	1583	1774	3032	510	1585	198	1583	1774	0	1583
Grp Volume(v), veh/h	191	286	14	2	153	156	9	0	2	99	0	215
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1773	1783	0	1583	1774	0	1583
Q Serve(g_s), s	4.2	4.4	0.4	0.1	6.5	6.7	0.2	0.0	0.1	4.0	0.0	10.5
Cycle Q Clear(g_c), s	4.2	4.4	0.4	0.1	6.5	6.7	0.2	0.0	0.1	4.0	0.0	10.5
Prop In Lane	1.00		1.00	1.00		0.29	0.89		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	758	339	5	246	247	748	0	664	291	0	259
V/C Ratio(X)	0.71	0.38	0.04	0.41	0.62	0.63	0.01	0.00	0.00	0.34	0.00	0.83
Avail Cap(c_a), veh/h	344	951	426	111	409	410	748	0	664	410	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.9	19.2	18.1	39.8	32.4	32.5	13.6	0.0	13.5	29.6	0.0	32.4
Incr Delay (d2), s/veh	4.8	0.3	0.0	48.3	2.5	2.7	0.0	0.0	0.0	0.7	0.0	10.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.2	0.2	0.1	3.4	3.4	0.1	0.0	0.0	2.0	0.0	5.3
LnGrp Delay(d),s/veh	37.7	19.5	18.1	88.2	35.0	35.2	13.6	0.0	13.5	30.3	0.0	42.8
LnGrp LOS	D	B	B	F	C	D	B		B	C		D
Approach Vol, veh/h		491			311			11			314	
Approach Delay, s/veh		26.6			35.4			13.6			38.9	
Approach LOS		C			D			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		37.5	4.2	21.1		17.1	10.2	15.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		2.2	2.1	6.4		12.5	6.2	8.7				
Green Ext Time (p_c), s		0.0	0.0	3.0		0.6	0.1	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			32.3									
HCM 2010 LOS			C									

Redding Rancheria
7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Existing Conditions
Timing Plan: Saturday PM Peak

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	72	276	261	16	10	72
Future Vol, veh/h	72	276	261	16	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	300	284	17	11	78

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	301	0	599
Stage 1	-	-	292
Stage 2	-	-	307
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1257	-	433
Stage 1	-	-	732
Stage 2	-	-	719
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1257	-	401
Mov Cap-2 Maneuver	-	-	401
Stage 1	-	-	732
Stage 2	-	-	666

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	10.2
HCM LOS			B





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1257	-	-	-	401	868
HCM Lane V/C Ratio	0.062	-	-	-	0.027	0.09
HCM Control Delay (s)	8.1	-	-	-	14.2	9.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Existing Conditions
Timing Plan: Saturday PM Peak

Intersection

Int Delay, s/veh 4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	90	177	192	29	43	106
Future Vol, veh/h	90	177	192	29	43	106
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	192	209	32	47	115

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	240	0	224
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	6.22
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	3.318
Pot Cap-1 Maneuver	1327	-	815
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1327	-	815
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	12.5
HCM LOS			B





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1327	-	-	-	642
HCM Lane V/C Ratio	0.074	-	-	-	0.252
HCM Control Delay (s)	7.9	-	-	-	12.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Existing Conditions
Timing Plan: Saturday PM Peak

Intersection

Int Delay, s/veh 5.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	132	79	68	17	17	152
Future Vol, veh/h	132	79	68	17	17	152
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	143	86	74	18	18	165

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	92	0	456
Stage 1	-	-	83
Stage 2	-	-	373
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1503	-	562
Stage 1	-	-	940
Stage 2	-	-	696
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1503	-	509
Mov Cap-2 Maneuver	-	-	509
Stage 1	-	-	940
Stage 2	-	-	630

Approach	EB	WB	SB
HCM Control Delay, s	4.8	0	10.1
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1503	-	-	-	894
HCM Lane V/C Ratio	0.095	-	-	-	0.205
HCM Control Delay (s)	7.6	-	-	-	10.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.8

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Existing Conditions
Timing Plan: Saturday PM Peak

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	7	3	64	80	19
Future Vol, veh/h	11	7	3	64	80	19
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	8	3	70	87	21













Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	173	97	108	0	-	0
Stage 1	97	-	-	-	-	-
Stage 2	76	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	817	959	1483	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	815	959	1483	-	-	-
Mov Cap-2 Maneuver	815	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	945	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1483	-	866	-	-
HCM Lane V/C Ratio	0.002	-	0.023	-	-
HCM Control Delay (s)	7.4	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-













Redding Rancheria
11: SR-273 & Westwood Ave

Existing Conditions
Timing Plan: Saturday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	201	170	124	351	467	250		
Future Volume (veh/h)	201	170	124	351	467	250		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	218	185	135	382	508	272		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	679	313	181	2067	1319	590		
Arrive On Green	0.20	0.20	0.10	0.58	0.37	0.37		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	218	185	135	382	508	272		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	2.0	3.9	2.7	1.8	3.8	4.8		
Cycle Q Clear(g_c), s	2.0	3.9	2.7	1.8	3.8	4.8		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	679	313	181	2067	1319	590		
V/C Ratio(X)	0.32	0.59	0.75	0.18	0.39	0.46		
Avail Cap(c_a), veh/h	3573	1644	339	5222	4158	1860		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.6	13.3	16.0	3.5	8.4	8.7		
Incr Delay (d2), s/veh	0.3	1.8	6.0	0.0	0.2	0.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	3.5	1.6	0.9	1.9	2.1		
LnGrp Delay(d),s/veh	12.9	15.1	22.0	3.6	8.6	9.3		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	403			517	780			
Approach Delay, s/veh	13.9			8.4	8.8			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		25.4		11.2	7.7	17.6		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		54.0		38.0	7.0	43.0		
Max Q Clear Time (g_c+I1), s		3.8		5.9	4.7	6.8		
Green Ext Time (p_c), s		7.1		1.5	0.1	6.9		
Intersection Summary								
HCM 2010 Ctrl Delay			9.9					
HCM 2010 LOS			A					






















Redding Rancheria
12: SR-273 & Clear Creek Rd

Existing Conditions
Timing Plan: Saturday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	67	16	19	410	582	52		
Future Volume (veh/h)	67	16	19	410	582	52		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	73	17	21	446	633	57		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	166	148	48	2050	1374	615		
Arrive On Green	0.09	0.09	0.03	0.58	0.39	0.39		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	73	17	21	446	633	57		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	1.0	0.2	0.3	1.5	3.3	0.6		
Cycle Q Clear(g_c), s	1.0	0.2	0.3	1.5	3.3	0.6		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	166	148	48	2050	1374	615		
V/C Ratio(X)	0.44	0.11	0.44	0.22	0.46	0.09		
Avail Cap(c_a), veh/h	2686	2397	363	8689	7385	3304		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.5	10.1	11.7	2.5	5.6	4.7		
Incr Delay (d2), s/veh	1.8	0.3	6.1	0.1	0.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.6	0.2	0.2	0.7	1.6	0.2		
LnGrp Delay(d),s/veh	12.3	10.5	17.8	2.5	5.8	4.8		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	90			467	690			
Approach Delay, s/veh	12.0			3.2	5.7			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		18.2		6.3	4.7	13.5		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+I1), s		3.5		3.0	2.3	5.3		
Green Ext Time (p_c), s		2.8		0.2	0.7	4.2		
Intersection Summary								
HCM 2010 Ctrl Delay			5.2					
HCM 2010 LOS			A					







Redding Rancheria
13: SR-273 & Westside Rd/Girvan Rd

Existing Conditions
Timing Plan: Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	9	30	101	5	51	23	374	100	68	496	23
Future Volume (veh/h)	11	9	30	101	5	51	23	374	100	68	496	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	12	10	33	110	5	55	25	407	109	74	539	25
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	18	61	218	16	181	60	820	367	134	969	433
Arrive On Green	0.06	0.06	0.06	0.12	0.12	0.12	0.03	0.23	0.23	0.08	0.27	0.27
Sat Flow, veh/h	364	303	1001	1774	134	1470	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	55	0	0	110	0	60	25	407	109	74	539	25
Grp Sat Flow(s),veh/h/ln	1668	0	0	1774	0	1603	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	1.0	0.0	0.0	1.8	0.0	1.1	0.4	3.1	1.8	1.3	4.1	0.4
Cycle Q Clear(g_c), s	1.0	0.0	0.0	1.8	0.0	1.1	0.4	3.1	1.8	1.3	4.1	0.4
Prop In Lane	0.22		0.60	1.00		0.92	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	101	0	0	218	0	197	60	820	367	134	969	433
V/C Ratio(X)	0.54	0.00	0.00	0.50	0.00	0.30	0.42	0.50	0.30	0.55	0.56	0.06
Avail Cap(c_a), veh/h	1963	0	0	1044	0	943	282	2083	932	282	2083	932
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.3	0.0	0.0	12.9	0.0	12.6	14.9	10.5	10.0	14.0	9.8	8.4
Incr Delay (d2), s/veh	4.5	0.0	0.0	1.8	0.0	0.9	4.6	0.5	0.4	3.5	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	1.0	0.0	0.5	0.3	1.6	0.8	0.7	2.0	0.2
LnGrp Delay(d),s/veh	18.8	0.0	0.0	14.7	0.0	13.4	19.5	11.0	10.4	17.5	10.3	8.5
LnGrp LOS	B			B		B	B	B	B	B	B	A
Approach Vol, veh/h		55			170			541			638	
Approach Delay, s/veh		18.8			14.2			11.2			11.0	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	11.3		5.9	5.1	12.6		7.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	18.5		37.0	5.0	18.5		18.5				
Max Q Clear Time (g_c+I), s	13.3	5.1		3.0	2.4	6.1		3.8				
Green Ext Time (p_c), s	0.0	2.1		0.3	0.0	2.5		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	11.8											
HCM 2010 LOS	B											













Redding Rancheria
14: SR-273 & Canyon Rd

Existing Conditions
Timing Plan: Saturday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	286	41	59	248	272	354		
Future Volume (veh/h)	286	41	59	248	272	354		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	353	0	64	270	296	0		
Adj No. of Lanes	2	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	703	320	126	1747	949	747		
Arrive On Green	0.20	0.00	0.07	0.49	0.27	0.00		
Sat Flow, veh/h	3548	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	353	0	64	270	296	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	2.3	0.0	0.9	1.1	1.7	0.0		
Cycle Q Clear(g_c), s	2.3	0.0	0.9	1.1	1.7	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	703	320	126	1747	949	747		
V/C Ratio(X)	0.50	0.00	0.51	0.15	0.31	0.00		
Avail Cap(c_a), veh/h	4101	1867	479	5728	4228	3329		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.3	0.0	11.6	3.6	7.6	0.0		
Incr Delay (d2), s/veh	0.6	0.0	3.1	0.0	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.6	0.5	0.8	0.0		
LnGrp Delay(d),s/veh	9.8	0.0	14.7	3.6	7.8	0.0		
LnGrp LOS	A		B	A	A			
Approach Vol, veh/h	353			334	296			
Approach Delay, s/veh	9.8			5.8	7.8			
Approach LOS	A			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		16.8		9.1	5.8	11.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	7.0	31.0		
Max Q Clear Time (g_c+I1), s		3.1		4.3	2.9	3.7		
Green Ext Time (p_c), s		3.4		1.3	0.0	3.2		
Intersection Summary								
HCM 2010 Ctrl Delay			7.8					
HCM 2010 LOS			A					
Notes								












Redding Rancheria
15: Canyon Rd & Redding Rancheria Rd

Existing Conditions
Timing Plan: Saturday PM Peak

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	197	203	8	211	149	8		
Future Volume (veh/h)	197	203	8	211	149	8		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	214	0	0	235	168	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	374	334	303	514	492	258		
Arrive On Green	0.21	0.00	0.00	0.16	0.14	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	214	0	0	235	168	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	3167	3548	1863		
Q Serve(g_s), s	2.7	0.0	0.0	1.7	1.1	0.0		
Cycle Q Clear(g_c), s	2.7	0.0	0.0	1.7	1.1	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	374	334	303	514	492	258		
V/C Ratio(X)	0.57	0.00	0.00	0.46	0.34	0.00		
Avail Cap(c_a), veh/h	1442	1287	1439	2446	2740	1439		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	8.7	0.0	0.0	9.3	9.6	0.0		
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.6	0.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	0.8	0.5	0.0		
LnGrp Delay(d),s/veh	10.1	0.0	0.0	10.0	10.0	0.0		
LnGrp LOS	B			A	A			
Approach Vol, veh/h	214		235			168		
Approach Delay, s/veh	10.1		10.0			10.0		
Approach LOS	B		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.0				7.4		9.2
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		19.0				19.0		20.0
Max Q Clear Time (g_c+I1), s		3.7				3.1		4.7
Green Ext Time (p_c), s		0.8				0.5		0.5
Intersection Summary								
HCM 2010 Ctrl Delay		10.0						
HCM 2010 LOS		B						
Notes								
























Redding Rancheria
16: SR-273 & Happy Valley Rd

Existing Conditions
Timing Plan: Saturday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	40	53	56	232	233	45		
Future Volume (veh/h)	40	53	56	232	233	45		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	43	58	61	252	253	49		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	74	99	125	1891	1004	449		
Arrive On Green	0.11	0.11	0.07	0.53	0.28	0.28		
Sat Flow, veh/h	700	945	1774	3632	3632	1583		
Grp Volume(v), veh/h	102	0	61	252	253	49		
Grp Sat Flow(s),veh/h/ln	1661	0	1774	1770	1770	1583		
Q Serve(g_s), s	1.3	0.0	0.7	0.8	1.2	0.5		
Cycle Q Clear(g_c), s	1.3	0.0	0.7	0.8	1.2	0.5		
Prop In Lane	0.42	0.57	1.00			1.00		
Lane Grp Cap(c), veh/h	175	0	125	1891	1004	449		
V/C Ratio(X)	0.58	0.00	0.49	0.13	0.25	0.11		
Avail Cap(c_a), veh/h	2245	0	559	7494	5740	2568		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	9.5	0.0	9.9	2.6	6.1	5.9		
Incr Delay (d2), s/veh	3.1	0.0	2.9	0.0	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.5	0.4	0.6	0.2		
LnGrp Delay(d),s/veh	12.5	0.0	12.8	2.6	6.3	6.0		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	102			313	302			
Approach Delay, s/veh	12.5			4.6	6.2			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		15.9		6.3	5.6	10.3		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+I1), s		2.8		3.3	2.7	3.2		
Green Ext Time (p_c), s		3.1		0.3	0.0	3.1		
Intersection Summary								
HCM 2010 Ctrl Delay			6.4					
HCM 2010 LOS			A					
Notes								

Redding Rancheria
17: SR-273 & North St

Existing Conditions
Timing Plan: Saturday PM Peak







	<div></div>											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	74	12	67	59	73	18	144	82	63	171	10
Future Volume (veh/h)	5	74	12	67	59	73	18	144	82	63	171	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	5	80	13	73	64	79	20	157	89	68	186	11
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	145	23	244	256	218	45	617	276	127	781	349
Arrive On Green	0.09	0.09	0.09	0.14	0.14	0.14	0.03	0.17	0.17	0.07	0.22	0.22
Sat Flow, veh/h	1774	1564	254	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	5	0	93	73	64	79	20	157	89	68	186	11
Grp Sat Flow(s),veh/h/ln	1774	0	1818	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.1	0.0	1.5	1.1	0.9	1.4	0.3	1.2	1.5	1.1	1.3	0.2
Cycle Q Clear(g_c), s	0.1	0.0	1.5	1.1	0.9	1.4	0.3	1.2	1.5	1.1	1.3	0.2
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	164	0	168	244	256	218	45	617	276	127	781	349
V/C Ratio(X)	0.03	0.00	0.55	0.30	0.25	0.36	0.44	0.25	0.32	0.53	0.24	0.03
Avail Cap(c_a), veh/h	2091	0	2143	1046	1098	933	349	2086	933	407	2202	985
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	0.0	13.3	11.8	11.8	12.0	14.7	10.9	11.0	13.7	9.8	9.3
Incr Delay (d2), s/veh	0.1	0.0	2.8	0.7	0.5	1.0	6.6	0.2	0.7	3.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.9	0.6	0.5	0.7	0.2	0.6	0.7	0.7	0.7	0.1
LnGrp Delay(d),s/veh	12.7	0.0	16.1	12.5	12.3	13.0	21.3	11.1	11.7	17.1	9.9	9.4
LnGrp LOS	B		B	B	B	B	C	B	B	B	A	A
Approach Vol, veh/h	98				216				266		265	
Approach Delay, s/veh	15.9				12.6				12.1		11.8	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	6.2	9.3			6.8	4.8	10.7	8.2				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.0				36.0	6.0	19.0	18.0				
Max Q Clear Time (g_c+I), s	3.5				3.5	2.3	3.3	3.4				
Green Ext Time (p_c), s	0.0	1.8			0.5	0.0	1.9	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			12.6									
HCM 2010 LOS			B									

Redding Rancheria
18: Oak St & North St

Existing Conditions
Timing Plan: Saturday PM Peak

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	195	2	9	201	30	3	3	13	47	10	9
Future Vol, veh/h	11	195	2	9	201	30	3	3	13	47	10	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	212	2	10	218	33	3	3	14	51	11	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	251	0	0	214	0	0	371	508	213	500	492	126
Stage 1	-	-	-	-	-	-	237	237	-	254	254	-
Stage 2	-	-	-	-	-	-	134	271	-	246	238	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1313	-	-	1355	-	-	573	467	826	467	477	901
Stage 1	-	-	-	-	-	-	766	708	-	729	696	-
Stage 2	-	-	-	-	-	-	856	685	-	757	708	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1313	-	-	1355	-	-	550	459	826	451	469	901
Mov Cap-2 Maneuver	-	-	-	-	-	-	550	459	-	451	469	-
Stage 1	-	-	-	-	-	-	759	702	-	722	691	-
Stage 2	-	-	-	-	-	-	827	680	-	734	702	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	10.4	13.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	685	1313	-	-	1355	-	-	487
HCM Lane V/C Ratio	0.03	0.009	-	-	0.007	-	-	0.147
HCM Control Delay (s)	10.4	7.8	-	-	7.7	-	-	13.7
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.5

Redding Rancheria
19: North St & I-5 SB Off Ramp

Existing Conditions
Timing Plan: Saturday PM Peak

Intersection

Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↑↑		↑↑			↓	↓
Traffic Vol, veh/h	0	0	267	0	178	0	0	139	100
Future Vol, veh/h	0	0	267	0	178	0	0	139	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	290	0	193	0	0	151	109
Number of Lanes	0	0	2	0	2	0	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	8.4	8.1	9.9
HCM LOS	A	A	A

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	134	134	89	89	139	100
LT Vol	0	0	0	0	139	0
Through Vol	134	134	89	89	0	0
RT Vol	0	0	0	0	0	100
Lane Flow Rate	145	145	97	97	151	109
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.219	0.148	0.148	0.101	0.253	0.146
Departure Headway (Hd)	5.429	3.68	5.515	3.764	6.035	4.829
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	660	969	648	945	592	737
Service Time	3.173	1.423	3.267	1.515	3.806	2.599
HCM Lane V/C Ratio	0.22	0.15	0.15	0.103	0.255	0.148
HCM Control Delay	9.7	7.1	9.2	6.9	10.9	8.4
HCM Lane LOS	A	A	A	A	B	A
HCM 95th-tile Q	0.8	0.5	0.5	0.3	1	0.5







Redding Rancheria
20: McMurray Dr/I-5 NB On Ramp & North St

Existing Conditions
Timing Plan: Saturday PM Peak

Intersection

Intersection Delay, s/veh 12.1

Intersection LOS B







Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	73	129	189	0	89	120	27	0	61	116	133	0	0	0	0
Future Vol, veh/h	0	73	129	189	0	89	120	27	0	61	116	133	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	79	140	205	0	97	130	29	0	66	126	145	0	0	0	0
Number of Lanes	0	1	2	0	0	1	2	0	0	1	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	11.7	10.9	13.5
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	47%	0%	100%	19%	0%	100%	60%
Vol Right, %	0%	53%	0%	0%	81%	0%	0%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	61	249	73	86	232	89	80	67
LT Vol	61	0	73	0	0	89	0	0
Through Vol	0	116	0	86	43	0	80	40
RT Vol	0	133	0	0	189	0	0	27
Lane Flow Rate	66	271	79	93	252	97	87	73
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.129	0.461	0.152	0.166	0.406	0.193	0.161	0.129
Departure Headway (Hd)	7.004	6.131	6.883	6.375	5.795	7.187	6.678	6.391
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	511	587	520	561	618	498	535	559
Service Time	4.759	3.885	4.639	4.131	3.551	4.952	4.443	4.156
HCM Lane V/C Ratio	0.129	0.462	0.152	0.166	0.408	0.195	0.163	0.131
HCM Control Delay	10.8	14.1	10.9	10.4	12.5	11.7	10.7	10.1
HCM Lane LOS	B	B	B	B	B	B	B	B
HCM 95th-tile Q	0.4	2.4	0.5	0.6	2	0.7	0.6	0.4




















Redding Rancheria
21: Oak St & Balls Ferry Rd

Existing Conditions
Timing Plan: Saturday PM Peak

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	131	4	37	181	5	12	4	33	14	5	2
Future Vol, veh/h	1	131	4	37	181	5	12	4	33	14	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	142	4	40	197	5	13	4	36	15	5	2
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	202	0	0	147	0	0	329	430	73	356	429	101
Stage 1	-	-	-	-	-	-	147	147	-	280	280	-
Stage 2	-	-	-	-	-	-	182	283	-	76	149	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1367	-	-	1432	-	-	600	516	974	575	517	935
Stage 1	-	-	-	-	-	-	841	774	-	703	678	-
Stage 2	-	-	-	-	-	-	802	676	-	924	773	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1367	-	-	1432	-	-	581	501	974	538	502	935
Mov Cap-2 Maneuver	-	-	-	-	-	-	581	501	-	538	502	-
Stage 1	-	-	-	-	-	-	840	773	-	702	659	-
Stage 2	-	-	-	-	-	-	771	657	-	884	772	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			1.3			9.9			11.5		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	784	1367	-	-	1432	-	-	568				
HCM Lane V/C Ratio	0.068	0.001	-	-	0.028	-	-	0.031				
HCM Control Delay (s)	9.9	7.6	-	-	7.6	-	-	11.5				
HCM Lane LOS	A	A	-	-	A	-	-	B				
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.1				

Redding Rancheria
22: I-5 SB On Ramp/Ventura St & Balls Ferry Rd

Existing Conditions
Timing Plan: Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	140	31	239	209	15	0	0	0	9	37	18
Future Volume (veh/h)	2	140	31	239	209	15	0	0	0	9	37	18
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	2	152	34	260	227	16				10	40	20
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	5	1915	418	300	2934	1312				86	57	28
Arrive On Green	0.00	0.66	0.66	0.17	0.83	0.83				0.05	0.05	0.05
Sat Flow, veh/h	1774	2890	631	1774	3539	1583				1774	1173	586
Grp Volume(v), veh/h	2	92	94	260	227	16				10	0	60
Grp Sat Flow(s),veh/h/ln	1774	1770	1751	1774	1770	1583				1774	0	1759
Q Serve(g_s), s	0.1	1.8	1.9	14.3	1.2	0.2				0.5	0.0	3.4
Cycle Q Clear(g_c), s	0.1	1.8	1.9	14.3	1.2	0.2				0.5	0.0	3.4
Prop In Lane	1.00		0.36	1.00		1.00				1.00		0.33
Lane Grp Cap(c), veh/h	5	1172	1160	300	2934	1312				86	0	85
V/C Ratio(X)	0.42	0.08	0.08	0.87	0.08	0.01				0.12	0.00	0.70
Avail Cap(c_a), veh/h	89	1172	1160	568	2934	1312				550	0	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.8	6.0	6.0	40.5	1.6	1.5				45.5	0.0	46.9
Incr Delay (d2), s/veh	48.9	0.1	0.1	7.3	0.0	0.0				0.6	0.0	10.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.9	1.0	7.6	0.6	0.1				0.3	0.0	1.9
LnGrp Delay(d),s/veh	98.7	6.1	6.2	47.7	1.6	1.5				46.1	0.0	57.0
LnGrp LOS	F	A	A	D	A	A				D		E
Approach Vol, veh/h		188			503						70	
Approach Delay, s/veh		7.1			25.4						55.5	
Approach LOS		A			C						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			20.9	70.3		8.8	4.3	86.9				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			32.0	25.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			16.3	3.9		5.4	2.1	3.2				
Green Ext Time (p_c), s			0.6	2.4		0.3	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			23.7									
HCM 2010 LOS			C									




Redding Rancheria
23: I-5 NB Off Ramp/McMurray Dr & Balls Ferry Rd

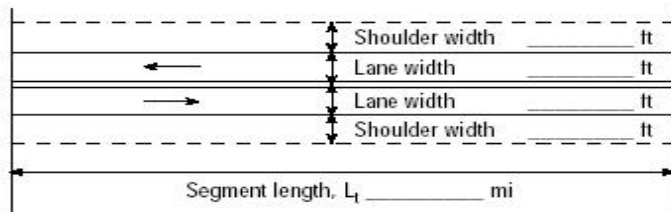

Existing Conditions
Timing Plan: Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	109	0	0	322	138	33	76	95	162	0	130
Future Volume (veh/h)	33	109	0	0	322	138	33	76	95	162	0	130
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	36	118	0	0	350	150	36	83	103	176	0	141
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	56	2934	0	0	1840	775	161	169	144	0	0	0
Arrive On Green	0.01	0.27	0.00	0.00	0.76	0.76	0.09	0.09	0.09	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2522	1023	1774	1863	1583		0	
Grp Volume(v), veh/h	36	118	0	0	253	247	36	83	103		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1682	1774	1863	1583			
Q Serve(g_s), s	2.0	2.4	0.0	0.0	4.1	4.2	1.9	4.2	6.3			
Cycle Q Clear(g_c), s	2.0	2.4	0.0	0.0	4.1	4.2	1.9	4.2	6.3			
Prop In Lane	1.00		0.00	0.00		0.61	1.00		1.00			
Lane Grp Cap(c), veh/h	56	2934	0	0	1341	1274	161	169	144			
V/C Ratio(X)	0.64	0.04	0.00	0.00	0.19	0.19	0.22	0.49	0.72			
Avail Cap(c_a), veh/h	89	2934	0	0	1341	1274	603	633	538			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	48.9	7.1	0.0	0.0	3.4	3.4	42.2	43.3	44.2			
Incr Delay (d2), s/veh	11.6	0.0	0.0	0.0	0.3	0.3	0.7	2.2	6.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.2	1.2	0.0	0.0	2.1	2.0	1.0	2.3	3.0			
LnGrp Delay(d),s/veh	60.5	7.1	0.0	0.0	3.7	3.8	42.9	45.4	50.7			
LnGrp LOS	E	A			A	A	D	D	D			
Approach Vol, veh/h		154			500			222				
Approach Delay, s/veh		19.6			3.8			47.5				
Approach LOS		B			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		13.1		86.9			7.2	79.8				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+I1), s		8.3		4.4			4.0	6.2				
Green Ext Time (p_c), s		0.8		4.0			0.0	3.7				
Intersection Summary												
HCM 2010 Ctrl Delay				17.6								
HCM 2010 LOS				B								

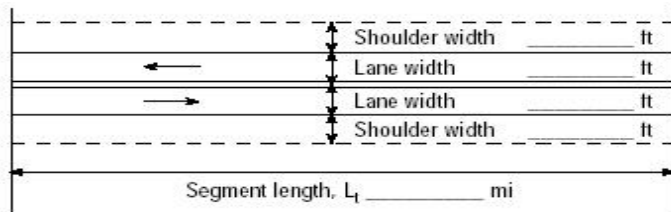

Redding Rancheria
24: Smith Rd & Casino Dwy

Existing Conditions
Timing Plan: Saturday PM Peak

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	22	0	0	0
Future Vol, veh/h	0	18	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	0	0	0
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	24	0	-	0	44	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1591	-	-	-	967	1052
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1591	-	-	-	967	1052
Mov Cap-2 Maneuver	-	-	-	-	967	-
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1003	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1591	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	-	-	0	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	-	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel <i>Smith Road (WB)</i>	
Agency or Company		From/To <i>w/o Churn Creek Road</i>	
Date Performed <i>6/7/2017</i>		Jurisdiction	
Analysis Time Period <i>Saturday PM Peak-Hour</i>		Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> Grade Length _____ mi Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>100%</i> % Trucks and Buses, P_T <i>3%</i> % Recreational vehicles, P_R <i>4%</i> Access points <i>mi</i> <i>5/mi</i> </div> </div>	
Analysis direction vol., V_d <i>22veh/h</i>			
Opposing direction vol., V_o <i>18veh/h</i>			
Shoulder width ft <i>6.0</i>			
Lane Width ft <i>12.0</i>			
Segment Length mi <i>0.2</i>			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>25</i>	<i>20</i>	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>2.9 mi/h</i>		Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
		Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>1.3 mi/h</i>	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>58.8 mi/h</i>	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ <i>55.6 mi/h</i>	
		Percent free flow speed, PFFS <i>94.6 %</i>	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>24</i>	<i>20</i>	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>3.0</i>		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>53.0</i>		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>31.9</i>		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	<i>A</i>		
Volume to capacity ratio, v/c	<i>0.01</i>		

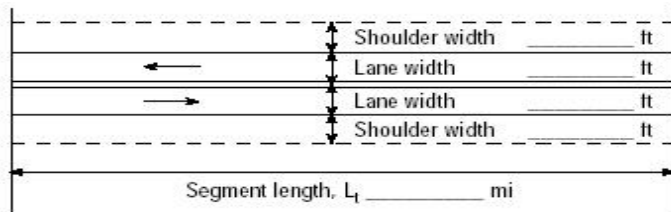

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	94.6
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	23.9
Effective width, W_v (Eq. 15-29) ft	40.02
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-3.91
Bicycle level of service (Exhibit 15-4)	A
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel <i>Smith Road (EB)</i>	
Agency or Company		From/To <i>w/o Churn Creek Road</i>	
Date Performed <i>6/7/2017</i>		Jurisdiction	
Analysis Time Period <i>Saturday PM Peak-Hour</i>		Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> Grade Length _____ mi Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>100%</i> % Trucks and Buses, P_T <i>3%</i> % Recreational vehicles, P_R <i>4%</i> Access points <i>mi</i> <i>5/mi</i> </div> </div>	
Analysis direction vol., V_d <i>18veh/h</i>			
Opposing direction vol., V_o <i>22veh/h</i>			
Shoulder width ft <i>6.0</i>			
Lane Width ft <i>12.0</i>			
Segment Length mi <i>0.2</i>			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>20</i>	<i>25</i>	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>2.9 mi/h</i>		Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
		Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>1.3 mi/h</i>	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>58.8 mi/h</i>	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ <i>55.6 mi/h</i>	
		Percent free flow speed, PFFS <i>94.6 %</i>	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>20</i>	<i>24</i>	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>2.5</i>		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>53.0</i>		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>26.6</i>		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	<i>A</i>		
Volume to capacity ratio, v/c	<i>0.01</i>		

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	94.6
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	19.6
Effective width, W_v (Eq. 15-29) ft	40.38
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-4.14
Bicycle level of service (Exhibit 15-4)	A
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel Church Creek Road (WB)	
Agency or Company		From/To e/o Alrose Ln	
Date Performed 6/7/2017		Jurisdiction	
Analysis Time Period Saturday PM Peak-Hour		Analysis Year 2017	
Project Description: Redding Rancheria			
Input Data			
<p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-around;"> <div> <input type="checkbox"/> Class I highway <input checked="" type="checkbox"/> Class III highway <input type="checkbox"/> Class II highway </div> <div> <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <p>Terrain</p> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF 0.92</p> <p>No-passing zone 100%</p> <p>% Trucks and Buses, P_T 3%</p> <p>% Recreational vehicles, P_R 4%</p> <p>Access points mi 5/mi</p> <p>Show North Arrow</p>	
Analysis direction vol., V_d 277veh/h Opposing direction vol., V_o 286veh/h Shoulder width ft 6.0 Lane Width ft 12.0 Segment Length mi 0.2			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.4	1.4	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.988	0.988	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	305	315	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM}		Base free-flow speed ⁴ , BFFS 60.0 mi/h	
Total demand flow rate, both directions, v		Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) 0.0 mi/h	
Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$		Adj. for access points ⁴ , f_A (Exhibit 15-8) 1.3 mi/h	
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) 3.9 mi/h		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) 58.8 mi/h	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ 50.1 mi/h	
		Percent free flow speed, PFFS 85.2 %	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	1.1	1.1	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.997	0.997	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	302	312	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-a v_d^b})$	32.8		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	55.9		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	60.3		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	B		
Volume to capacity ratio, v/c	0.18		

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1680
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	85.2
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	301.1
Effective width, W_v (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.50
Bicycle level of service (Exhibit 15-4)	C
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel <i>Church Creek Road (EB)</i>	
Agency or Company		From/To <i>e/o Alrose Ln</i>	
Date Performed <i>6/7/2017</i>		Jurisdiction	
Analysis Time Period <i>Saturday PM Peak-Hour</i>		Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling Grade Length _____ mi Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>100%</i> % Trucks and Buses, P_T <i>3%</i> % Recreational vehicles, P_R <i>4%</i> Access points <i>mi</i> <i>5/mi</i> </div> </div> <div style="text-align: center;">  <p>Show North Arrow</p> </div>	
Analysis direction vol., V_d <i>286veh/h</i>			
Opposing direction vol., V_o <i>277veh/h</i>			
Shoulder width ft <i>6.0</i>			
Lane Width ft <i>12.0</i>			
Segment Length mi <i>0.2</i>			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.4</i>	<i>1.4</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.988</i>	<i>0.988</i>	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>315</i>	<i>305</i>	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>3.9 mi/h</i>		Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
		Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>1.3 mi/h</i>	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>58.8 mi/h</i>	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ <i>50.1 mi/h</i>	
		Percent free flow speed, PFFS <i>85.2 %</i>	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>312</i>	<i>302</i>	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-a v_d^b})$	<i>33.9</i>		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>55.9</i>		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>62.3</i>		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	<i>B</i>		
Volume to capacity ratio, v/c	<i>0.19</i>		

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1680
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	85.2
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	310.9
Effective width, W_v (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.52
Bicycle level of service (Exhibit 15-4)	C
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	903	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	10.2	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	807	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	807	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	452	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	452	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	10.2	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/7/2017 11:02:23

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	779	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	8.8	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	696	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	696	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	390	pc/h/ln

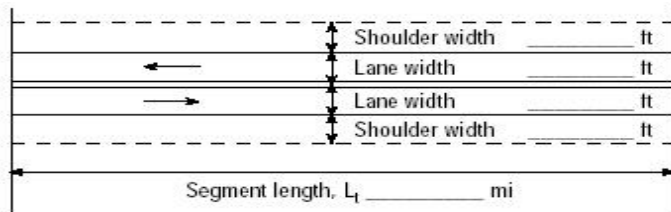

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	390	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	8.8	pc/mi/ln
Level of service, LOS	A	

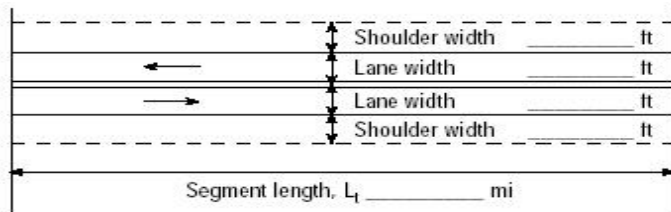

This Multilane Highway Segment text report was created on 6/7/2017 11:02:10

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst		Highway / Direction of Travel <i>Bechelli Lane (SB)</i>
Agency or Company		From/To <i>s/o Bonnyview Road</i>
Date Performed <i>6/7/2017</i>		Jurisdiction
Analysis Time Period <i>Saturday PM Peak-Hour</i>		Analysis Year <i>2017</i>
Project Description: <i>Redding Rancheria</i>		
Input Data		
<p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<p><input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway</p> <p>Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling</p> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF <i>0.92</i></p> <p>No-passing zone <i>100%</i></p> <p>% Trucks and Buses, P_T <i>3%</i></p> <p>% Recreational vehicles, P_R <i>4%</i></p> <p>Access points <i>mi</i> <i>20/mi</i></p> <p> Show North Arrow</p>
Analysis direction vol., V_d <i>18veh/h</i> Opposing direction vol., V_o <i>32veh/h</i> Shoulder width ft <i>6.0</i> Lane Width ft <i>12.0</i> Segment Length mi <i>0.2</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>20</i>	<i>36</i>
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed
Mean speed of sample ³ , S_{FM}		Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>
Total demand flow rate, both directions, v		Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>
Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$		Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>5.0 mi/h</i>
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>2.7 mi/h</i>		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>55.0 mi/h</i>
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ <i>51.9 mi/h</i>
		Percent free flow speed, PFFS <i>94.3 %</i>
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>20</i>	<i>35</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{av_d^b})$	<i>2.5</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>51.7</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>21.3</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>A</i>	
Volume to capacity ratio, v/c	<i>0.01</i>	

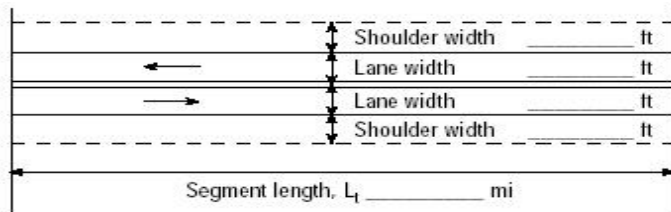

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	94.3
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	19.6
Effective width, W_v (Eq. 15-29) ft	40.38
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-4.14
Bicycle level of service (Exhibit 15-4)	A
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel <i>Bechelli Lane (NB)</i>	
Agency or Company		From/To <i>s/o Bonnyview Road</i>	
Date Performed <i>6/7/2017</i>		Jurisdiction	
Analysis Time Period <i>Saturday PM Peak-Hour</i>		Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> Grade Length _____ mi Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>100%</i> % Trucks and Buses, P_T <i>3%</i> % Recreational vehicles, P_R <i>4%</i> Access points <i>mi</i> <i>20/mi</i> </div> </div>	
Analysis direction vol., V_d <i>32veh/h</i>			
Opposing direction vol., V_o <i>18veh/h</i>			
Shoulder width ft <i>6.0</i>			
Lane Width ft <i>12.0</i>			
Segment Length mi <i>0.2</i>			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>36</i>	<i>20</i>	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>2.7 mi/h</i>		Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
		Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>5.0 mi/h</i>	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>55.0 mi/h</i>	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ <i>51.9 mi/h</i>	
		Percent free flow speed, PFFS <i>94.3 %</i>	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>35</i>	<i>20</i>	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>4.4</i>		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>51.7</i>		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>37.3</i>		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	<i>A</i>		
Volume to capacity ratio, v/c	<i>0.02</i>		

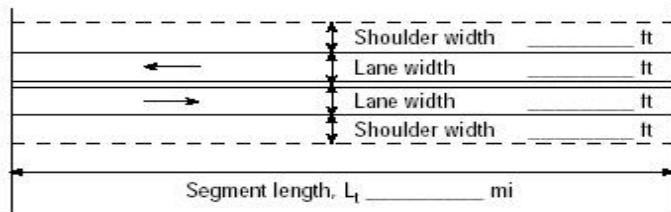

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	94.3
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	34.8
Effective width, W_v (Eq. 15-29) ft	39.12
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-3.36
Bicycle level of service (Exhibit 15-4)	A
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel <i>Smith Road (WB)</i>	
Agency or Company		From/To <i>w/o Churn Creek Road</i>	
Date Performed <i>6/7/2017</i>		Jurisdiction	
Analysis Time Period <i>Friday PM Peak-Hour</i>		Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> Grade Length _____ mi Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>0%</i> % Trucks and Buses, P_T <i>3%</i> % Recreational vehicles, P_R <i>4%</i> Access points <i>mi</i> <i>10/mi</i> </div> </div>	
Analysis direction vol., V_d <i>36veh/h</i>			
Opposing direction vol., V_o <i>18veh/h</i>			
Shoulder width ft <i>6.0</i>			
Lane Width ft <i>12.0</i>			
Segment Length mi <i>0.6</i>			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>40</i>	<i>20</i>	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>0.6 mi/h</i>		Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
		Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>2.5 mi/h</i>	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>57.5 mi/h</i>	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ <i>56.4 mi/h</i>	
		Percent free flow speed, PFFS <i>98.1 %</i>	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>39</i>	<i>20</i>	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-a v_d^b})$	<i>4.8</i>		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>10.3</i>		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>11.6</i>		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	<i>A</i>		
Volume to capacity ratio, v/c	<i>0.02</i>		

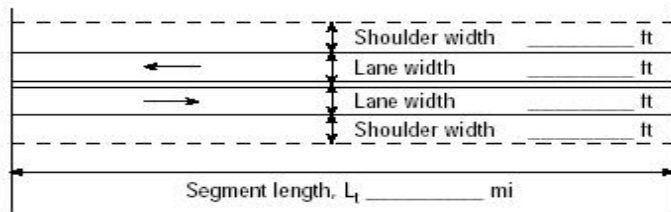

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	98.1
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	39.1
Effective width, W_v (Eq. 15-29) ft	38.76
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-3.16
Bicycle level of service (Exhibit 15-4)	A
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel <i>Smith Road (EB)</i>	
Agency or Company		From/To <i>w/o Churn Creek Road</i>	
Date Performed <i>6/7/2017</i>		Jurisdiction	
Analysis Time Period <i>Friday PM Peak-Hour</i>		Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> Grade Length _____ mi Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>0%</i> % Trucks and Buses, P_T <i>3%</i> % Recreational vehicles, P_R <i>4%</i> Access points <i>mi</i> <i>10/mi</i> </div> </div>	
Analysis direction vol., V_d <i>18veh/h</i>			
Opposing direction vol., V_o <i>36veh/h</i>			
Shoulder width ft <i>6.0</i>			
Lane Width ft <i>12.0</i>			
Segment Length mi <i>0.6</i>			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>20</i>	<i>40</i>	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>0.6 mi/h</i>		Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
		Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>2.5 mi/h</i>	
		Free-flow speed, FFS ($FSS = BFFS - f_{LS} - f_A$) <i>57.5 mi/h</i>	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ <i>56.4 mi/h</i>	
		Percent free flow speed, PFFS <i>98.1 %</i>	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>20</i>	<i>39</i>	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-a v_d^b})$	<i>2.5</i>		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>10.3</i>		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>6.0</i>		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	<i>A</i>		
Volume to capacity ratio, v/c	<i>0.01</i>		

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	98.1
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	19.6
Effective width, W_v (Eq. 15-29) ft	40.38
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-4.14
Bicycle level of service (Exhibit 15-4)	A
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel	
Agency or Company		Church Creek Road (WB)	
Date Performed		From/To	
6/7/2017		e/o Alrose Ln	
Analysis Time Period		Jurisdiction	
		Analysis Year	
		2017	
Project Description: Redding Rancheria			
Input Data			
		<div style="display: flex; justify-content: space-around;"> <div> <input type="checkbox"/> Class I highway <input checked="" type="checkbox"/> Class III highway <input type="checkbox"/> Class II highway </div> <div> <input type="checkbox"/> Rolling <input checked="" type="checkbox"/> Level <input type="checkbox"/> Terrain </div> </div> <div style="display: flex; justify-content: space-around;"> <div>  </div> <div> Grade Length mi Peak-hour factor, PHF No-passing zone % Trucks and Buses, P_T % Recreational vehicles, P_R Access points mi </div> </div>	
Analysis direction vol., V _d		395veh/h	
Opposing direction vol., V _o		516veh/h	
Shoulder width ft		6.0	
Lane Width ft		12.0	
Segment Length mi		0.2	
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	1.3	1.1	
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	1.0	1.0	
Heavy-vehicle adjustment factor, f _{HV,ATS} = 1 / (1 + P _T (E _T -1) + P _R (E _R -1))	0.991	0.997	
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	1.00	1.00	
Demand flow rate ² , v _i (pc/h) v _i = V _i / (PHF * f _{g,ATS} * f _{HV,ATS})	433	563	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S _{FM}		Base free-flow speed ⁴ , BFFS	
Total demand flow rate, both directions, v		Adj. for lane and shoulder width ⁴ , f _{LS} (Exhibit 15-7)	
Free-flow speed, FFS = S _{FM} + 0.00776(v / f _{HV,ATS})		Adj. for access points ⁴ , f _A (Exhibit 15-8)	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15)		Free-flow speed, FFS (FFS = BFFS - f _{LS} - f _A)	
2.3 mi/h		Average travel speed, ATS _d = FFS - 0.00776(v _{d,ATS} + v _{o,ATS}) - f _{np,ATS}	
		Percent free flow speed, PFFS	
		83.0 %	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	1.0	1.0	
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	1.0	1.0	
Heavy-vehicle adjustment factor, f _{HV} = 1 / (1 + P _T (E _T -1) + P _R (E _R -1))	1.000	1.000	
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	1.00	1.00	
Directional flow rate ² , v _i (pc/h) v _i = V _i / (PHF * f _{HV,PTSF} * f _{g,PTSF})	429	561	
Base percent time-spent-following ⁴ , BPTSF _d (%) = 100(1 - e ^{-av_d})	47.4		
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	38.2		
Percent time-spent-following, PTSF _d (%) = BPTSF _d + f _{np,PTSF} * (v _{d,PTSF} / v _{d,PTSF} + v _{o,PTSF})	64.0		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	C		
Volume to capacity ratio, v/c	0.25		

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1695
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1700
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	83.0
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	429.3
Effective width, W_v (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.68
Bicycle level of service (Exhibit 15-4)	C
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel	
Agency or Company		Church Creek Road (EB)	
Date Performed		From/To	
6/7/2017		e/o Alrose Ln	
Analysis Time Period		Jurisdiction	
		Analysis Year	
		2017	
Project Description: Redding Rancheria			
Input Data			
		<div style="display: flex; justify-content: space-around;"> <div> <input type="checkbox"/> Class I highway <input checked="" type="checkbox"/> Class III highway <input type="checkbox"/> Class II highway </div> <div> <input type="checkbox"/> Rolling <input checked="" type="checkbox"/> Level <input type="checkbox"/> Terrain </div> </div> <div style="display: flex; justify-content: space-around;"> <div>  Show North Arrow </div> <div> Grade Length mi Peak-hour factor, PHF No-passing zone % Trucks and Buses, P_T % Recreational vehicles, P_R Access points mi </div> <div> Up/down 0.92 100% 3 % 4% 5/mi </div> </div>	
Analysis direction vol., V _d		516veh/h	
Opposing direction vol., V _o		395veh/h	
Shoulder width ft		6.0	
Lane Width ft		12.0	
Segment Length mi		0.2	
Average Travel Speed			
	Analysis Direction (d)		Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	1.1		1.3
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	1.0		1.0
Heavy-vehicle adjustment factor, f _{HV,ATS} = 1 / (1 + P _T (E _T -1) + P _R (E _R -1))	0.997		0.991
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	1.00		1.00
Demand flow rate ² , v _i (pc/h) v _i = V _i / (PHF * f _{g,ATS} * f _{HV,ATS})	563		433
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
		Base free-flow speed ⁴ , BFFS	
		60.0 mi/h	
Mean speed of sample ³ , S _{FM}		Adj. for lane and shoulder width ⁴ , f _{LS} (Exhibit 15-7)	
		0.0 mi/h	
Total demand flow rate, both directions, v		Adj. for access points ⁴ , f _A (Exhibit 15-8)	
		1.3 mi/h	
Free-flow speed, FFS = S _{FM} + 0.00776(v / f _{HV,ATS})		Free-flow speed, FFS (FSS = BFFS - f _{LS} - f _A)	
		58.8 mi/h	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15)		Average travel speed, ATS _d = FFS - 0.00776(v _{d,ATS} + v _{o,ATS}) - f _{np,ATS}	
3.4 mi/h		47.7 mi/h	
		Percent free flow speed, PFFS	
		81.1 %	
Percent Time-Spent-Following			
	Analysis Direction (d)		Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	1.0		1.0
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	1.0		1.0
Heavy-vehicle adjustment factor, f _{HV} = 1 / (1 + P _T (E _T -1) + P _R (E _R -1))	1.000		1.000
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	1.00		1.00
Directional flow rate ² , v _i (pc/h) v _i = V _i / (PHF * f _{HV,PTSF} * f _{g,PTSF})	561		429
Base percent time-spent-following ⁴ , BPTSF _d (%) = 100(1 - e ^{-av_d})	54.4		
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	38.2		
Percent time-spent-following, PTSF _d (%) = BPTSF _d + f _{np,PTSF} * (v _{d,PTSF} / v _{d,PTSF} + v _{o,PTSF})	76.0		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	C		
Volume to capacity ratio, v/c	0.33		

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1685
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1700
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	81.1
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	560.9
Effective width, W_v (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.82
Bicycle level of service (Exhibit 15-4)	C
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1304	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	14.8	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1165	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	1165	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	652	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	652	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	14.8	pc/mi/ln
Level of service, LOS	B	

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MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1255	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	14.2	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1121	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

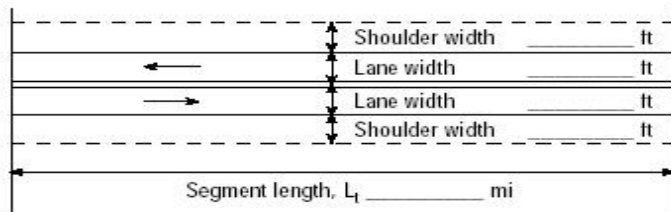

Step 4: Adjust Demand Volume

Demand Volume, V	1121	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	628	pc/h/ln

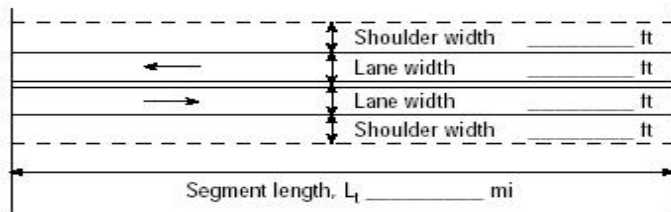

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	628	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	14.2	pc/mi/ln
Level of service, LOS	B	

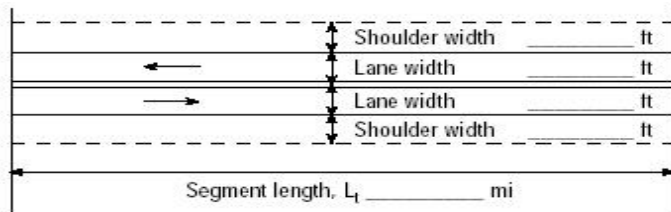

This Multilane Highway Segment text report was created on 6/7/2017 11:01:28

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel <i>Bechelli Lane (SB)</i>	
Agency or Company		From/To <i>s/o Bonnyview Road</i>	
Date Performed <i>6/7/2017</i>		Jurisdiction	
Analysis Time Period		Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="display: flex; align-items: center;">  <div> Show North Arrow </div> </div> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF <i>0.92</i></p> <p>No-passing zone <i>100%</i></p> <p>% Trucks and Buses, P_T <i>3%</i></p> <p>% Recreational vehicles, P_R <i>4%</i></p> <p>Access points <i>mi</i> <i>20/mi</i></p>	
Analysis direction vol., V_d <i>26veh/h</i>			
Opposing direction vol., V_o <i>59veh/h</i>			
Shoulder width ft <i>6.0</i>			
Lane Width ft <i>12.0</i>			
Segment Length mi <i>0.2</i>			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>29</i>	<i>66</i>	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>2.7 mi/h</i>		Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
		Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>5.0 mi/h</i>	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>55.0 mi/h</i>	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ <i>51.6 mi/h</i>	
		Percent free flow speed, PFFS <i>93.8 %</i>	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>28</i>	<i>64</i>	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>3.5</i>		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>49.3</i>		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>18.5</i>		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	<i>A</i>		
Volume to capacity ratio, v/c	<i>0.02</i>		

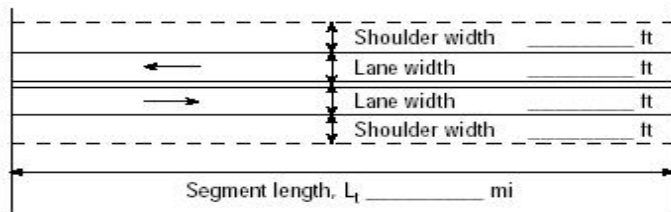

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	93.8
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	28.3
Effective width, W_v (Eq. 15-29) ft	39.66
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-3.69
Bicycle level of service (Exhibit 15-4)	A
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel <i>Bechelli Lane (NB)</i>	
Agency or Company		From/To <i>s/o Bonnyview Road</i>	
Date Performed <i>6/7/2017</i>		Jurisdiction	
Analysis Time Period		Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> Grade Length _____ mi Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>100%</i> % Trucks and Buses, P_T <i>3%</i> % Recreational vehicles, P_R <i>4%</i> Access points <i>mi</i> <i>20/mi</i> </div> </div>	
Analysis direction vol., V_d <i>59veh/h</i>			
Opposing direction vol., V_o <i>26veh/h</i>			
Shoulder width ft <i>6.0</i>			
Lane Width ft <i>12.0</i>			
Segment Length mi <i>0.2</i>			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>66</i>	<i>29</i>	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>2.7 mi/h</i>		Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
		Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>5.0 mi/h</i>	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>55.0 mi/h</i>	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ <i>51.6 mi/h</i>	
		Percent free flow speed, PFFS <i>93.8 %</i>	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>64</i>	<i>28</i>	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>7.7</i>		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>49.3</i>		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>42.0</i>		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	<i>A</i>		
Volume to capacity ratio, v/c	<i>0.04</i>		

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	93.8
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	64.1
Effective width, W_v (Eq. 15-29) ft	36.69
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-2.13
Bicycle level of service (Exhibit 15-4)	A
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel Oak St, s/o North St (SB)	
Agency or Company		From/To	
Date Performed 6/8/2017		Jurisdiction	
Analysis Time Period Saturday PM Peak-Hour		Analysis Year 2017	
Project Description: Redding Rancheria			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF 0.92</p> <p>No-passing zone 20%</p> <p>% Trucks and Buses, P_T 3 %</p> <p>% Recreational vehicles, P_R 4%</p> <p>Access points <i>mi</i> 8/mi</p> </div> </div>	
Analysis direction vol., V_d 21veh/h			
Opposing direction vol., V_o 19veh/h			
Shoulder width ft 6.0			
Lane Width ft 12.0			
Segment Length mi 0.3			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.9	1.9	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.974	0.974	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	23	21	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) 0.6 mi/h		Base free-flow speed ⁴ , BFFS 60.0 mi/h	
		Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) 0.0 mi/h	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) 2.0 mi/h	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) 58.0 mi/h	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ 57.0 mi/h	
		Percent free flow speed, PFFS 98.3 %	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	1.1	1.1	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.997	0.997	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	23	21	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	2.9		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	29.6		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	18.4		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	A		
Volume to capacity ratio, v/c	0.01		

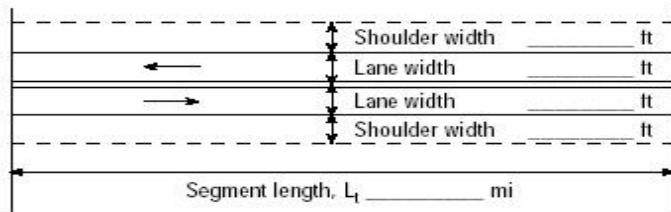

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	98.3
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	22.8
Effective width, W_v (Eq. 15-29) ft	40.11
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-3.96
Bicycle level of service (Exhibit 15-4)	A
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel Oak St, s/o North St (NB)	
Agency or Company		From/To	
Date Performed 6/8/2017		Jurisdiction	
Analysis Time Period Saturday PM Peak-Hour		Analysis Year 2017	
Project Description: Redding Rancheria			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF 0.92</p> <p>No-passing zone 20%</p> <p>% Trucks and Buses, P_T 3 %</p> <p>% Recreational vehicles, P_R 4%</p> <p>Access points <i>mi</i> 8/mi</p> </div> </div>	
Analysis direction vol., V_d 19veh/h			
Opposing direction vol., V_o 21veh/h			
Shoulder width ft 6.0			
Lane Width ft 12.0			
Segment Length mi 0.3			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.9	1.9	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.974	0.974	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	21	23	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) 0.6 mi/h		Base free-flow speed ⁴ , BFFS 60.0 mi/h	
		Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) 0.0 mi/h	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) 2.0 mi/h	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) 58.0 mi/h	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ 57.0 mi/h	
		Percent free flow speed, PFFS 98.3 %	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	1.1	1.1	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.997	0.997	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	21	23	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	2.7		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	29.5		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	16.8		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	A		
Volume to capacity ratio, v/c	0.01		

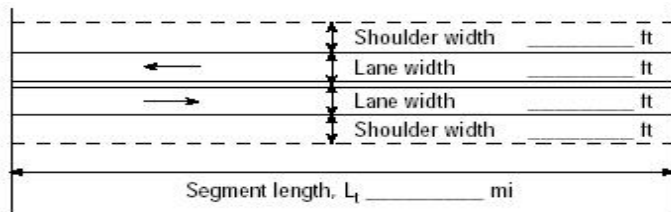

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	98.3
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	20.7
Effective width, W_v (Eq. 15-29) ft	40.29
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-4.08
Bicycle level of service (Exhibit 15-4)	A
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel	
Agency or Company		Oak St, s/o North St (SB)	
Date Performed		From/To	
6/8/2017		Jurisdiction	
Analysis Time Period		Analysis Year	
Friday PM Peak-Hour		2017	
Project Description: Redding Rancheria			
Input Data			
<p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input checked="" type="checkbox"/> Class III highway <input type="checkbox"/> Class II highway </div> <div> <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <p>Terrain</p> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF 0.92</p> <p>No-passing zone 20%</p> <p>% Trucks and Buses, P_T 3%</p> <p>% Recreational vehicles, P_R 4%</p> <p>Access points mi 8/mi</p> <p>Show North Arrow</p>	
Analysis direction vol., V_d 26veh/h			
Opposing direction vol., V_o 26veh/h			
Shoulder width ft 6.0			
Lane Width ft 12.0			
Segment Length mi 0.3			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.9	1.9	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.974	0.974	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00	
Demand flow rate ² , v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	29	29	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM}		Base free-flow speed ⁴ , BFFS 60.0 mi/h	
Total demand flow rate, both directions, v		Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) 0.0 mi/h	
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points ⁴ , f_A (Exhibit 15-8) 2.0 mi/h	
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) 0.6 mi/h		Free-flow speed, FFS ($FFS=BFFS-f_{LS}-f_A$) 58.0 mi/h	
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$ 56.9 mi/h	
		Percent free flow speed, PFFS 98.2 %	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	1.1	1.1	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.997	0.997	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00	
Directional flow rate ² , v_i (pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	28	28	
Base percent time-spent-following ⁴ , $BPTSF_d(\%)=100(1-e^{av_d^b})$	3.5		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	29.2		
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	18.1		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	A		
Volume to capacity ratio, v/c	0.02		

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	98.2
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	28.3
Effective width, W_v (Eq. 15-29) ft	39.66
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-3.69
Bicycle level of service (Exhibit 15-4)	A
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel Oak St, s/o North St (NB)	
Agency or Company		From/To	
Date Performed 6/8/2017		Jurisdiction	
Analysis Time Period Friday PM Peak-Hour		Analysis Year 2017	
Project Description: Redding Rancheria			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF 0.92</p> <p>No-passing zone 20%</p> <p>% Trucks and Buses, P_T 3 %</p> <p>% Recreational vehicles, P_R 4%</p> <p>Access points <i>mi</i> 8/mi</p> </div> </div>	
Analysis direction vol., V_d 26veh/h			
Opposing direction vol., V_o 26veh/h			
Shoulder width ft 6.0			
Lane Width ft 12.0			
Segment Length mi 0.3			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.9	1.9	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.974	0.974	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	29	29	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) 0.6 mi/h		Base free-flow speed ⁴ , BFFS 60.0 mi/h	
		Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) 0.0 mi/h	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) 2.0 mi/h	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) 58.0 mi/h	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ 56.9 mi/h	
		Percent free flow speed, PFFS 98.2 %	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	1.1	1.1	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.997	0.997	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	28	28	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-a v_d^b})$	3.5		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	29.2		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	18.1		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	A		
Volume to capacity ratio, v/c	0.02		

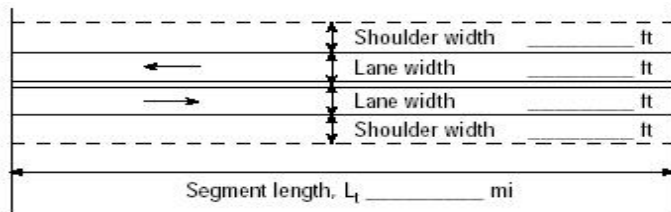

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	98.2
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	28.3
Effective width, W_v (Eq. 15-29) ft	39.66
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-3.69
Bicycle level of service (Exhibit 15-4)	A
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel Oak St, n/o North St (SB)	
Agency or Company		From/To	
Date Performed 6/8/2017		Jurisdiction	
Analysis Time Period Saturday PM Peak-Hour		Analysis Year 2017	
Project Description: Redding Rancheria			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF 0.92</p> <p>No-passing zone 0%</p> <p>% Trucks and Buses, P_T 3%</p> <p>% Recreational vehicles, P_R 4%</p> <p>Access points mi 40/mi</p> <div style="text-align: center;">  <p>Show North Arrow</p> </div>	
Analysis direction vol., V_d 267veh/h			
Opposing direction vol., V_o 240veh/h			
Shoulder width ft 6.0			
Lane Width ft 12.0			
Segment Length mi 0.2			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.4	1.4	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.988	0.988	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	294	264	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) 1.2 mi/h		Base free-flow speed ⁴ , BFFS 60.0 mi/h	
		Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) 0.0 mi/h	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) 10.0 mi/h	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) 50.0 mi/h	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$	
		Percent free flow speed, PFFS 89.0 %	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	1.1	1.1	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.997	0.997	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	291	262	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-a v_d^b})$	30.6		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	15.6		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	38.8		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	B		
Volume to capacity ratio, v/c	0.17		

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1680
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	89.0
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	290.2
Effective width, W_v (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.48
Bicycle level of service (Exhibit 15-4)	B
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel Oak St, n/o North St (NB)	
Agency or Company		From/To	
Date Performed 6/8/2017		Jurisdiction	
Analysis Time Period Saturday PM Peak-Hour		Analysis Year 2017	
Project Description: Redding Rancheria			
Input Data			
<p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-around;"> <div> <input type="checkbox"/> Class I highway <input checked="" type="checkbox"/> Class III highway <input type="checkbox"/> Class II highway </div> <div> <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <p>Terrain</p> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF 0.92</p> <p>No-passing zone 0%</p> <p>% Trucks and Buses, P_T 3%</p> <p>% Recreational vehicles, P_R 4%</p> <p>Access points mi 40/mi</p> <p>Show North Arrow</p>	
Analysis direction vol., V_d 240veh/h Opposing direction vol., V_o 267veh/h Shoulder width ft 6.0 Lane Width ft 12.0 Segment Length mi 0.2			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.4	1.4	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.988	0.988	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	264	294	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM}		Base free-flow speed ⁴ , BFFS 60.0 mi/h	
Total demand flow rate, both directions, v		Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) 0.0 mi/h	
Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$		Adj. for access points ⁴ , f_A (Exhibit 15-8) 10.0 mi/h	
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) 1.2 mi/h		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) 50.0 mi/h	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ 44.5 mi/h	
		Percent free flow speed, PFFS 89.0 %	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	1.1	1.1	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.997	0.997	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	262	291	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-a v_d^b})$	30.0		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	15.6		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	37.4		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	B		
Volume to capacity ratio, v/c	0.16		

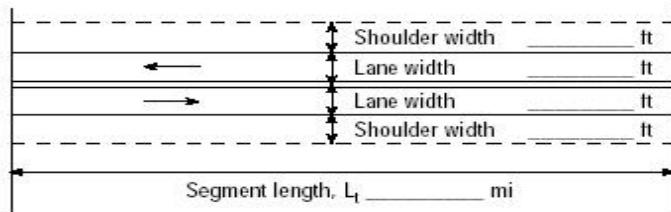

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1680
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	89.0
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	260.9
Effective width, W_v (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.43
Bicycle level of service (Exhibit 15-4)	B
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel <i>Oak St, n/o North St (SB)</i>	
Agency or Company		From/To	
Date Performed <i>6/8/2017</i>		Jurisdiction	
Analysis Time Period <i>Friday PM Peak-Hour</i>		Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF <i>0.92</i></p> <p>No-passing zone <i>0%</i></p> <p>% Trucks and Buses, P_T <i>3%</i></p> <p>% Recreational vehicles, P_R <i>4%</i></p> <p>Access points <i>mi</i> <i>40/mi</i></p> <div style="text-align: center;">  <p>Show North Arrow</p> </div>	
Analysis direction vol., V_d <i>391veh/h</i>			
Opposing direction vol., V_o <i>436veh/h</i>			
Shoulder width ft <i>6.0</i>			
Lane Width ft <i>12.0</i>			
Segment Length mi <i>0.2</i>			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.3</i>	<i>1.2</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.991</i>	<i>0.994</i>	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>429</i>	<i>477</i>	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>0.9 mi/h</i>		Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
		Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>10.0 mi/h</i>	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>50.0 mi/h</i>	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$	
		<i>42.1 mi/h</i>	
		Percent free flow speed, PFFS <i>84.1 %</i>	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>1.000</i>	<i>1.000</i>	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>425</i>	<i>474</i>	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-a v_d^b})$	<i>45.9</i>		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>14.8</i>		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>52.9</i>		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	<i>B</i>		
Volume to capacity ratio, v/c	<i>0.25</i>		

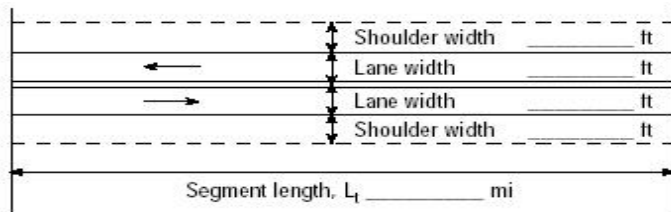

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1690
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1700
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	84.1
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	425.0
Effective width, W_v (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.68
Bicycle level of service (Exhibit 15-4)	C
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel	
Agency or Company		Oak St, n/o North St (NB)	
Date Performed		From/To	
6/8/2017		Jurisdiction	
Analysis Time Period		Analysis Year	
Friday PM Peak-Hour		2017	
Project Description: Redding Rancheria			
Input Data			
<p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input checked="" type="checkbox"/> Class III highway <input type="checkbox"/> Class II highway </div> <div> <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <p>Terrain</p> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF 0.92</p> <p>No-passing zone 0%</p> <p>% Trucks and Buses, P_T 3%</p> <p>% Recreational vehicles, P_R 4%</p> <p>Access points mi 40/mi</p>	
Analysis direction vol., V_d 436veh/h Opposing direction vol., V_o 391veh/h Shoulder width ft 6.0 Lane Width ft 12.0 Segment Length mi 0.2			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.2	1.3	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.994	0.991	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	477	429	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM}		Base free-flow speed ⁴ , BFFS 60.0 mi/h	
Total demand flow rate, both directions, v		Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) 0.0 mi/h	
Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$		Adj. for access points ⁴ , f_A (Exhibit 15-8) 10.0 mi/h	
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) 1.0 mi/h		Free-flow speed, FFS ($FSS = BFFS - f_{LS} - f_A$) 50.0 mi/h	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ 41.9 mi/h	
		Percent free flow speed, PFFS 83.9 %	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	1.0	1.0	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	1.000	1.000	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	474	425	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-a v_d^b})$	47.8		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	14.8		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	55.6		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	B		
Volume to capacity ratio, v/c	0.28		

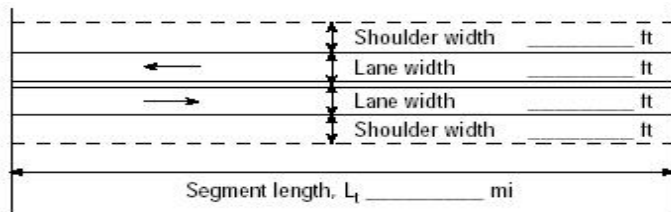

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1685
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1700
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	83.9
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	473.9
Effective width, W_v (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.73
Bicycle level of service (Exhibit 15-4)	C
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel <i>North Road, w/o Oak St (WB)</i>	
Agency or Company		From/To	
Date Performed <i>6/8/2017</i>		Jurisdiction	
Analysis Time Period <i>Saturday PM Peak-Hour</i>		Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF <i>0.92</i></p> <p>No-passing zone <i>0%</i></p> <p>% Trucks and Buses, P_T <i>3%</i></p> <p>% Recreational vehicles, P_R <i>4%</i></p> <p>Access points <i>mi</i> <i>40/mi</i></p> </div> </div>	
Analysis direction vol., V_d <i>213veh/h</i>			
Opposing direction vol., V_o <i>208veh/h</i>			
Shoulder width ft <i>6.0</i>			
Lane Width ft <i>12.0</i>			
Segment Length mi <i>0.2</i>			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.5</i>	<i>1.5</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	<i>0.985</i>	<i>0.985</i>	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>	
Demand flow rate ² , v_i (pc/h) $v_i=V_i/(PHF \cdot f_{g,ATS} \cdot f_{HV,ATS})$	<i>235</i>	<i>230</i>	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS=S_{FM}+0.00776(\sqrt{v_{HV,ATS}})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>1.2 mi/h</i>		Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
		Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>10.0 mi/h</i>	
		Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$) <i>50.0 mi/h</i>	
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ <i>45.2 mi/h</i>	
		Percent free flow speed, PFFS <i>90.4 %</i>	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	<i>0.997</i>	<i>0.997</i>	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>	
Directional flow rate ² , v_i (pc/h) $v_i=V_i/(PHF \cdot f_{HV,PTSF} \cdot f_{g,PTSF})$	<i>232</i>	<i>227</i>	
Base percent time-spent-following ⁴ , $BPTSF_d(\%)=100(1-e^{av_d^b})$	<i>25.1</i>		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>16.0</i>		
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d + f_{np,PTSF} \cdot (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>33.2</i>		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	<i>B</i>		
Volume to capacity ratio, v/c	<i>0.14</i>		

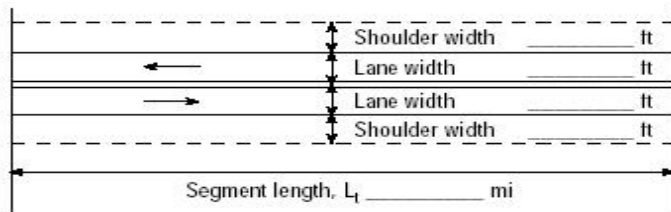

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1675
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	90.4
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	231.5
Effective width, W_v (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.37
Bicycle level of service (Exhibit 15-4)	B
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel <i>North Road, w/o Oak St (EB)</i>	
Agency or Company		From/To	
Date Performed <i>6/8/2017</i>		Jurisdiction	
Analysis Time Period <i>Saturday PM Peak-Hour</i>		Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF <i>0.92</i></p> <p>No-passing zone <i>0%</i></p> <p>% Trucks and Buses, P_T <i>3%</i></p> <p>% Recreational vehicles, P_R <i>4%</i></p> <p>Access points <i>mi</i> <i>40/mi</i></p> </div> </div>	
Analysis direction vol., V_d <i>208veh/h</i>			
Opposing direction vol., V_o <i>213veh/h</i>			
Shoulder width ft <i>6.0</i>			
Lane Width ft <i>12.0</i>			
Segment Length mi <i>0.2</i>			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.5</i>	<i>1.5</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	<i>0.985</i>	<i>0.985</i>	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>	
Demand flow rate ² , v_i (pc/h) $v_i=V_i/(PHF \cdot f_{g,ATS} \cdot f_{HV,ATS})$	<i>230</i>	<i>235</i>	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS=S_{FM}+0.00776(\sqrt{v_{HV,ATS}})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>1.2 mi/h</i>		Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
		Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>10.0 mi/h</i>	
		Free-flow speed, FFS ($FFS=BFFS-f_{LS}-f_A$) <i>50.0 mi/h</i>	
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ <i>45.2 mi/h</i>	
		Percent free flow speed, PFFS <i>90.4 %</i>	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	<i>0.997</i>	<i>0.997</i>	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>	
Directional flow rate ² , v_i (pc/h) $v_i=V_i/(PHF \cdot f_{HV,PTSF} \cdot f_{g,PTSF})$	<i>227</i>	<i>232</i>	
Base percent time-spent-following ⁴ , $BPTSF_d(\%)=100(1-e^{av_d^b})$	<i>24.5</i>		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>16.0</i>		
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d + f_{np,PTSF} \cdot (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>32.4</i>		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	<i>B</i>		
Volume to capacity ratio, v/c	<i>0.14</i>		

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1675
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	90.4
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	226.1
Effective width, W_v (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.36
Bicycle level of service (Exhibit 15-4)	B
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel <i>North Road, w/o Oak St (WB)</i>	
Agency or Company		From/To	
Date Performed <i>6/8/2017</i>		Jurisdiction	
Analysis Time Period <i>Friday PM Peak-Hour</i>		Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF <i>0.92</i></p> <p>No-passing zone <i>0%</i></p> <p>% Trucks and Buses, P_T <i>3%</i></p> <p>% Recreational vehicles, P_R <i>4%</i></p> <p>Access points <i>mi</i> <i>40/mi</i></p> </div> </div>	
Analysis direction vol., V_d <i>395veh/h</i>			
Opposing direction vol., V_o <i>329veh/h</i>			
Shoulder width ft <i>6.0</i>			
Lane Width ft <i>12.0</i>			
Segment Length mi <i>0.2</i>			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.3</i>	<i>1.3</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.991</i>	<i>0.991</i>	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>433</i>	<i>361</i>	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>1.1 mi/h</i>		Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
		Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>10.0 mi/h</i>	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>50.0 mi/h</i>	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ <i>42.7 mi/h</i>	
		Percent free flow speed, PFFS <i>85.4 %</i>	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.1</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>1.000</i>	<i>0.997</i>	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>429</i>	<i>359</i>	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{av_d^b})$	<i>43.5</i>		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>14.8</i>		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>51.6</i>		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	<i>B</i>		
Volume to capacity ratio, v/c	<i>0.25</i>		

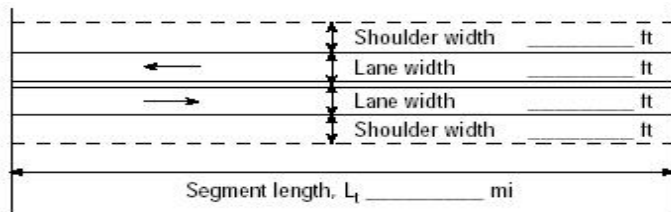

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1685
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	85.4
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	429.3
Effective width, W_v (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.68
Bicycle level of service (Exhibit 15-4)	C
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel <i>North Road, w/o Oak St (EB)</i>	
Agency or Company		From/To	
Date Performed <i>6/8/2017</i>		Jurisdiction	
Analysis Time Period <i>Friday PM Peak-Hour</i>		Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF <i>0.92</i></p> <p>No-passing zone <i>0%</i></p> <p>% Trucks and Buses, P_T <i>3%</i></p> <p>% Recreational vehicles, P_R <i>4%</i></p> <p>Access points <i>mi</i> <i>40/mi</i></p> <div style="text-align: center;">  <p>Show North Arrow</p> </div>	
Analysis direction vol., V_d <i>329veh/h</i>			
Opposing direction vol., V_o <i>395veh/h</i>			
Shoulder width ft <i>6.0</i>			
Lane Width ft <i>12.0</i>			
Segment Length mi <i>0.2</i>			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.3</i>	<i>1.3</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.991</i>	<i>0.991</i>	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>361</i>	<i>433</i>	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
		Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
		Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>10.0 mi/h</i>	
		Free-flow speed, FFS = $S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$ <i>50.0 mi/h</i>	
Mean speed of sample ³ , S_{FM}		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ <i>42.8 mi/h</i>	
Total demand flow rate, both directions, v		Percent free flow speed, PFFS <i>85.6 %</i>	
Free-flow speed, $FFS = S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$			
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>1.0 mi/h</i>			
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.0</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>1.000</i>	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>359</i>	<i>429</i>	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-a v_d^b})$		<i>40.7</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)		<i>14.8</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$		<i>47.4</i>	
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)		<i>B</i>	
Volume to capacity ratio, v/c		<i>0.21</i>	

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1685
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1700
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	85.6
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	357.6
Effective width, W_v (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.59
Bicycle level of service (Exhibit 15-4)	C
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel North St, e/o Oak St (WB)	
Agency or Company		From/To	
Date Performed 6/8/2017		Jurisdiction	
Analysis Time Period Saturday PM Peak-Hour		Analysis Year 2017	
Project Description: Redding Rancheria			
Input Data			
<p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-around;"> <div> <input type="checkbox"/> Class I highway <input checked="" type="checkbox"/> Class III highway <input type="checkbox"/> Class II highway </div> <div> <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <p>Terrain</p> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF 0.92</p> <p>No-passing zone 0%</p> <p>% Trucks and Buses, P_T 3%</p> <p>% Recreational vehicles, P_R 4%</p> <p>Access points mi 40/mi</p> <p>Show North Arrow</p>	
Analysis direction vol., V_d 66veh/h			
Opposing direction vol., V_o 44veh/h			
Shoulder width ft 6.0			
Lane Width ft 12.0			
Segment Length mi 0.2			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.9	1.9	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.974	0.974	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	74	49	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM}		Base free-flow speed ⁴ , BFFS 60.0 mi/h	
Total demand flow rate, both directions, v		Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) 0.0 mi/h	
Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$		Adj. for access points ⁴ , f_A (Exhibit 15-8) 10.0 mi/h	
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) 0.2 mi/h		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) 50.0 mi/h	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ 48.8 mi/h	
		Percent free flow speed, PFFS 97.7 %	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	1.1	1.1	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.997	0.997	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	72	48	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-a v_d^b})$	8.6		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	11.0		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	15.2		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	A		
Volume to capacity ratio, v/c	0.04		

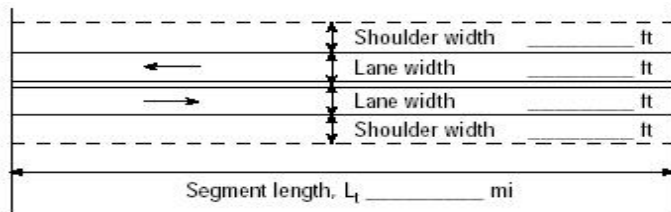

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	97.7
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	71.7
Effective width, W_v (Eq. 15-29) ft	36.06
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-1.84
Bicycle level of service (Exhibit 15-4)	A
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel <i>North St, e/o Oak St (EB)</i>	
Agency or Company		From/To	
Date Performed <i>6/8/2017</i>		Jurisdiction	
Analysis Time Period <i>Saturday PM Peak-Hour</i>		Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF <i>0.92</i></p> <p>No-passing zone <i>0%</i></p> <p>% Trucks and Buses, P_T <i>3%</i></p> <p>% Recreational vehicles, P_R <i>4%</i></p> <p>Access points <i>mi</i> <i>40/mi</i></p> </div> </div>	
Analysis direction vol., V_d <i>44veh/h</i>			
Opposing direction vol., V_o <i>66veh/h</i>			
Shoulder width ft <i>6.0</i>			
Lane Width ft <i>12.0</i>			
Segment Length mi <i>0.2</i>			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>49</i>	<i>74</i>	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>0.2 mi/h</i>		Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
		Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>10.0 mi/h</i>	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>50.0 mi/h</i>	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$	
		<i>48.8 mi/h</i>	
		Percent free flow speed, PFFS <i>97.7 %</i>	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>48</i>	<i>72</i>	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>5.9</i>		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>11.0</i>		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>10.3</i>		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	<i>A</i>		
Volume to capacity ratio, v/c	<i>0.03</i>		

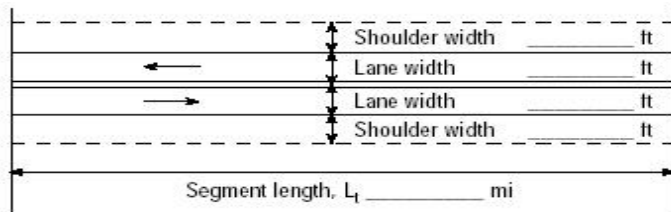

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	97.7
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	47.8
Effective width, W_v (Eq. 15-29) ft	38.04
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-2.78
Bicycle level of service (Exhibit 15-4)	A
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel North St, e/o Oak St (WB)	
Agency or Company		From/To	
Date Performed 6/8/2017		Jurisdiction	
Analysis Time Period Friday PM Peak-Hour		Analysis Year 2017	
Project Description: Redding Rancheria			
Input Data			
<p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-around;"> <div> <input type="checkbox"/> Class I highway <input checked="" type="checkbox"/> Class III highway <input type="checkbox"/> Class II highway </div> <div> <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <p>Terrain</p> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF 0.92</p> <p>No-passing zone 0%</p> <p>% Trucks and Buses, P_T 3%</p> <p>% Recreational vehicles, P_R 4%</p> <p>Access points mi 40/mi</p>	
Analysis direction vol., V_d 55veh/h Opposing direction vol., V_o 70veh/h Shoulder width ft 6.0 Lane Width ft 12.0 Segment Length mi 0.2			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.9	1.9	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.974	0.974	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	61	78	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM}		Base free-flow speed ⁴ , BFFS 60.0 mi/h	
Total demand flow rate, both directions, v		Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) 0.0 mi/h	
Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$		Adj. for access points ⁴ , f_A (Exhibit 15-8) 10.0 mi/h	
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) 0.2 mi/h		Free-flow speed, FFS ($FSS = BFFS - f_{LS} - f_A$) 50.0 mi/h	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ 48.7 mi/h	
		Percent free flow speed, PFFS 97.4 %	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	1.1	1.1	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.997	0.997	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	60	76	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-a v_d^b})$	7.2		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	10.2		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	11.7		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	A		
Volume to capacity ratio, v/c	0.04		

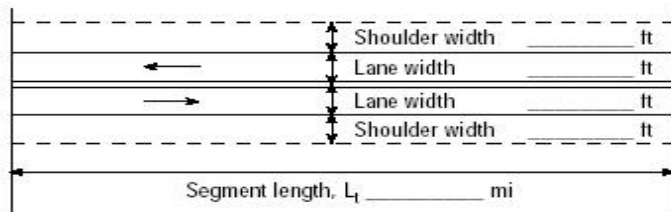

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	97.4
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	59.8
Effective width, W_v (Eq. 15-29) ft	37.05
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-2.30
Bicycle level of service (Exhibit 15-4)	A
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel <i>North St, e/o Oak St (EB)</i>	
Agency or Company		From/To	
Date Performed <i>6/8/2017</i>		Jurisdiction	
Analysis Time Period <i>Friday PM Peak-Hour</i>		Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF <i>0.92</i></p> <p>No-passing zone <i>0%</i></p> <p>% Trucks and Buses, P_T <i>3%</i></p> <p>% Recreational vehicles, P_R <i>4%</i></p> <p>Access points <i>mi</i> <i>40/mi</i></p> </div> </div>	
Analysis direction vol., V_d <i>70veh/h</i>			
Opposing direction vol., V_o <i>55veh/h</i>			
Shoulder width ft <i>6.0</i>			
Lane Width ft <i>12.0</i>			
Segment Length mi <i>0.2</i>			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>78</i>	<i>61</i>	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>0.2 mi/h</i>		Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
		Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>10.0 mi/h</i>	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>50.0 mi/h</i>	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$	
		<i>48.7 mi/h</i>	
		Percent free flow speed, PFFS <i>97.4 %</i>	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>76</i>	<i>60</i>	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-a v_d^b})$		<i>9.0</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)		<i>10.2</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$		<i>14.7</i>	
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)		<i>A</i>	
Volume to capacity ratio, v/c		<i>0.05</i>	

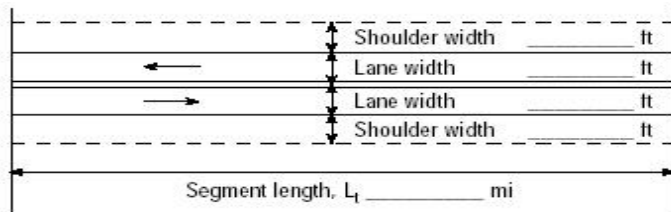

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	97.4
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	76.1
Effective width, W_v (Eq. 15-29) ft	35.70
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-1.69
Bicycle level of service (Exhibit 15-4)	A
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel Canyon Road (SB)	
Agency or Company		From/To	
Date Performed 6/8/2017		Jurisdiction	
Analysis Time Period Friday PM Peak-Hour		Analysis Year 2017	
Project Description: Redding Rancheria			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF 0.92</p> <p>No-passing zone 100%</p> <p>% Trucks and Buses, P_T 6 %</p> <p>% Recreational vehicles, P_R 4%</p> <p>Access points mi 0/mi</p> <div style="text-align: center;">  <p>Show North Arrow</p> </div>	
Analysis direction vol., V_d 227veh/h			
Opposing direction vol., V_o 364veh/h			
Shoulder width ft 6.0			
Lane Width ft 12.0			
Segment Length mi 0.2			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.5	1.3	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.971	0.982	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	254	403	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) 3.9 mi/h		Base free-flow speed ⁴ , BFFS 60.0 mi/h	
		Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) 0.0 mi/h	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) 0.0 mi/h	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) 60.0 mi/h	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ 51.0 mi/h	
		Percent free flow speed, PFFS 85.1 %	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	1.1	1.1	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.994	0.994	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	248	398	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{av_d^b})$	30.2		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	50.4		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	49.5		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	B		
Volume to capacity ratio, v/c	0.15		

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1669
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1690
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	85.1
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	246.7
Effective width, W_v (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	3.28
Bicycle level of service (Exhibit 15-4)	C
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel Canyon Road (NB)	
Agency or Company		From/To	
Date Performed 6/8/2017		Jurisdiction	
Analysis Time Period Saturday PM Peak-Hour		Analysis Year 2017	
Project Description: Redding Rancheria			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF 0.92</p> <p>No-passing zone 100%</p> <p>% Trucks and Buses, P_T 6 %</p> <p>% Recreational vehicles, P_R 4%</p> <p>Access points mi 0/mi</p> <div style="text-align: center;">  <p>Show North Arrow</p> </div>	
Analysis direction vol., V_d 229veh/h			
Opposing direction vol., V_o 362veh/h			
Shoulder width ft 6.0			
Lane Width ft 12.0			
Segment Length mi 0.2			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.5	1.3	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.971	0.982	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	256	401	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) 3.9 mi/h		Base free-flow speed ⁴ , BFFS 60.0 mi/h	
		Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) 0.0 mi/h	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) 0.0 mi/h	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) 60.0 mi/h	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ 51.0 mi/h	
		Percent free flow speed, PFFS 85.0 %	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	1.1	1.1	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.994	0.994	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	250	396	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-a v_d^b})$	30.3		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	50.6		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	49.9		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	B		
Volume to capacity ratio, v/c	0.15		

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1669
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1690
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	85.0
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	248.9
Effective width, W_v (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	3.28
Bicycle level of service (Exhibit 15-4)	C
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel Canyon Road (NB)	
Agency or Company		From/To	
Date Performed 6/8/2017		Jurisdiction	
Analysis Time Period Friday PM Peak-Hour		Analysis Year 2017	
Project Description: Redding Rancheria			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF 0.92</p> <p>No-passing zone 100%</p> <p>% Trucks and Buses, P_T 6 %</p> <p>% Recreational vehicles, P_R 4%</p> <p>Access points mi 0/mi</p> <div style="text-align: center;">  <p>Show North Arrow</p> </div>	
Analysis direction vol., V_d 227veh/h			
Opposing direction vol., V_o 364veh/h			
Shoulder width ft 6.0			
Lane Width ft 12.0			
Segment Length mi 0.2			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.5	1.3	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.971	0.982	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	254	403	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) 3.9 mi/h		Base free-flow speed ⁴ , BFFS 60.0 mi/h	
		Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) 0.0 mi/h	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) 0.0 mi/h	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) 60.0 mi/h	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ 51.0 mi/h	
		Percent free flow speed, PFFS 85.1 %	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	1.1	1.1	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.994	0.994	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	248	398	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-a v_d^b})$	30.2		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	50.4		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	49.5		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	B		
Volume to capacity ratio, v/c	0.15		

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1669
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1690
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	85.1
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	246.7
Effective width, W_v (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	3.28
Bicycle level of service (Exhibit 15-4)	C
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Saturrday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	333	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	2.8	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	313	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	313	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	166	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	166	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	2.8	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/8/2017 07:27:29

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Saturrday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	327	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	2.7	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	307	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	307	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	164	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	164	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	2.7	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/8/2017 07:27:14

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	583	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	4.9	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	548	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	548	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	292	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	292	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, Dc	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	4.9	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/8/2017 07:25:52

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	518	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	4.3	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	487	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	487	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	259	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	259	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, Dc	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	4.3	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/8/2017 07:25:32

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	666	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.6	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	626	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	626	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	333	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	333	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	5.6	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/7/2017 21:25:16

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	568	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	4.7	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	534	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	534	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	284	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	284	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	4.7	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/7/2017 21:24:49

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	1004	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	8.4	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	944	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	944	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	502	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	502	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	8.4	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/7/2017 21:22:57

HCS7 Multilane Highway Segments Text Report

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	810	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	6.8	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	761	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

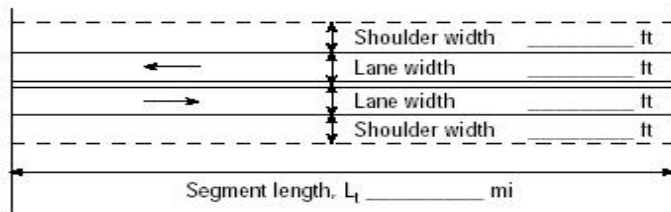

Step 4: Adjust Demand Volume

Demand Volume, V	761	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	405	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	405	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	6.8	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/7/2017 21:22:46

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET			
General Information		Site Information	
Analyst		Highway / Direction of Travel Canyon Road (SB)	
Agency or Company		From/To	
Date Performed 6/8/2017		Jurisdiction	
Analysis Time Period Saturday PM Peak-Hour		Analysis Year 2017	
Project Description: Redding Rancheria			
Input Data			
 <p>Shoulder width _____ ft</p> <p>Lane width _____ ft</p> <p>Lane width _____ ft</p> <p>Shoulder width _____ ft</p> <p>Segment length, L_1 _____ mi</p>		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <p>Grade Length _____ mi Up/down</p> <p>Peak-hour factor, PHF 0.92</p> <p>No-passing zone 100%</p> <p>% Trucks and Buses, P_T 6 %</p> <p>% Recreational vehicles, P_R 4%</p> <p>Access points mi 0/mi</p> <div style="text-align: center;">  <p>Show North Arrow</p> </div>	
Analysis direction vol., V_d 362veh/h			
Opposing direction vol., V_o 229veh/h			
Shoulder width ft 6.0			
Lane Width ft 12.0			
Segment Length mi 0.2			
Average Travel Speed			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.3	1.5	
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.982	0.971	
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00	
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	401	256	
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM} Total demand flow rate, both directions, v Free-flow speed, $FFS = S_{FM} + 0.00776(v / f_{HV,ATS})$ Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) 4.1 mi/h		Base free-flow speed ⁴ , BFFS 60.0 mi/h	
		Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) 0.0 mi/h	
		Adj. for access points ⁴ , f_A (Exhibit 15-8) 0.0 mi/h	
		Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) 60.0 mi/h	
		Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ 50.8 mi/h	
		Percent free flow speed, PFFS 84.6 %	
Percent Time-Spent-Following			
	Analysis Direction (d)	Opposing Direction (o)	
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	1.1	1.1	
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0	
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.994	0.994	
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00	
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	396	250	
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-a v_d^b})$	39.5		
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	50.6		
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	70.5		
Level of Service and Other Performance Measures			
Level of service, LOS (Exhibit 15-3)	B		
Volume to capacity ratio, v/c	0.24		

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1661
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1690
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	84.6
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	393.5
Effective width, W_v (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	3.51
Bicycle level of service (Exhibit 15-4)	D
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 downgrade segments are treated as level terrain. 2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ 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. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

Segment Inputs				Existing Conditions														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
		Length	Number of Lanes	Interchange Density	SAT Peak		V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS		
					FRI Peak	SAT Peak												
		(ft)	(N)	(I/mi)	(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)		(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)			
Northbound	Deschutes Rd to Balls Ferry Rd	200	2	3.00	1,946	1,362	1089.34	67.3	65	63.6315	17.119	B	762.4239	67.3	65	59.2358	12.9	B
	Balls Ferry Rd Off to North St On	4000	2	3.00	1,448	1,029	810.565	67.3	65	60.0734	13.493	B	576.0163	67.3	65	55.3725	10.403	A
	North St to Riverside Ave	200	2	3.00	1,795	1,245	1004.81	67.3	65	62.7854	16.004	B	696.9293	67.3	65	57.9907	12.018	B
Southbound	Riverside Ave to North St	490	2	3.00	2,561	1,720	1433.6	67.3	65	64.984	22.061	C	962.8261	67.3	65	62.2899	15.457	B
	North St Off to Balls Ferry On	4100	2	3.00	2,168	1,481	1213.61	67.3	65	64.5074	18.813	C	829.038	67.3	65	60.3774	13.731	B
	Balls Ferry Rd to Deschutes Rd	130	2	3.00	2,554	1,788	1429.68	67.3	65	64.9875	21.999	C	1000.891	67.3	65	62.7413	15.953	B
Universal Inputs:																		
PHF		0.92																
(P _t)		6%																
f _{HV}		0.970873786																

Segment Inputs				Existing Conditions																																
				Friday PM Flow Inputs			AM LOS Performance Measures										Saturday PM Flow Inputs			PM LOS Performance Measures																
ID	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (ft)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V_{01}	V_{02}	V_{03}	V_{04}/S_{04}	P_{FAM}	V_{12}	Capacity	V_3	V_{12A}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V_{01}	V_{02}	V_{03}	V_{04}/S_{04}	P_{FAM}	V_{12}	Capacity	V_3	V_{12A}	v/c	D	LOS			
				(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	
20	North St On Ramp	2	1	300	1795	1448	387	2010	1621	388	46	1	1621.1	4800	0	1216	1621	0.4187	19.09	B	1599	1165	434	1790	1304	486	37	1	1304.3	4800	0	978	1304	0.373	17.334	B
21	Balls Ferry Rd On Ramp	2	1	300	2554	2168	386	2859	2427	432	69	1	2427.2	4800	0	1820	2427	0.5957	25.698	C	1827	1537	290	2045	1721	325	49	1	1720.8	4800	0	1291	1721	0.4261	19.399	B
Voronoi inputs:																																				
Length	1500		(ft)																																	
k_{01}	70		(veh/h)																																	
k_{02}	35		(veh/h)																																	
P_{FAM}	0.92																																			
P_{01}	6%																																			
k_{01}	0.970873786																																			

Segment Inputs					Existing Conditions																													
					AM Flow Inputs										PM Flow Inputs					PM LOS Performance Measures														
	Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L _d)		Downstream Volume (veh/h)	Upstream Volume (veh/h)	Ramp Volume (veh/h)	V ₂ (pc/h/ln)	V ₁ (pc/h/ln)	V ₃ (pc/h/ln)	P _{T10}	V ₁₂ (pc/h/ln)	Capacity	V ₃	V _{12a}	v/c	D	LOS	Downstream Volume (D) (veh/h)	Upstream Volume (F) (veh/h)	Ramp Volume (R) (veh/h)	V ₂ (pc/h/ln)	V ₁ (pc/h/ln)	V ₃ (pc/h/ln)	P _{T10}	V ₁₂ (pc/h/ln)	Capacity	V ₃	V _{12a}	v/c	D	LOS		
			L ₁ (ft)	L ₂ (ft)																														
Balls Ferry Rd Off	2	1	556	300	1448	1946	498	439.989	2178.7	557.54	1	2178.7	4800	0	1634	2179	0.4539	20.289	C	1165	1429	264	485.891	1599.9	295.57	1	1599.9	4800	0	1200	1600	0.3333	15.311	B
North Rd Off	2	1	0	150	2168	2561	393	0	2867.2	439.99	1	2867.2	4800	0	2150	2867	0.5973	27.56	C	1537	1971	434	0	2206.7	485.89	1	2206.7	4800	0	1655	2207	0.4597	21.879	C
Universal Grades																																		
Range 1500																																		
L _d = 75 (m/h)																																		
L _d = 35 (m/h)																																		
PHF = 0.92																																		
P = 0.95																																		
C _d = 0.9708/73786																																		

Segment Inputs				Existing Conditions														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
		Length	Number of Lanes	Interchange Density	SAT Peak		V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS		
					FRI Peak	SAT Peak												
		(ft)	(N)	(I/mi)	(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)		(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)			
Soutbour Northbo	Smith Rd to Bonnyview Rd	2400	2	0.33	2,021	1,429	1131.32	74.12	75	74.8091	15.123	B	799.9293	74.12	75	74.5569	10.7	A
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	1,632	1,165	609.043	74.12	75	73.308	8.308	A	434.7645	74.12	75	71.4632	6.0838	A
	Bonnyview Rd to Cypress Ave	7000	3	0.33	2,284	1,599	852.362	74.12	75	74.7587	11.402	B	596.7283	74.12	75	73.1997	8.1521	A
	Cypress Ave to Bonnyview Rd	7000	3	0.33	2,816	1,971	1050.9	74.12	75	74.9713	14.017	B	735.5543	74.12	75	74.2259	9.9097	A
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,182	1,537	814.297	74.12	75	74.6182	10.913	A	573.5906	74.12	75	72.9872	7.8588	A
	Bonnyview Rd to Smith Rd	2600	2	0.33	2,715	1,827	1519.81	74.12	75	72.0089	21.106	C	1022.723	74.12	75	74.9943	13.637	B
Universal Inputs:																		
PHF		0.92																
(P _i)		6%																
f _{HV}		0.970873786																

[illegible]

Segment Inputs					Existing Conditions																													
					AM Flow Inputs													PM Flow Inputs				PM LOS Performance Measures												
	Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L_d)		Downstream Volume (veh/h)	Upstream Volume (veh/h)	Ramp Volume (veh/h)	V_o (pc/h/sf)	V_l (pc/h/sf)	V_r (pc/h/sf)	P_{TD}	V_{12} (pc/h/sf)	Capacity	V_s	V_{12s}	v/c	D	LOS	Downstream Volume (D) (veh/h)	Upstream Volume (F) (veh/h)	Ramp Volume (R) (veh/h)	V_o (pc/h/sf)	V_l (pc/h/sf)	V_r (pc/h/sf)	P_{TD}	V_{12} (pc/h/sf)	Capacity	V_s	V_{12s}	v/c	D	LOS		
S Bonnyview Rd Off	3	1	530	180	1632	2021	389	709.804	2262.6	435.51	0.436	132.21	7200	515	924	1232	0.3143	13.228	B	1165	1429	264	485.891	1599.9	295.57	0.436	864.24	7200	368	648	864	0.2222	10.064	B
S Bonnyview Rd Off	3	1	-	180	2182	2816	634	-	3152.7	709.8	0.6485	2294.1	7200	859	1721	2294	0.4379	22.361	C	1537	1971	434	-	2206.7	485.89	0.6825	1660.3	7200	546	1245	1660	0.3065	16.91	B
Universal Inputs:																																		
Design Speed	(ft)																																	
$k =$	70		(mi/h)																															
$\lambda =$	35		(mi/h)																															
PHF	0.92																																	
$\rho =$	0.15																																	
c_u	0.970873786																																	

























TRAFFIC SIGNAL WARRANTS

	2025			2040		
Intersection	NB/SB	EB/WB	Meet Warrant? (2025)	NB/SB	EB/WB	Meet Warrant? (2040)
1	1904	988		2230	1113	
2	420	2348		491	2628	
3	1111	2680		1361	3155	
4	913	3037		993	3527	
5	626	2646		756	3021	
6	803	1793		928	2133	
7	140	1402	YES	140	1742	YES
8	232	1076	YES	327	1343	YES
9	329	696	YES	419	906	YES
10	294	19	NO	357	26	NO
11	1850	514		1931	543	
12	1563	166		1628	189	
13	1607	324		1685	374	
14	1549	400		1754	417	
15	413	525		423	526	
16	986	144		1157	155	
17	852	507		1137	633	
18	82	852	NO	86	994	NO
19	423	763	YES	477	863	YES
20	501	1045	YES	596	1201	YES
21	102	627	NO	112	844	NO
22	93	1080		116	1452	
23	828	1021		1071	1264	

**BASELINE ANALYSIS (OPENING YEAR 2025 AND
CUMULATIVE 2040)**

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Opening Year (2025) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	523	80	224	55	420	377	338	705	9
Future Volume (veh/h)	10	83	68	523	80	224	55	420	377	338	705	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	568	204	165	60	457	410	367	766	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	307	137	717	512	436	296	1136	508	499	1059	474
Arrive On Green	0.01	0.09	0.09	0.20	0.28	0.28	0.17	0.32	0.32	0.14	0.30	0.30
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	568	204	165	60	457	410	367	766	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.6	2.9	9.9	5.8	3.5	1.9	6.6	15.5	6.7	12.6	0.2
Cycle Q Clear(g_c), s	0.4	1.6	2.9	9.9	5.8	3.5	1.9	6.6	15.5	6.7	12.6	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	307	137	717	512	436	296	1136	508	499	1059	474
V/C Ratio(X)	0.45	0.29	0.54	0.79	0.40	0.38	0.20	0.40	0.81	0.74	0.72	0.02
Avail Cap(c_a), veh/h	150	2197	983	816	1427	1213	296	1709	764	897	2332	1043
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	27.9	28.5	24.7	19.3	7.6	23.4	17.3	20.3	26.7	20.5	10.5
Incr Delay (d2), s/veh	12.2	0.5	3.2	4.8	0.5	0.5	0.3	0.2	3.9	2.1	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.4	5.3	3.1	2.2	1.0	3.2	7.3	3.3	6.3	0.1
LnGrp Delay(d),s/veh	44.2	28.4	31.8	29.5	19.8	8.2	23.8	17.5	24.2	28.8	21.4	10.5
LnGrp LOS	D	C	C	C	B	A	C	B	C	C	C	B
Approach Vol, veh/h		175			937			927			1143	
Approach Delay, s/veh		30.8			23.6			20.9			23.7	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	24.9	17.2	9.7	14.9	23.5	4.9	21.9				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.7	17.5	11.9	4.9	3.9	14.6	2.4	7.8				
Green Ext Time (p_c), s	0.8	3.5	1.3	0.7	0.3	4.9	0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay			23.2									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.























Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	980	5	10	1092	216	10	15	10	341	5	39
Future Volume (veh/h)	45	980	5	10	1092	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1065	5	11	1187	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1694	8	24	1552	694	206	289	174	530	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3612	17	1774	3539	1583	403	843	508	1257	17	142
Grp Volume(v), veh/h	49	522	548	11	1187	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1754	0	0	1416	0	0
Q Serve(g_s), s	1.9	15.3	15.3	0.4	19.5	6.7	0.0	0.0	0.0	17.8	0.0	0.0
Cycle Q Clear(g_c), s	1.9	15.3	15.3	0.4	19.5	6.7	1.0	0.0	0.0	18.8	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	78	830	872	24	1552	694	668	0	0	584	0	0
V/C Ratio(X)	0.62	0.63	0.63	0.45	0.76	0.34	0.06	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	129	830	872	129	1648	737	1076	0	0	940	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.3	13.7	13.7	33.6	16.3	12.7	15.2	0.0	0.0	20.9	0.0	0.0
Incr Delay (d2), s/veh	7.9	1.5	1.4	12.4	2.1	0.3	0.0	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.7	8.1	0.3	9.8	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	40.2	15.3	15.2	46.0	18.4	13.0	15.2	0.0	0.0	22.6	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h	1119			1433			38			418		
Approach Delay, s/veh	16.3			17.7			15.2			22.6		
Approach LOS	B			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.6	4.9	36.2		27.6	7.0	34.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.0	2.4	17.3		20.8	3.9	21.5				
Green Ext Time (p_c), s		3.1	0.0	11.8		2.7	0.0	8.7				
Intersection Summary												
HCM 2010 Ctrl Delay	17.8											
HCM 2010 LOS	B											

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	1058	25	36	1183	306	25	15	30	756	20	265
Future Volume (veh/h)	208	1058	25	36	1183	306	25	15	30	756	20	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1150	27	39	1286	333	27	16	33	838	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	1575	37	62	1455	651	55	33	77	1011	0	451
Arrive On Green	0.07	0.45	0.45	0.04	0.41	0.41	0.05	0.05	0.05	0.28	0.00	0.28
Sat Flow, veh/h	1774	3535	83	1774	3539	1583	1134	672	1583	3548	0	1583
Grp Volume(v), veh/h	226	576	601	39	1286	333	43	0	33	838	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1848	1774	1770	1583	1806	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	23.0	23.0	1.9	29.0	13.5	2.0	0.0	1.7	19.0	0.0	13.7
Cycle Q Clear(g_c), s	6.0	23.0	23.0	1.9	29.0	13.5	2.0	0.0	1.7	19.0	0.0	13.7
Prop In Lane	1.00		0.04	1.00		1.00	0.63		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	124	788	823	62	1455	651	88	0	77	1011	0	451
V/C Ratio(X)	1.83	0.73	0.73	0.62	0.88	0.51	0.49	0.00	0.43	0.83	0.00	0.64
Avail Cap(c_a), veh/h	124	788	823	103	1500	671	388	0	340	1359	0	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.1	19.6	19.6	41.0	23.5	18.9	39.9	0.0	39.8	28.8	0.0	26.9
Incr Delay (d2), s/veh	402.7	3.5	3.3	9.8	6.5	0.6	4.2	0.0	3.7	3.3	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	12.0	12.5	1.1	15.4	6.0	1.1	0.0	0.8	9.8	0.0	6.2
LnGrp Delay(d),s/veh	442.8	23.1	23.0	50.8	30.0	19.5	44.1	0.0	43.5	32.1	0.0	28.4
LnGrp LOS	F	C	C	D	C	B	D		D	C		C
Approach Vol, veh/h		1403			1658			76			1126	
Approach Delay, s/veh		90.6			28.4			43.9			31.2	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.2	7.0	42.4		28.5	10.0	39.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.0	3.9	25.0		21.0	8.0	31.0				
Green Ext Time (p_c), s		0.2	0.0	10.8		3.5	0.0	4.5				
Intersection Summary												
HCM 2010 Ctrl Delay			49.9									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.








Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↙	↑↑						↗	↗
Traffic Volume (veh/h)	0	1254	590	300	893	0	0	0	0	285	1	632
Future Volume (veh/h)	0	1254	590	300	893	0	0	0	0	285	1	632
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1363	641	326	971	0				310	1	687
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1116	514	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3574	1569	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1356	648	326	971	0				311	0	687
Grp Sat Flow(s),veh/h/ln	0	1695	1586	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	19.6	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	19.6	0.0				11.3	0.0	26.8
Prop In Lane	0.00		0.99	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.22	1.25	0.98	0.49	0.00				0.52	0.00	1.30
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.59	0.59	0.47	0.47	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	22.1	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	104.7	120.7	28.7	0.4	0.0				0.8	0.0	146.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	28.3	28.8	9.9	9.7	0.0				5.7	0.0	33.2
LnGrp Delay(d),s/veh	0.0	131.6	147.6	66.1	22.5	0.0				22.3	0.0	173.0
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2004			1297						998	
Approach Delay, s/veh		136.7			33.5						126.0	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.7	28.2		28.8		21.6				
Green Ext Time (p_c), s			0.0	0.0		0.0		20.4				
Intersection Summary												
HCM 2010 Ctrl Delay		103.1										
HCM 2010 LOS		F										






















Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	665	874	0	0	822	285	371	5	255	0	0	0
Future Volume (veh/h)	665	874	0	0	822	285	371	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	723	950	0	0	893	310	403	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	405	5	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	22	1583			
Grp Volume(v), veh/h	723	950	0	0	893	310	408	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.7	0.0	0.0	14.8	9.3	18.4	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.7	0.0	0.0	14.8	9.3	18.4	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.36	0.40	0.00	0.00	0.79	0.61	0.99	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.39	0.39	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.6	11.6	30.7	0.0	28.7			
Incr Delay (d2), s/veh	162.5	0.0	0.0	0.0	2.3	2.2	42.7	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	35.6	1.6	0.0	0.0	7.3	4.3	13.8	0.0	6.6			
LnGrp Delay(d),s/veh	186.5	1.7	0.0	0.0	14.8	13.7	73.4	0.0	37.4			
LnGrp LOS	F	A			B	B	E		D			
Approach Vol, veh/h	1673				1203			685				
Approach Delay, s/veh	81.6				14.6			58.9				
Approach LOS	F				B			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		20.4		5.7			26.0	16.8				
Green Ext Time (p_c), s		0.0		21.9			0.0	7.0				
Intersection Summary												
HCM 2010 Ctrl Delay				54.6								
HCM 2010 LOS				D								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	631	80	35	499	130	125	10	25	145	15	483
Future Volume (veh/h)	418	631	80	35	499	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	686	87	38	542	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1008	451	63	614	159	409	33	393	374	38	366
Arrive On Green	0.20	0.57	0.57	0.04	0.22	0.22	0.25	0.25	0.25	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2784	721	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	686	87	38	344	339	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1735	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	10.9	2.1	1.7	15.0	15.2	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	10.9	2.1	1.7	15.0	15.2	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.42	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1008	451	63	390	383	442	0	393	412	0	366
V/C Ratio(X)	1.32	0.68	0.19	0.60	0.88	0.89	0.33	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1008	451	111	409	401	442	0	393	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.7	12.8	38.0	30.2	30.2	24.6	0.0	23.0	26.2	0.0	30.8
Incr Delay (d2), s/veh	161.0	1.7	0.2	8.8	18.9	20.0	2.0	0.0	0.3	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.4	0.9	1.0	9.4	9.4	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	193.0	16.3	13.0	46.8	49.1	50.2	26.7	0.0	23.3	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h	1227				721		174				699	
Approach Delay, s/veh	81.5				49.5		26.1				187.8	
Approach LOS	F				D		C				F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	23.9		6.9	26.8	22.5		12.0	21.6				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	19.0		5.0	21.5	18.5		8.0	18.5				
Max Q Clear Time (g_c+I1), s	7.4		3.7	12.9	20.5		10.0	17.2				
Green Ext Time (p_c), s	0.5		0.0	5.2	0.0		0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	96.2											
HCM 2010 LOS	F											

Redding Rancheria
7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Opening Year (2025) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	696	569	30	25	95
Future Vol, veh/h	105	696	569	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	757	618	33	27	103





Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	651	0	0 1242 326
Stage 1	-	-	- 635 -
Stage 2	-	-	- 607 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	931	-	- 167 670
Stage 1	-	-	- 490 -
Stage 2	-	-	- 507 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	931	-	- 132 670
Mov Cap-2 Maneuver	-	-	- 132 -
Stage 1	-	-	- 490 -
Stage 2	-	-	- 400 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	931	-	-	-	132	670
HCM Lane V/C Ratio	0.123	-	-	-	0.206	0.154
HCM Control Delay (s)	9.4	-	-	-	39.2	11.4
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	0.5

Intersection

Int Delay, s/veh 13.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	198	428	377	73	75	157
Future Vol, veh/h	198	428	377	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	465	410	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	489	0	0 1345 449
Stage 1	-	-	- 449 -
Stage 2	-	-	- 896 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1074	-	- 167 610
Stage 1	-	-	- 643 -
Stage 2	-	-	- 399 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1074	-	- 134 610
Mov Cap-2 Maneuver	-	-	- 134 -
Stage 1	-	-	- 643 -
Stage 2	-	-	- 319 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	68
HCM LOS			F





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1074	-	-	-	284
HCM Lane V/C Ratio	0.2	-	-	-	0.888
HCM Control Delay (s)	9.2	-	-	-	68
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.7	-	-	-	7.9

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 9.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	360	163	128	45	40	289
Future Vol, veh/h	360	163	128	45	40	289
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	391	177	139	49	43	314

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	188	0	0 1124 164
Stage 1	-	-	- 164 -
Stage 2	-	-	- 960 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1386	-	- 227 881
Stage 1	-	-	- 865 -
Stage 2	-	-	- 372 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1386	-	- 163 881
Mov Cap-2 Maneuver	-	-	- 163 -
Stage 1	-	-	- 865 -
Stage 2	-	-	- 267 -

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	21.1
HCM LOS			C




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	574
HCM Lane V/C Ratio	0.282	-	-	-	0.623
HCM Control Delay (s)	8.6	-	-	-	21.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.2	-	-	-	4.3

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) Conditions
Friday PM Peak

Intersection













Int Delay, s/veh 0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	3	8	115	140	31
Future Vol, veh/h	16	3	8	115	140	31
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	3	9	125	152	34







Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	311	169	186
Stage 1	169	-	-
Stage 2	142	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	681	875	1388
Stage 1	861	-	-
Stage 2	885	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	676	875	1388
Mov Cap-2 Maneuver	676	-	-
Stage 1	861	-	-
Stage 2	879	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1388	-	701	-	-
HCM Lane V/C Ratio	0.006	-	0.029	-	-
HCM Control Delay (s)	7.6	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-





















								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	278	236	152	546	731	421		
Future Volume (veh/h)	278	236	152	546	731	421		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	302	257	165	593	795	458		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	776	357	213	2124	1391	622		
Arrive On Green	0.23	0.23	0.12	0.60	0.39	0.39		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	302	257	165	593	795	458		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	3.4	6.9	4.1	3.7	8.1	11.3		
Cycle Q Clear(g_c), s	3.4	6.9	4.1	3.7	8.1	11.3		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	776	357	213	2124	1391	622		
V/C Ratio(X)	0.39	0.72	0.77	0.28	0.57	0.74		
Avail Cap(c_a), veh/h	1349	621	386	2620	1541	689		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.1	16.4	19.6	4.4	10.9	11.9		
Incr Delay (d2), s/veh	0.3	2.7	5.9	0.1	0.4	3.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.6	6.0	2.4	1.8	3.9	5.5		
LnGrp Delay(d),s/veh	15.4	19.2	25.5	4.5	11.3	15.6		
LnGrp LOS	B	B	C	A	B	B		
Approach Vol, veh/h	559			758	1253			
Approach Delay, s/veh	17.1			9.1	12.9			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		31.6		14.4	9.5	22.1		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		34.0		18.0	10.0	20.0		
Max Q Clear Time (g_c+I1), s		5.7		8.9	6.1	13.3		
Green Ext Time (p_c), s		12.0		1.5	0.1	4.7		
Intersection Summary								
HCM 2010 Ctrl Delay			12.7					
HCM 2010 LOS			B					



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	130	36	20	581	885	77		
Future Volume (veh/h)	130	36	20	581	885	77		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	141	39	22	632	962	84		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	219	196	49	2231	1697	759		
Arrive On Green	0.12	0.12	0.03	0.63	0.48	0.48		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	141	39	22	632	962	84		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	2.5	0.7	0.4	2.6	6.3	0.9		
Cycle Q Clear(g_c), s	2.5	0.7	0.4	2.6	6.3	0.9		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	219	196	49	2231	1697	759		
V/C Ratio(X)	0.64	0.20	0.45	0.28	0.57	0.11		
Avail Cap(c_a), veh/h	2020	1802	273	6534	5554	2485		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.6	12.8	15.6	2.7	6.0	4.6		
Incr Delay (d2), s/veh	3.1	0.5	6.2	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	0.7	0.3	1.3	3.0	0.4		
LnGrp Delay(d),s/veh	16.7	13.3	21.8	2.8	6.3	4.7		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	180			654	1046			
Approach Delay, s/veh	16.0			3.4	6.2			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		24.5		8.0	4.9	19.6		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+l1), s		4.6		4.5	2.4	8.3		
Green Ext Time (p_c), s		4.1		0.5	1.0	7.3		
Intersection Summary								
HCM 2010 Ctrl Delay			6.2					
HCM 2010 LOS			A					













Redding Rancheria
13: SR-273 & Westside Rd/Girvan Rd

Opening Year (2025) Conditions
Friday PM Peak

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	20	57	160	18	61	35	532	148	94	766	32
Future Volume (veh/h)	8	20	57	160	18	61	35	532	148	94	766	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	9	22	62	174	20	66	38	578	161	102	833	35
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	13	31	88	270	58	191	76	932	417	198	1176	526
Arrive On Green	0.08	0.08	0.08	0.15	0.15	0.15	0.04	0.26	0.26	0.11	0.33	0.33
Sat Flow, veh/h	161	393	1106	1774	382	1259	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	93	0	0	174	0	86	38	578	161	102	833	35
Grp Sat Flow(s),veh/h/ln	1659	0	0	1774	0	1641	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	2.2	0.0	0.0	3.8	0.0	1.9	0.9	5.9	3.4	2.2	8.4	0.6
Cycle Q Clear(g_c), s	2.2	0.0	0.0	3.8	0.0	1.9	0.9	5.9	3.4	2.2	8.4	0.6
Prop In Lane	0.10		0.67	1.00		0.77	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	133	0	0	270	0	249	76	932	417	198	1176	526
V/C Ratio(X)	0.70	0.00	0.00	0.65	0.00	0.34	0.50	0.62	0.39	0.51	0.71	0.07
Avail Cap(c_a), veh/h	1508	0	0	806	0	745	218	1608	719	218	1608	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	0.0	0.0	16.2	0.0	15.5	19.1	13.2	12.3	17.0	11.9	9.3
Incr Delay (d2), s/veh	6.6	0.0	0.0	2.6	0.0	0.8	5.0	0.7	0.6	2.1	0.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	2.0	0.0	0.9	0.5	2.9	1.5	1.2	4.2	0.3
LnGrp Delay(d),s/veh	24.8	0.0	0.0	18.8	0.0	16.3	24.0	13.9	12.9	19.1	12.8	9.3
LnGrp LOS	C			B		B	C	B	B	B	B	A
Approach Vol, veh/h	93				260		777				970	
Approach Delay, s/veh	24.8				18.0		14.2				13.3	
Approach LOS	C				B		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	8.6	14.7			7.3	5.7	17.5	10.2				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.5				37.0	5.0	18.5	18.5				
Max Q Clear Time (g_c+I1), s	7.9				4.2	2.9	10.4	5.8				
Green Ext Time (p_c), s	0.0	2.9			0.5	0.1	3.2	0.8				
Intersection Summary												
HCM 2010 Ctrl Delay	14.7											
HCM 2010 LOS	B											

Redding Rancheria
14: SR-273 & Canyon Rd












Opening Year (2025) Conditions
Friday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	 							
Traffic Volume (veh/h)	329	71	82	472	547	448		
Future Volume (veh/h)	329	71	82	472	547	448		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	430	0	89	513	595	0		
Adj No. of Lanes	2	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	735	334	146	2011	1323	1042		
Arrive On Green	0.21	0.00	0.08	0.57	0.37	0.00		
Sat Flow, veh/h	3548	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	430	0	89	513	595	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	3.9	0.0	1.7	2.6	4.5	0.0		
Cycle Q Clear(g_c), s	3.9	0.0	1.7	2.6	4.5	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	735	334	146	2011	1323	1042		
V/C Ratio(X)	0.59	0.00	0.61	0.26	0.45	0.00		
Avail Cap(c_a), veh/h	2989	1361	399	4174	2982	2348		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	12.7	0.0	15.8	3.9	8.4	0.0		
Incr Delay (d2), s/veh	0.7	0.0	4.1	0.1	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.0	1.2	2.2	0.0		
LnGrp Delay(d),s/veh	13.5	0.0	19.9	3.9	8.6	0.0		
LnGrp LOS	B		B	A	A			
Approach Vol, veh/h	430			602	595			
Approach Delay, s/veh	13.5			6.3	8.6			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		24.2		11.4	6.9	17.3		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		
Max Q Clear Time (g_c+I1), s		4.6		5.9	3.7	6.5		
Green Ext Time (p_c), s		7.6		1.6	0.1	6.8		
Intersection Summary								
HCM 2010 Ctrl Delay			9.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
15: Canyon Rd & Redding Rancheria Rd












Opening Year (2025) Conditions
Friday PM Peak

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	350	175	9	222	169	13		
Future Volume (veh/h)	350	175	9	222	169	13		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	380	0	0	248	194	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	526	470	279	474	486	255		
Arrive On Green	0.30	0.00	0.00	0.15	0.14	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	380	0	0	248	194	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	5.5	0.0	0.0	2.1	1.4	0.0		
Cycle Q Clear(g_c), s	5.5	0.0	0.0	2.1	1.4	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	526	470	279	474	486	255		
V/C Ratio(X)	0.72	0.00	0.00	0.52	0.40	0.00		
Avail Cap(c_a), veh/h	1281	1144	1203	2045	2291	1203		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.1	0.0	0.0	11.3	11.3	0.0		
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.9	0.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	1.0	0.7	0.0		
LnGrp Delay(d),s/veh	11.0	0.0	0.0	12.2	11.9	0.0		
LnGrp LOS	B			B	B			
Approach Vol, veh/h	380		248			194		
Approach Delay, s/veh	11.0		12.2			11.9		
Approach LOS	B		B			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.3				7.9		12.5
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		18.6				18.6		20.8
Max Q Clear Time (g_c+I1), s		4.1				3.4		7.5
Green Ext Time (p_c), s		0.8				0.5		1.0
Intersection Summary								
HCM 2010 Ctrl Delay			11.5					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
16: SR-273 & Happy Valley Rd
























Opening Year (2025) Conditions
Friday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	65	79	77	370	467	72		
Future Volume (veh/h)	65	79	77	370	467	72		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	71	86	84	402	508	78		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	95	115	150	2123	1339	599		
Arrive On Green	0.13	0.13	0.08	0.60	0.38	0.38		
Sat Flow, veh/h	748	906	1774	3632	3632	1583		
Grp Volume(v), veh/h	158	0	84	402	508	78		
Grp Sat Flow(s),veh/h/ln	665	0	1774	1770	1770	1583		
Q Serve(g_s), s	2.7	0.0	1.3	1.5	3.0	0.9		
Cycle Q Clear(g_c), s	2.7	0.0	1.3	1.5	3.0	0.9		
Prop In Lane	0.45	0.54	1.00			1.00		
Lane Grp Cap(c), veh/h	211	0	150	2123	1339	599		
V/C Ratio(X)	0.75	0.00	0.56	0.19	0.38	0.13		
Avail Cap(c_a), veh/h	1709	0	425	5689	4357	1949		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.3	0.0	12.9	2.6	6.6	5.9		
Incr Delay (d2), s/veh	5.3	0.0	3.2	0.0	0.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.8	0.7	1.5	0.4		
LnGrp Delay(d),s/veh	17.6	0.0	16.1	2.7	6.8	6.0		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	158			486	586			
Approach Delay, s/veh	17.6			5.0	6.7			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		21.5		7.7	6.5	15.1		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+I1), s		3.5		4.7	3.3	5.0		
Green Ext Time (p_c), s		6.3		0.4	0.0	6.0		
Intersection Summary								
HCM 2010 Ctrl Delay			7.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
17: SR-273 & North St

Opening Year (2025) Conditions
Friday PM Peak







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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	106	48	154	103	82	47	216	157	86	329	17
Future Volume (veh/h)	14	106	48	154	103	82	47	216	157	86	329	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	15	115	52	167	112	89	51	235	171	93	358	18
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	254	174	79	287	301	256	96	782	350	142	875	391
Arrive On Green	0.14	0.14	0.14	0.16	0.16	0.16	0.05	0.22	0.22	0.08	0.25	0.25
Sat Flow, veh/h	1774	1216	550	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	15	0	167	167	112	89	51	235	171	93	358	18
Grp Sat Flow(s),veh/h/ln	1774	0	1766	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.3	0.0	3.6	3.5	2.2	2.0	1.1	2.2	3.8	2.1	3.4	0.4
Cycle Q Clear(g_c), s	0.3	0.0	3.6	3.5	2.2	2.0	1.1	2.2	3.8	2.1	3.4	0.4
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	254	0	253	287	301	256	96	782	350	142	875	391
V/C Ratio(X)	0.06	0.00	0.66	0.58	0.37	0.35	0.53	0.30	0.49	0.66	0.41	0.05
Avail Cap(c_a), veh/h	1574	0	1567	787	826	702	262	1570	702	306	1657	741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.0	0.0	16.5	15.7	15.2	15.1	18.7	13.2	13.8	18.1	12.8	11.6
Incr Delay (d2), s/veh	0.1	0.0	2.9	1.9	0.8	0.8	4.6	0.2	1.1	5.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.0	1.9	1.2	0.9	0.7	1.1	1.8	1.2	1.7	0.2
LnGrp Delay(d),s/veh	15.1	0.0	19.4	17.6	15.9	15.9	23.3	13.4	14.9	23.2	13.1	11.7
LnGrp LOS	B		B	B	B	B	C	B	B	C	B	B
Approach Vol, veh/h	182					368		457		469		
Approach Delay, s/veh	19.0					16.7		15.0		15.0		
Approach LOS	B					B		B		B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	7.2	13.0			9.8	6.2	14.0	10.6				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.0				36.0	6.0	19.0	18.0				
Max Q Clear Time (g_c+I), s	5.8				5.6	3.1	5.4	5.5				
Green Ext Time (p_c), s	0.0	3.1			1.0	0.0	3.3	1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			15.9									
HCM 2010 LOS			B									

Redding Rancheria
18: Oak St & North St

Opening Year (2025) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	344	4	12	429	42	3	7	16	40	6	10
Future Vol, veh/h	21	344	4	12	429	42	3	7	16	40	6	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	374	4	13	466	46	3	8	17	43	7	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	512	0	0	378	0	0	685	960	376	949	939	256
Stage 1	-	-	-	-	-	-	422	422	-	515	515	-
Stage 2	-	-	-	-	-	-	263	538	-	434	424	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1051	-	-	1179	-	-	348	256	670	227	263	744
Stage 1	-	-	-	-	-	-	609	587	-	512	534	-
Stage 2	-	-	-	-	-	-	720	521	-	600	586	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1051	-	-	1179	-	-	328	248	670	211	254	744
Mov Cap-2 Maneuver	-	-	-	-	-	-	328	248	-	211	254	-
Stage 1	-	-	-	-	-	-	596	574	-	501	528	-
Stage 2	-	-	-	-	-	-	693	515	-	564	573	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	14.1	24.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	424	1051	-	-	1179	-	-	247
HCM Lane V/C Ratio	0.067	0.022	-	-	0.011	-	-	0.246
HCM Control Delay (s)	14.1	8.5	-	-	8.1	-	-	24.3
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.9

Redding Rancheria
19: North St & I-5 SB Off Ramp

Opening Year (2025) Conditions
Friday PM Peak

Intersection

Intersection Delay, s/veh 12.2
Intersection LOS B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	0	435	328	0	226	197
Future Vol, veh/h	0	435	328	0	226	197
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	473	357	0	246	214
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	11.6	10.7	14
HCM LOS	B	B	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	218	218	164	164	226	197
LT Vol	0	0	0	0	226	0
Through Vol	218	218	164	164	0	0
RT Vol	0	0	0	0	0	197
Lane Flow Rate	236	236	178	178	246	214
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.421	0.305	0.324	0.237	0.477	0.344
Departure Headway (Hd)	6.407	4.642	6.546	4.778	6.994	5.78
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	560	771	547	747	516	621
Service Time	4.166	2.399	4.308	2.539	4.744	3.529
HCM Lane V/C Ratio	0.421	0.306	0.325	0.238	0.477	0.345
HCM Control Delay	13.8	9.4	12.4	9	16	11.6
HCM Lane LOS	B	A	B	A	C	B
HCM 95th-tile Q	2.1	1.3	1.4	0.9	2.5	1.5







Redding Rancheria
20: McMurray Dr/I-5 NB On Ramp & North St

Opening Year (2025) Conditions
Friday PM Peak

Intersection

Intersection Delay, s/veh36.2

Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	129	204	296	151	233	32	92	210	199	0	0	0
Future Vol, veh/h	129	204	296	151	233	32	92	210	199	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	140	222	322	164	253	35	100	228	216	0	0	0
Number of Lanes	1	2	0	1	2	0	1	0	1	0	0	0







Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	30.5	17.3	59.2
HCM LOS	D	C	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	51%	0%	100%	19%	0%	100%	71%
Vol Right, %	0%	49%	0%	0%	81%	0%	0%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	92	409	129	136	364	151	155	110
LT Vol	92	0	129	0	0	151	0	0
Through Vol	0	210	0	136	68	0	155	78
RT Vol	0	199	0	0	296	0	0	32
Lane Flow Rate	100	445	140	148	396	164	169	119
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.247	0.993	0.345	0.343	0.852	0.425	0.413	0.284
Departure Headway (Hd)	8.894	8.044	8.866	8.347	7.756	9.321	8.8	8.587
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	405	453	407	432	467	387	409	418
Service Time	6.617	5.767	6.593	6.074	5.483	7.07	6.549	6.336
HCM Lane V/C Ratio	0.247	0.982	0.344	0.343	0.848	0.424	0.413	0.285
HCM Control Delay	14.5	69.3	16.2	15.4	41.2	18.8	17.6	14.7
HCM Lane LOS	B	F	C	C	E	C	C	B
HCM 95th-tile Q	1	12.7	1.5	1.5	8.6	2.1	2	1.2

Redding Rancheria
21: Oak St & Balls Ferry Rd

Opening Year (2025) Conditions

Friday PM Peak

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	292	11	22	289	12	15	3	54	30	0	0
Future Vol, veh/h	1	292	11	22	289	12	15	3	54	30	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	317	12	24	314	13	16	3	59	33	0	0




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	327	0	0	329	0	0	531	701	165	531	-	-
Stage 1	-	-	-	-	-	-	326	326	-	368	-	-
Stage 2	-	-	-	-	-	-	205	375	-	163	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	-
Pot Cap-1 Maneuver	1229	-	-	1227	-	-	431	361	850	431	0	0
Stage 1	-	-	-	-	-	-	661	647	-	624	0	0
Stage 2	-	-	-	-	-	-	778	615	-	823	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1229	-	-	1227	-	-	424	354	850	392	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	424	354	-	392	-	-
Stage 1	-	-	-	-	-	-	660	646	-	623	-	-
Stage 2	-	-	-	-	-	-	763	603	-	762	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.5			11.1			15		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	671	1229	-	-	1227	-	-	392
HCM Lane V/C Ratio	0.117	0.001	-	-	0.019	-	-	0.083
HCM Control Delay (s)	11.1	7.9	-	-	8	-	-	15
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.3























Redding Rancheria
22: I-5 SB On Ramp/Ventura St & Balls Ferry Rd

Opening Year (2025) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	322	51	364	318	22	0	0	0	18	68	7
Future Volume (veh/h)	3	322	51	364	318	22	0	0	0	18	68	7
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	3	350	55	396	346	24				20	74	8
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	7	451	70	1187	2873	1285				114	106	11
Arrive On Green	0.00	0.15	0.15	0.67	0.81	0.81				0.06	0.06	0.06
Sat Flow, veh/h	1774	3070	478	1774	3539	1583				1774	1653	179
Grp Volume(v), veh/h	3	200	205	396	346	24				20	0	82
Grp Sat Flow(s),veh/h/ln	1774	1770	1778	1774	1770	1583				1774	0	1831
Q Serve(g_s), s	0.2	10.9	11.1	9.5	2.0	0.3				1.1	0.0	4.4
Cycle Q Clear(g_c), s	0.2	10.9	11.1	9.5	2.0	0.3				1.1	0.0	4.4
Prop In Lane	1.00		0.27	1.00		1.00				1.00		0.10
Lane Grp Cap(c), veh/h	7	260	261	1187	2873	1285				114	0	118
V/C Ratio(X)	0.42	0.77	0.78	0.33	0.12	0.02				0.18	0.00	0.70
Avail Cap(c_a), veh/h	89	407	409	1187	2873	1285				550	0	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.7	41.0	41.1	7.1	2.0	1.8				44.3	0.0	45.8
Incr Delay (d2), s/veh	35.4	19.6	20.5	0.1	0.1	0.0				0.7	0.0	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	6.8	6.9	4.7	1.0	0.1				0.5	0.0	2.4
LnGrp Delay(d),s/veh	85.1	60.6	61.7	7.2	2.0	1.8				45.0	0.0	53.1
LnGrp LOS	F	E	E	A	A	A				D		D
Approach Vol, veh/h		408			766						102	
Approach Delay, s/veh		61.3			4.7						51.5	
Approach LOS		E			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			70.9	18.7		10.4	4.4	85.2				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			34.0	23.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			11.5	13.1		6.4	2.2	4.0				
Green Ext Time (p_c), s			3.5	1.6		0.4	0.0	3.8				
Intersection Summary												
HCM 2010 Ctrl Delay			26.5									
HCM 2010 LOS			C									

























Redding Rancheria
23: I-5 NB Off Ramp/McMurray Dr & Balls Ferry Rd

Opening Year (2025) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (veh/h)	80	254	0	0	491	196	73	129	201	231	0	194
Future Volume (veh/h)	80	254	0	0	491	196	73	129	201	231	0	194
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	87	276	0	0	534	213	79	140	218	251	0	211
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	89	2662	0	0	1639	651	298	313	266	0	0	0
Arrive On Green	0.10	1.00	0.00	0.00	0.66	0.66	0.17	0.17	0.17	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2568	984	1774	1863	1583		0	
Grp Volume(v), veh/h	87	276	0	0	381	366	79	140	218		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1689	1774	1863	1583			
Q Serve(g_s), s	4.9	0.0	0.0	0.0	9.3	9.3	3.9	6.8	13.3			
Cycle Q Clear(g_c), s	4.9	0.0	0.0	0.0	9.3	9.3	3.9	6.8	13.3			
Prop In Lane	1.00		0.00	0.00		0.58	1.00		1.00			
Lane Grp Cap(c), veh/h	89	2662	0	0	1172	1118	298	313	266			
V/C Ratio(X)	0.98	0.10	0.00	0.00	0.33	0.33	0.27	0.45	0.82			
Avail Cap(c_a), veh/h	89	2662	0	0	1172	1118	603	633	538			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.98	0.98	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	45.0	0.0	0.0	0.0	7.3	7.3	36.2	37.4	40.1			
Incr Delay (d2), s/veh	88.2	0.1	0.0	0.0	0.7	0.8	0.5	1.0	6.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.5	0.0	0.0	0.0	4.7	4.5	1.9	3.5	6.3			
LnGrp Delay(d),s/veh	133.1	0.1	0.0	0.0	8.0	8.1	36.7	38.4	46.3			
LnGrp LOS	F	A			A	A	D	D	D			
Approach Vol, veh/h		363			747			437				
Approach Delay, s/veh		32.0			8.0			42.0				
Approach LOS		C			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.8		79.2			9.0	70.2				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+l1), s		15.3		2.0			6.9	11.3				
Green Ext Time (p_c), s		1.5		7.5			0.0	5.8				
Intersection Summary												
HCM 2010 Ctrl Delay			23.3									
HCM 2010 LOS			C									

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd




















Opening Year (2025) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	373	57	144	35	349	271	238	406	5
Future Volume (veh/h)	0	46	54	373	57	144	35	349	271	238	406	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	405	133	110	38	379	295	259	441	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	395	177	441	608	516	331	993	444	420	765	342
Arrive On Green	0.00	0.11	0.11	0.12	0.33	0.33	0.19	0.28	0.28	0.12	0.22	0.22
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	405	133	110	38	379	295	259	441	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.5	5.0	2.3	1.2	0.8	3.8	7.3	3.2	4.9	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.5	5.0	2.3	1.2	0.8	3.8	7.3	3.2	4.9	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	395	177	441	608	516	331	993	444	420	765	342
V/C Ratio(X)	0.00	0.13	0.33	0.92	0.22	0.21	0.11	0.38	0.66	0.62	0.58	0.01
Avail Cap(c_a), veh/h	221	3239	1449	441	1705	1449	331	2863	1281	949	3399	1521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	17.7	18.1	19.2	10.8	3.3	15.0	12.8	14.1	18.4	15.5	10.7
Incr Delay (d2), s/veh	0.0	0.1	1.1	24.2	0.2	0.2	0.2	0.2	1.7	1.5	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.7	3.9	1.2	0.9	0.4	1.9	3.4	1.6	2.5	0.0
LnGrp Delay(d),s/veh	0.0	17.9	19.2	43.3	11.0	3.5	15.1	13.1	15.8	19.9	16.2	10.7
LnGrp LOS		B	B	D	B	A	B	B	B	B	B	B
Approach Vol, veh/h		109			648			712			705	
Approach Delay, s/veh		18.6			29.9			14.3			17.5	
Approach LOS		B			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	16.4	9.5	8.9	12.2	13.6	0.0	18.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	12.2	35.8	5.5	40.5	5.5	42.5	5.5	40.5				
Max Q Clear Time (g_c+I1), s	5.2	9.3	7.0	3.5	2.8	6.9	0.0	4.3				
Green Ext Time (p_c), s	0.5	3.1	0.0	0.4	0.3	2.6	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			20.2									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.























Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) Conditions
Saturday PM Peak

	<div></div>											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	666	5	10	761	118	10	15	10	121	0	25
Future Volume (veh/h)	19	666	5	10	761	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	724	5	11	827	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1829	13	26	1755	785	164	156	80	364	5	40
Arrive On Green	0.03	0.51	0.51	0.01	0.50	0.50	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3603	25	1774	3539	1583	256	969	499	1176	30	247
Grp Volume(v), veh/h	21	356	373	11	827	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	1774	1770	1583	1723	0	0	1452	0	0
Q Serve(g_s), s	0.4	4.7	4.7	0.2	5.8	1.7	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	0.4	4.7	4.7	0.2	5.8	1.7	0.7	0.0	0.0	3.8	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	898	943	26	1755	785	401	0	0	408	0	0
V/C Ratio(X)	0.45	0.40	0.40	0.43	0.47	0.16	0.09	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	234	1401	1471	234	2802	1253	1973	0	0	1779	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.2	5.8	5.8	18.5	6.3	5.2	13.6	0.0	0.0	14.9	0.0	0.0
Incr Delay (d2), s/veh	6.7	0.3	0.3	11.0	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.3	2.5	0.2	2.8	0.7	0.3	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	24.9	6.0	6.0	29.5	6.5	5.3	13.7	0.0	0.0	15.5	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	750				966		38				159	
Approach Delay, s/veh	6.6				6.6		13.7				15.5	
Approach LOS	A				A		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.1	4.5	23.2		10.1	5.0	22.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		43.0	5.0	30.0		43.0	5.0	30.0				
Max Q Clear Time (g_c+I1), s		2.7	2.2	6.7		5.8	2.4	7.8				
Green Ext Time (p_c), s		1.2	0.0	11.2		1.2	0.0	11.0				
Intersection Summary												
HCM 2010 Ctrl Delay			7.5									
HCM 2010 LOS			A									

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd


Opening Year (2025) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	778	25	16	888	174	22	5	13	271	12	112
Future Volume (veh/h)	113	778	25	16	888	174	22	5	13	271	12	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	846	27	17	965	189	24	5	14	304	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	1855	59	37	1636	732	63	13	68	489	0	218
Arrive On Green	0.09	0.53	0.53	0.02	0.46	0.46	0.04	0.04	0.04	0.14	0.00	0.14
Sat Flow, veh/h	1774	3501	112	1774	3539	1583	1480	308	1583	3548	0	1583
Grp Volume(v), veh/h	123	428	445	17	965	189	29	0	14	304	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1843	1774	1770	1583	1789	0	1583	1774	0	1583
Q Serve(g_s), s	4.0	8.9	8.9	0.6	12.0	4.3	0.9	0.0	0.5	4.8	0.0	4.3
Cycle Q Clear(g_c), s	4.0	8.9	8.9	0.6	12.0	4.3	0.9	0.0	0.5	4.8	0.0	4.3
Prop In Lane	1.00		0.06	1.00		1.00	0.83		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	157	938	976	37	1636	732	76	0	68	489	0	218
V/C Ratio(X)	0.79	0.46	0.46	0.47	0.59	0.26	0.38	0.00	0.21	0.62	0.00	0.56
Avail Cap(c_a), veh/h	179	1115	1162	149	2171	971	556	0	492	1968	0	878
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	8.7	8.7	28.8	11.8	9.8	27.7	0.0	27.5	24.2	0.0	24.0
Incr Delay (d2), s/veh	18.1	0.3	0.3	8.9	0.3	0.2	3.1	0.0	1.5	1.3	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	4.4	4.5	0.4	5.8	1.9	0.5	0.0	0.2	2.5	0.0	2.0
LnGrp Delay(d),s/veh	44.7	9.0	9.0	37.8	12.2	10.0	30.8	0.0	29.0	25.5	0.0	26.2
LnGrp LOS	D	A	A	D	B	A	C		C	C		C
Approach Vol, veh/h		996			1171			43			426	
Approach Delay, s/veh		13.4			12.2			30.2			25.7	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.5	5.2	35.5		12.2	9.2	31.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		2.9	2.6	10.9		6.8	6.0	14.0				
Green Ext Time (p_c), s		0.1	0.0	14.9		1.4	0.0	13.5				
Intersection Summary												
HCM 2010 Ctrl Delay			15.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	761	301	178	633	0	0	0	0	176	1	445
Future Volume (veh/h)	0	761	301	178	633	0	0	0	0	176	1	445
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	827	327	193	688	0				191	1	484
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1065	419	428	2079	0				552	3	495
Arrive On Green	0.00	0.30	0.30	0.48	1.00	0.00				0.31	0.31	0.31
Sat Flow, veh/h	0	3759	1412	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	780	374	193	688	0				192	0	484
Grp Sat Flow(s),veh/h/ln	0	1695	1614	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	16.8	17.0	5.8	0.0	0.0				6.7	0.0	24.2
Cycle Q Clear(g_c), s	0.0	16.8	17.0	5.8	0.0	0.0				6.7	0.0	24.2
Prop In Lane	0.00		0.88	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1005	478	428	2079	0				555	0	495
V/C Ratio(X)	0.00	0.78	0.78	0.45	0.33	0.00				0.35	0.00	0.98
Avail Cap(c_a), veh/h	0	1187	565	428	2079	0				555	0	495
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.90	0.90	0.86	0.86	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	25.7	25.8	17.2	0.0	0.0				21.2	0.0	27.2
Incr Delay (d2), s/veh	0.0	5.3	10.8	0.6	0.4	0.0				0.4	0.0	34.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.5	8.9	2.9	0.1	0.0				3.3	0.0	15.3
LnGrp Delay(d),s/veh	0.0	31.0	36.6	17.9	0.4	0.0				21.6	0.0	62.0
LnGrp LOS		C	D	B	A					C		E
Approach Vol, veh/h	1154					881				676		
Approach Delay, s/veh	32.8					4.2				50.5		
Approach LOS	C					A				D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			23.3	27.7		29.0		51.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	28.0		25.0		47.0				
Max Q Clear Time (g_c+I1), s			7.8	19.0		26.2		2.0				
Green Ext Time (p_c), s			2.9	4.8		0.0		5.7				
Intersection Summary												
HCM 2010 Ctrl Delay	27.9											
HCM 2010 LOS	C											


Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	422	515	0	0	575	222	236	3	255	0	0	0
Future Volume (veh/h)	422	515	0	0	575	222	236	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	459	560	0	0	625	241	257	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	485	2466	0	0	1322	591	356	4	322			
Arrive On Green	0.55	1.00	0.00	0.00	0.75	0.75	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1755	20	1583			
Grp Volume(v), veh/h	459	560	0	0	625	241	260	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	19.4	0.0	0.0	0.0	5.5	4.4	10.9	0.0	13.5			
Cycle Q Clear(g_c), s	19.4	0.0	0.0	0.0	5.5	4.4	10.9	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	485	2466	0	0	1322	591	361	0	322			
V/C Ratio(X)	0.95	0.23	0.00	0.00	0.47	0.41	0.72	0.00	0.86			
Avail Cap(c_a), veh/h	532	2466	0	0	1322	591	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.85	0.85	0.00	0.00	0.69	0.69	1.00	0.00	1.00			
Uniform Delay (d), s/veh	17.6	0.0	0.0	0.0	7.0	6.9	29.8	0.0	30.8			
Incr Delay (d2), s/veh	22.6	0.2	0.0	0.0	0.8	1.4	5.3	0.0	16.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	12.2	0.1	0.0	0.0	2.7	2.1	5.9	0.0	7.4			
LnGrp Delay(d),s/veh	40.2	0.2	0.0	0.0	7.9	8.3	35.0	0.0	47.7			
LnGrp LOS	D	A			A	A	D		D			
Approach Vol, veh/h	1019				866			537				
Approach Delay, s/veh	18.2				8.0			41.5				
Approach LOS	B				A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.3		59.7			25.9	33.9				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		15.5		2.0			21.4	7.5				
Green Ext Time (p_c), s		0.7		11.3			0.4	8.1				
Intersection Summary												
HCM 2010 Ctrl Delay				19.7								
HCM 2010 LOS				B								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↱	↑↑	↱	↰	↑↑			↱	↱		↱	↱
Traffic Volume (veh/h)	333	333	104	35	319	110	175	5	50	129	0	303
Future Volume (veh/h)	333	333	104	35	319	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	362	113	38	347	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	891	398	63	486	165	492	13	450	405	0	361
Arrive On Green	0.17	0.42	0.42	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2593	883	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	362	113	38	235	232	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1707	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.7	3.8	1.7	10.0	10.2	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.7	3.8	1.7	10.0	10.2	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.52	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	891	398	63	331	320	505	0	450	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.71	0.73	0.39	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	395	505	0	450	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	19.0	18.4	38.0	30.5	30.6	23.0	0.0	21.2	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	4.3	5.1	2.2	0.0	0.5	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	2.8	1.7	1.0	5.2	5.3	3.8	0.0	0.9	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.0	19.3	18.8	46.8	34.7	35.6	25.2	0.0	21.7	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	C	D	C		C	C		E
Approach Vol, veh/h	837			505			249			469		
Approach Delay, s/veh	52.0			36.1			24.5			47.1		
Approach LOS	D			D			C			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.8	6.9	24.1		22.3	12.0	19.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		9.1	3.7	7.7		18.2	10.0	12.2				
Green Ext Time (p_c), s		0.8	0.0	4.5		0.1	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay	43.6											
HCM 2010 LOS	D											

Redding Rancheria
7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Opening Year (2025) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	435	390	30	10	74
Future Vol, veh/h	77	435	390	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	473	424	33	11	80

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	457	0	844
Stage 1	-	-	440
Stage 2	-	-	404
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1100	-	302
Stage 1	-	-	616
Stage 2	-	-	643
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1100	-	271
Mov Cap-2 Maneuver	-	-	271
Stage 1	-	-	616
Stage 2	-	-	576

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.2
HCM LOS			B





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1100	-	-	-	271	775
HCM Lane V/C Ratio	0.076	-	-	-	0.04	0.104
HCM Control Delay (s)	8.5	-	-	-	18.8	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	124	219	277	32	52	163
Future Vol, veh/h	124	219	277	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	238	301	35	57	177

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	336	0	826
Stage 1	-	-	318
Stage 2	-	-	508
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1223	-	342
Stage 1	-	-	738
Stage 2	-	-	604
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1223	-	304
Mov Cap-2 Maneuver	-	-	304
Stage 1	-	-	738
Stage 2	-	-	537

Approach	EB	WB	SB
HCM Control Delay, s	3	0	16.6
HCM LOS			C





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1223	-	-	-	542
HCM Lane V/C Ratio	0.11	-	-	-	0.431
HCM Control Delay (s)	8.3	-	-	-	16.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.2

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 6.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	203	82	86	27	22	195
Future Vol, veh/h	203	82	86	27	22	195
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	221	89	93	29	24	212

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	123	0	0 638 108
Stage 1	-	-	- 108 -
Stage 2	-	-	- 530 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1464	-	- 441 946
Stage 1	-	-	- 916 -
Stage 2	-	-	- 590 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1464	-	- 374 946
Mov Cap-2 Maneuver	-	-	- 374 -
Stage 1	-	-	- 916 -
Stage 2	-	-	- 501 -

Approach	EB	WB	SB
HCM Control Delay, s	5.6	0	11.2
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	819
HCM Lane V/C Ratio	0.151	-	-	-	0.288
HCM Control Delay (s)	7.9	-	-	-	11.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1.2

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) Conditions
Saturday PM Peak

Intersection













Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	7	3	68	84	20
Future Vol, veh/h	12	7	3	68	84	20
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	8	3	74	91	22

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	182	102	113
Stage 1	102	-	-
Stage 2	80	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	807	953	1476
Stage 1	922	-	-
Stage 2	943	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	805	953	1476
Mov Cap-2 Maneuver	805	-	-
Stage 1	922	-	-
Stage 2	941	-	-













Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	854	-	-
HCM Lane V/C Ratio	0.002	-	0.024	-	-
HCM Control Delay (s)	7.4	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	207	177	130	359	478	257		
Future Volume (veh/h)	207	177	130	359	478	257		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	225	192	141	390	520	279		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	692	318	185	2074	1328	594		
Arrive On Green	0.20	0.20	0.10	0.59	0.38	0.38		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	225	192	141	390	520	279		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	2.1	4.1	2.9	1.9	4.0	5.0		
Cycle Q Clear(g_c), s	2.1	4.1	2.9	1.9	4.0	5.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	692	318	185	2074	1328	594		
V/C Ratio(X)	0.33	0.60	0.76	0.19	0.39	0.47		
Avail Cap(c_a), veh/h	3479	1600	613	5649	4048	1811		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.8	13.7	16.4	3.6	8.6	8.9		
Incr Delay (d2), s/veh	0.3	1.8	6.3	0.0	0.2	0.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	3.7	1.7	0.9	2.0	2.3		
LnGrp Delay(d),s/veh	13.1	15.5	22.7	3.7	8.8	9.5		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	417			531	799			
Approach Delay, s/veh	14.2			8.7	9.0			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		26.0		11.6	7.9	18.1		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		38.0	13.0	43.0		
Max Q Clear Time (g_c+I1), s		3.9		6.1	4.9	7.0		
Green Ext Time (p_c), s		7.3		1.5	0.2	7.1		
Intersection Summary								
HCM 2010 Ctrl Delay			10.2					
HCM 2010 LOS			B					


Redding Rancheria
12: SR-273 & Clear Creek Rd

Opening Year (2025) Conditions
Saturday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	73	18	22	418	595	56		
Future Volume (veh/h)	73	18	22	418	595	56		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	79	20	24	454	647	61		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	176	157	54	2056	1382	618		
Arrive On Green	0.10	0.10	0.03	0.58	0.39	0.39		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	79	20	24	454	647	61		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	1.1	0.3	0.3	1.5	3.4	0.6		
Cycle Q Clear(g_c), s	1.1	0.3	0.3	1.5	3.4	0.6		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	176	157	54	2056	1382	618		
V/C Ratio(X)	0.45	0.13	0.44	0.22	0.47	0.10		
Avail Cap(c_a), veh/h	2623	2341	354	8485	7213	3227		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.6	10.3	11.9	2.5	5.7	4.8		
Incr Delay (d2), s/veh	1.8	0.4	5.5	0.1	0.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.6	0.0	0.2	0.7	1.7	0.3		
LnGrp Delay(d),s/veh	12.4	10.6	17.4	2.6	5.9	4.9		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	99			478	708			
Approach Delay, s/veh	12.0			3.3	5.8			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		18.5		6.5	4.8	13.8		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+I1), s		3.5		3.1	2.3	5.4		
Green Ext Time (p_c), s		2.8		0.3	0.7	4.4		
Intersection Summary								
HCM 2010 Ctrl Delay			5.4					
HCM 2010 LOS			A					












Redding Rancheria
13: SR-273 & Westside Rd/Girvan Rd

Opening Year (2025) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕	↕	↕	↕	↕
Traffic Volume (veh/h)	15	12	40	103	6	51	31	382	101	69	506	29
Future Volume (veh/h)	15	12	40	103	6	51	31	382	101	69	506	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	16	13	43	112	7	55	34	415	110	75	550	32
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	27	22	73	216	22	174	72	815	365	148	968	433
Arrive On Green	0.07	0.07	0.07	0.12	0.12	0.12	0.04	0.23	0.23	0.08	0.27	0.27
Sat Flow, veh/h	371	301	996	1774	182	1429	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	72	0	0	112	0	62	34	415	110	75	550	32
Grp Sat Flow(s),veh/h/ln	1668	0	0	1774	0	1611	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	1.4	0.0	0.0	1.9	0.0	1.1	0.6	3.3	1.9	1.3	4.4	0.5
Cycle Q Clear(g_c), s	1.4	0.0	0.0	1.9	0.0	1.1	0.6	3.3	1.9	1.3	4.4	0.5
Prop In Lane	0.22		0.60	1.00		0.89	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	123	0	0	216	0	196	72	815	365	148	968	433
V/C Ratio(X)	0.59	0.00	0.00	0.52	0.00	0.32	0.47	0.51	0.30	0.51	0.57	0.07
Avail Cap(c_a), veh/h	1894	0	0	1007	0	914	272	2008	899	272	2008	899
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	0.0	13.4	0.0	13.1	15.3	10.9	10.4	14.3	10.2	8.8
Incr Delay (d2), s/veh	4.4	0.0	0.0	1.9	0.0	0.9	4.7	0.5	0.5	2.6	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	0.0	0.0	1.0	0.0	0.5	0.4	1.7	0.8	0.8	2.1	0.2
LnGrp Delay(d),s/veh	19.0	0.0	0.0	15.4	0.0	14.0	20.0	11.4	10.8	16.9	10.7	8.9
LnGrp LOS	B			B		B	C	B	B	B	B	A
Approach Vol, veh/h	72			174			559			657		
Approach Delay, s/veh	19.0			14.9			11.8			11.3		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	11.5		6.4	5.3	12.9		8.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.5			37.0	5.0	18.5		18.5				
Max Q Clear Time (g_c+I_T), s	5.3			3.4	2.6	6.4		3.9				
Green Ext Time (p_c), s	0.0	2.2		0.4	0.0	2.6		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	12.3											
HCM 2010 LOS	B											

Redding Rancheria
14: SR-273 & Canyon Rd













Opening Year (2025) Conditions
Saturday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	278	48	74	277	306	347		
Future Volume (veh/h)	278	48	74	277	306	347		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	351	0	80	301	333	0		
Adj No. of Lanes	2	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	688	313	148	1813	999	787		
Arrive On Green	0.19	0.00	0.08	0.51	0.28	0.00		
Sat Flow, veh/h	3548	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	351	0	80	301	333	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	2.4	0.0	1.2	1.2	2.0	0.0		
Cycle Q Clear(g_c), s	2.4	0.0	1.2	1.2	2.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	688	313	148	1813	999	787		
V/C Ratio(X)	0.51	0.00	0.54	0.17	0.33	0.00		
Avail Cap(c_a), veh/h	3906	1778	456	5455	4026	3170		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.8	0.0	12.0	3.5	7.7	0.0		
Incr Delay (d2), s/veh	0.6	0.0	3.1	0.0	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.7	0.6	1.0	0.0		
LnGrp Delay(d),s/veh	10.4	0.0	15.0	3.6	7.9	0.0		
LnGrp LOS	B		B	A	A			
Approach Vol, veh/h	351			381	333			
Approach Delay, s/veh	10.4			6.0	7.9			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		18.0		9.3	6.3	11.7		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	7.0	31.0		
Max Q Clear Time (g_c+I1), s		3.2		4.4	3.2	4.0		
Green Ext Time (p_c), s		3.8		1.3	0.0	3.7		
Intersection Summary								
HCM 2010 Ctrl Delay			8.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
15: Canyon Rd & Redding Rancheria Rd







Opening Year (2025) Conditions
Saturday PM Peak

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	196	203	10	213	143	9		
Future Volume (veh/h)	196	203	10	213	143	9		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	213	0	0	239	162	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	374	334	305	519	483	254		
Arrive On Green	0.21	0.00	0.00	0.16	0.14	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	213	0	0	239	162	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	2.6	0.0	0.0	1.7	1.0	0.0		
Cycle Q Clear(g_c), s	2.6	0.0	0.0	1.7	1.0	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	374	334	305	519	483	254		
V/C Ratio(X)	0.57	0.00	0.00	0.46	0.34	0.00		
Avail Cap(c_a), veh/h	1447	1291	1443	2453	2748	1443		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	8.7	0.0	0.0	9.3	9.6	0.0		
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.6	0.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.8	0.5	0.0		
LnGrp Delay(d),s/veh	10.1	0.0	0.0	9.9	10.0	0.0		
LnGrp LOS	B			A	A			
Approach Vol, veh/h	213		239			162		
Approach Delay, s/veh	10.1		9.9			10.0		
Approach LOS	B		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.0				7.3		9.2
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		19.0				19.0		20.0
Max Q Clear Time (g_c+I1), s		3.7				3.0		4.6
Green Ext Time (p_c), s		0.8				0.4		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			10.0					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
16: SR-273 & Happy Valley Rd













Opening Year (2025) Conditions
Saturday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	41	56	58	264	265	47		
Future Volume (veh/h)	41	56	58	264	265	47		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	45	61	63	287	288	51		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	75	102	128	1934	1066	477		
Arrive On Green	0.11	0.11	0.07	0.55	0.30	0.30		
Sat Flow, veh/h	698	947	1774	3632	3632	1583		
Grp Volume(v), veh/h	107	0	63	287	288	51		
Grp Sat Flow(s),veh/h/ln	661	0	1774	1770	1770	1583		
Q Serve(g_s), s	1.4	0.0	0.8	0.9	1.4	0.5		
Cycle Q Clear(g_c), s	1.4	0.0	0.8	0.9	1.4	0.5		
Prop In Lane	0.42	0.57	1.00			1.00		
Lane Grp Cap(c), veh/h	179	0	128	1934	1066	477		
V/C Ratio(X)	0.60	0.00	0.49	0.15	0.27	0.11		
Avail Cap(c_a), veh/h	2156	0	537	7198	5513	2466		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	9.8	0.0	10.3	2.6	6.1	5.8		
Incr Delay (d2), s/veh	3.2	0.0	2.9	0.0	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.5	0.4	0.7	0.2		
LnGrp Delay(d),s/veh	13.0	0.0	13.2	2.6	6.3	5.9		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	107			350	339			
Approach Delay, s/veh	13.0			4.5	6.2			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		16.6		6.5	5.7	11.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+I1), s		2.9		3.4	2.8	3.4		
Green Ext Time (p_c), s		3.6		0.3	0.0	3.5		
Intersection Summary								
HCM 2010 Ctrl Delay			6.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
17: SR-273 & North St

Opening Year (2025) Conditions
Saturday PM Peak







												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	70	16	93	56	69	24	180	113	60	212	9
Future Volume (veh/h)	5	70	16	93	56	69	24	180	113	60	212	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	5	76	17	101	61	75	26	196	123	65	230	10
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	134	30	244	256	218	57	715	320	122	844	377
Arrive On Green	0.09	0.09	0.09	0.14	0.14	0.14	0.03	0.20	0.20	0.07	0.24	0.24
Sat Flow, veh/h	1774	1475	330	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	5	0	93	101	61	75	26	196	123	65	230	10
Grp Sat Flow(s),veh/h/ln	1774	0	1805	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.1	0.0	1.6	1.7	0.9	1.4	0.5	1.5	2.1	1.1	1.7	0.2
Cycle Q Clear(g_c), s	0.1	0.0	1.6	1.7	0.9	1.4	0.5	1.5	2.1	1.1	1.7	0.2
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	161	0	164	244	256	218	57	715	320	122	844	377
V/C Ratio(X)	0.03	0.00	0.57	0.41	0.24	0.34	0.45	0.27	0.38	0.53	0.27	0.03
Avail Cap(c_a), veh/h	2000	0	2034	1000	1050	892	278	1995	892	389	2216	992
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	0.0	13.9	12.6	12.3	12.5	15.2	10.8	11.0	14.4	9.9	9.3
Incr Delay (d2), s/veh	0.1	0.0	3.1	1.1	0.5	0.9	5.5	0.2	0.8	3.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.9	0.9	0.5	0.7	0.3	0.7	1.0	0.7	0.9	0.1
LnGrp Delay(d),s/veh	13.3	0.0	17.0	13.7	12.8	13.4	20.7	11.0	11.8	18.0	10.1	9.3
LnGrp LOS	B		B	B	B	B	C	B	B	B	B	A
Approach Vol, veh/h	98			237			345			305		
Approach Delay, s/veh	16.8			13.4			12.0			11.7		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	10.5		6.9	5.0	11.6		8.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.0			36.0	5.0	20.0		18.0				
Max Q Clear Time (g_c+I_T), s	4.1			3.6	2.5	3.7		3.7				
Green Ext Time (p_c), s	0.0	2.3		0.5	0.0	2.5		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay	12.7											
HCM 2010 LOS	B											

Redding Rancheria
18: Oak St & North St

Opening Year (2025) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	221	2	9	226	30	3	3	13	48	10	9
Future Vol, veh/h	11	221	2	9	226	30	3	3	13	48	10	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	240	2	10	246	33	3	3	14	52	11	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	278	0	0	242	0	0	413	563	241	556	548	139
Stage 1	-	-	-	-	-	-	265	265	-	282	282	-
Stage 2	-	-	-	-	-	-	148	298	-	274	266	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1283	-	-	1323	-	-	536	435	797	427	443	884
Stage 1	-	-	-	-	-	-	740	689	-	702	677	-
Stage 2	-	-	-	-	-	-	840	666	-	731	688	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1283	-	-	1323	-	-	513	428	797	412	436	884
Mov Cap-2 Maneuver	-	-	-	-	-	-	513	428	-	412	436	-
Stage 1	-	-	-	-	-	-	733	683	-	695	672	-
Stage 2	-	-	-	-	-	-	811	661	-	708	682	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	10.7	14.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	651	1283	-	-	1323	-	-	448
HCM Lane V/C Ratio	0.032	0.009	-	-	0.007	-	-	0.163
HCM Control Delay (s)	10.7	7.8	-	-	7.7	-	-	14.6
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.6

Redding Rancheria
19: North St & I-5 SB Off Ramp

Opening Year (2025) Conditions
Saturday PM Peak

Intersection

Intersection Delay, s/veh 9
Intersection LOS A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↘	↗
Traffic Vol, veh/h	0	297	187	0	135	122
Future Vol, veh/h	0	297	187	0	135	122
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	323	203	0	147	133
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	8.7	8.3	10
HCM LOS	A	A	A

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	149	149	94	94	135	122
LT Vol	0	0	0	0	135	0
Through Vol	149	149	94	94	0	0
RT Vol	0	0	0	0	0	122
Lane Flow Rate	161	161	102	102	147	133
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.246	0.168	0.158	0.109	0.25	0.181
Departure Headway (Hd)	5.489	3.74	5.598	3.847	6.123	4.917
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	652	952	637	923	583	723
Service Time	3.244	1.493	3.362	1.609	3.907	2.699
HCM Lane V/C Ratio	0.247	0.169	0.16	0.111	0.252	0.184
HCM Control Delay	10	7.3	9.4	7.1	11	8.8
HCM Lane LOS	A	A	A	A	B	A
HCM 95th-tile Q	1	0.6	0.6	0.4	1	0.7

Redding Rancheria
20: McMurray Dr/I-5 NB On Ramp & North St







Opening Year (2025) Conditions

Saturday PM Peak

Intersection

Intersection Delay, s/veh13.7

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	142	198	114	129	35	61	127	165	0	0	0
Future Vol, veh/h	72	142	198	114	129	35	61	127	165	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	78	154	215	124	140	38	66	138	179	0	0	0
Number of Lanes	1	2	0	1	2	0	1	0	1	0	0	0







Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	12.9	11.8	16
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	43%	0%	100%	19%	0%	100%	55%
Vol Right, %	0%	57%	0%	0%	81%	0%	0%	45%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	61	292	72	95	245	114	86	78
LT Vol	61	0	72	0	0	114	0	0
Through Vol	0	127	0	95	47	0	86	43
RT Vol	0	165	0	0	198	0	0	35
Lane Flow Rate	66	317	78	103	267	124	93	85
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.134	0.56	0.157	0.192	0.454	0.257	0.181	0.156
Departure Headway (Hd)	7.25	6.354	7.213	6.703	6.127	7.471	6.96	6.639
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	492	565	495	532	584	478	512	537
Service Time	5.029	4.132	4.993	4.483	3.906	5.261	4.75	4.429
HCM Lane V/C Ratio	0.134	0.561	0.158	0.194	0.457	0.259	0.182	0.158
HCM Control Delay	11.2	17	11.3	11.1	14	12.9	11.3	10.7
HCM Lane LOS	B	C	B	B	B	B	B	B
HCM 95th-tile Q	0.5	3.4	0.6	0.7	2.4	1	0.7	0.5

Redding Rancheria
21: Oak St & Balls Ferry Rd

Opening Year (2025) Conditions

Saturday PM Peak

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	166	4	37	227	5	12	4	34	16	0	0
Future Vol, veh/h	1	166	4	37	227	5	12	4	34	16	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	180	4	40	247	5	13	4	37	17	0	0




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	252	0	0	185	0	0	389	518	92	425	-	-
Stage 1	-	-	-	-	-	-	185	185	-	330	-	-
Stage 2	-	-	-	-	-	-	204	333	-	95	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	-
Pot Cap-1 Maneuver	1310	-	-	1387	-	-	544	460	947	513	0	0
Stage 1	-	-	-	-	-	-	799	746	-	657	0	0
Stage 2	-	-	-	-	-	-	779	642	-	901	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1310	-	-	1387	-	-	532	446	947	478	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	532	446	-	478	-	-
Stage 1	-	-	-	-	-	-	798	745	-	656	-	-
Stage 2	-	-	-	-	-	-	757	623	-	860	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1.1			10.2			12.8		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	742	1310	-	-	1387	-	-	478
HCM Lane V/C Ratio	0.073	0.001	-	-	0.029	-	-	0.036
HCM Control Delay (s)	10.2	7.8	-	-	7.7	-	-	12.8
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.1











Redding Rancheria
22: I-5 SB On Ramp/Ventura St & Balls Ferry Rd

Opening Year (2025) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	175	38	305	258	17	0	0	0	12	43	21
Future Volume (veh/h)	2	175	38	305	258	17	0	0	0	12	43	21
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	2	190	41	332	280	18				13	47	23
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	7	534	113	514	1666	745				152	101	50
Arrive On Green	0.00	0.18	0.18	0.29	0.47	0.47				0.09	0.09	0.09
Sat Flow, veh/h	1774	2909	615	1774	3539	1583				1774	1182	579
Grp Volume(v), veh/h	2	114	117	332	280	18				13	0	70
Grp Sat Flow(s),veh/h/ln	1774	1770	1754	1774	1770	1583				1774	0	1761
Q Serve(g_s), s	0.0	1.5	1.6	4.5	1.2	0.2				0.2	0.0	1.0
Cycle Q Clear(g_c), s	0.0	1.5	1.6	4.5	1.2	0.2				0.2	0.0	1.0
Prop In Lane	1.00		0.35	1.00		1.00				1.00		0.33
Lane Grp Cap(c), veh/h	7	325	322	514	1666	745				152	0	151
V/C Ratio(X)	0.31	0.35	0.36	0.65	0.17	0.02				0.09	0.00	0.46
Avail Cap(c_a), veh/h	326	1300	1289	1108	4160	1861				2020	0	2005
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	13.5	9.7	9.7	8.4	4.1	3.9				11.5	0.0	11.9
Incr Delay (d2), s/veh	24.5	0.6	0.7	1.4	0.0	0.0				0.2	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.8	0.8	2.3	0.6	0.1				0.1	0.0	0.6
LnGrp Delay(d),s/veh	38.0	10.3	10.4	9.8	4.2	3.9				11.7	0.0	14.1
LnGrp LOS	D	B	B	A	A	A				B		B
Approach Vol, veh/h		233			630						83	
Approach Delay, s/veh		10.6			7.1						13.7	
Approach LOS		B			A						B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			11.9	9.0		6.3	4.1	16.8				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			17.0	20.0		31.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s			6.5	3.6		3.0	2.0	3.2				
Green Ext Time (p_c), s			2.1	1.1		0.4	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			8.6									
HCM 2010 LOS			A									

























Redding Rancheria
23: I-5 NB Off Ramp/McMurray Dr & Balls Ferry Rd

Opening Year (2025) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	135	0	0	393	137	49	96	116	161	0	166
Future Volume (veh/h)	43	135	0	0	393	137	49	96	116	161	0	166
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	47	147	0	0	427	149	53	104	126	175	0	180
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	97	1962	0	0	923	319	286	300	255	0	0	0
Arrive On Green	0.05	0.55	0.00	0.00	0.36	0.36	0.16	0.16	0.16	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2676	892	1774	1863	1583		0	
Grp Volume(v), veh/h	47	147	0	0	291	285	53	104	126		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1705	1774	1863	1583			
Q Serve(g_s), s	0.7	0.5	0.0	0.0	3.6	3.6	0.7	1.4	2.0			
Cycle Q Clear(g_c), s	0.7	0.5	0.0	0.0	3.6	3.6	0.7	1.4	2.0			
Prop In Lane	1.00		0.00	0.00		0.52	1.00		1.00			
Lane Grp Cap(c), veh/h	97	1962	0	0	632	609	286	300	255			
V/C Ratio(X)	0.48	0.07	0.00	0.00	0.46	0.47	0.19	0.35	0.49			
Avail Cap(c_a), veh/h	316	4535	0	0	1701	1639	2147	2254	1916			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	12.9	2.9	0.0	0.0	6.9	7.0	10.2	10.5	10.7			
Incr Delay (d2), s/veh	3.7	0.0	0.0	0.0	0.5	0.6	0.3	0.7	1.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.5	0.3	0.0	0.0	1.8	1.8	0.4	0.8	1.0			
LnGrp Delay(d),s/veh	16.6	2.9	0.0	0.0	7.5	7.5	10.5	11.2	12.2			
LnGrp LOS	B	A			A	A	B	B	B			
Approach Vol, veh/h		194			576			283				
Approach Delay, s/veh		6.2			7.5			11.5				
Approach LOS		A			A			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		8.5		19.6			5.5	14.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+I1), s		4.0		2.5			2.7	5.6				
Green Ext Time (p_c), s		1.0		4.9			0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay				8.3								
HCM 2010 LOS				A								

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	578	88	249	55	550	427	378	800	20
Future Volume (veh/h)	20	98	80	578	88	249	55	550	427	378	800	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	628	227	184	60	598	464	411	870	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	324	145	708	497	422	307	1210	542	528	1140	510
Arrive On Green	0.02	0.09	0.09	0.20	0.27	0.27	0.17	0.34	0.34	0.15	0.32	0.32
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	628	227	184	60	598	464	411	870	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.9	2.1	4.0	12.9	7.6	4.7	2.2	10.0	20.4	8.6	16.5	0.6
Cycle Q Clear(g_c), s	0.9	2.1	4.0	12.9	7.6	4.7	2.2	10.0	20.4	8.6	16.5	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	324	145	708	497	422	307	1210	542	528	1140	510
V/C Ratio(X)	0.51	0.33	0.60	0.89	0.46	0.44	0.20	0.49	0.86	0.78	0.76	0.04
Avail Cap(c_a), veh/h	130	1914	856	711	1244	1057	307	1427	638	841	2032	909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	31.9	32.7	29.1	22.9	9.5	26.5	19.5	22.9	30.5	22.8	11.3
Incr Delay (d2), s/veh	8.8	0.6	4.0	13.0	0.7	0.7	0.3	0.3	9.9	2.5	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	1.9	7.6	4.0	2.8	1.1	5.0	10.4	4.2	8.3	0.3
LnGrp Delay(d),s/veh	44.9	32.5	36.7	42.1	23.6	10.2	26.8	19.8	32.8	33.0	23.9	11.4
LnGrp LOS	D	C	D	D	C	B	C	B	C	C	C	B
Approach Vol, veh/h		216			1039			1122			1303	
Approach Delay, s/veh		35.4			32.4			25.6			26.6	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	29.6	18.9	10.8	17.0	28.1	5.8	24.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	10.6	22.4	14.9	6.0	4.2	18.5	2.9	9.6				
Green Ext Time (p_c), s	0.9	3.2	0.1	0.9	0.3	5.6	0.0	4.6				
Intersection Summary												
HCM 2010 Ctrl Delay			28.4									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) Conditions
Friday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1105	10	15	1202	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1105	10	15	1202	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1201	11	16	1307	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1578	14	34	1453	650	228	306	198	562	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3594	33	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	591	621	16	1307	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	21.2	21.2	0.7	26.0	8.8	0.0	0.0	0.0	22.4	0.0	0.0
Cycle Q Clear(g_c), s	2.5	21.2	21.2	0.7	26.0	8.8	1.5	0.0	0.0	23.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	777	815	34	1453	650	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.76	0.76	0.48	0.90	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	777	815	118	1505	673	990	0	0	856	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.3	17.8	17.8	36.6	20.7	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.2	4.4	4.2	10.2	7.6	0.4	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	11.3	11.8	0.4	14.0	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.6	22.2	22.0	46.7	28.3	16.1	14.8	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h	1272			1585			54			480		
Approach Delay, s/veh	23.3			26.5			14.8			24.3		
Approach LOS	C			C			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.8	5.4	37.0		32.8	7.6	34.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.5	2.7	23.2		25.8	4.5	28.0				
Green Ext Time (p_c), s		3.8	0.0	7.9		3.0	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay	24.8											
HCM 2010 LOS	C											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 87.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	213	558	482	90	105	222
Future Vol, veh/h	213	558	482	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	607	524	98	114	241

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	622	0	0 1643 573
Stage 1	-	-	- 573 -
Stage 2	-	-	- 1070 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	959	-	- ~ 110 519
Stage 1	-	-	- 564 -
Stage 2	-	-	- 329 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	959	-	- ~ 83 519
Mov Cap-2 Maneuver	-	-	- ~ 83 -
Stage 1	-	-	- 564 -
Stage 2	-	-	- 249 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	\$ 439.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	959	-	-	-	193
HCM Lane V/C Ratio	0.241	-	-	-	1.842
HCM Control Delay (s)	9.9	-	-	-	\$ 439.6
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.9	-	-	-	25.5

Notes






~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 26.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	470	213	173	50	40	379
Future Vol, veh/h	470	213	173	50	40	379
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	511	232	188	54	43	412

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	242	0	0 1468 215
Stage 1	-	-	- 215 -
Stage 2	-	-	- 1253 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1324	-	- 141 825
Stage 1	-	-	- 821 -
Stage 2	-	-	- 269 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1324	-	- 87 825
Mov Cap-2 Maneuver	-	-	- 87 -
Stage 1	-	-	- 821 -
Stage 2	-	-	- 165 -

Approach	EB	WB	SB
HCM Control Delay, s	6.5	0	72.2
HCM LOS			F




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1324	-	-	-	456
HCM Lane V/C Ratio	0.386	-	-	-	0.999
HCM Control Delay (s)	9.4	-	-	-	72.2
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	13

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) Conditions
Friday PM Peak

Intersection













Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	5	13	136	168	40
Future Vol, veh/h	21	5	13	136	168	40
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	5	14	148	183	43

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	380	204	226
Stage 1	204	-	-
Stage 2	176	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	622	837	1342
Stage 1	830	-	-
Stage 2	855	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	615	837	1342
Mov Cap-2 Maneuver	615	-	-
Stage 1	830	-	-
Stage 2	846	-	-













Approach	EB	NB	SB
HCM Control Delay, s	10.8	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	648	-	-
HCM Lane V/C Ratio	0.011	-	0.044	-	-
HCM Control Delay (s)	7.7	-	10.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	291	252	164	567	759	441		
Future Volume (veh/h)	291	252	164	567	759	441		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	316	274	178	616	825	479		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	802	369	228	2125	1377	616		
Arrive On Green	0.23	0.23	0.13	0.60	0.39	0.39		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	316	274	178	616	825	479		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	3.7	7.7	4.7	4.0	8.9	12.7		
Cycle Q Clear(g_c), s	3.7	7.7	4.7	4.0	8.9	12.7		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	802	369	228	2125	1377	616		
V/C Ratio(X)	0.39	0.74	0.78	0.29	0.60	0.78		
Avail Cap(c_a), veh/h	1288	593	369	2503	1472	659		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.6	17.1	20.3	4.6	11.7	12.9		
Incr Delay (d2), s/veh	0.3	3.0	5.8	0.1	0.6	5.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	6.8	2.6	2.0	4.5	6.4		
LnGrp Delay(d),s/veh	15.9	20.1	26.1	4.7	12.3	18.4		
LnGrp LOS	B	C	C	A	B	B		
Approach Vol, veh/h	590			794	1304			
Approach Delay, s/veh	17.8			9.5	14.6			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		32.9		15.2	10.2	22.7		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		34.0		18.0	10.0	20.0		
Max Q Clear Time (g_c+I1), s		6.0		9.7	6.7	14.7		
Green Ext Time (p_c), s		12.6		1.5	0.1	4.0		
Intersection Summary								
HCM 2010 Ctrl Delay			13.8					
HCM 2010 LOS			B					

Redding Rancheria
12: SR-273 & Clear Creek Rd

Cumulative (2040) Conditions
Friday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	147	42	25	599	919	85		
Future Volume (veh/h)	147	42	25	599	919	85		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	160	46	27	651	999	92		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	244	218	59	2235	1709	765		
Arrive On Green	0.14	0.14	0.03	0.63	0.48	0.48		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	160	46	27	651	999	92		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	3.0	0.9	0.5	2.9	7.0	1.1		
Cycle Q Clear(g_c), s	3.0	0.9	0.5	2.9	7.0	1.1		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	244	218	59	2235	1709	765		
V/C Ratio(X)	0.66	0.21	0.46	0.29	0.58	0.12		
Avail Cap(c_a), veh/h	1895	1691	256	6131	5211	2331		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	14.2	13.3	16.4	2.9	6.5	4.9		
Incr Delay (d2), s/veh	3.0	0.5	5.5	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.6	0.8	0.3	1.4	3.4	0.5		
LnGrp Delay(d),s/veh	17.1	13.7	22.0	3.0	6.8	5.0		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	206			678	1091			
Approach Delay, s/veh	16.4			3.7	6.6			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		25.9		8.8	5.1	20.7		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+I1), s		4.9		5.0	2.5	9.0		
Green Ext Time (p_c), s		4.3		0.6	1.0	7.7		
Intersection Summary								
HCM 2010 Ctrl Delay			6.6					
HCM 2010 LOS			A					












Redding Rancheria
13: SR-273 & Westside Rd/Girvan Rd

Cumulative (2040) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↕	↔	↔	↕	↔
Traffic Volume (veh/h)	13	28	80	165	26	62	53	551	152	96	790	43
Future Volume (veh/h)	13	28	80	165	26	62	53	551	152	96	790	43
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	14	30	87	179	28	67	58	599	165	104	859	47
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	42	122	261	72	172	133	1267	567	133	1267	567
Arrive On Green	0.11	0.11	0.11	0.15	0.15	0.15	0.08	0.36	0.36	0.08	0.36	0.36
Sat Flow, veh/h	177	380	1102	1774	488	1168	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	131	0	0	179	0	95	58	599	165	104	859	47
Grp Sat Flow(s),veh/h/ln	1659	0	0	1774	0	1657	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	3.9	0.0	0.0	4.9	0.0	2.7	1.6	6.8	3.9	3.0	10.6	1.0
Cycle Q Clear(g_c), s	3.9	0.0	0.0	4.9	0.0	2.7	1.6	6.8	3.9	3.0	10.6	1.0
Prop In Lane	0.11		0.66	1.00		0.71	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	0	0	261	0	243	133	1267	567	133	1267	567
V/C Ratio(X)	0.72	0.00	0.00	0.69	0.00	0.39	0.44	0.47	0.29	0.78	0.68	0.08
Avail Cap(c_a), veh/h	1188	0	0	635	0	593	172	1267	567	172	1267	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	0.0	20.9	0.0	19.9	22.8	12.8	11.9	23.5	14.1	11.0
Incr Delay (d2), s/veh	5.2	0.0	0.0	3.2	0.0	1.0	2.2	1.3	1.3	15.9	2.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	2.6	0.0	1.3	0.9	3.5	1.9	2.0	5.6	0.5
LnGrp Delay(d),s/veh	27.4	0.0	0.0	24.1	0.0	21.0	25.1	14.1	13.2	39.4	17.0	11.3
LnGrp LOS	C			C		C	C	B	B	D	B	B
Approach Vol, veh/h	131			274			822			1010		
Approach Delay, s/veh	27.4			23.0			14.7			19.0		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	22.5		9.7	7.9	22.5		11.6				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.5			37.0	5.0	18.5		18.5				
Max Q Clear Time (g_c+I), s	8.8			5.9	3.6	12.6		6.9				
Green Ext Time (p_c), s	0.0	2.8		0.8	0.1	2.6		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay	18.4											
HCM 2010 LOS	B											

Redding Rancheria
14: SR-273 & Canyon Rd













Cumulative (2040) Conditions
Friday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	330	87	106	555	644	449		
Future Volume (veh/h)	330	87	106	555	644	449		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	227	236	115	603	700	0		
Adj No. of Lanes	1	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	388	353	159	2068	1403	1105		
Arrive On Green	0.22	0.22	0.09	0.58	0.40	0.00		
Sat Flow, veh/h	1774	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	227	236	115	603	700	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	4.7	5.4	2.6	3.5	6.0	0.0		
Cycle Q Clear(g_c), s	4.7	5.4	2.6	3.5	6.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	388	353	159	2068	1403	1105		
V/C Ratio(X)	0.58	0.67	0.72	0.29	0.50	0.00		
Avail Cap(c_a), veh/h	1310	1192	349	3658	2613	2057		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	14.2	14.5	18.0	4.2	9.2	0.0		
Incr Delay (d2), s/veh	1.4	2.2	6.1	0.1	0.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	12.4	4.9	1.5	1.7	3.0	0.0		
LnGrp Delay(d),s/veh	15.6	16.7	24.2	4.3	9.5	0.0		
LnGrp LOS	B	B	C	A	A			
Approach Vol, veh/h	463			718	700			
Approach Delay, s/veh	16.2			7.5	9.5			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		27.7		12.9	7.6	20.1		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		
Max Q Clear Time (g_c+I1), s		5.5		7.4	4.6	8.0		
Green Ext Time (p_c), s		9.4		1.5	0.1	8.1		
Intersection Summary								
HCM 2010 Ctrl Delay			10.4					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
15: Canyon Rd & Redding Rancheria Rd












Cumulative (2040) Conditions
Friday PM Peak

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	351	175	12	226	170	15		
Future Volume (veh/h)	351	175	12	226	170	15		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	382	0	0	255	196	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	528	471	280	477	486	255		
Arrive On Green	0.30	0.00	0.00	0.15	0.14	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	382	0	0	255	196	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	5.6	0.0	0.0	2.2	1.5	0.0		
Cycle Q Clear(g_c), s	5.6	0.0	0.0	2.2	1.5	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	528	471	280	477	486	255		
V/C Ratio(X)	0.72	0.00	0.00	0.53	0.40	0.00		
Avail Cap(c_a), veh/h	1276	1138	1198	2036	2281	1198		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.1	0.0	0.0	11.4	11.4	0.0		
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.9	0.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	1.0	0.7	0.0		
LnGrp Delay(d),s/veh	11.0	0.0	0.0	12.3	11.9	0.0		
LnGrp LOS	B			B	B			
Approach Vol, veh/h	382		255			196		
Approach Delay, s/veh	11.0		12.3			11.9		
Approach LOS	B		B			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.4				8.0		12.6
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		18.6				18.6		20.8
Max Q Clear Time (g_c+I1), s		4.2				3.5		7.6
Green Ext Time (p_c), s		0.8				0.6		1.0
Intersection Summary								
HCM 2010 Ctrl Delay			11.6					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
16: SR-273 & Happy Valley Rd
























Cumulative (2040) Conditions
Friday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	69	86	83	440	556	78		
Future Volume (veh/h)	69	86	83	440	556	78		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	75	93	90	478	604	85		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	101	125	152	2189	1452	649		
Arrive On Green	0.14	0.14	0.09	0.62	0.41	0.41		
Sat Flow, veh/h	739	916	1774	3632	3632	1583		
Grp Volume(v), veh/h	169	0	90	478	604	85		
Grp Sat Flow(s),veh/h/ln	1664	0	1774	1770	1770	1583		
Q Serve(g_s), s	3.2	0.0	1.6	1.9	4.0	1.1		
Cycle Q Clear(g_c), s	3.2	0.0	1.6	1.9	4.0	1.1		
Prop In Lane	0.44	0.55	1.00			1.00		
Lane Grp Cap(c), veh/h	226	0	152	2189	1452	649		
V/C Ratio(X)	0.75	0.00	0.59	0.22	0.42	0.13		
Avail Cap(c_a), veh/h	1532	0	381	5105	3910	1749		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.5	0.0	14.4	2.7	6.8	6.0		
Incr Delay (d2), s/veh	4.8	0.0	3.7	0.0	0.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.9	0.9	2.0	0.5		
LnGrp Delay(d),s/veh	18.4	0.0	18.0	2.8	7.0	6.1		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	169			568	689			
Approach Delay, s/veh	18.4			5.2	6.9			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		24.2		8.4	6.8	17.4		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+I1), s		3.9		5.2	3.6	6.0		
Green Ext Time (p_c), s		7.8		0.5	0.0	7.4		
Intersection Summary								
HCM 2010 Ctrl Delay			7.6					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.







Redding Rancheria
17: SR-273 & North St

Cumulative (2040) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	107	68	256	104	83	66	284	253	87	429	18
Future Volume (veh/h)	15	107	68	256	104	83	66	284	253	87	429	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	16	116	74	278	113	90	72	309	275	95	466	20
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	276	166	106	369	387	329	110	925	414	126	959	429
Arrive On Green	0.16	0.16	0.16	0.21	0.21	0.21	0.06	0.26	0.26	0.07	0.27	0.27
Sat Flow, veh/h	1774	1064	679	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	16	0	190	278	113	90	72	309	275	95	466	20
Grp Sat Flow(s),veh/h/ln	1774	0	1743	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.4	0.0	5.4	7.8	2.7	2.5	2.1	3.7	8.2	2.8	5.8	0.5
Cycle Q Clear(g_c), s	0.4	0.0	5.4	7.8	2.7	2.5	2.1	3.7	8.2	2.8	5.8	0.5
Prop In Lane	1.00		0.39	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	276	0	271	369	387	329	110	925	414	126	959	429
V/C Ratio(X)	0.06	0.00	0.70	0.75	0.29	0.27	0.66	0.33	0.66	0.75	0.49	0.05
Avail Cap(c_a), veh/h	1213	0	1191	606	637	541	202	1277	571	202	1277	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	21.1	19.6	17.6	17.5	24.2	15.7	17.4	24.0	16.1	14.2
Incr Delay (d2), s/veh	0.1	0.0	3.3	3.1	0.4	0.4	6.5	0.2	1.8	8.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.8	4.1	1.4	1.1	1.2	1.8	3.7	1.6	2.9	0.2
LnGrp Delay(d),s/veh	19.0	0.0	24.3	22.7	18.0	18.0	30.7	16.0	19.2	32.6	16.5	14.2
LnGrp LOS	B		C	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h	206				481				656		581	
Approach Delay, s/veh	23.9				20.7				18.9		19.1	
Approach LOS	C				C				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	7.8	17.8			12.2	7.3	18.3	14.9				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	19.0	19.0			36.0	6.0	19.0	18.0				
Max Q Clear Time (g_c+I), s	10.2	10.2			7.4	4.1	7.8	9.8				
Green Ext Time (p_c), s	0.0	3.6			1.2	0.0	4.1	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			20.0									
HCM 2010 LOS			B									

Redding Rancheria
18: Oak St & North St

Cumulative (2040) Conditions
Friday PM Peak

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	407	4	13	505	43	4	7	16	42	7	10
Future Vol, veh/h	22	407	4	13	505	43	4	7	16	42	7	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	442	4	14	549	47	4	8	17	46	8	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	596	0	0	447	0	0	799	1116	445	1106	1096	298
Stage 1	-	-	-	-	-	-	492	492	-	601	601	-
Stage 2	-	-	-	-	-	-	307	624	-	505	495	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	978	-	-	1111	-	-	290	207	612	176	213	699
Stage 1	-	-	-	-	-	-	558	547	-	455	488	-
Stage 2	-	-	-	-	-	-	679	477	-	549	545	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	978	-	-	1111	-	-	270	199	612	161	205	699
Mov Cap-2 Maneuver	-	-	-	-	-	-	270	199	-	161	205	-
Stage 1	-	-	-	-	-	-	544	534	-	444	482	-
Stage 2	-	-	-	-	-	-	650	471	-	513	532	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.2			16.1			33.1		
HCM LOS							C			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	355	978	-	-	1111	-	-	191
HCM Lane V/C Ratio	0.083	0.024	-	-	0.013	-	-	0.336
HCM Control Delay (s)	16.1	8.8	-	-	8.3	-	-	33.1
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	1.4

Redding Rancheria
19: North St & I-5 SB Off Ramp

Cumulative (2040) Conditions
Friday PM Peak

Intersection

Intersection Delay, s/veh 13.7
Intersection LOS B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	0	508	355	0	227	250
Future Vol, veh/h	0	508	355	0	227	250
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	552	386	0	247	272
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	13.5	11.7	15.4
HCM LOS	B	B	C

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	254	254	178	178	227	250
LT Vol	0	0	0	0	227	0
Through Vol	254	254	178	178	0	0
RT Vol	0	0	0	0	0	250
Lane Flow Rate	276	276	193	193	247	272
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.511	0.375	0.368	0.273	0.498	0.456
Departure Headway (Hd)	6.657	4.887	6.862	5.088	7.261	6.044
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	538	729	521	700	496	592
Service Time	4.432	2.661	4.642	2.866	5.027	3.809
HCM Lane V/C Ratio	0.513	0.379	0.37	0.276	0.498	0.459
HCM Control Delay	16.3	10.6	13.6	9.8	17.1	13.8
HCM Lane LOS	C	B	B	A	C	B
HCM 95th-tile Q	2.9	1.7	1.7	1.1	2.7	2.4







Redding Rancheria
20: McMurray Dr/I-5 NB On Ramp & North St

Cumulative (2040) Conditions
Friday PM Peak

Intersection

Intersection Delay, s/veh72.3

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	130	236	317	214	260	44	93	241	262	0	0	0
Future Vol, veh/h	130	236	317	214	260	44	93	241	262	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	141	257	345	233	283	48	101	262	285	0	0	0
Number of Lanes	1	2	0	1	2	0	1	0	1	0	0	0







Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	41.7	22	151
HCM LOS	E	C	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	48%	0%	100%	20%	0%	100%	66%
Vol Right, %	0%	52%	0%	0%	80%	0%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	93	503	130	157	396	214	173	131
LT Vol	93	0	130	0	0	214	0	0
Through Vol	0	241	0	157	79	0	173	87
RT Vol	0	262	0	0	317	0	0	44
Lane Flow Rate	101	547	141	171	430	233	188	142
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.265	1.299	0.349	0.399	0.936	0.595	0.456	0.334
Departure Headway (Hd)	9.432	8.554	9.784	9.259	8.671	10.132	9.606	9.358
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	383	426	370	392	421	358	377	386
Service Time	7.132	6.254	7.484	6.959	6.371	7.832	7.306	7.058
HCM Lane V/C Ratio	0.264	1.284	0.381	0.436	1.021	0.651	0.499	0.368
HCM Control Delay	15.5	176.1	17.6	18	59.1	26.7	20.1	16.7
HCM Lane LOS	C	F	C	C	F	D	C	C
HCM 95th-tile Q	1.1	24.2	1.5	1.9	10.5	3.7	2.3	1.4

Redding Rancheria
21: Oak St & Balls Ferry Rd

Cumulative (2040) Conditions

Friday PM Peak

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	400	12	23	392	14	16	4	56	36	0	0
Future Vol, veh/h	3	400	12	23	392	14	16	4	56	36	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	435	13	25	426	15	17	4	61	39	0	0




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	441	0	0	448	0	0	711	939	224	710	-	-
Stage 1	-	-	-	-	-	-	448	448	-	484	-	-
Stage 2	-	-	-	-	-	-	263	491	-	226	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	-
Pot Cap-1 Maneuver	1115	-	-	1109	-	-	320	263	779	321	0	0
Stage 1	-	-	-	-	-	-	560	571	-	533	0	0
Stage 2	-	-	-	-	-	-	719	546	-	756	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1115	-	-	1109	-	-	314	256	779	286	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	314	256	-	286	-	-
Stage 1	-	-	-	-	-	-	558	569	-	532	-	-
Stage 2	-	-	-	-	-	-	703	534	-	690	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.4			12.7			19.6		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	549	1115	-	-	1109	-	-	286
HCM Lane V/C Ratio	0.15	0.003	-	-	0.023	-	-	0.137
HCM Control Delay (s)	12.7	8.2	-	-	8.3	-	-	19.6
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.5





















Redding Rancheria
22: I-5 SB On Ramp/Ventura St & Balls Ferry Rd

Cumulative (2040) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	431	64	513	413	27	0	0	0	24	83	9
Future Volume (veh/h)	4	431	64	513	413	27	0	0	0	24	83	9
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	4	468	70	558	449	29				26	90	10
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	9	549	82	1111	2825	1264				136	126	14
Arrive On Green	0.01	0.18	0.18	0.63	0.80	0.80				0.08	0.08	0.08
Sat Flow, veh/h	1774	3091	460	1774	3539	1583				1774	1647	183
Grp Volume(v), veh/h	4	267	271	558	449	29				26	0	100
Grp Sat Flow(s),veh/h/ln	1774	1770	1782	1774	1770	1583				1774	0	1830
Q Serve(g_s), s	0.2	14.6	14.8	17.2	2.9	0.4				1.4	0.0	5.3
Cycle Q Clear(g_c), s	0.2	14.6	14.8	17.2	2.9	0.4				1.4	0.0	5.3
Prop In Lane	1.00		0.26	1.00		1.00				1.00		0.10
Lane Grp Cap(c), veh/h	9	314	316	1111	2825	1264				136	0	140
V/C Ratio(X)	0.43	0.85	0.86	0.50	0.16	0.02				0.19	0.00	0.71
Avail Cap(c_a), veh/h	89	354	356	1111	2825	1264				550	0	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.77	0.77	0.77				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.6	39.8	39.9	10.2	2.3	2.1				43.3	0.0	45.1
Incr Delay (d2), s/veh	28.2	24.0	24.7	0.3	0.1	0.0				0.7	0.0	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	9.2	9.4	8.5	1.4	0.2				0.7	0.0	3.0
LnGrp Delay(d),s/veh	77.8	63.8	64.6	10.5	2.4	2.1				44.0	0.0	51.7
LnGrp LOS	E	E	E	B	A	A				D		D
Approach Vol, veh/h		542			1036						126	
Approach Delay, s/veh		64.3			6.8						50.1	
Approach LOS		E			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			66.6	21.7		11.6	4.5	83.8				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			37.0	20.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			19.2	16.8		7.3	2.2	4.9				
Green Ext Time (p_c), s			4.7	1.0		0.5	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay			28.3									
HCM 2010 LOS			C									

























Redding Rancheria
23: I-5 NB Off Ramp/McMurray Dr & Balls Ferry Rd

Cumulative (2040) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	333	0	0	619	197	134	177	256	232	0	272
Future Volume (veh/h)	115	333	0	0	619	197	134	177	256	232	0	272
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	125	362	0	0	673	214	146	192	278	252	0	296
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	711	2516	0	0	713	227	371	390	331	0	0	0
Arrive On Green	0.80	1.00	0.00	0.00	0.27	0.27	0.21	0.21	0.21	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2737	840	1774	1863	1583		0	
Grp Volume(v), veh/h	125	362	0	0	450	437	146	192	278		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1714	1774	1863	1583			
Q Serve(g_s), s	1.6	0.0	0.0	0.0	24.9	24.9	7.1	9.1	16.8			
Cycle Q Clear(g_c), s	1.6	0.0	0.0	0.0	24.9	24.9	7.1	9.1	16.8			
Prop In Lane	1.00		0.00	0.00		0.49	1.00		1.00			
Lane Grp Cap(c), veh/h	711	2516	0	0	477	463	371	390	331			
V/C Ratio(X)	0.18	0.14	0.00	0.00	0.94	0.94	0.39	0.49	0.84			
Avail Cap(c_a), veh/h	711	2516	0	0	478	463	603	633	538			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.94	0.94	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	6.1	0.0	0.0	0.0	35.8	35.8	34.1	34.9	37.9			
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	29.2	30.0	0.7	1.0	6.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	0.0	16.0	15.6	3.6	4.8	7.9			
LnGrp Delay(d),s/veh	6.2	0.1	0.0	0.0	65.0	65.7	34.8	35.8	44.2			
LnGrp LOS	A	A			E	E	C	D	D			
Approach Vol, veh/h		487			887			616				
Approach Delay, s/veh		1.7			65.4			39.4				
Approach LOS		A			E			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		24.9		75.1			44.1	31.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+l1), s		18.8		2.0			3.6	26.9				
Green Ext Time (p_c), s		2.1		2.8			0.4	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				41.7								
HCM 2010 LOS				D								

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	412	63	160	35	458	307	266	461	10
Future Volume (veh/h)	0	54	63	412	63	160	35	458	307	266	461	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	448	148	121	38	498	334	289	501	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	328	147	660	658	559	358	1045	467	443	786	352
Arrive On Green	0.00	0.09	0.09	0.19	0.35	0.35	0.20	0.30	0.30	0.13	0.22	0.22
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	448	148	121	38	498	334	289	501	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.8	2.2	6.3	3.0	1.6	0.9	6.2	10.1	4.3	6.9	0.3
Cycle Q Clear(g_c), s	0.0	0.8	2.2	6.3	3.0	1.6	0.9	6.2	10.1	4.3	6.9	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	328	147	660	658	559	358	1045	467	443	786	352
V/C Ratio(X)	0.00	0.18	0.46	0.68	0.23	0.22	0.11	0.48	0.71	0.65	0.64	0.03
Avail Cap(c_a), veh/h	181	2665	1192	990	1732	1472	358	1987	889	1171	2830	1266
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	22.5	23.1	20.4	12.2	4.0	17.5	15.5	16.9	22.3	19.0	13.4
Incr Delay (d2), s/veh	0.0	0.3	2.3	1.2	0.2	0.2	0.1	0.3	2.1	1.6	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.1	3.2	1.6	1.2	0.5	3.1	4.6	2.1	3.4	0.1
LnGrp Delay(d),s/veh	0.0	22.8	25.4	21.6	12.4	4.2	17.6	15.9	19.0	23.9	19.8	13.4
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		127			717			870			801	
Approach Delay, s/veh		24.2			16.8			17.2			21.2	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	19.9	14.0	9.0	14.9	15.9	0.0	23.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.3	12.1	8.3	4.2	2.9	8.9	0.0	5.0				
Green Ext Time (p_c), s	0.7	3.7	1.7	0.5	0.3	3.0	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			18.7									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) Conditions
Saturday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	751	10	15	838	132	15	20	15	137	0	29
Future Volume (veh/h)	23	751	10	15	838	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	816	11	16	911	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1857	25	36	1804	807	158	170	92	360	9	47
Arrive On Green	0.03	0.52	0.52	0.02	0.51	0.51	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3576	48	1774	3539	1583	271	940	510	1147	50	257
Grp Volume(v), veh/h	25	404	423	16	911	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1583	1721	0	0	1455	0	0
Q Serve(g_s), s	0.6	6.1	6.1	0.4	7.3	2.1	0.0	0.0	0.0	3.8	0.0	0.0
Cycle Q Clear(g_c), s	0.6	6.1	6.1	0.4	7.3	2.1	1.1	0.0	0.0	4.9	0.0	0.0
Prop In Lane	1.00		0.03	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	919	963	36	1804	807	420	0	0	416	0	0
V/C Ratio(X)	0.47	0.44	0.44	0.45	0.51	0.18	0.13	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	206	1318	1381	206	2636	1179	1663	0	0	1497	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.5	6.4	6.4	20.8	7.0	5.7	14.9	0.0	0.0	16.3	0.0	0.0
Incr Delay (d2), s/veh	6.3	0.3	0.3	8.4	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.0	3.1	0.3	3.6	0.9	0.6	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	26.8	6.8	6.7	29.2	7.2	5.8	15.0	0.0	0.0	17.0	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	852			1070			54			181		
Approach Delay, s/veh	7.3			7.3			15.0			17.0		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.8	4.9	26.3		11.8	5.3	25.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.1	2.4	8.1		6.9	2.6	9.3				
Green Ext Time (p_c), s		1.4	0.0	13.0		1.4	0.0	12.6				
Intersection Summary												
HCM 2010 Ctrl Delay	8.3											
HCM 2010 LOS	A											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 9.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	133	285	355	39	73	231
Future Vol, veh/h	133	285	355	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	310	386	42	79	251

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	428	0	0 1006 407
Stage 1	-	-	- 407 -
Stage 2	-	-	- 599 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1131	-	- 267 644
Stage 1	-	-	- 672 -
Stage 2	-	-	- 549 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1131	-	- 233 644
Mov Cap-2 Maneuver	-	-	- 233 -
Stage 1	-	-	- 672 -
Stage 2	-	-	- 479 -

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	31.7
HCM LOS			D





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1131	-	-	-	452
HCM Lane V/C Ratio	0.128	-	-	-	0.731
HCM Control Delay (s)	8.6	-	-	-	31.7
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	5.9

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 7.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	265	107	116	30	22	256
Future Vol, veh/h	265	107	116	30	22	256
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	288	116	126	33	24	278

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	159	0	834
Stage 1	-	-	142
Stage 2	-	-	692
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1420	-	338
Stage 1	-	-	885
Stage 2	-	-	497
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1420	-	269
Mov Cap-2 Maneuver	-	-	269
Stage 1	-	-	885
Stage 2	-	-	396

Approach	EB	WB	SB
HCM Control Delay, s	5.8	0	12.8
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	763
HCM Lane V/C Ratio	0.203	-	-	-	0.396
HCM Control Delay (s)	8.2	-	-	-	12.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	1.9

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) Conditions
Saturday PM Peak

Intersection













Int Delay, s/veh 1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	12	6	80	101	26
Future Vol, veh/h	15	12	6	80	101	26
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	13	7	87	110	28

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	224	124	138
Stage 1	124	-	-
Stage 2	100	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	764	927	1446
Stage 1	902	-	-
Stage 2	924	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	760	927	1446
Mov Cap-2 Maneuver	760	-	-
Stage 1	902	-	-
Stage 2	919	-	-













Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	826	-	-
HCM Lane V/C Ratio	0.005	-	0.036	-	-
HCM Control Delay (s)	7.5	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	217	189	140	373	496	270		
Future Volume (veh/h)	217	189	140	373	496	270		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	236	205	152	405	539	293		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	710	327	198	2022	1234	552		
Arrive On Green	0.21	0.21	0.11	0.57	0.35	0.35		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	236	205	152	405	539	293		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	2.1	4.2	3.0	2.0	4.2	5.3		
Cycle Q Clear(g_c), s	2.1	4.2	3.0	2.0	4.2	5.3		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	710	327	198	2022	1234	552		
V/C Ratio(X)	0.33	0.63	0.77	0.20	0.44	0.53		
Avail Cap(c_a), veh/h	1722	792	493	3345	1967	880		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.2	13.0	15.5	3.7	9.0	9.4		
Incr Delay (d2), s/veh	0.3	2.0	6.1	0.0	0.2	0.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	3.8	1.8	1.0	2.1	2.4		
LnGrp Delay(d),s/veh	12.4	15.0	21.7	3.8	9.2	10.2		
LnGrp LOS	B	B	C	A	A	B		
Approach Vol, veh/h	441			557	832			
Approach Delay, s/veh	13.6			8.7	9.6			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		24.6		11.4	8.0	16.5		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		34.0		18.0	10.0	20.0		
Max Q Clear Time (g_c+I1), s		4.0		6.2	5.0	7.3		
Green Ext Time (p_c), s		7.2		1.3	0.1	5.2		
Intersection Summary								
HCM 2010 Ctrl Delay			10.3					
HCM 2010 LOS			B					











Redding Rancheria
12: SR-273 & Clear Creek Rd

Cumulative (2040) Conditions
Saturday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	82	21	28	431	618	61		
Future Volume (veh/h)	82	21	28	431	618	61		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	89	23	30	468	672	66		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	189	169	66	2073	1397	625		
Arrive On Green	0.11	0.11	0.04	0.59	0.39	0.39		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	89	23	30	468	672	66		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	1.2	0.3	0.4	1.6	3.7	0.7		
Cycle Q Clear(g_c), s	1.2	0.3	0.4	1.6	3.7	0.7		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	189	169	66	2073	1397	625		
V/C Ratio(X)	0.47	0.14	0.45	0.23	0.48	0.11		
Avail Cap(c_a), veh/h	2523	2252	341	8163	6939	3104		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.9	10.5	12.3	2.6	5.9	5.0		
Incr Delay (d2), s/veh	1.8	0.4	4.7	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.7	0.0	0.3	0.8	1.8	0.3		
LnGrp Delay(d),s/veh	12.7	10.9	17.0	2.6	6.1	5.0		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	112			498	738			
Approach Delay, s/veh	12.4			3.5	6.0			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		19.2		6.8	5.0	14.3		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+I1), s		3.6		3.2	2.4	5.7		
Green Ext Time (p_c), s		2.9		0.3	0.7	4.6		
Intersection Summary								
HCM 2010 Ctrl Delay			5.6					
HCM 2010 LOS			A					












Redding Rancheria
13: SR-273 & Westside Rd/Girvan Rd

Cumulative (2040) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	17	56	106	9	52	47	396	104	70	522	40
Future Volume (veh/h)	24	17	56	106	9	52	47	396	104	70	522	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	26	18	61	115	10	57	51	430	113	76	567	43
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	25	84	187	25	145	119	1405	629	119	1405	629
Arrive On Green	0.09	0.09	0.09	0.11	0.11	0.11	0.07	0.40	0.40	0.07	0.40	0.40
Sat Flow, veh/h	414	286	971	1774	242	1378	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	105	0	0	115	0	67	51	430	113	76	567	43
Grp Sat Flow(s),veh/h/ln	1671	0	0	1774	0	1620	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	2.9	0.0	0.0	2.9	0.0	1.8	1.3	3.9	2.2	1.9	5.4	0.8
Cycle Q Clear(g_c), s	2.9	0.0	0.0	2.9	0.0	1.8	1.3	3.9	2.2	1.9	5.4	0.8
Prop In Lane	0.25		0.58	1.00		0.85	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	0	0	187	0	171	119	1405	629	119	1405	629
V/C Ratio(X)	0.72	0.00	0.00	0.62	0.00	0.39	0.43	0.31	0.18	0.64	0.40	0.07
Avail Cap(c_a), veh/h	1327	0	0	704	0	643	190	1405	629	190	1405	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.7	0.0	0.0	19.9	0.0	19.5	20.9	9.6	9.1	21.2	10.1	8.7
Incr Delay (d2), s/veh	6.6	0.0	0.0	3.3	0.0	1.5	2.4	0.6	0.6	5.6	0.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	1.6	0.0	0.9	0.7	2.0	1.1	1.1	2.8	0.4
LnGrp Delay(d),s/veh	27.3	0.0	0.0	23.2	0.0	20.9	23.3	10.2	9.7	26.7	10.9	8.9
LnGrp LOS	C			C		C	C	B	A	C	B	A
Approach Vol, veh/h	105				182		594				686	
Approach Delay, s/veh	27.3				22.4		11.2				12.6	
Approach LOS	C				C		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	7.1	22.5			8.1	7.1	22.5	8.9				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.5				37.0	5.0	18.5	18.5				
Max Q Clear Time (g_c+I_T), s	5.9				4.9	3.3	7.4	4.9				
Green Ext Time (p_c), s	0.0	2.2			0.6	0.0	2.6	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			14.2									
HCM 2010 LOS			B									

Redding Rancheria
14: SR-273 & Canyon Rd













Cumulative (2040) Conditions
Saturday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	278	58	96	326	360	348		
Future Volume (veh/h)	278	58	96	326	360	348		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	361	0	104	354	391	0		
Adj No. of Lanes	2	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	686	312	173	1894	1070	842		
Arrive On Green	0.19	0.00	0.10	0.54	0.30	0.00		
Sat Flow, veh/h	3548	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	361	0	104	354	391	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	2.7	0.0	1.7	1.5	2.6	0.0		
Cycle Q Clear(g_c), s	2.7	0.0	1.7	1.5	2.6	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	686	312	173	1894	1070	842		
V/C Ratio(X)	0.53	0.00	0.60	0.19	0.37	0.00		
Avail Cap(c_a), veh/h	3613	1645	482	5046	3604	2838		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	10.7	0.0	12.8	3.5	8.1	0.0		
Incr Delay (d2), s/veh	0.6	0.0	3.4	0.0	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	0.0	1.0	0.7	1.3	0.0		
LnGrp Delay(d),s/veh	11.3	0.0	16.1	3.6	8.3	0.0		
LnGrp LOS	B		B	A	A			
Approach Vol, veh/h	361			458	391			
Approach Delay, s/veh	11.3			6.4	8.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		19.8		9.7	6.9	12.9		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		
Max Q Clear Time (g_c+I1), s		3.5		4.7	3.7	4.6		
Green Ext Time (p_c), s		4.6		1.3	0.1	4.4		
Intersection Summary								
HCM 2010 Ctrl Delay			8.5					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
15: Canyon Rd & Redding Rancheria Rd












Cumulative (2040) Conditions
Saturday PM Peak

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	196	203	14	217	144	10		
Future Volume (veh/h)	196	203	14	217	144	10		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	213	0	0	246	165	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	374	333	308	523	487	256		
Arrive On Green	0.21	0.00	0.00	0.17	0.14	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	213	0	0	246	165	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	2.7	0.0	0.0	1.7	1.0	0.0		
Cycle Q Clear(g_c), s	2.7	0.0	0.0	1.7	1.0	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	374	333	308	523	487	256		
V/C Ratio(X)	0.57	0.00	0.00	0.47	0.34	0.00		
Avail Cap(c_a), veh/h	1497	1336	1406	2390	2678	1406		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	8.7	0.0	0.0	9.3	9.6	0.0		
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.7	0.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.8	0.5	0.0		
LnGrp Delay(d),s/veh	10.1	0.0	0.0	10.0	10.0	0.0		
LnGrp LOS	B			A	B			
Approach Vol, veh/h	213		246			165		
Approach Delay, s/veh	10.1		10.0			10.0		
Approach LOS	B		A			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.1				7.4		9.2
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		18.6				18.6		20.8
Max Q Clear Time (g_c+I1), s		3.7				3.0		4.7
Green Ext Time (p_c), s		0.8				0.4		0.5
Intersection Summary								
HCM 2010 Ctrl Delay		10.0						
HCM 2010 LOS		B						
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
16: SR-273 & Happy Valley Rd
























Cumulative (2040) Conditions
Saturday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	44	61	63	314	315	51		
Future Volume (veh/h)	44	61	63	314	315	51		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	48	66	68	341	342	55		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	77	105	134	1999	1157	518		
Arrive On Green	0.11	0.11	0.08	0.56	0.33	0.33		
Sat Flow, veh/h	693	953	1774	3632	3632	1583		
Grp Volume(v), veh/h	115	0	68	341	342	55		
Grp Sat Flow(s),veh/h/ln	660	0	1774	1770	1770	1583		
Q Serve(g_s), s	1.6	0.0	0.9	1.1	1.8	0.6		
Cycle Q Clear(g_c), s	1.6	0.0	0.9	1.1	1.8	0.6		
Prop In Lane	0.42	0.57	1.00			1.00		
Lane Grp Cap(c), veh/h	184	0	134	1999	1157	518		
V/C Ratio(X)	0.63	0.00	0.51	0.17	0.30	0.11		
Avail Cap(c_a), veh/h	2021	0	504	6752	5172	2314		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.5	0.0	10.9	2.6	6.2	5.8		
Incr Delay (d2), s/veh	3.5	0.0	3.0	0.0	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.9	0.0	0.5	0.5	0.9	0.3		
LnGrp Delay(d),s/veh	14.0	0.0	13.9	2.6	6.3	5.9		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	115			409	397			
Approach Delay, s/veh	14.0			4.5	6.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		17.9		6.7	5.9	12.1		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+I1), s		3.1		3.6	2.9	3.8		
Green Ext Time (p_c), s		4.4		0.3	0.0	4.3		
Intersection Summary								
HCM 2010 Ctrl Delay			6.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.







Redding Rancheria
17: SR-273 & North St

Cumulative (2040) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	71	22	155	56	70	33	236	182	60	276	9
Future Volume (veh/h)	5	71	22	155	56	70	33	236	182	60	276	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	5	77	24	168	61	76	36	257	198	65	300	10
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	123	38	281	295	251	74	877	392	117	962	430
Arrive On Green	0.09	0.09	0.09	0.16	0.16	0.16	0.04	0.25	0.25	0.07	0.27	0.27
Sat Flow, veh/h	1774	1363	425	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	5	0	101	168	61	76	36	257	198	65	300	10
Grp Sat Flow(s),veh/h/ln	1774	0	1788	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.1	0.0	2.0	3.2	1.0	1.6	0.7	2.2	3.9	1.3	2.5	0.2
Cycle Q Clear(g_c), s	0.1	0.0	2.0	3.2	1.0	1.6	0.7	2.2	3.9	1.3	2.5	0.2
Prop In Lane	1.00		0.24	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	160	0	161	281	295	251	74	877	392	117	962	430
V/C Ratio(X)	0.03	0.00	0.63	0.60	0.21	0.30	0.48	0.29	0.50	0.55	0.31	0.02
Avail Cap(c_a), veh/h	1747	0	1760	873	917	779	291	1839	823	291	1839	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.2	0.0	16.0	14.3	13.4	13.6	17.1	11.2	11.8	16.6	10.6	9.8
Incr Delay (d2), s/veh	0.1	0.0	4.0	2.0	0.3	0.7	4.8	0.2	1.0	4.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.2	1.7	0.6	0.7	0.4	1.1	1.8	0.8	1.2	0.1
LnGrp Delay(d),s/veh	15.3	0.0	20.0	16.3	13.7	14.3	22.0	11.3	12.8	20.6	10.8	9.8
LnGrp LOS	B		B	B	B	B	C	B	B	C	B	A
Approach Vol, veh/h	106		305				491			375		
Approach Delay, s/veh	19.8		15.3				12.7			12.4		
Approach LOS	B		B				B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	13.1		7.3	5.5	13.9		9.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	19.0			36.0	6.0	19.0		18.0				
Max Q Clear Time (g_c+I_T), s	5.9			4.0	2.7	4.5		5.2				
Green Ext Time (p_c), s	0.0	3.1		0.6	0.0	3.3		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			13.8									
HCM 2010 LOS			B									

Redding Rancheria
18: Oak St & North St

Cumulative (2040) Conditions
Saturday PM Peak

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	261	2	10	266	31	4	3	13	51	12	9
Future Vol, veh/h	12	261	2	10	266	31	4	3	13	51	12	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	284	2	11	289	34	4	3	14	55	13	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	323	0	0	286	0	0	484	656	285	648	640	161
Stage 1	-	-	-	-	-	-	311	311	-	328	328	-
Stage 2	-	-	-	-	-	-	173	345	-	320	312	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1235	-	-	1275	-	-	479	384	753	369	393	856
Stage 1	-	-	-	-	-	-	699	658	-	660	646	-
Stage 2	-	-	-	-	-	-	812	635	-	691	657	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1235	-	-	1275	-	-	455	377	753	354	386	856
Mov Cap-2 Maneuver	-	-	-	-	-	-	455	377	-	354	386	-
Stage 1	-	-	-	-	-	-	692	651	-	653	640	-
Stage 2	-	-	-	-	-	-	780	630	-	668	650	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.3			11.4			16.6		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	588	1235	-	-	1275	-	-	388
HCM Lane V/C Ratio	0.037	0.011	-	-	0.009	-	-	0.202
HCM Control Delay (s)	11.4	7.9	-	-	7.8	-	-	16.6
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.7

Redding Rancheria
19: North St & I-5 SB Off Ramp

Cumulative (2040) Conditions
Saturday PM Peak

Intersection

Intersection Delay, s/veh 9.4
Intersection LOS A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	0	347	203	0	136	155
Future Vol, veh/h	0	347	203	0	136	155
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	377	221	0	148	168
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	9.2	8.6	10.3
HCM LOS	A	A	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	174	174	102	102	136	155
LT Vol	0	0	0	0	136	0
Through Vol	174	174	102	102	0	0
RT Vol	0	0	0	0	0	155
Lane Flow Rate	189	189	110	110	148	168
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.294	0.202	0.177	0.123	0.262	0.242
Departure Headway (Hd)	5.613	3.861	5.762	4.007	6.38	5.171
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	634	915	616	878	566	699
Service Time	3.401	1.647	3.562	1.806	4.08	2.871
HCM Lane V/C Ratio	0.298	0.207	0.179	0.125	0.261	0.24
HCM Control Delay	10.8	7.6	9.8	7.4	11.3	9.5
HCM Lane LOS	B	A	A	A	B	A
HCM 95th-tile Q	1.2	0.8	0.6	0.4	1	0.9

Redding Rancheria
20: McMurray Dr/I-5 NB On Ramp & North St







Cumulative (2040) Conditions

Saturday PM Peak

Intersection

Intersection Delay, s/veh18.8

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	165	212	161	144	48	62	146	218	0	0	0
Future Vol, veh/h	73	165	212	161	144	48	62	146	218	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	79	179	230	175	157	52	67	159	237	0	0	0
Number of Lanes	1	2	0	1	2	0	1	0	1	0	0	0







Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	15.7	14.1	25.9
HCM LOS	C	B	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	40%	0%	100%	21%	0%	100%	50%
Vol Right, %	0%	60%	0%	0%	79%	0%	0%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	364	73	110	267	161	96	96
LT Vol	62	0	73	0	0	161	0	0
Through Vol	0	146	0	110	55	0	96	48
RT Vol	0	218	0	0	212	0	0	48
Lane Flow Rate	67	396	79	120	290	175	104	104
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.147	0.759	0.175	0.247	0.554	0.396	0.221	0.211
Departure Headway (Hd)	7.831	6.908	7.956	7.442	6.871	8.14	7.625	7.265
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	458	522	451	482	525	443	471	494
Service Time	5.575	4.652	5.705	5.191	4.619	5.891	5.376	5.015
HCM Lane V/C Ratio	0.146	0.759	0.175	0.249	0.552	0.395	0.221	0.211
HCM Control Delay	11.9	28.3	12.4	12.6	17.9	16.2	12.5	12
HCM Lane LOS	B	D	B	B	C	C	B	B
HCM 95th-tile Q	0.5	6.6	0.6	1	3.3	1.9	0.8	0.8

Redding Rancheria
21: Oak St & Balls Ferry Rd

Cumulative (2040) Conditions

Saturday PM Peak

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	227	4	39	308	6	13	5	35	19	0	0
Future Vol, veh/h	3	227	4	39	308	6	13	5	35	19	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	247	4	42	335	7	14	5	38	21	0	0




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	341	0	0	251	0	0	507	681	126	556	-	-
Stage 1	-	-	-	-	-	-	255	255	-	423	-	-
Stage 2	-	-	-	-	-	-	252	426	-	133	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	-
Pot Cap-1 Maneuver	1215	-	-	1311	-	-	449	371	901	414	0	0
Stage 1	-	-	-	-	-	-	727	695	-	579	0	0
Stage 2	-	-	-	-	-	-	730	584	-	857	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1215	-	-	1311	-	-	437	358	901	382	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	437	358	-	382	-	-
Stage 1	-	-	-	-	-	-	725	693	-	578	-	-
Stage 2	-	-	-	-	-	-	707	565	-	812	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.9			11.2			15		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	642	1215	-	-	1311	-	-	382
HCM Lane V/C Ratio	0.09	0.003	-	-	0.032	-	-	0.054
HCM Control Delay (s)	11.2	8	-	-	7.8	-	-	15
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.2











Redding Rancheria
22: I-5 SB On Ramp/Ventura St & Balls Ferry Rd

Cumulative (2040) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	234	47	430	335	21	0	0	0	15	52	27
Future Volume (veh/h)	3	234	47	430	335	21	0	0	0	15	52	27
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	3	254	51	467	364	23				16	57	29
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	7	342	68	1234	2859	1279				121	79	40
Arrive On Green	0.00	0.12	0.12	0.70	0.81	0.81				0.07	0.07	0.07
Sat Flow, veh/h	1774	2947	582	1774	3539	1583				1774	1165	593
Grp Volume(v), veh/h	3	151	154	467	364	23				16	0	86
Grp Sat Flow(s),veh/h/ln	1774	1770	1760	1774	1770	1583				1774	0	1758
Q Serve(g_s), s	0.2	8.2	8.5	10.9	2.2	0.3				0.8	0.0	4.8
Cycle Q Clear(g_c), s	0.2	8.2	8.5	10.9	2.2	0.3				0.8	0.0	4.8
Prop In Lane	1.00		0.33	1.00		1.00				1.00		0.34
Lane Grp Cap(c), veh/h	7	205	204	1234	2859	1279				121	0	120
V/C Ratio(X)	0.42	0.74	0.76	0.38	0.13	0.02				0.13	0.00	0.72
Avail Cap(c_a), veh/h	89	354	352	1234	2859	1279				550	0	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.89	0.89	0.89				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.7	42.7	42.8	6.3	2.1	1.9				43.8	0.0	45.6
Incr Delay (d2), s/veh	35.4	20.8	22.6	0.2	0.1	0.0				0.5	0.0	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.2	5.4	5.4	1.1	0.1				0.4	0.0	2.6
LnGrp Delay(d),s/veh	85.1	63.5	65.4	6.4	2.1	1.9				44.3	0.0	53.4
LnGrp LOS	F	E	E	A	A	A				D		D
Approach Vol, veh/h		308			854						102	
Approach Delay, s/veh		64.6			4.5						52.0	
Approach LOS		E			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			73.6	15.6		10.8	4.4	84.8				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			37.0	20.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			12.9	10.5		6.8	2.2	4.2				
Green Ext Time (p_c), s			4.0	1.1		0.5	0.0	4.3				
Intersection Summary												
HCM 2010 Ctrl Delay			23.0									
HCM 2010 LOS			C									

Redding Rancheria
23: I-5 NB Off Ramp/McMurray Dr & Balls Ferry Rd

Cumulative (2040) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	177	0	0	496	137	90	132	148	162	0	233
Future Volume (veh/h)	61	177	0	0	496	137	90	132	148	162	0	233
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	66	192	0	0	539	149	98	143	161	176	0	253
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	917	2787	0	0	632	174	235	247	210	0	0	0
Arrive On Green	1.00	1.00	0.00	0.00	0.23	0.23	0.13	0.13	0.13	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2837	755	1774	1863	1583		0	
Grp Volume(v), veh/h	66	192	0	0	347	341	98	143	161		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1729	1774	1863	1583			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	18.8	18.9	5.1	7.2	9.8			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	18.8	18.9	5.1	7.2	9.8			
Prop In Lane	1.00		0.00	0.00		0.44	1.00		1.00			
Lane Grp Cap(c), veh/h	917	2787	0	0	408	399	235	247	210			
V/C Ratio(X)	0.07	0.07	0.00	0.00	0.85	0.86	0.42	0.58	0.77			
Avail Cap(c_a), veh/h	917	2787	0	0	478	467	603	633	538			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.99	0.99	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	36.8	36.9	39.8	40.7	41.9			
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	19.5	20.4	1.2	2.1	5.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	11.4	11.3	2.6	3.8	4.6			
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	56.3	57.3	41.0	42.9	47.7			
LnGrp LOS	A	A			E	E	D	D	D			
Approach Vol, veh/h		258			688			402				
Approach Delay, s/veh		0.0			56.8			44.3				
Approach LOS		A			E			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		17.3		82.7			55.7	27.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+l1), s		11.8		2.0			2.0	20.9				
Green Ext Time (p_c), s		1.4		1.4			0.4	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay			42.2									
HCM 2010 LOS			D									

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 70 veh/h
Opposing direction volume, Vo 81 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	78 pc/h	90 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.7 mi/h
Average travel speed, ATSD 51.0 mi/h
Percent Free Flow Speed, PFFS 92.7 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	76 pc/h	88 pc/h
Base percent time-spent-following, (note-4) BPTSFd	9.0 %	
Adjustment for no-passing zones, fnp	52.9	
Percent time-spent-following, PTSFd	33.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	14	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.0	mi/h
Percent time-spent-following, PTSFd (from above)	33.5	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	76.1
Effective width of outside lane, We	35.70
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.69
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 81 veh/h
Opposing direction volume, Vo 70 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	90 pc/h	78 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.7 mi/h
Average travel speed, ATSD 51.0 mi/h
Percent Free Flow Speed, PFFS 92.7 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	88 pc/h	76 pc/h
Base percent time-spent-following, (note-4) BPTSFd	10.3 %	
Adjustment for no-passing zones, fnp	52.9	
Percent time-spent-following, PTSFd	38.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	16	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.0	mi/h
Percent time-spent-following, PTSFd (from above)	38.7	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	88.0
Effective width of outside lane, We	34.71
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.26
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/7/2017
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 721 veh/h
Opposing direction volume, Vo 594 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	786 pc/h	648 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.8 mi/h
Average travel speed, ATSD 45.8 mi/h
Percent Free Flow Speed, PFFS 77.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	784 pc/h	646 pc/h
Base percent time-spent-following, (note-4) BPTSFd	67.3 %	
Adjustment for no-passing zones, fnp	27.5	
Percent time-spent-following, PTSFd	82.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.46	
Peak 15-min vehicle-miles of travel, VMT15	39	veh-mi
Peak-hour vehicle-miles of travel, VMT60	144	veh-mi
Peak 15-min total travel time, TT15	0.9	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	45.8	mi/h
Percent time-spent-following, PTSFd (from above)	82.4	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	783.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.99
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (WB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 594 veh/h
Opposing direction volume, Vo 721 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	648 pc/h	786 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.4 mi/h
Average travel speed, ATSD 46.2 mi/h
Percent Free Flow Speed, PFFS 78.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	646 pc/h	784 pc/h
Base percent time-spent-following, (note-4) BPTSFd	62.6 %	
Adjustment for no-passing zones, fnp	27.5	
Percent time-spent-following, PTSFd	75.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.38	
Peak 15-min vehicle-miles of travel, VMT15	32	veh-mi
Peak-hour vehicle-miles of travel, VMT60	119	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	46.2	mi/h
Percent time-spent-following, PTSFd (from above)	75.0	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	645.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.89
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (EB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 19 veh/h
Opposing direction volume, Vo 39 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	21 pc/h	44 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.5 mi/h

Free-flow speed, FFSd 57.5 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 56.4 mi/h
Percent Free Flow Speed, PFFS 98.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	21 pc/h	43 pc/h
Base percent time-spent-following, (note-4) BPTSFD	2.7 %	
Adjustment for no-passing zones, fnp	10.2	
Percent time-spent-following, PTSFD	6.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.01	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	11	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
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)	56.4	mi/h
Percent time-spent-following, PTSFD (from above)	6.0	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	20.7
Effective width of outside lane, We	40.29
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-4.08
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 39 veh/h
Opposing direction volume, Vo 19 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	44 pc/h	21 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.5 mi/h

Free-flow speed, FFSd 57.5 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 56.4 mi/h
Percent Free Flow Speed, PFFS 98.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	43 pc/h	21 pc/h
Base percent time-spent-following, (note-4) BPTSFd	5.3 %	
Adjustment for no-passing zones, fnp	10.2	
Percent time-spent-following, PTSFd	12.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	6	veh-mi
Peak-hour vehicle-miles of travel, VMT60	23	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
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)	56.4	mi/h
Percent time-spent-following, PTSFd (from above)	12.2	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	42.4
Effective width of outside lane, We	38.49
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.02
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 40 veh/h
Opposing direction volume, Vo 53 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	45 pc/h	59 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.7 mi/h
Average travel speed, ATSD 51.5 mi/h
Percent Free Flow Speed, PFFS 93.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	44 pc/h	58 pc/h
Base percent time-spent-following, (note-4) BPTSFd	5.4 %	
Adjustment for no-passing zones, fnp	53.2	
Percent time-spent-following, PTSFd	28.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	8	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.5	mi/h
Percent time-spent-following, PTSFd (from above)	28.3	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	43.5
Effective width of outside lane, We	38.40
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.98
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 53 veh/h
Opposing direction volume, Vo 40 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	59 pc/h	45 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.7 mi/h
Average travel speed, ATSD 51.5 mi/h
Percent Free Flow Speed, PFFS 93.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	58 pc/h	44 pc/h
Base percent time-spent-following, (note-4) BPTSFd	7.0 %	
Adjustment for no-passing zones, fnp	53.2	
Percent time-spent-following, PTSFd	37.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	11	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.5	mi/h
Percent time-spent-following, PTSFd (from above)	37.3	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	57.6
Effective width of outside lane, We	37.23
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.38
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 400 veh/h
Opposing direction volume, Vo 416 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.991	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	439 pc/h	455 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 3.2 mi/h
Average travel speed, ATSD 48.6 mi/h
Percent Free Flow Speed, PFFS 82.8 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	435 pc/h	452 pc/h
Base percent time-spent-following,(note-4) BPTSFD	46.5 %	
Adjustment for no-passing zones, fnp	43.5	
Percent time-spent-following, PTSFD	67.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.26	
Peak 15-min vehicle-miles of travel, VMT15	22	veh-mi
Peak-hour vehicle-miles of travel, VMT60	80	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	48.6	mi/h
Percent time-spent-following, PTSFD (from above)	67.8	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	434.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.69
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (WB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 416 veh/h
Opposing direction volume, Vo 400 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.991
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	455 pc/h	439 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 3.3 mi/h
Average travel speed, ATSD 48.5 mi/h
Percent Free Flow Speed, PFFS 82.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	452 pc/h	435 pc/h
Base percent time-spent-following, (note-4) BPTSFD	47.3 %	
Adjustment for no-passing zones, fnp	43.5	
Percent time-spent-following, PTSFD	69.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	23	veh-mi
Peak-hour vehicle-miles of travel, VMT60	83	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1685	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	48.5	mi/h
Percent time-spent-following, PTSFD (from above)	69.5	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	452.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.71
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Smith Road (EB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	0.92
Shoulder width	6.0 ft	% Trucks and buses	3 %
Lane width	12.0 ft	% Trucks crawling	0.0 %
Segment length	0.2 mi	Truck crawl speed	0.0 mi/hr
Terrain type	Level	% Recreational vehicles	4 %
Grade: Length	- mi	% No-passing zones	100 %
Up/down	- %	Access point density	5 /mi

Analysis direction volume, Vd 19 veh/h
Opposing direction volume, Vo 23 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	21 pc/h	26 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.9 mi/h
Average travel speed, ATSD 55.5 mi/h
Percent Free Flow Speed, PFFS 94.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	21 pc/h	25 pc/h
Base percent time-spent-following, (note-4) BPTSFD	2.7 %	
Adjustment for no-passing zones, fnp	53.0	
Percent time-spent-following, PTSFD	26.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.01	
Peak 15-min vehicle-miles of travel, VMT15	1	veh-mi
Peak-hour vehicle-miles of travel, VMT60	4	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	55.5	mi/h
Percent time-spent-following, PTSFD (from above)	26.9	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	20.7
Effective width of outside lane, We	40.29
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-4.08
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 23 veh/h
Opposing direction volume, Vo 19 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	26 pc/h	21 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.9 mi/h
Average travel speed, ATSD 55.5 mi/h
Percent Free Flow Speed, PFFS 94.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	25 pc/h	21 pc/h
Base percent time-spent-following, (note-4) BPTSFD	3.2 %	
Adjustment for no-passing zones, fnp	53.0	
Percent time-spent-following, PTSFD	32.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	1	veh-mi
Peak-hour vehicle-miles of travel, VMT60	5	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	55.5	mi/h
Percent time-spent-following, PTSFD (from above)	32.0	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	25.0
Effective width of outside lane, We	39.93
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.85
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1502	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	17.0	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1342	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, f _{SAF}	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Fami liar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1342	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	751	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	751	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	17.0	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 14:16:31

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1562	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	17.7	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1395	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1395	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	781	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	781	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	17.7	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 14:17:09

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	889	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	10.1	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	794	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, f _{SAF}	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	794	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	444	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	444	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	10.1	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:19:40

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1104	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	12.5	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	986	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Fami liar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	986	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	552	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	552	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	12.5	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 14:20:04

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway North St, e/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 483 veh/h
Opposing direction volume, Vo 435 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	528 pc/h	476 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.9 mi/h
Average travel speed, ATSD 41.3 mi/h
Percent Free Flow Speed, PFFS 82.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	525 pc/h	473 pc/h
Base percent time-spent-following, (note-4) BPTSFD	52.7 %	
Adjustment for no-passing zones, fnp	14.3	
Percent time-spent-following, PTSFD	60.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.31	
Peak 15-min vehicle-miles of travel, VMT15	26	veh-mi
Peak-hour vehicle-miles of travel, VMT60	97	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	41.3	mi/h
Percent time-spent-following, PTSFD (from above)	60.2	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	525.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.79
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway North St, e/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 435 veh/h
Opposing direction volume, Vo 483 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	476 pc/h	528 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.8 mi/h
Average travel speed, ATSD 41.4 mi/h
Percent Free Flow Speed, PFFS 82.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	473 pc/h	525 pc/h
Base percent time-spent-following, (note-4) BPTSFd	50.2 %	
Adjustment for no-passing zones, fnp	14.3	
Percent time-spent-following, PTSFd	57.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.28	
Peak 15-min vehicle-miles of travel, VMT15	24	veh-mi
Peak-hour vehicle-miles of travel, VMT60	87	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	41.4	mi/h
Percent time-spent-following, PTSFd (from above)	57.0	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	472.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.73
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway North St, e/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 265 veh/h
Opposing direction volume, Vo 297 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.988	0.988
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	292 pc/h	327 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 1.1 mi/h
Average travel speed, ATSD 44.1 mi/h
Percent Free Flow Speed, PFFS 88.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	289 pc/h	324 pc/h
Base percent time-spent-following, (note-4) BPTSFD	32.7 %	
Adjustment for no-passing zones, fnp	15.5	
Percent time-spent-following, PTSFD	40.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.17	
Peak 15-min vehicle-miles of travel, VMT15	14	veh-mi
Peak-hour vehicle-miles of travel, VMT60	53	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	44.1	mi/h
Percent time-spent-following, PTSFD (from above)	40.0	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	288.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.48
Bicycle LOS	B

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway North St, e/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 297 veh/h
Opposing direction volume, Vo 265 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.988	0.988
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	327 pc/h	292 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 1.2 mi/h
Average travel speed, ATSD 44.0 mi/h
Percent Free Flow Speed, PFFS 88.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	324 pc/h	289 pc/h
Base percent time-spent-following, (note-4) BPTSFD	35.6 %	
Adjustment for no-passing zones, fnp	15.5	
Percent time-spent-following, PTSFD	43.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.19	
Peak 15-min vehicle-miles of travel, VMT15	16	veh-mi
Peak-hour vehicle-miles of travel, VMT60	59	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	44.0	mi/h
Percent time-spent-following, PTSFD (from above)	43.8	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	322.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.54
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway North Road, w/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 369 veh/h
Opposing direction volume, Vo 442 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.991	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	405 pc/h	483 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.9 mi/h
Average travel speed, ATSD 42.2 mi/h
Percent Free Flow Speed, PFFS 84.4 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	401 pc/h	480 pc/h
Base percent time-spent-following,(note-4) BPTSFd	44.0 %	
Adjustment for no-passing zones, fnp	14.5	
Percent time-spent-following, PTSFd	50.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.24	
Peak 15-min vehicle-miles of travel, VMT15	20	veh-mi
Peak-hour vehicle-miles of travel, VMT60	74	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	42.2	mi/h
Percent time-spent-following, PTSFd (from above)	50.6	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	401.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.65
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway North Road, w/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 442 veh/h
Opposing direction volume, Vo 369 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.991
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	483 pc/h	405 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 1.1 mi/h
Average travel speed, ATSD 42.0 mi/h
Percent Free Flow Speed, PFFS 84.0 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	480 pc/h	401 pc/h
Base percent time-spent-following, (note-4) BPTSFD	48.1 %	
Adjustment for no-passing zones, fnp	14.5	
Percent time-spent-following, PTSFD	56.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.28	
Peak 15-min vehicle-miles of travel, VMT15	24	veh-mi
Peak-hour vehicle-miles of travel, VMT60	88	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1685	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	42.0	mi/h
Percent time-spent-following, PTSFD (from above)	56.0	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	480.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.74
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, w/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 234 veh/h
Opposing direction volume, Vo 238 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.988	0.988
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	257 pc/h	262 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 1.2 mi/h
Average travel speed, ATSD 44.8 mi/h
Percent Free Flow Speed, PFFS 89.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	255 pc/h	259 pc/h
Base percent time-spent-following, (note-4) BPTSFd	27.6 %	
Adjustment for no-passing zones, fnp	15.9	
Percent time-spent-following, PTSFd	35.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	47	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	44.8	mi/h
Percent time-spent-following, PTSFd (from above)	35.5	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	254.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.42
Bicycle LOS	B

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, w/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 238 veh/h
Opposing direction volume, Vo 234 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.988	0.988
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	262 pc/h	257 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 1.2 mi/h
Average travel speed, ATSD 44.8 mi/h
Percent Free Flow Speed, PFFS 89.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	259 pc/h	255 pc/h
Base percent time-spent-following, (note-4) BPTSFD	28.1 %	
Adjustment for no-passing zones, fnp	15.9	
Percent time-spent-following, PTSFD	36.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	48	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	44.8	mi/h
Percent time-spent-following, PTSFD (from above)	36.1	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	258.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.43
Bicycle LOS	B

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, n/o North St (EB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 70 veh/h
Opposing direction volume, Vo 56 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	78 pc/h	62 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.2 mi/h
Average travel speed, ATSD 48.7 mi/h
Percent Free Flow Speed, PFFS 97.4 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	76 pc/h	61 pc/h
Base percent time-spent-following, (note-4) BPTSFd	9.0 %	
Adjustment for no-passing zones, fnp	10.1	
Percent time-spent-following, PTSFd	14.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	14	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	48.7	mi/h
Percent time-spent-following, PTSFd (from above)	14.6	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	76.1
Effective width of outside lane, We	35.70
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.69
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, n/o North St (WB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 56 veh/h
Opposing direction volume, Vo 70 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	62 pc/h	78 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.2 mi/h
Average travel speed, ATSD 48.7 mi/h
Percent Free Flow Speed, PFFS 97.4 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	61 pc/h	76 pc/h
Base percent time-spent-following, (note-4) BPTSFd	7.4 %	
Adjustment for no-passing zones, fnp	10.1	
Percent time-spent-following, PTSFd	11.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	11	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	48.7	mi/h
Percent time-spent-following, PTSFd (from above)	11.9	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	60.9
Effective width of outside lane, We	36.96
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.26
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, n/o North St (EB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 44 veh/h
Opposing direction volume, Vo 67 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	49 pc/h	75 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	60.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.2	mi/h
Average travel speed, ATSD	48.8	mi/h
Percent Free Flow Speed, PFFS	97.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	48 pc/h	73 pc/h
Base percent time-spent-following, (note-4) BPTSFd	5.9 %	
Adjustment for no-passing zones, fnp	11.0	
Percent time-spent-following, PTSFd	10.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	9	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	48.8	mi/h
Percent time-spent-following, PTSFd (from above)	10.3	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	47.8
Effective width of outside lane, We	38.04
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.78
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, n/o North St (WB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 67 veh/h
Opposing direction volume, Vo 44 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	75 pc/h	49 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.2 mi/h
Average travel speed, ATSD 48.8 mi/h
Percent Free Flow Speed, PFFS 97.7 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	73 pc/h	48 pc/h
Base percent time-spent-following, (note-4) BPTSFd	8.7 %	
Adjustment for no-passing zones, fnp	11.0	
Percent time-spent-following, PTSFd	15.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	13	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	48.8	mi/h
Percent time-spent-following, PTSFd (from above)	15.3	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	72.8
Effective width of outside lane, We	35.97
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.80
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, s/o North St (NB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 26 veh/h
Opposing direction volume, Vo 30 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	29 pc/h	33 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.0 mi/h

Free-flow speed, FFSd 58.0 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 56.9 mi/h
Percent Free Flow Speed, PFFS 98.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	28 pc/h	33 pc/h
Base percent time-spent-following, (note-4) BPTSFD	3.5 %	
Adjustment for no-passing zones, fnp	29.7	
Percent time-spent-following, PTSFD	17.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	A
Volume to capacity ratio, v/c	0.02
Peak 15-min vehicle-miles of travel, VMT15	2 veh-mi
Peak-hour vehicle-miles of travel, VMT60	8 veh-mi
Peak 15-min total travel time, TT15	0.0 veh-h
Capacity from ATS, CdATS	1656 veh/h
Capacity from PTSF, CdPTSF	1695 veh/h
Directional Capacity	1656 veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3 mi
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)	56.9 mi/h
Percent time-spent-following, PTSFD (from above)	17.1
Level of service, LOSd (from above)	A

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	- mi
Length 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	-
Average travel speed including passing lane, ATSpl	-
Percent free flow speed including passing lane, PFFSpl	0.0 %

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	- mi
Length 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

Level of service including passing lane, LOSpl	E
Peak 15-min total travel time, TT15	- veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	28.3
Effective width of outside lane, We	39.66
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.69
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, s/o North St (SB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 30 veh/h
Opposing direction volume, Vo 26 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	33 pc/h	29 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.0 mi/h

Free-flow speed, FFSd 58.0 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 56.9 mi/h
Percent Free Flow Speed, PFFS 98.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	33 pc/h	28 pc/h
Base percent time-spent-following, (note-4) BPTSFd	4.1 %	
Adjustment for no-passing zones, fnp	29.7	
Percent time-spent-following, PTSFd	20.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	9	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
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)	56.9	mi/h
Percent time-spent-following, PTSFd (from above)	20.2	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	32.6
Effective width of outside lane, We	39.30
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.46
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, s/o North St (NB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 19 veh/h
Opposing direction volume, Vo 16 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	21 pc/h	18 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.0 mi/h

Free-flow speed, FFSd 58.0 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 57.1 mi/h
Percent Free Flow Speed, PFFS 98.4 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	21 pc/h	17 pc/h
Base percent time-spent-following, (note-4) BPTSFd	2.7 %	
Adjustment for no-passing zones, fnp	29.8	
Percent time-spent-following, PTSFd	19.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.01	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	6	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
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)	57.1	mi/h
Percent time-spent-following, PTSFd (from above)	19.2	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	20.7
Effective width of outside lane, We	40.29
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-4.08
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, s/o North St (SB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 16 veh/h
Opposing direction volume, Vo 19 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	18 pc/h	21 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.0 mi/h

Free-flow speed, FFSd 58.0 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 57.1 mi/h
Percent Free Flow Speed, PFFS 98.4 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	17 pc/h	21 pc/h
Base percent time-spent-following, (note-4) BPTSFD	2.2 %	
Adjustment for no-passing zones, fnp	29.8	
Percent time-spent-following, PTSFD	15.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.01	
Peak 15-min vehicle-miles of travel, VMT15	1	veh-mi
Peak-hour vehicle-miles of travel, VMT60	5	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
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)	57.1	mi/h
Percent time-spent-following, PTSFD (from above)	15.5	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	17.4
Effective width of outside lane, We	40.56
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-4.30
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Canyon Road (NB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 231 veh/h
Opposing direction volume, Vo 363 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.977	0.982
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	257 pc/h	402 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 0.0 mi/h

Free-flow speed, FFSd 60.0 mi/h

Adjustment for no-passing zones, fnp 3.9 mi/h
Average travel speed, ATSD 51.0 mi/h
Percent Free Flow Speed, PFFS 85.0 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	253 pc/h	397 pc/h
Base percent time-spent-following, (note-4) BPTSFd	30.6 %	
Adjustment for no-passing zones, fnp	50.5	
Percent time-spent-following, PTSFd	50.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	46	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1669	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1669	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.0	mi/h
Percent time-spent-following, PTSFd (from above)	50.3	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	251.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.29
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Canyon Road (SB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 363 veh/h
Opposing direction volume, Vo 231 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.982	0.977
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	402 pc/h	257 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	60.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	4.1	mi/h
Average travel speed, ATSD	50.8	mi/h
Percent Free Flow Speed, PFFS	84.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	397 pc/h	253 pc/h
Base percent time-spent-following, (note-4) BPTSFd	39.3 %	
Adjustment for no-passing zones, fnp	50.5	
Percent time-spent-following, PTSFd	70.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.24	
Peak 15-min vehicle-miles of travel, VMT15	20	veh-mi
Peak-hour vehicle-miles of travel, VMT60	73	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1661	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1661	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	50.8	mi/h
Percent time-spent-following, PTSFd (from above)	70.1	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	394.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.52
Bicycle LOS	D

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Canyon Road (NB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 223 veh/h
Opposing direction volume, Vo 205 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.971	0.971
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	250 pc/h	229 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 0.0 mi/h

Free-flow speed, FFSd 60.0 mi/h

Adjustment for no-passing zones, fnp 4.2 mi/h
Average travel speed, ATSD 52.1 mi/h
Percent Free Flow Speed, PFFS 86.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	244 pc/h	224 pc/h
Base percent time-spent-following, (note-4) BPTSFD	26.3 %	
Adjustment for no-passing zones, fnp	61.3	
Percent time-spent-following, PTSFD	58.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	12	veh-mi
Peak-hour vehicle-miles of travel, VMT60	45	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1651	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1651	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	52.1	mi/h
Percent time-spent-following, PTSFD (from above)	58.3	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	242.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.27
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Canyon Road (SB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 205 veh/h
Opposing direction volume, Vo 223 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.971	0.971
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	229 pc/h	250 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 0.0 mi/h

Free-flow speed, FFSd 60.0 mi/h

Adjustment for no-passing zones, fnp 4.1 mi/h
Average travel speed, ATSD 52.2 mi/h
Percent Free Flow Speed, PFFS 86.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	224 pc/h	244 pc/h
Base percent time-spent-following, (note-4) BPTSFd	25.3 %	
Adjustment for no-passing zones, fnp	61.3	
Percent time-spent-following, PTSFd	54.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.13	
Peak 15-min vehicle-miles of travel, VMT15	11	veh-mi
Peak-hour vehicle-miles of travel, VMT60	41	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1651	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1651	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	52.2	mi/h
Percent time-spent-following, PTSFd (from above)	54.6	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	222.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.23
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	852	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	7.1	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	801	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	801	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	426	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	426	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	7.1	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:18:17

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	1059	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	8.8	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	995	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	995	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	530	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	530	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	8.8	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:19:02

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	590	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	4.9	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	555	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	555	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	295	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	295	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	4.9	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:21:29

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	695	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.8	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	653	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{lw}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	653	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	348	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	348	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	5.8	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:21:52

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	589	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	4.9	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	554	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{lw}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, f _{AF}	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	554	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	294	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	294	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	4.9	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:22:36

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	657	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.5	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	618	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	618	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	328	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	328	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	5.5	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:22:53

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	373	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	3.1	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	351	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	351	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	186	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	186	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	3.1	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:23:27

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	377	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	3.1	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	354	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, f _{SAF}	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Fami liar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	354	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	188	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	188	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	3.1	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:23:42

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	0.92
Shoulder width	6.0 ft	% Trucks and buses	3 %
Lane width	12.0 ft	% Trucks crawling	0.0 %
Segment length	0.2 mi	Truck crawl speed	0.0 mi/hr
Terrain type	Level	% Recreational vehicles	4 %
Grade: Length	- mi	% No-passing zones	100 %
Up/down	- %	Access point density	20 /mi

Analysis direction volume, Vd 95 veh/h
Opposing direction volume, Vo 96 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	106 pc/h	107 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.8 mi/h
Average travel speed, ATSD 50.5 mi/h
Percent Free Flow Speed, PFFS 91.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	104 pc/h	105 pc/h
Base percent time-spent-following, (note-4) BPTSFd	12.1 %	
Adjustment for no-passing zones, fnp	53.2	
Percent time-spent-following, PTSFd	38.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.06	
Peak 15-min vehicle-miles of travel, VMT15	5	veh-mi
Peak-hour vehicle-miles of travel, VMT60	19	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	50.5	mi/h
Percent time-spent-following, PTSFd (from above)	38.6	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	103.3
Effective width of outside lane, We	33.45
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-0.76
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 96 veh/h
Opposing direction volume, Vo 95 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	107 pc/h	106 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.8 mi/h
Average travel speed, ATSD 50.6 mi/h
Percent Free Flow Speed, PFFS 91.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	105 pc/h	104 pc/h
Base percent time-spent-following, (note-4) BPTSFd	12.2 %	
Adjustment for no-passing zones, fnp	53.2	
Percent time-spent-following, PTSFd	38.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.06	
Peak 15-min vehicle-miles of travel, VMT15	5	veh-mi
Peak-hour vehicle-miles of travel, VMT60	19	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	50.6	mi/h
Percent time-spent-following, PTSFd (from above)	38.9	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	104.3
Effective width of outside lane, We	33.36
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-0.72
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	187	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	2.1	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	167	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Fami liar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	167	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	94	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	94	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	2.1	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:03:53

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1836	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	20.8	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1640	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1640	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	918	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	918	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	20.8	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/30/2018 10:04:49

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/7/2017
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 876 veh/h
Opposing direction volume, Vo 779 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	952 pc/h	849 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATSD 43.4 mi/h
Percent Free Flow Speed, PFFS 73.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	952 pc/h	847 pc/h
Base percent time-spent-following, (note-4) BPTSFd	74.9 %	
Adjustment for no-passing zones, fnp	21.7	
Percent time-spent-following, PTSFd	86.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.56	
Peak 15-min vehicle-miles of travel, VMT15	48	veh-mi
Peak-hour vehicle-miles of travel, VMT60	175	veh-mi
Peak 15-min total travel time, TT15	1.1	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	43.4	mi/h
Percent time-spent-following, PTSFd (from above)	86.4	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	952.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.09
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (WB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 779 veh/h
Opposing direction volume, Vo 876 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	0.997	1.000
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	849 pc/h	952 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.2 mi/h
Average travel speed, ATSD 43.5 mi/h
Percent Free Flow Speed, PFFS 74.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	847 pc/h	952 pc/h
Base percent time-spent-following, (note-4) BPTSFd	72.5 %	
Adjustment for no-passing zones, fnp	21.7	
Percent time-spent-following, PTSFd	82.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.50	
Peak 15-min vehicle-miles of travel, VMT15	42	veh-mi
Peak-hour vehicle-miles of travel, VMT60	156	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	43.5	mi/h
Percent time-spent-following, PTSFd (from above)	82.7	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	846.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.03
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (EB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	0.92
Shoulder width	6.0 ft	% Trucks and buses	3 %
Lane width	12.0 ft	% Trucks crawling	0.0 %
Segment length	0.6 mi	Truck crawl speed	0.0 mi/hr
Terrain type	Level	% Recreational vehicles	4 %
Grade: Length	- mi	% No-passing zones	0 %
Up/down	- %	Access point density	10 /mi

Analysis direction volume, Vd 26 veh/h
Opposing direction volume, Vo 53 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	29 pc/h	59 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.5 mi/h

Free-flow speed, FFSd 57.5 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 56.2 mi/h
Percent Free Flow Speed, PFFS 97.8 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	28 pc/h	58 pc/h
Base percent time-spent-following, (note-4) BPTSFd	3.5 %	
Adjustment for no-passing zones, fnp	10.2	
Percent time-spent-following, PTSFd	6.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	16	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
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)	56.2	mi/h
Percent time-spent-following, PTSFd (from above)	6.8	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	28.3
Effective width of outside lane, We	39.66
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.69
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 53 veh/h
Opposing direction volume, Vo 26 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	59 pc/h	29 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.5 mi/h

Free-flow speed, FFSd 57.5 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 56.2 mi/h
Percent Free Flow Speed, PFFS 97.8 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	58 pc/h	28 pc/h
Base percent time-spent-following, (note-4) BPTSFD	7.0 %	
Adjustment for no-passing zones, fnp	10.2	
Percent time-spent-following, PTSFD	13.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	9	veh-mi
Peak-hour vehicle-miles of travel, VMT60	32	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
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)	56.2	mi/h
Percent time-spent-following, PTSFD (from above)	13.9	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	57.6
Effective width of outside lane, We	37.23
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.38
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 52 veh/h
Opposing direction volume, Vo 60 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	58 pc/h	67 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.7 mi/h
Average travel speed, ATSD 51.3 mi/h
Percent Free Flow Speed, PFFS 93.3 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	57 pc/h	65 pc/h
Base percent time-spent-following, (note-4) BPTSFD	6.9 %	
Adjustment for no-passing zones, fnp	52.9	
Percent time-spent-following, PTSFD	31.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	10	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.3	mi/h
Percent time-spent-following, PTSFD (from above)	31.6	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	56.5
Effective width of outside lane, We	37.32
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.42
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 60 veh/h
Opposing direction volume, Vo 52 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	67 pc/h	58 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.7 mi/h
Average travel speed, ATSD 51.3 mi/h
Percent Free Flow Speed, PFFS 93.3 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	65 pc/h	57 pc/h
Base percent time-spent-following, (note-4) BPTSFd	7.8 %	
Adjustment for no-passing zones, fnp	52.9	
Percent time-spent-following, PTSFd	36.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	12	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.3	mi/h
Percent time-spent-following, PTSFd (from above)	36.0	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	65.2
Effective width of outside lane, We	36.60
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.09
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1058	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	12.0	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	945	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	945	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	529	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	529	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	12.0	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/30/2018 10:17:01

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1281	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	14.5	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1144	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1144	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	640	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	640	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	14.5	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/30/2018 10:18:38

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 487 veh/h
Opposing direction volume, Vo 544 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	533 pc/h	593 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.0 mi/h
Average travel speed, ATSD 48.0 mi/h
Percent Free Flow Speed, PFFS 81.7 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	529 pc/h	591 pc/h
Base percent time-spent-following, (note-4) BPTSFD	54.3 %	
Adjustment for no-passing zones, fnp	36.1	
Percent time-spent-following, PTSFD	71.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.31	
Peak 15-min vehicle-miles of travel, VMT15	26	veh-mi
Peak-hour vehicle-miles of travel, VMT60	97	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	48.0	mi/h
Percent time-spent-following, PTSFD (from above)	71.4	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	529.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.79
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (WB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 544 veh/h
Opposing direction volume, Vo 487 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.997	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	593 pc/h	533 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.5 mi/h
Average travel speed, ATSD 47.5 mi/h
Percent Free Flow Speed, PFFS 80.8 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	591 pc/h	529 pc/h
Base percent time-spent-following, (note-4) BPTSFd	57.0 %	
Adjustment for no-passing zones, fnp	36.1	
Percent time-spent-following, PTSFd	76.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	30	veh-mi
Peak-hour vehicle-miles of travel, VMT60	109	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	47.5	mi/h
Percent time-spent-following, PTSFd (from above)	76.0	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	591.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.85
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Smith Road (EB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	0.92
Shoulder width	6.0 ft	% Trucks and buses	3 %
Lane width	12.0 ft	% Trucks crawling	0.0 %
Segment length	0.2 mi	Truck crawl speed	0.0 mi/hr
Terrain type	Level	% Recreational vehicles	4 %
Grade: Length	- mi	% No-passing zones	100 %
Up/down	- %	Access point density	5 /mi

Analysis direction volume, Vd 27 veh/h
Opposing direction volume, Vo 32 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	30 pc/h	36 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.9 mi/h
Average travel speed, ATSD 55.4 mi/h
Percent Free Flow Speed, PFFS 94.3 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	29 pc/h	35 pc/h
Base percent time-spent-following, (note-4) BPTSFd	3.6 %	
Adjustment for no-passing zones, fnp	53.0	
Percent time-spent-following, PTSFd	27.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	1	veh-mi
Peak-hour vehicle-miles of travel, VMT60	5	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	55.4	mi/h
Percent time-spent-following, PTSFd (from above)	27.6	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	29.3
Effective width of outside lane, We	39.57
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.63
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 32 veh/h
Opposing direction volume, Vo 27 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	36 pc/h	30 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.9 mi/h
Average travel speed, ATSD 55.4 mi/h
Percent Free Flow Speed, PFFS 94.3 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	35 pc/h	29 pc/h
Base percent time-spent-following, (note-4) BPTSFd	4.4 %	
Adjustment for no-passing zones, fnp	53.0	
Percent time-spent-following, PTSFd	33.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	6	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	55.4	mi/h
Percent time-spent-following, PTSFd (from above)	33.4	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	34.8
Effective width of outside lane, We	39.12
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.36
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/29/18
Analysis Time Period Friday PM Peak-Hour
Highway North St, e/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 561 veh/h
Opposing direction volume, Vo 508 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	612 pc/h	554 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.7 mi/h
Average travel speed, ATSD 40.2 mi/h
Percent Free Flow Speed, PFFS 80.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	610 pc/h	552 pc/h
Base percent time-spent-following, (note-4) BPTSFD	57.9 %	
Adjustment for no-passing zones, fnp	13.6	
Percent time-spent-following, PTSFD	65.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.36	
Peak 15-min vehicle-miles of travel, VMT15	30	veh-mi
Peak-hour vehicle-miles of travel, VMT60	112	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	40.2	mi/h
Percent time-spent-following, PTSFD (from above)	65.0	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	609.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.86
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway North St, e/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 508 veh/h
Opposing direction volume, Vo 561 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	554 pc/h	612 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 40.4 mi/h
Percent Free Flow Speed, PFFS 80.7 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	552 pc/h	610 pc/h
Base percent time-spent-following, (note-4) BPTSFd	55.8 %	
Adjustment for no-passing zones, fnp	13.6	
Percent time-spent-following, PTSFd	62.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.33	
Peak 15-min vehicle-miles of travel, VMT15	28	veh-mi
Peak-hour vehicle-miles of travel, VMT60	102	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	40.4	mi/h
Percent time-spent-following, PTSFd (from above)	62.3	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	552.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.81
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway North St, e/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 307 veh/h
Opposing direction volume, Vo 347 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.988	0.991
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	338 pc/h	381 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 1.1 mi/h
Average travel speed, ATSD 43.3 mi/h
Percent Free Flow Speed, PFFS 86.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	335 pc/h	378 pc/h
Base percent time-spent-following, (note-4) BPTSFd	37.1 %	
Adjustment for no-passing zones, fnp	15.3	
Percent time-spent-following, PTSFd	44.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.20	
Peak 15-min vehicle-miles of travel, VMT15	17	veh-mi
Peak-hour vehicle-miles of travel, VMT60	61	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1685	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	43.3	mi/h
Percent time-spent-following, PTSFd (from above)	44.3	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	333.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.56
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway North St, e/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 347 veh/h
Opposing direction volume, Vo 307 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.991	0.988
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	381 pc/h	338 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 1.1 mi/h
Average travel speed, ATSD 43.3 mi/h
Percent Free Flow Speed, PFFS 86.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	378 pc/h	335 pc/h
Base percent time-spent-following, (note-4) BPTSFd	39.4 %	
Adjustment for no-passing zones, fnp	15.3	
Percent time-spent-following, PTSFd	47.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.22	
Peak 15-min vehicle-miles of travel, VMT15	19	veh-mi
Peak-hour vehicle-miles of travel, VMT60	69	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	43.3	mi/h
Percent time-spent-following, PTSFd (from above)	47.5	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	377.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.62
Bicycle LOS	C

- 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 downgrade segments are treated as level terrain.
 2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway North Road, w/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 433 veh/h
Opposing direction volume, Vo 519 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	473 pc/h	566 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.7 mi/h
Average travel speed, ATSD 41.3 mi/h
Percent Free Flow Speed, PFFS 82.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	471 pc/h	564 pc/h
Base percent time-spent-following, (note-4) BPTSFD	50.2 %	
Adjustment for no-passing zones, fnp	13.8	
Percent time-spent-following, PTSFD	56.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	C
Volume to capacity ratio, v/c	0.28
Peak 15-min vehicle-miles of travel, VMT15	24 veh-mi
Peak-hour vehicle-miles of travel, VMT60	87 veh-mi
Peak 15-min total travel time, TT15	0.6 veh-h
Capacity from ATS, CdATS	1695 veh/h
Capacity from PTSF, CdPTSF	1700 veh/h
Directional Capacity	1695 veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2 mi
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)	41.3 mi/h
Percent time-spent-following, PTSFD (from above)	56.5
Level of service, LOSd (from above)	C

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	- mi
Length 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	-
Average travel speed including passing lane, ATSpl	-
Percent free flow speed including passing lane, PFFSpl	0.0 %

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	- mi
Length 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

Level of service including passing lane, LOSpl	E
Peak 15-min total travel time, TT15	- veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	470.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.73
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway North Road, w/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 519 veh/h
Opposing direction volume, Vo 433 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.997	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	566 pc/h	473 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.9 mi/h
Average travel speed, ATSD 41.0 mi/h
Percent Free Flow Speed, PFFS 82.0 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	564 pc/h	471 pc/h
Base percent time-spent-following, (note-4) BPTSFd	55.0 %	
Adjustment for no-passing zones, fnp	13.8	
Percent time-spent-following, PTSFd	62.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.33	
Peak 15-min vehicle-miles of travel, VMT15	28	veh-mi
Peak-hour vehicle-miles of travel, VMT60	104	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	41.0	mi/h
Percent time-spent-following, PTSFd (from above)	62.5	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	564.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.82
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, w/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 275 veh/h
Opposing direction volume, Vo 279 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.988	0.988
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	303 pc/h	307 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 1.1 mi/h
Average travel speed, ATSD 44.1 mi/h
Percent Free Flow Speed, PFFS 88.2 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	300 pc/h	304 pc/h
Base percent time-spent-following, (note-4) BPTSFd	32.9 %	
Adjustment for no-passing zones, fnp	15.8	
Percent time-spent-following, PTSFd	40.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.18	
Peak 15-min vehicle-miles of travel, VMT15	15	veh-mi
Peak-hour vehicle-miles of travel, VMT60	55	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	44.1	mi/h
Percent time-spent-following, PTSFd (from above)	40.7	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	298.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.50
Bicycle LOS	B

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, w/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 279 veh/h
Opposing direction volume, Vo 275 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.988	0.988
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	307 pc/h	303 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 1.1 mi/h
Average travel speed, ATSD 44.1 mi/h
Percent Free Flow Speed, PFFS 88.2 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	304 pc/h	300 pc/h
Base percent time-spent-following, (note-4) BPTSFD	33.4 %	
Adjustment for no-passing zones, fnp	15.8	
Percent time-spent-following, PTSFD	41.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.18	
Peak 15-min vehicle-miles of travel, VMT15	15	veh-mi
Peak-hour vehicle-miles of travel, VMT60	56	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	44.1	mi/h
Percent time-spent-following, PTSFD (from above)	41.4	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	303.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.51
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, n/o North St (EB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 72 veh/h
Opposing direction volume, Vo 59 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	80 pc/h	66 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.2 mi/h
Average travel speed, ATSD 48.7 mi/h
Percent Free Flow Speed, PFFS 97.3 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	78 pc/h	64 pc/h
Base percent time-spent-following, (note-4) BPTSFd	9.3 %	
Adjustment for no-passing zones, fnp	10.0	
Percent time-spent-following, PTSFd	14.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	14	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	48.7	mi/h
Percent time-spent-following, PTSFd (from above)	14.8	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	78.3
Effective width of outside lane, We	35.52
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.61
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, n/o North St (WB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	0.92
Shoulder width	6.0 ft	% Trucks and buses	3 %
Lane width	12.0 ft	% Trucks crawling	0.0 %
Segment length	0.2 mi	Truck crawl speed	0.0 mi/hr
Terrain type	Level	% Recreational vehicles	4 %
Grade: Length	- mi	% No-passing zones	0 %
Up/down	- %	Access point density	40 /mi

Analysis direction volume, Vd 59 veh/h
Opposing direction volume, Vo 72 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	66 pc/h	80 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.2 mi/h
Average travel speed, ATSD 48.7 mi/h
Percent Free Flow Speed, PFFS 97.3 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	64 pc/h	78 pc/h
Base percent time-spent-following, (note-4) BPTSFD	7.7 %	
Adjustment for no-passing zones, fnp	10.0	
Percent time-spent-following, PTSFD	12.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	3 veh-mi	
Peak-hour vehicle-miles of travel, VMT60	12 veh-mi	
Peak 15-min total travel time, TT15	0.1 veh-h	
Capacity from ATS, CdATS	1656 veh/h	
Capacity from PTSF, CdPTSF	1695 veh/h	
Directional Capacity	1656 veh/h	

Passing Lane Analysis

Total length of analysis segment, Lt	0.2 mi
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)	48.7 mi/h
Percent time-spent-following, PTSFD (from above)	12.2
Level of service, LOSd (from above)	A

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	- mi
Length 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	-
Average travel speed including passing lane, ATSpl	-
Percent free flow speed including passing lane, PFFSpl	0.0 %

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	- mi
Length 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

Level of service including passing lane, LOSpl	E
Peak 15-min total travel time, TT15	- veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	64.1
Effective width of outside lane, We	36.69
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.13
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, n/o North St (EB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 46 veh/h
Opposing direction volume, Vo 72 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	51 pc/h	80 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	60.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.2	mi/h
Average travel speed, ATSD	48.8	mi/h
Percent Free Flow Speed, PFFS	97.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	50 pc/h	78 pc/h
Base percent time-spent-following, (note-4) BPTSFd	6.1 %	
Adjustment for no-passing zones, fnp	10.9	
Percent time-spent-following, PTSFd	10.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	9	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	48.8	mi/h
Percent time-spent-following, PTSFd (from above)	10.4	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	50.0
Effective width of outside lane, We	37.86
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.69
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, n/o North St (WB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 72 veh/h
Opposing direction volume, Vo 46 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	80 pc/h	51 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.2 mi/h
Average travel speed, ATSD 48.8 mi/h
Percent Free Flow Speed, PFFS 97.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	78 pc/h	50 pc/h
Base percent time-spent-following, (note-4) BPTSFd	9.3 %	
Adjustment for no-passing zones, fnp	10.9	
Percent time-spent-following, PTSFd	15.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	14	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	48.8	mi/h
Percent time-spent-following, PTSFd (from above)	15.9	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	78.3
Effective width of outside lane, We	35.52
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.61
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, s/o North St (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 27 veh/h
Opposing direction volume, Vo 36 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	30 pc/h	40 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.0 mi/h

Free-flow speed, FFSd 58.0 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 56.8 mi/h
Percent Free Flow Speed, PFFS 98.0 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	29 pc/h	39 pc/h
Base percent time-spent-following, (note-4) BPTSFd	3.6 %	
Adjustment for no-passing zones, fnp	30.2	
Percent time-spent-following, PTSFd	16.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	8	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
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)	56.8	mi/h
Percent time-spent-following, PTSFd (from above)	16.5	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	29.3
Effective width of outside lane, We	39.57
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.63
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, s/o North St (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 36 veh/h
Opposing direction volume, Vo 27 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	40 pc/h	30 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.0 mi/h

Free-flow speed, FFSd 58.0 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 56.8 mi/h
Percent Free Flow Speed, PFFS 98.0 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	39 pc/h	29 pc/h
Base percent time-spent-following, (note-4) BPTSFD	4.8 %	
Adjustment for no-passing zones, fnp	30.2	
Percent time-spent-following, PTSFD	22.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	11	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
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)	56.8	mi/h
Percent time-spent-following, PTSFD (from above)	22.1	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	39.1
Effective width of outside lane, We	38.76
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.16
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, s/o North St (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 20 veh/h
Opposing direction volume, Vo 19 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	22 pc/h	21 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	60.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h

Free-flow speed, FFSd	58.0	mi/h
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Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	57.0	mi/h
Percent Free Flow Speed, PFFS	98.4	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	22 pc/h	21 pc/h
Base percent time-spent-following, (note-4) BPTSFd	2.8 %	
Adjustment for no-passing zones, fnp	29.4	
Percent time-spent-following, PTSFd	17.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.01	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	6	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
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)	57.0	mi/h
Percent time-spent-following, PTSFd (from above)	17.8	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	21.7
Effective width of outside lane, We	40.20
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-4.02
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, s/o North St (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 19 veh/h
Opposing direction volume, Vo 20 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	21 pc/h	22 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 2.0 mi/h

Free-flow speed, FFSd 58.0 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 57.0 mi/h
Percent Free Flow Speed, PFFS 98.4 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	21 pc/h	22 pc/h
Base percent time-spent-following, (note-4) BPTSFd	2.7 %	
Adjustment for no-passing zones, fnp	29.4	
Percent time-spent-following, PTSFd	17.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.01	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	6	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
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)	57.0	mi/h
Percent time-spent-following, PTSFd (from above)	17.1	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	20.7
Effective width of outside lane, We	40.29
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-4.08
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	941	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	7.8	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	885	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Fami liar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	885	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	470	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	470	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	7.8	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:20:21

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	1163	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	9.7	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1093	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1093	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	582	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	582	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	9.7	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:21:14

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_273N_SAT. xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	643	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.4	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	604	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	604	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	322	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	322	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	5.4	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:22:02

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_273N_SAT. xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	753	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	6.3	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	708	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, f _{SAF}	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	708	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	376	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	376	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	6.3	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:22:34

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	703	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.9	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	661	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	661	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	352	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	352	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	5.9	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:23:17

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	778	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	6.5	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	731	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{lw}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, f _{SAF}	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	731	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	389	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	389	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	6.5	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:23:39

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_273S_SAT. xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	449	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	3.7	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	422	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	422	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	224	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	224	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	3.7	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:24:58

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	445	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	3.7	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	418	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	418	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	222	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	222	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	3.7	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:25:16

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Canyon Road (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 238 veh/h
Opposing direction volume, Vo 366 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.977	0.982
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	265 pc/h	405 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 0.0 mi/h

Free-flow speed, FFSd 60.0 mi/h

Adjustment for no-passing zones, fnp 3.9 mi/h
Average travel speed, ATSD 50.9 mi/h
Percent Free Flow Speed, PFFS 84.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	260 pc/h	400 pc/h
Base percent time-spent-following, (note-4) BPTSFd	31.1 %	
Adjustment for no-passing zones, fnp	50.2	
Percent time-spent-following, PTSFd	50.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.16	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	48	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1669	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1669	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	50.9	mi/h
Percent time-spent-following, PTSFd (from above)	50.9	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	258.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.30
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Canyon Road (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 366 veh/h
Opposing direction volume, Vo 238 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.982	0.977
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	405 pc/h	265 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 0.0 mi/h

Free-flow speed, FFSd 60.0 mi/h

Adjustment for no-passing zones, fnp 4.1 mi/h
Average travel speed, ATSD 50.7 mi/h
Percent Free Flow Speed, PFFS 84.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	400 pc/h	260 pc/h
Base percent time-spent-following, (note-4) BPTSFD	39.2 %	
Adjustment for no-passing zones, fnp	50.2	
Percent time-spent-following, PTSFD	69.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.24	
Peak 15-min vehicle-miles of travel, VMT15	20	veh-mi
Peak-hour vehicle-miles of travel, VMT60	73	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1661	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1661	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	50.7	mi/h
Percent time-spent-following, PTSFD (from above)	69.6	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	397.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.52
Bicycle LOS	D

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Canyon Road (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 231 veh/h
Opposing direction volume, Vo 206 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.977	0.971
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	257 pc/h	231 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 0.0 mi/h

Free-flow speed, FFSd 60.0 mi/h

Adjustment for no-passing zones, fnp 4.2 mi/h
Average travel speed, ATSD 52.1 mi/h
Percent Free Flow Speed, PFFS 86.8 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	253 pc/h	225 pc/h
Base percent time-spent-following, (note-4) BPTSFD	27.1 %	
Adjustment for no-passing zones, fnp	60.4	
Percent time-spent-following, PTSFD	59.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	46	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1651	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1651	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	52.1	mi/h
Percent time-spent-following, PTSFD (from above)	59.1	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	251.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.29
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Canyon Road (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 206 veh/h
Opposing direction volume, Vo 231 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.971	0.977
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	231 pc/h	257 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 0.0 mi/h

Free-flow speed, FFSd 60.0 mi/h

Adjustment for no-passing zones, fnp 4.1 mi/h
Average travel speed, ATSD 52.1 mi/h
Percent Free Flow Speed, PFFS 86.8 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	225 pc/h	253 pc/h
Base percent time-spent-following, (note-4) BPTSFd	25.2 %	
Adjustment for no-passing zones, fnp	60.4	
Percent time-spent-following, PTSFd	53.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.14	
Peak 15-min vehicle-miles of travel, VMT15	11	veh-mi
Peak-hour vehicle-miles of travel, VMT60	41	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1661	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1661	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	52.1	mi/h
Percent time-spent-following, PTSFd (from above)	53.6	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	223.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.23
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Segment Inputs					2025													
					Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures						
		Length	Number of Lanes	Interchange Density	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS		
					(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)				
Northbound	Deschutes Rd to Balls Ferry Rd	200	2	3.00	2,384	1,800	1334.52	67.3	65	64.9392	20.55	C	1007.609	67.3	65	62.8167	16.0	B
	Balls Ferry Rd Off to North St On	4000	2	3.00	1,823	1,427	1020.48	67.3	65	62.9576	16.209	B	798.8098	67.3	65	59.8749	13.341	B
	North St to Riverside Ave	200	2	3.00	2,194	1,661	1228.16	67.3	65	64.5813	19.017	C	929.7989	67.3	65	61.865	15.029	B
Southbound	Riverside Ave to North St	490	2	3.00	3,210	2,375	1796.9	67.3	65	62.7662	28.628	D	1329.484	67.3	65	64.9295	20.476	C
	North St Off to Balls Ferry On	4100	2	3.00	2,787	2,118	1560.11	67.3	65	64.6365	24.137	C	1185.62	67.3	65	64.3483	18.425	C
	Balls Ferry Rd to Deschutes Rd	130	2	3.00	3,270	2,504	1830.49	67.3	65	62.3721	29.348	D	1401.696	67.3	65	65	21.565	C
Universal Inputs:																		
PHF		0.92																
(P _a)		6%																
FHV		0.970873786																

Segment Inputs				2025																															
				Friday PM Flow Inputs						AM LOS Performance Measures										Saturday PM Flow Inputs				PM LOS Performance Measures											
	Number of Lanes	Number of Ramps	Length of Acceleration Lane (L _a)	Downstream Volume (D)	Upstream Volume (U)	Ramp Volume (R)	V ₀	V ₁	V ₂	V ₃ /S ₁₀	P _{FM}	V _{12a}	V _{12b}	Capacity	V ₃	V _{12a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (U)	Ramp Volume (R)	V ₀	V ₁	V ₂	V ₃ /S ₁₀	P _{FM}	V _{12a}	V _{12b}	Capacity	V ₃	V _{12a}	v/c	D	LOS
North St On Ramp	2	1	300	2194	1823	371	2456	2041	415	58	1	2041	4800	0	1531	2041	0.5117	22.562	C	1661	1427	234	1860	1598	262	46	1	1597.6	4800	0	1198	1598	0.3874	17.978	B
Balls Ferry Rd On Ramp	2	1	300	3270	2787	483	3661	3120	541	89	1	3120.2	4800	0	2340	3120	0.7627	31.901	D	2504	2118	386	2803	2371	432	68	1	2371.2	4800	0	1778	2371	0.584	25.262	C
General inputs:																																			
Length	1500		(ft)																																
b ₁	70		(m/s)																																
b ₂	35		(m/s)																																
g ₁	0.52		(g)																																
g ₂	0.6		(g)																																
g ₃	0.70873786		(g)																																

Segment Inputs					2025																													
					AM Flow Inputs										PM Flow Inputs			PM LOS Performance Measures																
	Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L _d)		Downstream Volume (veh/h)	Upstream Volume (veh/h)	Ramp Volume (veh/h)	V ₀ (pc/h/ln)	V ₁ (pc/h/ln)	V ₂ (pc/h/ln)	P _{TD}	V ₁₂	Capacity	V ₃	V _{12a}	v/c	D	LOS	Downstream Volume (D) (veh/h)	Upstream Volume (F) (veh/h)	Ramp Volume (R) (veh/h)	V ₀ (pc/h/ln)	V ₁ (pc/h/ln)	V ₂ (pc/h/ln)	P _{TD}	V ₁₂	Capacity	V ₃	V _{12a}	v/c	D	LOS		
			L _{d1} (ft)	L _{d2} (ft)																														
Balls Ferry Rd Off	2	1	345	300	1823	2384	561	473.576	2669	628.08	1	2669	4800	0	2002	2669	0.5561	24.506	C	1427	1800	373	287.728	2015.2	417.6	1	2015.2	4800	0	1511	2015	0.4198	18.883	B
Nrth Rd Off	2	1	0	150	2787	3210	423	0	3593.8	473.58	1	3593.8	4800	0	2695	3594	0.7487	33.809	D	2118	2235	257	0	2659	287.73	1	2659	4800	0	1994	2659	0.554	25.769	C
Notes:																																		
Length 1500 (ft)																																		
v = 70 (mi/h)																																		
L _d = 35 (mi/h)																																		
P/F = 0.92																																		
P/D = 0.8																																		
L _d = 0.9708733786																																		

Segment Inputs				2040														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
		Length	Number of Lanes	Interchange Density	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS		
		(ft)	(N)	(I/mi)	(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)		(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)			
Northbound	Deschutes Rd to Balls Ferry Rd	200	3	3.00	2,870	2,286	1071.05	67.3	65	63.4656	16.876	B	853.1087	67.3	65	60.7589	14.0	B
	Balls Ferry Rd Off to North St On	4000	3	3.00	2,205	1,844	822.88	67.3	65	60.2771	13.652	B	688.1594	67.3	65	57.8148	11.903	B
	North St to Riverside Ave	200	3	3.00	2,620	2,111	977.754	67.3	65	62.4718	15.651	B	787.8007	67.3	65	59.6855	13.199	B
Southbound	Riverside Ave to North St	490	3	3.00	3,882	3,061	1448.72	67.3	65	64.9663	22.3	C	1142.33	67.3	65	64.0585	17.833	B
	North St Off to Balls Ferry On	4100	3	3.00	3,405	2,770	1270.71	67.3	65	64.763	19.621	C	1033.732	67.3	65	63.0977	16.383	B
	Balls Ferry Rd to Deschutes Rd	130	3	3.00	4,065	3,299	1517.01	67.3	65	64.8059	23.409	C	1231.149	67.3	65	64.5957	19.059	C
Universal Inputs:																		
PHF		0.92																
(P _a)		6%																
FHV		0.970873786																

Segment Inputs				2040																															
				Friday PM Flow Inputs						AM LOS Performance Measures										Saturday PM Flow Inputs						PM LOS Performance Measures									
	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L _a)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₉₀	V _t	V ₆	V ₆ /S ₆	P _{FM}	V ₁₂₀	Capacity	V ₅	V ₁₂₀	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₉₀	V _t	V ₆	V ₆ /S ₆	P _{FM}	V ₁₂₀	Capacity	V ₅	V ₁₂₀	w/c	D	LOS		
	(ft)		(ft)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	
North St On Ramp	3	1	300	2620	2205	415	2933	2469	465	71	0.5859	1446.4	7200	511	1085	1446	0.4074	18.286	B	2111	1844	267	2363	2064	299	59	0.5859	1209.6	7200	427	907	1210	0.3283	15.223	B
Balls Ferry Rd On Ramp	3	1	300	4065	3405	660	4551	3812	739	109	0.5859	2233.5	7200	789	1675	2234	0.6321	26.439	C	3299	2770	529	3693	3101	592	89	0.5859	1817	7200	642	1363	1817	0.513	22.114	C
General inputs:																																			
Length	1500		(ft)																																
L _a	70		(m/h)																																
L _a	35		(m/h)																																
P _{FM}	0.52																																		
P ₅	6%																																		
L _a	0.970873786																																		

[illegible]

Segment Inputs				2025																																
				Friday PM Flow Inputs			AM LOS Performance Measures										Saturday PM Flow Inputs			PM LOS Performance Measures																
	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L _a)	Downstream Volume (D)	Upstream Volume (U)	Ramp Volume (R)	V ₀	V ₁	V ₂	V ₁ /S _{rh}	P _{FM}	V _{12A}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (U)	Ramp Volume (R)	V ₀	V ₁	V ₂	V ₁ /S _{rh}	P _{FM}	V _{12A}	w/c	D	LOS									
	(ft)		(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)								
B	Bonnyview Rd On Ramp	3	1	430	3548	2593	955	3972	2903	1069	83	0.5895	1711.5	7200	596	1284	1711	0.5517	23.976	C	2555	1908	640	2860	2136	724	61	0.5895	1259.3	7200	438	945	1259	0.3973	17.919	B
G	Bonnyview Rd On Ramp	3	1	380	4074	3183	891	4561	3564	998	102	0.5881	2095.9	7200	734	1572	2096	0.6335	26.762	C	2701	2221	487	3024	2487	537	71	0.5881	1462.4	7200	512	1097	1462	0.42	18.444	B
Motorist inputs:																																				
Length	1500		(ft)																																	
b _l	70		(m/s ²)																																	
b _r	35		(m/s ²)																																	
p _{if}	0.52																																			
p _o	6%																																			
k _a	0.970873786																																			

Segment Inputs					2025																															
					AM Flow Inputs												PM Flow Inputs			PM LOS Performance Measures																
	Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L _d)		Downstream Volume (veh/h)	Upstream Volume (veh/h)	Ramp Volume (veh/h)	V ₀ (pc/h/ln)	V ₁ (pc/h/ln)	V ₂ (pc/h/ln)	P _{T/D}	V ₂ (pc/h/ln)	Capacity	V ₃	V _{12a}	v/c	D	LOS	Downstream Volume (D) (veh/h)	Upstream Volume (F) (veh/h)	Ramp Volume (R) (veh/h)	V ₀ (pc/h/ln)	V ₁ (pc/h/ln)	V ₂ (pc/h/ln)	P _{T/D}	V ₂ (pc/h/ln)	Capacity	V ₃	V _{12a}	v/c	D	LOS				
			L _{d1} (ft)	L _{d2} (ft)																																
B Bonnyview Rd Off	3	1	832	180	1012	1638	626	1022.16	1833.8	700.85	0.436	1194.8	7200	320	896	1195	0.2547	12.908	B	837	1261	424	693.011	1411.8	474.7	0.436	883.26	7200	264	662	883	0.1961	10.228	B		
B Bonnyview Rd Off	3	1	-	180	1379	2292	913	-	2566	1022.2	0.6488	2023.9	7200	542	1518	2024	0.3564	20.037	C	1122	1741	619	-	1949.2	693.01	0.6794	1546.4	7200	403	1160	1546	0.2707	15.931	B		
Intersecting Road:																																				
Range 1500																																				
B 712 (mi/h)																																				
C 35 (mi/h)																																				
P/F 0.92																																				
P/D 4h																																				
C 0.970873786																																				

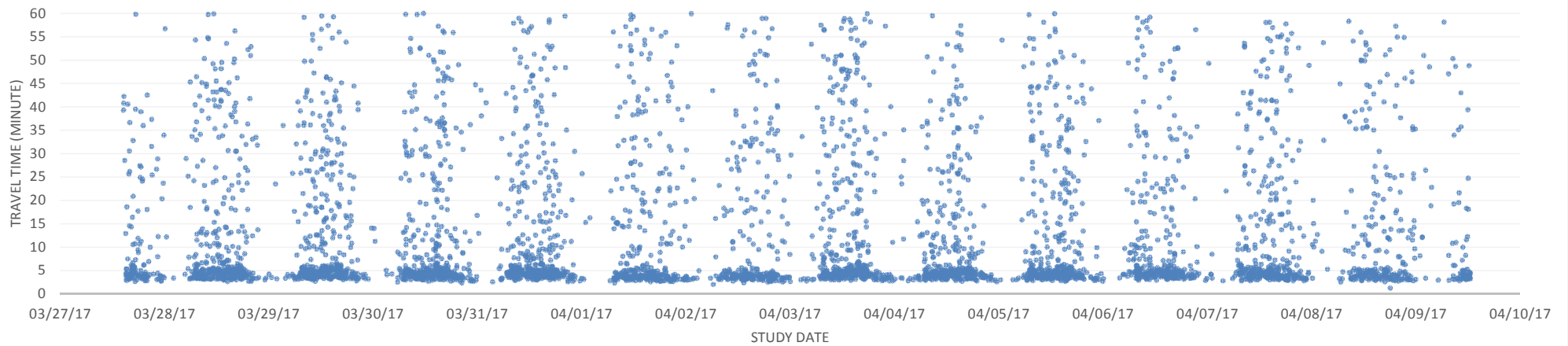
Segment Inputs				2040														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
		Number of Lanes	Interchange Density	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
	(ft)	(N)	(I/mi)															
Southbound Northbound	Smith Rd to Bonnyview Rd	2400	3	0.33	2,724	2,156	1016.57	74.12	75	74.997	13.555	B	804.5942	74.12	75	74.5773	10.8	A
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	1,968	1,645	734.435	74.12	75	74.2193	9.8955	A	613.8949	74.12	75	73.3497	8.3694	A
	Bonnyview Rd to Cypress Ave	7000	3	0.33	3,108	2,423	1159.87	74.12	75	74.7171	15.523	B	904.2355	74.12	75	74.8985	12.073	B
	Cypress Ave to Bonnyview Rd	7000	3	0.33	3,854	3,009	1438.27	74.12	75	72.8737	19.736	C	1122.924	74.12	75	74.8327	15.006	B
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,861	2,334	1067.69	74.12	75	74.9493	14.246	B	871.0217	74.12	75	74.8158	11.642	B
	Bonnyview Rd to Smith Rd	2600	3	0.33	3,912	2,899	1459.91	74.12	75	72.6585	20.093	C	1081.873	74.12	75	74.9258	14.439	B
Universal Inputs:																		
PHF		0.92																
(P _a)		6%																
FHV		0.970873786																

Segment Inputs				2040																															
				Friday PM Flow Inputs			AM LOS Performance Measures										Saturday PM Flow Inputs			PM LOS Performance Measures															
Segment	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L _a)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀₁	V ₁	V ₀	V ₀ /S ₀₁	P _T M	V ₀₂	Capacity	V ₀₃	V _{12a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀₁	V ₁	V ₀	V ₀ /S ₀₁	P _T M	V ₀₂	Capacity	V ₀₃	V _{12a}	v/c	D	LOS		
				(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)
B Bonnyview Rd On Ramp	3	1	430	3864	2724	1140	4326	3050	1276	87	0.5895	1797.9	7200	626	1348	1798	0.6008	26.171	C	3201	2423	778	3584	2713	871	78	0.5895	1599.2	7200	557	1199	1599	0.4977	21.646	C
S Bonnyview Rd On Ramp	3	1	380	4905	3854	1051	5491	4315	1177	123	0.5881	2537.7	7200	889	1903	2538	0.7627	31.523	D	3464	2899	565	3878	3246	633	93	0.5881	1908.9	7200	668	1432	1909	0.5386	22.625	C
Segment inputs:																																			
Length	1500		(ft)																																
L _a	70		(m/h)																																
S ₀₁	35		(m/h)																																
S ₀₂	0.52		(m/h)																																
P _T	0.5		(%)																																
S ₀₃	0.5		(%)																																
S ₀₄	0.70873786		(%)																																

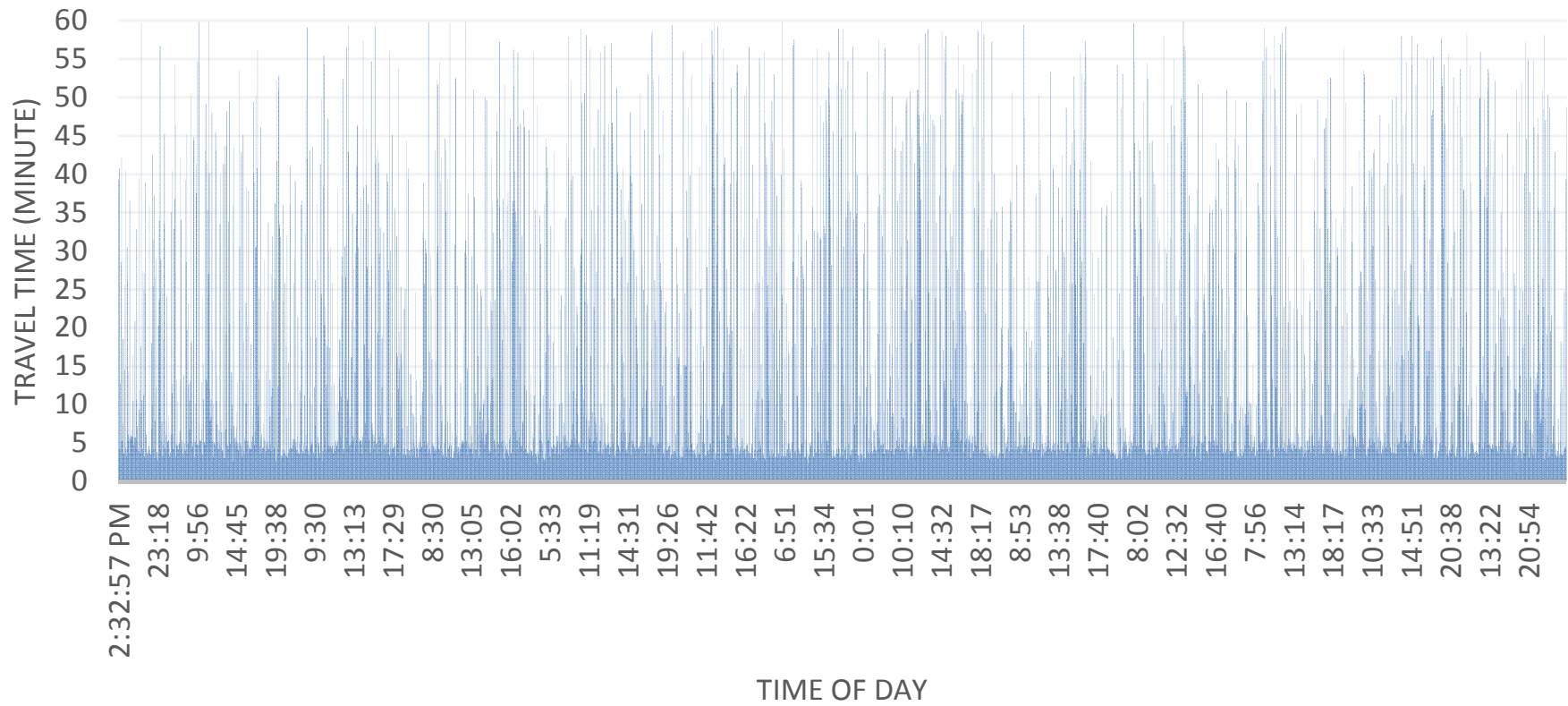
Segment Inputs				2040																														
				AM Flow Inputs													PM Flow Inputs				PM LOS Performance Measures													
	Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L _d)	Downstream Volume	Upstream Volume	Ramp Volume	V ₀	V ₁	V ₂	P _{TD}	V ₁₂	Capacity	V ₃	V _{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (U)	Ramp Volume (R)	V ₀	V ₁	V ₂	P _{TD}	V ₁₂	Capacity	V ₃	V _{12a}	w/c	D	LOS			
	(ft)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)				(pc/h/ln)				(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)				(pc/h/ln)				
B Bonnyview Rd Off	3	1	1021	180	1968	2724	756	1111.73	3049.7	846.39	0.436	1807	7200	621	1355	1807	0.4236	18.172	B	1134	1645	511	755.707	1841.7	572.1	0.436	1125.6	7200	358	844	1126	0.2558	12.312	B
B Bonnyview Rd Off	3	1	-	180	2861	3854	993	-	4314.8	1111.7	0.601	3036.7	7200	1278	2278	3037	0.5993	28.748	D	1659	2334	675	-	2613.1	755.71	0.6599	1981.4	7200	632	1486	1981	0.3629	19.672	B
Intersecting Road:																																		
Ring 1500 (ft)																																		
R 712 (mi/h)																																		
C 35 (mi/h)																																		
P 0.92																																		
P 0.48																																		
C 0.978873786																																		

ORIGIN DESTINATION RESULTS

Travel Time Plot By Date

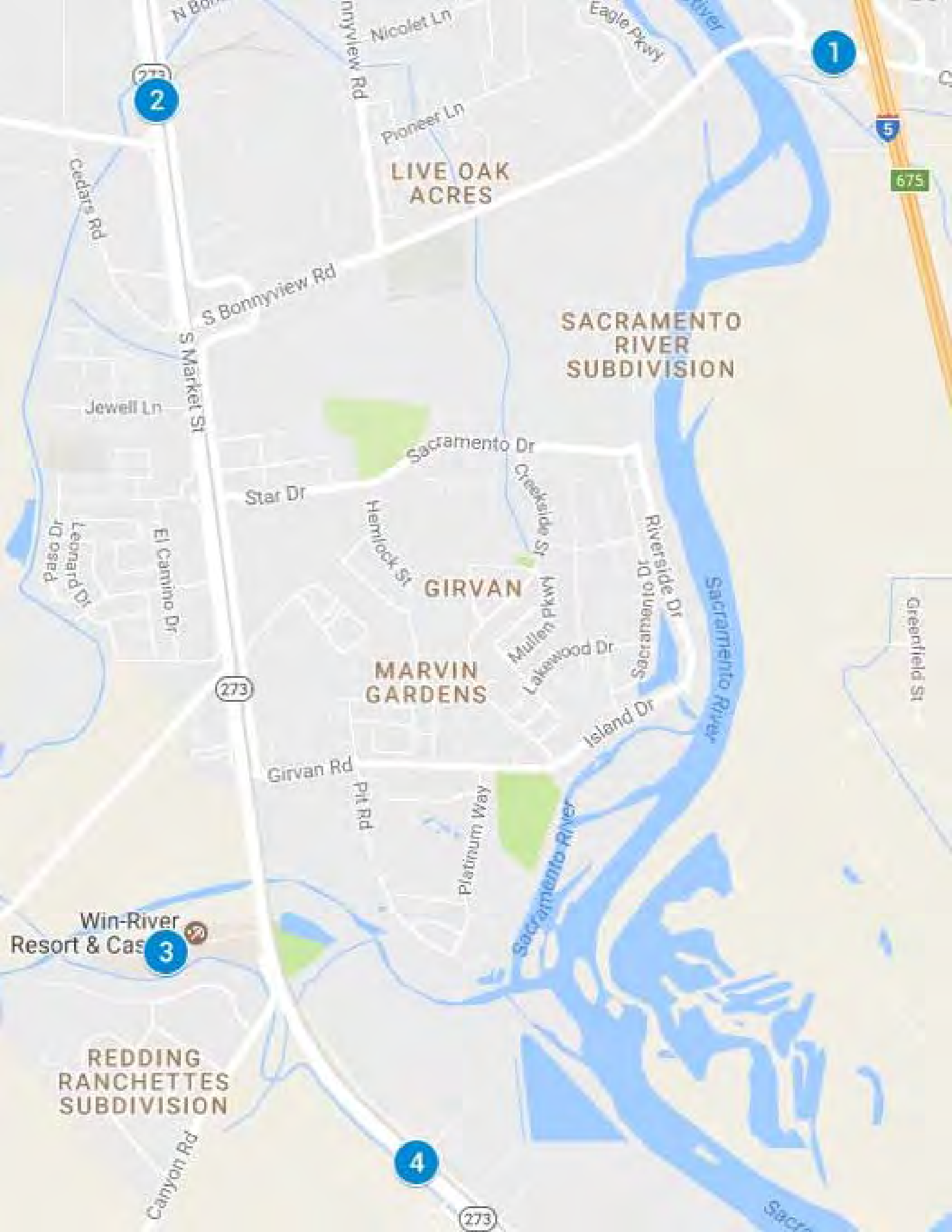


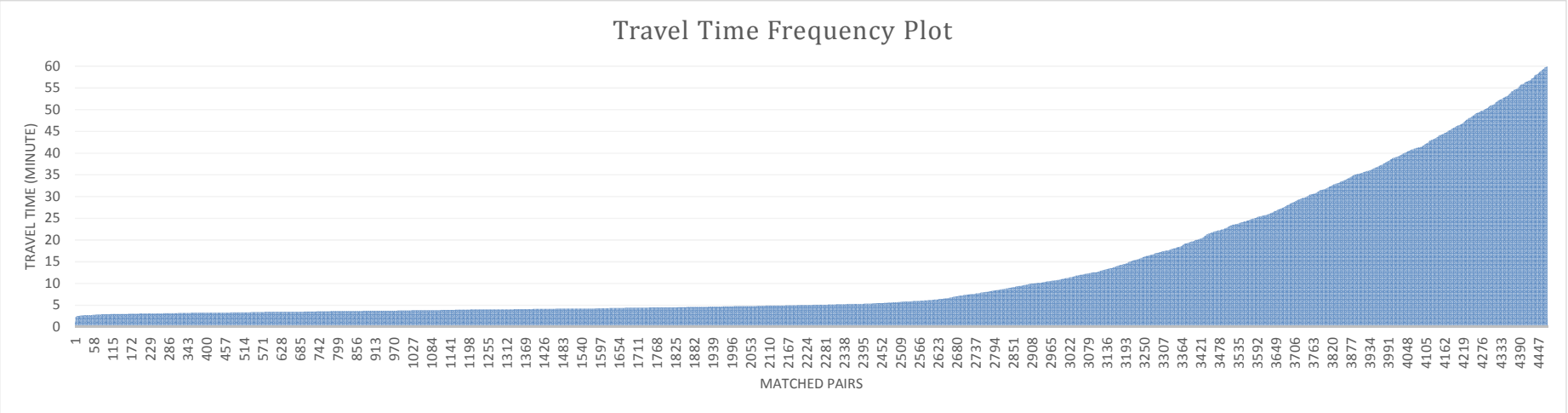
Travel Time Plot By Hour



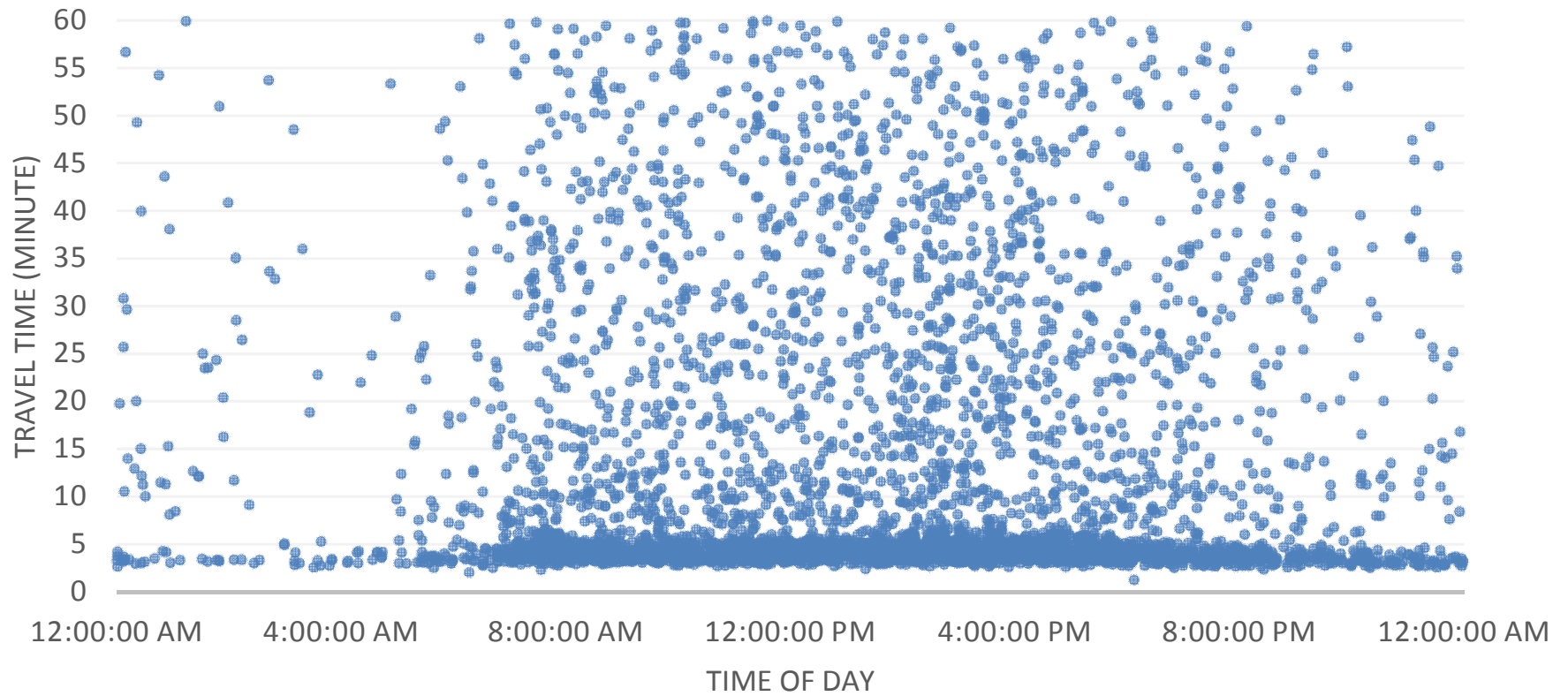
Route Utilization

Route Information			Travel Time (MM:SS)			
Route Name	Volume	Share	Min	Mean	SD	Max
From [1] To [2]	4352	97.3%	01:12	12:53	14:30	59:57
From [1] -> [4] To [2]	68	1.5%	11:14	38:32	12:37	59:37
From [1] -> [03A] To [2]	31	0.7%	11:14	32:20	13:05	59:43
From [1] -> [03B] To [2]	6	0.1%	14:37	36:08	17:28	56:02
From [1] -> [03A] -> [4] To [2]	5	0.1%	25:25	34:53	09:02	45:16
From [1] -> [03B] -> [03A] To [2]	5	0.1%	16:30	36:19	17:21	52:52
From [1] -> [03A] -> [03B] To [2]	3	0.1%	11:42	22:54	10:55	33:30
From [1] -> [4] -> [03B] -> [03A] To [2]	2	0.0%	25:25	25:37	00:17	25:49
From [1] -> [4] -> [03A] To [2]	1	0.0%	32:46	32:46	-	32:46





























Travel Time Plot By Hour



OPENING YEAR (2025) PLUS PROJECT ANALYSIS

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Opening Year (2025) plus Project (1A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	472	80	288	55	397	352	432	677	9
Future Volume (veh/h)	10	83	68	472	80	288	55	397	352	432	677	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	513	256	200	60	432	383	470	736	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	306	137	681	493	419	337	1073	480	602	1020	456
Arrive On Green	0.01	0.09	0.09	0.19	0.26	0.26	0.19	0.30	0.30	0.17	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	513	256	200	60	432	383	470	736	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.6	2.9	9.0	7.7	7.0	1.9	6.4	14.6	8.6	12.3	0.3
Cycle Q Clear(g_c), s	0.4	1.6	2.9	9.0	7.7	7.0	1.9	6.4	14.6	8.6	12.3	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	306	137	681	493	419	337	1073	480	602	1020	456
V/C Ratio(X)	0.45	0.29	0.54	0.75	0.52	0.48	0.18	0.40	0.80	0.78	0.72	0.02
Avail Cap(c_a), veh/h	148	2180	975	810	1417	1204	337	1696	759	890	2315	1036
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	28.1	28.8	25.1	20.6	20.3	22.3	18.2	21.1	25.9	21.0	16.8
Incr Delay (d2), s/veh	12.2	0.5	3.3	3.3	0.8	0.8	0.3	0.2	3.2	2.7	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.4	4.7	4.0	3.2	0.9	3.2	6.8	4.3	6.1	0.1
LnGrp Delay(d),s/veh	44.4	28.7	32.1	28.4	21.5	21.2	22.6	18.4	24.3	28.6	22.0	16.8
LnGrp LOS	D	C	C	C	C	C	C	B	C	C	C	B
Approach Vol, veh/h		175			969			875			1216	
Approach Delay, s/veh		31.1			25.1			21.3			24.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	23.9	16.6	9.7	16.5	23.0	4.9	21.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	10.6	16.6	11.0	4.9	3.9	14.3	2.4	9.7				
Green Ext Time (p_c), s	0.9	3.3	1.6	0.7	0.4	4.7	0.0	4.3				
Intersection Summary												
HCM 2010 Ctrl Delay			24.2									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions
Friday PM Peak






												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1049	5	10	1105	216	10	15	10	341	5	39
Future Volume (veh/h)	45	1049	5	10	1105	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1140	5	11	1201	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1697	7	24	1554	695	205	289	174	529	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3614	16	1774	3539	1583	403	843	508	1257	17	142
Grp Volume(v), veh/h	49	558	587	11	1201	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1754	0	0	1416	0	0
Q Serve(g_s), s	1.9	16.8	16.8	0.4	19.9	6.7	0.0	0.0	0.0	17.9	0.0	0.0
Cycle Q Clear(g_c), s	1.9	16.8	16.8	0.4	19.9	6.7	1.0	0.0	0.0	18.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	78	831	873	24	1554	695	668	0	0	584	0	0
V/C Ratio(X)	0.63	0.67	0.67	0.45	0.77	0.34	0.06	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	129	831	873	129	1643	735	1073	0	0	937	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.4	14.2	14.2	33.7	16.4	12.7	15.2	0.0	0.0	21.0	0.0	0.0
Incr Delay (d2), s/veh	7.9	2.1	2.0	12.4	2.2	0.3	0.0	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.7	9.1	0.3	10.2	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	40.3	16.3	16.2	46.1	18.6	13.0	15.3	0.0	0.0	22.6	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h	1194			1447			38			418		
Approach Delay, s/veh	17.2			17.9			15.3			22.6		
Approach LOS	B			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.6	4.9	36.4		27.6	7.0	34.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.0	2.4	18.8		20.9	3.9	21.9				
Green Ext Time (p_c), s		3.1	0.0	11.0		2.7	0.0	8.4				
Intersection Summary												
HCM 2010 Ctrl Delay	18.3											
HCM 2010 LOS	B											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (1A) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 15.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	198	443	399	73	75	157
Future Vol, veh/h	198	443	399	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	482	434	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	513	0	0 1385 473
Stage 1	-	-	- 473 -
Stage 2	-	-	- 912 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1052	-	- 158 591
Stage 1	-	-	- 627 -
Stage 2	-	-	- 392 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1052	-	- 126 591
Mov Cap-2 Maneuver	-	-	- 126 -
Stage 1	-	-	- 627 -
Stage 2	-	-	- 312 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	80.8
HCM LOS			F





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1052	-	-	-	269
HCM Lane V/C Ratio	0.205	-	-	-	0.937
HCM Control Delay (s)	9.3	-	-	-	80.8
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	8.7

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (1A) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 10.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	375	163	128	45	40	311
Future Vol, veh/h	375	163	128	45	40	311
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	408	177	139	49	43	338

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	188	0	0 1156 164
Stage 1	-	-	- 164 -
Stage 2	-	-	- 992 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1386	-	- 217 881
Stage 1	-	-	- 865 -
Stage 2	-	-	- 359 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1386	-	- 153 881
Mov Cap-2 Maneuver	-	-	- 153 -
Stage 1	-	-	- 865 -
Stage 2	-	-	- 253 -

Approach	EB	WB	SB
HCM Control Delay, s	6	0	23.1
HCM LOS			C




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	571
HCM Lane V/C Ratio	0.294	-	-	-	0.668
HCM Control Delay (s)	8.7	-	-	-	23.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.2	-	-	-	5

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (1A) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	3	8	115	140	31
Future Vol, veh/h	16	3	8	115	140	31
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	3	9	125	152	34

























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	311	169	186
Stage 1	169	-	-
Stage 2	142	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	681	875	1388
Stage 1	861	-	-
Stage 2	885	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	676	875	1388
Mov Cap-2 Maneuver	676	-	-
Stage 1	861	-	-
Stage 2	879	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1388	-	701	-	-
HCM Lane V/C Ratio	0.006	-	0.029	-	-
HCM Control Delay (s)	7.6	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd




















Opening Year (2025) plus Project (1A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	300	57	212	35	329	270	358	368	5
Future Volume (veh/h)	0	46	54	300	57	212	35	329	270	358	368	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	326	188	146	38	358	293	389	400	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	348	156	565	627	533	422	932	417	563	670	300
Arrive On Green	0.00	0.10	0.10	0.16	0.34	0.34	0.24	0.26	0.26	0.16	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	326	188	146	38	358	293	389	400	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.7	1.8	4.3	3.8	1.8	0.8	4.2	8.5	5.4	5.2	0.1
Cycle Q Clear(g_c), s	0.0	0.7	1.8	4.3	3.8	1.8	0.8	4.2	8.5	5.4	5.2	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	348	156	565	627	533	422	932	417	563	670	300
V/C Ratio(X)	0.00	0.14	0.38	0.58	0.30	0.27	0.09	0.38	0.70	0.69	0.60	0.02
Avail Cap(c_a), veh/h	192	2826	1264	1049	1837	1561	422	2198	983	1154	3001	1343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.9	21.4	19.7	12.4	3.3	15.1	15.3	16.9	20.0	18.8	13.6
Incr Delay (d2), s/veh	0.0	0.2	1.5	0.9	0.3	0.3	0.1	0.3	2.2	1.5	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.8	2.2	2.0	1.3	0.4	2.1	3.9	2.7	2.6	0.1
LnGrp Delay(d),s/veh	0.0	21.1	22.9	20.7	12.7	3.5	15.2	15.6	19.1	21.5	19.6	13.6
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			660			689			794	
Approach Delay, s/veh		22.1			14.6			17.0			20.5	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	17.3	12.1	9.0	16.0	13.6	0.0	21.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.4	10.5	6.3	3.8	2.8	7.2	0.0	5.8				
Green Ext Time (p_c), s	0.9	2.9	1.8	0.4	0.4	2.4	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			17.8									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.





Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	785	5	10	756	118	10	15	10	121	0	25
Future Volume (veh/h)	19	785	5	10	756	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	853	5	11	822	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1888	11	26	1811	810	157	156	80	354	5	39
Arrive On Green	0.03	0.52	0.52	0.01	0.51	0.51	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3607	21	1774	3539	1583	252	973	499	1174	33	247
Grp Volume(v), veh/h	21	418	440	11	822	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1724	0	0	1453	0	0
Q Serve(g_s), s	0.5	5.9	5.9	0.2	5.9	1.7	0.0	0.0	0.0	3.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	5.9	5.9	0.2	5.9	1.7	0.7	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	926	973	26	1811	810	393	0	0	399	0	0
V/C Ratio(X)	0.45	0.45	0.45	0.43	0.45	0.16	0.10	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	223	1426	1499	223	2853	1276	1803	0	0	1628	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.1	5.9	5.9	19.4	6.2	5.2	14.3	0.0	0.0	15.6	0.0	0.0
Incr Delay (d2), s/veh	6.8	0.3	0.3	11.1	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.9	3.0	0.2	2.8	0.8	0.4	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	25.9	6.3	6.2	30.5	6.3	5.2	14.4	0.0	0.0	16.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	879				961		38				159	
Approach Delay, s/veh	6.7				6.5		14.4				16.3	
Approach LOS	A				A		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.4	4.6	24.8		10.4	5.0	24.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		2.7	2.2	7.9		6.0	2.5	7.9				
Green Ext Time (p_c), s		1.2	0.0	12.4		1.2	0.0	12.4				
Intersection Summary												
HCM 2010 Ctrl Delay			7.5									
HCM 2010 LOS			A									

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (1A) Conditions
Saturday PM Peak





Intersection						
Int Delay, s/veh	5.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	124	235	305	32	52	163
Future Vol, veh/h	124	235	305	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	255	332	35	57	177
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	366	0	-	0	874	349
Stage 1	-	-	-	-	349	-
Stage 2	-	-	-	-	525	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1193	-	-	-	320	694
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	593	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1193	-	-	-	284	694
Mov Cap-2 Maneuver	-	-	-	-	284	-
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	526	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.9	0		17.7		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1193	-	-	-	514	
HCM Lane V/C Ratio	0.113	-	-	-	0.455	
HCM Control Delay (s)	8.4	-	-	-	17.7	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0.4	-	-	-	2.3	

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (1A) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 6.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	219	82	86	27	22	223
Future Vol, veh/h	219	82	86	27	22	223
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	238	89	93	29	24	242

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	123	0	0 673 108
Stage 1	-	-	- 108 -
Stage 2	-	-	- 565 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1464	-	- 421 946
Stage 1	-	-	- 916 -
Stage 2	-	-	- 569 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1464	-	- 353 946
Mov Cap-2 Maneuver	-	-	- 353 -
Stage 1	-	-	- 916 -
Stage 2	-	-	- 476 -

Approach	EB	WB	SB
HCM Control Delay, s	5.8	0	11.5
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	822
HCM Lane V/C Ratio	0.163	-	-	-	0.324
HCM Control Delay (s)	7.9	-	-	-	11.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.4

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (1A) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	7	3	68	84	20
Future Vol, veh/h	12	7	3	68	84	20
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	8	3	74	91	22

























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	182	102	113
Stage 1	102	-	-
Stage 2	80	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	807	953	1476
Stage 1	922	-	-
Stage 2	943	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	805	953	1476
Mov Cap-2 Maneuver	805	-	-
Stage 1	922	-	-
Stage 2	941	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	854	-	-
HCM Lane V/C Ratio	0.002	-	0.024	-	-
HCM Control Delay (s)	7.4	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Opening Year (2025) plus Project (1B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	464	80	271	55	397	345	417	677	9
Future Volume (veh/h)	10	83	68	464	80	271	55	397	345	417	677	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	504	243	191	60	432	375	453	736	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	310	139	680	494	420	321	1063	475	589	1028	460
Arrive On Green	0.01	0.09	0.09	0.19	0.27	0.27	0.18	0.30	0.30	0.17	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	504	243	191	60	432	375	453	736	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.5	2.9	8.6	7.1	6.5	1.8	6.2	13.9	8.1	12.0	0.3
Cycle Q Clear(g_c), s	0.4	1.5	2.9	8.6	7.1	6.5	1.8	6.2	13.9	8.1	12.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	310	139	680	494	420	321	1063	475	589	1028	460
V/C Ratio(X)	0.45	0.29	0.53	0.74	0.49	0.45	0.19	0.41	0.79	0.77	0.72	0.02
Avail Cap(c_a), veh/h	152	2234	999	830	1452	1234	321	1738	777	912	2372	1061
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	27.4	28.0	24.4	19.9	19.7	22.3	17.9	20.6	25.4	20.4	16.3
Incr Delay (d2), s/veh	12.2	0.5	3.2	2.9	0.8	0.8	0.3	0.3	3.0	2.1	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.4	4.5	3.7	2.9	0.9	3.1	6.4	4.0	6.0	0.1
LnGrp Delay(d),s/veh	43.6	27.9	31.2	27.3	20.7	20.5	22.5	18.1	23.5	27.5	21.3	16.3
LnGrp LOS	D	C	C	C	C	C	C	B	C	C	C	B
Approach Vol, veh/h		175			938			867			1199	
Approach Delay, s/veh		30.3			24.2			20.8			23.6	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	23.3	16.3	9.6	15.6	22.6	4.9	21.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	10.1	15.9	10.6	4.9	3.8	14.0	2.4	9.1				
Green Ext Time (p_c), s	0.9	3.3	1.7	0.7	0.3	4.7	0.0	4.1				
Intersection Summary												
HCM 2010 Ctrl Delay			23.4									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions
Friday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1027	5	10	1080	216	10	15	10	341	5	39
Future Volume (veh/h)	45	1027	5	10	1080	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1116	5	11	1174	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1694	8	24	1552	694	206	289	174	530	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3613	16	1774	3539	1583	403	843	508	1257	17	142
Grp Volume(v), veh/h	49	547	574	11	1174	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1754	0	0	1416	0	0
Q Serve(g_s), s	1.9	16.3	16.3	0.4	19.2	6.7	0.0	0.0	0.0	17.8	0.0	0.0
Cycle Q Clear(g_c), s	1.9	16.3	16.3	0.4	19.2	6.7	1.0	0.0	0.0	18.8	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	78	830	872	24	1552	694	668	0	0	584	0	0
V/C Ratio(X)	0.62	0.66	0.66	0.45	0.76	0.34	0.06	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	129	830	872	129	1648	737	1076	0	0	940	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.3	14.0	14.0	33.6	16.2	12.7	15.2	0.0	0.0	20.9	0.0	0.0
Incr Delay (d2), s/veh	7.9	1.9	1.8	12.4	1.9	0.3	0.0	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.3	8.7	0.3	9.7	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	40.2	15.9	15.9	46.0	18.2	13.0	15.2	0.0	0.0	22.6	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h	1170			1420			38			418		
Approach Delay, s/veh	16.9			17.5			15.2			22.6		
Approach LOS	B			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.5	4.9	36.2		27.5	7.0	34.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.0	2.4	18.3		20.8	3.9	21.2				
Green Ext Time (p_c), s		3.1	0.0	11.2		2.7	0.0	9.0				
Intersection Summary												
HCM 2010 Ctrl Delay	17.9											
HCM 2010 LOS	B											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (1B) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 15.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	198	439	395	73	75	157
Future Vol, veh/h	198	439	395	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	477	429	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	509	0	0 1377 469
Stage 1	-	-	- 469 -
Stage 2	-	-	- 908 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1056	-	- 160 594
Stage 1	-	-	- 630 -
Stage 2	-	-	- 393 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1056	-	- 127 594
Mov Cap-2 Maneuver	-	-	- 127 -
Stage 1	-	-	- 630 -
Stage 2	-	-	- 313 -






Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	78.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1056	-	-	-	271
HCM Lane V/C Ratio	0.204	-	-	-	0.931
HCM Control Delay (s)	9.3	-	-	-	78.9
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	8.6

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (1B) Conditions

Friday PM Peak




Intersection						
Int Delay, s/veh	10.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	371	163	128	45	40	307
Future Vol, veh/h	371	163	128	45	40	307
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	403	177	139	49	43	334
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	188	0	-	0	1148	164
Stage 1	-	-	-	-	164	-
Stage 2	-	-	-	-	984	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1386	-	-	-	220	881
Stage 1	-	-	-	-	865	-
Stage 2	-	-	-	-	362	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1386	-	-	-	156	881
Mov Cap-2 Maneuver	-	-	-	-	156	-
Stage 1	-	-	-	-	865	-
Stage 2	-	-	-	-	257	-
Approach	EB	WB		SB		
HCM Control Delay, s	6	0		22.5		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1386	-	-	-	574	
HCM Lane V/C Ratio	0.291	-	-	-	0.657	
HCM Control Delay (s)	8.7	-	-	-	22.5	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	1.2	-	-	-	4.8	

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (1B) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	3	8	115	140	31
Future Vol, veh/h	16	3	8	115	140	31
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	3	9	125	152	34

























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	311	169	186
Stage 1	169	-	-
Stage 2	142	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	681	875	1388
Stage 1	861	-	-
Stage 2	885	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	676	875	1388
Mov Cap-2 Maneuver	676	-	-
Stage 1	861	-	-
Stage 2	879	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1388	-	701	-	-
HCM Lane V/C Ratio	0.006	-	0.029	-	-
HCM Control Delay (s)	7.6	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd




















Opening Year (2025) plus Project (1B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	284	57	179	35	329	254	324	368	5
Future Volume (veh/h)	0	46	54	284	57	179	35	329	254	324	368	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	309	162	128	38	358	276	352	400	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	365	163	548	634	539	386	909	407	530	684	306
Arrive On Green	0.00	0.10	0.10	0.15	0.34	0.34	0.22	0.26	0.26	0.15	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	309	162	128	38	358	276	352	400	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.7	3.9	3.0	1.4	0.8	4.0	7.6	4.7	5.0	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.7	3.9	3.0	1.4	0.8	4.0	7.6	4.7	5.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	365	163	548	634	539	386	909	407	530	684	306
V/C Ratio(X)	0.00	0.14	0.36	0.56	0.26	0.24	0.10	0.39	0.68	0.66	0.59	0.02
Avail Cap(c_a), veh/h	202	2969	1328	1102	1929	1640	386	2309	1033	1212	3152	1410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	19.7	20.2	18.9	11.5	3.0	15.1	14.8	16.1	19.2	17.7	12.7
Incr Delay (d2), s/veh	0.0	0.2	1.3	0.9	0.2	0.2	0.1	0.3	2.0	1.4	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.8	2.0	1.6	1.1	0.4	2.0	3.5	2.3	2.5	0.1
LnGrp Delay(d),s/veh	0.0	19.9	21.5	19.8	11.7	3.3	15.2	15.1	18.1	20.7	18.5	12.7
LnGrp LOS		B	C	B	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			599			672			757	
Approach Delay, s/veh		20.8			14.1			16.4			19.5	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	16.4	11.5	9.0	14.5	13.3	0.0	20.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.7	9.6	5.9	3.7	2.8	7.0	0.0	5.0				
Green Ext Time (p_c), s	0.9	2.8	1.7	0.4	0.4	2.4	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			17.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions
Saturday PM Peak






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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	735	5	10	708	118	10	15	10	121	0	25
Future Volume (veh/h)	19	735	5	10	708	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	799	5	11	770	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1839	12	26	1763	789	163	156	80	362	5	40
Arrive On Green	0.03	0.51	0.51	0.01	0.50	0.50	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3606	23	1774	3539	1583	255	969	499	1176	30	247
Grp Volume(v), veh/h	21	392	412	11	770	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1724	0	0	1453	0	0
Q Serve(g_s), s	0.4	5.3	5.3	0.2	5.3	1.7	0.0	0.0	0.0	3.2	0.0	0.0
Cycle Q Clear(g_c), s	0.4	5.3	5.3	0.2	5.3	1.7	0.7	0.0	0.0	3.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	902	948	26	1763	789	399	0	0	407	0	0
V/C Ratio(X)	0.45	0.43	0.43	0.43	0.44	0.16	0.10	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	233	1485	1560	233	2970	1329	1876	0	0	1695	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.3	5.9	5.9	18.6	6.1	5.2	13.7	0.0	0.0	15.0	0.0	0.0
Incr Delay (d2), s/veh	6.7	0.3	0.3	11.0	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.6	2.7	0.2	2.6	0.7	0.3	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	25.0	6.2	6.2	29.6	6.3	5.3	13.8	0.0	0.0	15.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	825				909		38				159	
Approach Delay, s/veh	6.7				6.5		13.8				15.6	
Approach LOS	A				A		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.1	4.5	23.4		10.1	5.0	23.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		2.7	2.2	7.3		5.9	2.4	7.3				
Green Ext Time (p_c), s		1.2	0.0	11.7		1.2	0.0	11.7				
Intersection Summary												
HCM 2010 Ctrl Delay	7.4											
HCM 2010 LOS	A											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (1B) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	124	226	296	32	52	163
Future Vol, veh/h	124	226	296	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	246	322	35	57	177

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	357	0	0 854 339
Stage 1	-	-	- 339 -
Stage 2	-	-	- 515 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1202	-	- 329 703
Stage 1	-	-	- 722 -
Stage 2	-	-	- 600 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1202	-	- 292 703
Mov Cap-2 Maneuver	-	-	- 292 -
Stage 1	-	-	- 722 -
Stage 2	-	-	- 533 -

Approach	EB	WB	SB
HCM Control Delay, s	3	0	17.3
HCM LOS			C






Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1202	-	-	-	524
HCM Lane V/C Ratio	0.112	-	-	-	0.446
HCM Control Delay (s)	8.4	-	-	-	17.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.3

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (1B) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 6.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	210	82	86	27	22	214
Future Vol, veh/h	210	82	86	27	22	214
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	228	89	93	29	24	233

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	123	0	0 654 108
Stage 1	-	-	- 108 -
Stage 2	-	-	- 546 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1464	-	- 431 946
Stage 1	-	-	- 916 -
Stage 2	-	-	- 580 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1464	-	- 364 946
Mov Cap-2 Maneuver	-	-	- 364 -
Stage 1	-	-	- 916 -
Stage 2	-	-	- 490 -

Approach	EB	WB	SB
HCM Control Delay, s	5.7	0	11.3
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	823
HCM Lane V/C Ratio	0.156	-	-	-	0.312
HCM Control Delay (s)	7.9	-	-	-	11.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.3

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (1B) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	7	3	68	84	20
Future Vol, veh/h	12	7	3	68	84	20
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	8	3	74	91	22

























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	182	102	113
Stage 1	102	-	-
Stage 2	80	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	807	953	1476
Stage 1	922	-	-
Stage 2	943	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	805	953	1476
Mov Cap-2 Maneuver	805	-	-
Stage 1	922	-	-
Stage 2	941	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	854	-	-
HCM Lane V/C Ratio	0.002	-	0.024	-	-
HCM Control Delay (s)	7.4	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Opening Year (2025) plus Project (1C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	467	80	278	55	397	347	422	677	9
Future Volume (veh/h)	10	83	68	467	80	278	55	397	347	422	677	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	508	248	194	60	432	377	459	736	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	309	138	681	494	420	326	1065	476	594	1025	459
Arrive On Green	0.01	0.09	0.09	0.19	0.27	0.27	0.18	0.30	0.30	0.17	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	508	248	194	60	432	377	459	736	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.5	2.9	8.7	7.3	4.0	1.8	6.3	14.1	8.2	12.1	0.2
Cycle Q Clear(g_c), s	0.4	1.5	2.9	8.7	7.3	4.0	1.8	6.3	14.1	8.2	12.1	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	309	138	681	494	420	326	1065	476	594	1025	459
V/C Ratio(X)	0.45	0.29	0.54	0.75	0.50	0.46	0.18	0.41	0.79	0.77	0.72	0.02
Avail Cap(c_a), veh/h	151	2216	991	823	1440	1224	326	1724	771	905	2353	1053
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	27.6	28.3	24.6	20.1	7.1	22.3	18.0	20.7	25.5	20.6	10.7
Incr Delay (d2), s/veh	12.2	0.5	3.2	3.0	0.8	0.8	0.3	0.2	3.0	2.3	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.4	4.5	3.8	2.6	0.9	3.1	6.5	4.1	6.0	0.1
LnGrp Delay(d),s/veh	43.8	28.2	31.5	27.7	20.9	7.9	22.6	18.3	23.7	27.8	21.6	10.7
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		175			950			869			1205	
Approach Delay, s/veh		30.5			21.9			20.9			23.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.2	23.5	16.4	9.6	15.9	22.7	4.9	21.2				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	10.2	16.1	10.7	4.9	3.8	14.1	2.4	9.3				
Green Ext Time (p_c), s	0.9	3.3	1.7	0.7	0.4	4.7	0.0	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			22.8									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions
Friday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1034	5	10	1090	216	10	15	10	341	5	39
Future Volume (veh/h)	45	1034	5	10	1090	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1124	5	11	1185	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1695	8	24	1553	695	205	289	174	530	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3613	16	1774	3539	1583	403	843	508	1257	17	142
Grp Volume(v), veh/h	49	550	579	11	1185	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1754	0	0	1416	0	0
Q Serve(g_s), s	1.9	16.5	16.5	0.4	19.4	6.7	0.0	0.0	0.0	17.9	0.0	0.0
Cycle Q Clear(g_c), s	1.9	16.5	16.5	0.4	19.4	6.7	1.0	0.0	0.0	18.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	78	830	873	24	1553	695	668	0	0	584	0	0
V/C Ratio(X)	0.63	0.66	0.66	0.45	0.76	0.34	0.06	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	129	830	873	129	1646	736	1075	0	0	939	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.3	14.1	14.1	33.7	16.3	12.7	15.2	0.0	0.0	20.9	0.0	0.0
Incr Delay (d2), s/veh	7.9	2.0	1.9	12.4	2.1	0.3	0.0	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.4	8.8	0.3	9.8	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	40.2	16.1	16.0	46.1	18.3	13.0	15.2	0.0	0.0	22.6	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h	1178			1431				38			418	
Approach Delay, s/veh	17.0			17.7				15.2			22.6	
Approach LOS	B			B				B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.6	4.9	36.3		27.6	7.0	34.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.0	2.4	18.5		20.9	3.9	21.4				
Green Ext Time (p_c), s		3.1	0.0	11.1		2.7	0.0	8.8				
Intersection Summary												
HCM 2010 Ctrl Delay	18.1											
HCM 2010 LOS	B											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (1C) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 15.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	198	440	396	73	75	157
Future Vol, veh/h	198	440	396	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	478	430	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	510	0	0 1379 470
Stage 1	-	-	- 470 -
Stage 2	-	-	- 909 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1055	-	- 159 594
Stage 1	-	-	- 629 -
Stage 2	-	-	- 393 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1055	-	- 127 594
Mov Cap-2 Maneuver	-	-	- 127 -
Stage 1	-	-	- 629 -
Stage 2	-	-	- 313 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	78.9
HCM LOS			F





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1055	-	-	-	271
HCM Lane V/C Ratio	0.204	-	-	-	0.931
HCM Control Delay (s)	9.3	-	-	-	78.9
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	8.6

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (1C) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 10.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	372	163	128	45	40	308
Future Vol, veh/h	372	163	128	45	40	308
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	404	177	139	49	43	335

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	188	0	0 1150 164
Stage 1	-	-	- 164 -
Stage 2	-	-	- 986 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1386	-	- 219 881
Stage 1	-	-	- 865 -
Stage 2	-	-	- 361 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1386	-	- 155 881
Mov Cap-2 Maneuver	-	-	- 155 -
Stage 1	-	-	- 865 -
Stage 2	-	-	- 256 -

Approach	EB	WB	SB
HCM Control Delay, s	6	0	22.6
HCM LOS			C




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	573
HCM Lane V/C Ratio	0.292	-	-	-	0.66
HCM Control Delay (s)	8.7	-	-	-	22.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.2	-	-	-	4.9

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (1C) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	3	8	115	140	31
Future Vol, veh/h	16	3	8	115	140	31
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	3	9	125	152	34

























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	311	169	186
Stage 1	169	-	-
Stage 2	142	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	681	875	1388
Stage 1	861	-	-
Stage 2	885	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	676	875	1388
Mov Cap-2 Maneuver	676	-	-
Stage 1	861	-	-
Stage 2	879	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1388	-	701	-	-
HCM Lane V/C Ratio	0.006	-	0.029	-	-
HCM Control Delay (s)	7.6	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd




















Opening Year (2025) plus Project (1C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	297	57	205	35	329	265	346	368	5
Future Volume (veh/h)	0	46	54	297	57	205	35	329	265	346	368	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	323	183	142	38	358	288	376	400	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	353	158	563	631	536	410	925	414	551	674	301
Arrive On Green	0.00	0.10	0.10	0.16	0.34	0.34	0.23	0.26	0.26	0.16	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	323	183	142	38	358	288	376	400	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.7	4.2	3.6	1.7	0.8	4.2	8.2	5.2	5.2	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.7	4.2	3.6	1.7	0.8	4.2	8.2	5.2	5.2	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	353	158	563	631	536	410	925	414	551	674	301
V/C Ratio(X)	0.00	0.14	0.37	0.57	0.29	0.26	0.09	0.39	0.70	0.68	0.59	0.02
Avail Cap(c_a), veh/h	195	2867	1282	1064	1863	1583	410	2230	997	1170	3044	1362
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.6	21.0	19.5	12.1	3.2	15.1	15.2	16.7	19.8	18.5	13.4
Incr Delay (d2), s/veh	0.0	0.2	1.5	0.9	0.3	0.3	0.1	0.3	2.1	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.8	2.1	1.9	0.8	0.4	2.1	3.8	2.6	2.6	0.1
LnGrp Delay(d),s/veh	0.0	20.7	22.5	20.4	12.4	3.5	15.2	15.4	18.8	21.3	19.3	13.4
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			648			684			781	
Approach Delay, s/veh		21.7			14.4			16.8			20.2	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	17.1	11.9	9.0	15.6	13.5	0.0	20.9				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.2	10.2	6.2	3.7	2.8	7.2	0.0	5.6				
Green Ext Time (p_c), s	0.9	2.9	1.8	0.4	0.4	2.4	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			17.6									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions
Saturday PM Peak






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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	768	5	10	746	118	10	15	10	121	0	25
Future Volume (veh/h)	19	768	5	10	746	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	835	5	11	811	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1876	11	26	1799	805	159	156	80	356	5	40
Arrive On Green	0.03	0.52	0.52	0.01	0.51	0.51	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3607	22	1774	3539	1583	253	972	499	1174	32	247
Grp Volume(v), veh/h	21	410	430	11	811	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1724	0	0	1453	0	0
Q Serve(g_s), s	0.5	5.7	5.7	0.2	5.7	1.7	0.0	0.0	0.0	3.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	5.7	5.7	0.2	5.7	1.7	0.7	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	920	967	26	1799	805	394	0	0	401	0	0
V/C Ratio(X)	0.45	0.45	0.45	0.43	0.45	0.16	0.10	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	226	1441	1514	226	2882	1289	1821	0	0	1644	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.9	5.9	5.9	19.2	6.2	5.2	14.2	0.0	0.0	15.5	0.0	0.0
Incr Delay (d2), s/veh	6.8	0.3	0.3	11.0	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.8	3.0	0.2	2.7	0.8	0.4	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	25.7	6.2	6.2	30.3	6.3	5.3	14.3	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	861				950		38				159	
Approach Delay, s/veh	6.7				6.5		14.3				16.1	
Approach LOS	A				A		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.3	4.6	24.4		10.3	5.0	24.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		2.7	2.2	7.7		6.0	2.5	7.7				
Green Ext Time (p_c), s		1.2	0.0	12.3		1.2	0.0	12.2				
Intersection Summary												
HCM 2010 Ctrl Delay			7.5									
HCM 2010 LOS			A									

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (1C) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	124	233	302	32	52	163
Future Vol, veh/h	124	233	302	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	253	328	35	57	177

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	363	0	0 869 346
Stage 1	-	-	- 346 -
Stage 2	-	-	- 523 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1196	-	- 322 697
Stage 1	-	-	- 716 -
Stage 2	-	-	- 595 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1196	-	- 286 697
Mov Cap-2 Maneuver	-	-	- 286 -
Stage 1	-	-	- 716 -
Stage 2	-	-	- 528 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	17.6
HCM LOS			C





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1196	-	-	-	517
HCM Lane V/C Ratio	0.113	-	-	-	0.452
HCM Control Delay (s)	8.4	-	-	-	17.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.3

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (1C) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 6.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	217	82	86	27	22	220
Future Vol, veh/h	217	82	86	27	22	220
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	236	89	93	29	24	239

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	123	0	0 669 108
Stage 1	-	-	- 108 -
Stage 2	-	-	- 561 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1464	-	- 423 946
Stage 1	-	-	- 916 -
Stage 2	-	-	- 571 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1464	-	- 355 946
Mov Cap-2 Maneuver	-	-	- 355 -
Stage 1	-	-	- 916 -
Stage 2	-	-	- 479 -

Approach	EB	WB	SB
HCM Control Delay, s	5.8	0	11.4
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	822
HCM Lane V/C Ratio	0.161	-	-	-	0.32
HCM Control Delay (s)	7.9	-	-	-	11.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.4

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (1C) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	7	3	68	84	20
Future Vol, veh/h	12	7	3	68	84	20
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	8	3	74	91	22

























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	182	102	113
Stage 1	102	-	-
Stage 2	80	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	807	953	1476
Stage 1	922	-	-
Stage 2	943	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	805	953	1476
Mov Cap-2 Maneuver	805	-	-
Stage 1	922	-	-
Stage 2	941	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	854	-	-
HCM Lane V/C Ratio	0.002	-	0.024	-	-
HCM Control Delay (s)	7.4	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd




















Opening Year (2025) plus Project (1D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	452	80	246	55	397	319	361	677	9
Future Volume (veh/h)	10	83	68	452	80	246	55	397	319	361	677	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	491	222	177	60	432	347	392	736	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	321	144	688	504	429	264	1025	459	539	1052	471
Arrive On Green	0.01	0.09	0.09	0.19	0.27	0.27	0.15	0.29	0.29	0.16	0.30	0.30
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	491	222	177	60	432	347	392	736	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.4	2.7	7.7	5.9	5.5	1.8	5.9	11.9	6.4	11.0	0.3
Cycle Q Clear(g_c), s	0.4	1.4	2.7	7.7	5.9	5.5	1.8	5.9	11.9	6.4	11.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	321	144	688	504	429	264	1025	459	539	1052	471
V/C Ratio(X)	0.44	0.28	0.52	0.71	0.44	0.41	0.23	0.42	0.76	0.73	0.70	0.02
Avail Cap(c_a), veh/h	164	2410	1078	895	1566	1331	264	1874	839	984	2559	1145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	25.2	25.8	22.4	18.0	17.8	22.3	17.1	19.2	23.9	18.5	14.8
Incr Delay (d2), s/veh	12.0	0.5	2.8	1.9	0.6	0.6	0.4	0.3	2.6	1.9	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.7	1.3	3.9	3.1	2.4	0.9	2.9	5.4	3.2	5.4	0.1
LnGrp Delay(d),s/veh	41.0	25.7	28.6	24.3	18.6	18.4	22.7	17.4	21.8	25.8	19.4	14.8
LnGrp LOS	D	C	C	C	B	B	C	B	C	C	B	B
Approach Vol, veh/h		175			890			839			1138	
Approach Delay, s/veh		27.9			21.7			19.6			21.6	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	21.2	15.5	9.4	12.9	21.7	4.8	20.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.4	13.9	9.7	4.7	3.8	13.0	2.4	7.9				
Green Ext Time (p_c), s	0.9	3.4	1.8	0.7	0.3	4.7	0.0	3.8				
Intersection Summary												
HCM 2010 Ctrl Delay			21.4									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions
Friday PM Peak






												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	945	5	10	1044	216	10	15	10	341	5	39
Future Volume (veh/h)	45	945	5	10	1044	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1027	5	11	1135	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	1686	8	24	1544	691	206	290	174	531	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3612	18	1774	3539	1583	402	844	508	1257	17	142
Grp Volume(v), veh/h	49	503	529	11	1135	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1753	0	0	1416	0	0
Q Serve(g_s), s	1.8	14.4	14.4	0.4	18.1	6.7	0.0	0.0	0.0	17.7	0.0	0.0
Cycle Q Clear(g_c), s	1.8	14.4	14.4	0.4	18.1	6.7	1.0	0.0	0.0	18.7	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	79	826	868	24	1544	691	670	0	0	586	0	0
V/C Ratio(X)	0.62	0.61	0.61	0.45	0.73	0.34	0.06	0.00	0.00	0.71	0.00	0.00
Avail Cap(c_a), veh/h	130	831	873	130	1662	744	1085	0	0	948	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.0	13.5	13.5	33.3	15.9	12.7	15.0	0.0	0.0	20.7	0.0	0.0
Incr Delay (d2), s/veh	7.8	1.3	1.2	12.4	1.6	0.3	0.0	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.3	7.6	0.3	9.2	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	39.8	14.8	14.8	45.7	17.5	13.0	15.1	0.0	0.0	22.3	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h	1081		1381				38			418		
Approach Delay, s/veh	15.9		17.0				15.1			22.3		
Approach LOS	B		B				B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.4	4.9	35.8		27.4	7.0	33.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.0	2.4	16.4		20.7	3.8	20.1				
Green Ext Time (p_c), s		3.1	0.0	12.0		2.7	0.0	9.6				
Intersection Summary												
HCM 2010 Ctrl Delay	17.3											
HCM 2010 LOS	B											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (1D) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 13.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	198	432	380	73	75	157
Future Vol, veh/h	198	432	380	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	470	413	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	492	0	0 1353 453
Stage 1	-	-	- 453 -
Stage 2	-	-	- 900 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1071	-	- 165 607
Stage 1	-	-	- 640 -
Stage 2	-	-	- 397 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1071	-	- 132 607
Mov Cap-2 Maneuver	-	-	- 132 -
Stage 1	-	-	- 640 -
Stage 2	-	-	- 317 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	70.3
HCM LOS			F





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1071	-	-	-	281
HCM Lane V/C Ratio	0.201	-	-	-	0.897
HCM Control Delay (s)	9.2	-	-	-	70.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.7	-	-	-	8.1

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (1D) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 9.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	364	163	128	45	40	292
Future Vol, veh/h	364	163	128	45	40	292
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	396	177	139	49	43	317

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	188	0	0 1132 164
Stage 1	-	-	- 164 -
Stage 2	-	-	- 968 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1386	-	- 225 881
Stage 1	-	-	- 865 -
Stage 2	-	-	- 368 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1386	-	- 161 881
Mov Cap-2 Maneuver	-	-	- 161 -
Stage 1	-	-	- 865 -
Stage 2	-	-	- 263 -

Approach	EB	WB	SB
HCM Control Delay, s	6	0	21.4
HCM LOS			C




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	573
HCM Lane V/C Ratio	0.285	-	-	-	0.63
HCM Control Delay (s)	8.6	-	-	-	21.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.2	-	-	-	4.4

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (1D) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	3	8	115	140	31
Future Vol, veh/h	16	3	8	115	140	31
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	3	9	125	152	34

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	311	169	186
Stage 1	169	-	-
Stage 2	142	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	681	875	1388
Stage 1	861	-	-
Stage 2	885	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	676	875	1388
Mov Cap-2 Maneuver	676	-	-
Stage 1	861	-	-
Stage 2	879	-	-

























Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1388	-	701	-	-
HCM Lane V/C Ratio	0.006	-	0.029	-	-
HCM Control Delay (s)	7.6	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions




















Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	286	57	182	35	329	233	280	368	5
Future Volume (veh/h)	0	46	54	286	57	182	35	329	233	280	368	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	311	164	130	38	358	253	304	400	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	382	171	563	658	559	336	873	391	481	697	312
Arrive On Green	0.00	0.11	0.11	0.16	0.35	0.35	0.19	0.25	0.25	0.14	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	311	164	130	38	358	253	304	400	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.6	3.7	2.9	1.4	0.8	3.9	6.6	3.8	4.7	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.6	3.7	2.9	1.4	0.8	3.9	6.6	3.8	4.7	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	382	171	563	658	559	336	873	391	481	697	312
V/C Ratio(X)	0.00	0.13	0.35	0.55	0.25	0.23	0.11	0.41	0.65	0.63	0.57	0.02
Avail Cap(c_a), veh/h	212	3109	1391	1154	2020	1717	336	2418	1082	1269	3301	1477
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	18.6	19.1	17.9	10.6	2.8	15.5	14.6	15.6	18.7	16.8	11.9
Incr Delay (d2), s/veh	0.0	0.2	1.2	0.9	0.2	0.2	0.1	0.3	1.8	1.4	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.7	1.9	1.5	1.0	0.4	1.9	3.1	1.9	2.4	0.1
LnGrp Delay(d),s/veh	0.0	18.8	20.3	18.7	10.8	3.0	15.6	14.9	17.4	20.1	17.5	11.9
LnGrp LOS		B	C	B	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			605			649			709	
Approach Delay, s/veh		19.6			13.2			15.9			18.6	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	15.4	11.3	9.0	12.7	13.1	0.0	20.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	5.8	8.6	5.7	3.6	2.8	6.7	0.0	4.9				
Green Ext Time (p_c), s	0.7	2.8	1.7	0.4	0.3	2.4	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			16.2									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions
Saturday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	670	5	10	712	118	10	15	10	121	0	25
Future Volume (veh/h)	19	670	5	10	712	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	728	5	11	774	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1816	12	26	1742	779	165	156	81	366	5	40
Arrive On Green	0.03	0.50	0.50	0.01	0.49	0.49	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3603	25	1774	3539	1583	257	968	499	1177	29	247
Grp Volume(v), veh/h	21	358	375	11	774	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	1774	1770	1583	1724	0	0	1452	0	0
Q Serve(g_s), s	0.4	4.7	4.7	0.2	5.3	1.7	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	0.4	4.7	4.7	0.2	5.3	1.7	0.7	0.0	0.0	3.8	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	892	937	26	1742	779	402	0	0	410	0	0
V/C Ratio(X)	0.45	0.40	0.40	0.43	0.44	0.16	0.09	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	237	1511	1587	237	3022	1352	1909	0	0	1724	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.0	5.8	5.8	18.3	6.2	5.3	13.5	0.0	0.0	14.7	0.0	0.0
Incr Delay (d2), s/veh	6.7	0.3	0.3	11.0	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.4	2.5	0.2	2.6	0.7	0.3	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	24.7	6.1	6.1	29.3	6.4	5.4	13.6	0.0	0.0	15.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		754			913			38			159	
Approach Delay, s/veh		6.6			6.5			13.6			15.3	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.0	4.5	22.9		10.0	5.0	22.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		2.7	2.2	6.7		5.8	2.4	7.3				
Green Ext Time (p_c), s		1.2	0.0	11.2		1.2	0.0	11.1				
Intersection Summary												
HCM 2010 Ctrl Delay			7.4									
HCM 2010 LOS			A									

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (1D) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	124	227	284	32	52	163
Future Vol, veh/h	124	227	284	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	247	309	35	57	177

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	343	0	0 842 326
Stage 1	-	-	- 326 -
Stage 2	-	-	- 516 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1216	-	- 334 715
Stage 1	-	-	- 731 -
Stage 2	-	-	- 599 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1216	-	- 297 715
Mov Cap-2 Maneuver	-	-	- 297 -
Stage 1	-	-	- 731 -
Stage 2	-	-	- 532 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	16.9
HCM LOS			C





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1216	-	-	-	533
HCM Lane V/C Ratio	0.111	-	-	-	0.438
HCM Control Delay (s)	8.3	-	-	-	16.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.2

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (1D) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 6.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	211	82	86	27	22	202
Future Vol, veh/h	211	82	86	27	22	202
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	229	89	93	29	24	220

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	123	0	0 656 108
Stage 1	-	-	- 108 -
Stage 2	-	-	- 548 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1464	-	- 430 946
Stage 1	-	-	- 916 -
Stage 2	-	-	- 579 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1464	-	- 363 946
Mov Cap-2 Maneuver	-	-	- 363 -
Stage 1	-	-	- 916 -
Stage 2	-	-	- 488 -

Approach	EB	WB	SB
HCM Control Delay, s	5.7	0	11.3
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	817
HCM Lane V/C Ratio	0.157	-	-	-	0.298
HCM Control Delay (s)	7.9	-	-	-	11.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.3

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (1D) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	7	3	68	84	20
Future Vol, veh/h	12	7	3	68	84	20
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	8	3	74	91	22

























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	182	102	113
Stage 1	102	-	-
Stage 2	80	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	807	953	1476
Stage 1	922	-	-
Stage 2	943	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	805	953	1476
Mov Cap-2 Maneuver	805	-	-
Stage 1	922	-	-
Stage 2	941	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	854	-	-
HCM Lane V/C Ratio	0.002	-	0.024	-	-
HCM Control Delay (s)	7.4	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Opening Year (2025) plus Project (2A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	472	80	288	55	397	352	432	677	9
Future Volume (veh/h)	10	83	68	472	80	288	55	397	352	432	677	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	513	256	200	60	432	383	470	736	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	306	137	681	493	419	337	1073	480	602	1020	456
Arrive On Green	0.01	0.09	0.09	0.19	0.26	0.26	0.19	0.30	0.30	0.17	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	513	256	200	60	432	383	470	736	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.6	2.9	9.0	7.7	4.2	1.9	6.4	14.6	8.6	12.3	0.2
Cycle Q Clear(g_c), s	0.4	1.6	2.9	9.0	7.7	4.2	1.9	6.4	14.6	8.6	12.3	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	306	137	681	493	419	337	1073	480	602	1020	456
V/C Ratio(X)	0.45	0.29	0.54	0.75	0.52	0.48	0.18	0.40	0.80	0.78	0.72	0.02
Avail Cap(c_a), veh/h	148	2180	975	810	1417	1204	337	1696	759	890	2315	1036
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	28.1	28.8	25.1	20.6	7.2	22.3	18.2	21.1	25.9	21.0	11.0
Incr Delay (d2), s/veh	12.2	0.5	3.3	3.3	0.8	0.8	0.3	0.2	3.2	2.7	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.4	4.7	4.0	2.7	0.9	3.2	6.8	4.3	6.1	0.1
LnGrp Delay(d),s/veh	44.4	28.7	32.1	28.4	21.5	8.1	22.6	18.4	24.3	28.6	22.0	11.0
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		175			969			875			1216	
Approach Delay, s/veh		31.1			22.4			21.3			24.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	23.9	16.6	9.7	16.5	23.0	4.9	21.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	10.6	16.6	11.0	4.9	3.9	14.3	2.4	9.7				
Green Ext Time (p_c), s	0.9	3.3	1.6	0.7	0.4	4.7	0.0	4.3				
Intersection Summary												
HCM 2010 Ctrl Delay			23.3									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions
Friday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1049	5	10	1105	216	10	15	10	341	5	39
Future Volume (veh/h)	45	1049	5	10	1105	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1140	5	11	1201	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1697	7	24	1554	695	205	289	174	529	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3614	16	1774	3539	1583	403	843	508	1257	17	142
Grp Volume(v), veh/h	49	558	587	11	1201	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1754	0	0	1416	0	0
Q Serve(g_s), s	1.9	16.8	16.8	0.4	19.9	6.7	0.0	0.0	0.0	17.9	0.0	0.0
Cycle Q Clear(g_c), s	1.9	16.8	16.8	0.4	19.9	6.7	1.0	0.0	0.0	18.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	78	831	873	24	1554	695	668	0	0	584	0	0
V/C Ratio(X)	0.63	0.67	0.67	0.45	0.77	0.34	0.06	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	129	831	873	129	1643	735	1073	0	0	937	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.4	14.2	14.2	33.7	16.4	12.7	15.2	0.0	0.0	21.0	0.0	0.0
Incr Delay (d2), s/veh	7.9	2.1	2.0	12.4	2.2	0.3	0.0	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.7	9.1	0.3	10.2	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	40.3	16.3	16.2	46.1	18.6	13.0	15.3	0.0	0.0	22.6	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h	1194			1447			38			418		
Approach Delay, s/veh	17.2			17.9			15.3			22.6		
Approach LOS	B			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.6	4.9	36.4		27.6	7.0	34.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.0	2.4	18.8		20.9	3.9	21.9				
Green Ext Time (p_c), s		3.1	0.0	11.0		2.7	0.0	8.4				
Intersection Summary												
HCM 2010 Ctrl Delay	18.3											
HCM 2010 LOS	B											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (2A) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 15.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	198	443	399	73	75	157
Future Vol, veh/h	198	443	399	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	482	434	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	513	0	0 1385 473
Stage 1	-	-	- 473 -
Stage 2	-	-	- 912 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1052	-	- 158 591
Stage 1	-	-	- 627 -
Stage 2	-	-	- 392 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1052	-	- 126 591
Mov Cap-2 Maneuver	-	-	- 126 -
Stage 1	-	-	- 627 -
Stage 2	-	-	- 312 -






Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	80.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1052	-	-	-	269
HCM Lane V/C Ratio	0.205	-	-	-	0.937
HCM Control Delay (s)	9.3	-	-	-	80.8
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	8.7

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (2A) Conditions

Friday PM Peak

Intersection						
Int Delay, s/veh	10.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	375	163	128	45	40	311
Future Vol, veh/h	375	163	128	45	40	311
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	408	177	139	49	43	338
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	188	0	-	0	1156	164
Stage 1	-	-	-	-	164	-
Stage 2	-	-	-	-	992	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1386	-	-	-	217	881
Stage 1	-	-	-	-	865	-
Stage 2	-	-	-	-	359	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1386	-	-	-	153	881
Mov Cap-2 Maneuver	-	-	-	-	153	-
Stage 1	-	-	-	-	865	-
Stage 2	-	-	-	-	253	-
Approach	EB	WB		SB		
HCM Control Delay, s	6	0		23.1		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1386	-	-	-	571	
HCM Lane V/C Ratio	0.294	-	-	-	0.668	
HCM Control Delay (s)	8.7	-	-	-	23.1	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	1.2	-	-	-	5	




Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (2A) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 5.1

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	16	131	197	115	140	31
Future Vol, veh/h	16	131	197	115	140	31
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	142	214	125	152	34

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	722	169	186	0	-	0
Stage 1	169	-	-	-	-	-
Stage 2	553	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	394	875	1388	-	-	-
Stage 1	861	-	-	-	-	-
Stage 2	576	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	329	875	1388	-	-	-
Mov Cap-2 Maneuver	329	-	-	-	-	-
Stage 1	861	-	-	-	-	-
Stage 2	480	-	-	-	-	-

Approach EB NB SB




HCM Control Delay, s	11.2	5.1	0
HCM LOS	B		

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1388	-	741	-	-
HCM Lane V/C Ratio	0.154	-	0.216	-	-
HCM Control Delay (s)	8.1	-	11.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.8	-	-

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	24	189	128	0
Future Vol, veh/h	0	12	24	189	128	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	26	205	139	0

























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	232	0	0 142 129
Stage 1	-	-	- 129 -
Stage 2	-	-	- 13 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1336	-	- 851 921
Stage 1	-	-	- 897 -
Stage 2	-	-	- 1010 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1336	-	- 851 921
Mov Cap-2 Maneuver	-	-	- 851 -
Stage 1	-	-	- 897 -
Stage 2	-	-	- 1010 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1336	-	-	-	851
HCM Lane V/C Ratio	-	-	-	-	0.163
HCM Control Delay (s)	0	-	-	-	10.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd




















Opening Year (2025) plus Project (2A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	300	57	212	35	329	270	358	368	5
Future Volume (veh/h)	0	46	54	300	57	212	35	329	270	358	368	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	326	188	146	38	358	293	389	400	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	348	156	565	627	533	422	932	417	563	670	300
Arrive On Green	0.00	0.10	0.10	0.16	0.34	0.34	0.24	0.26	0.26	0.16	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	326	188	146	38	358	293	389	400	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.7	1.8	4.3	3.8	1.8	0.8	4.2	8.5	5.4	5.2	0.1
Cycle Q Clear(g_c), s	0.0	0.7	1.8	4.3	3.8	1.8	0.8	4.2	8.5	5.4	5.2	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	348	156	565	627	533	422	932	417	563	670	300
V/C Ratio(X)	0.00	0.14	0.38	0.58	0.30	0.27	0.09	0.38	0.70	0.69	0.60	0.02
Avail Cap(c_a), veh/h	192	2826	1264	1049	1837	1561	422	2198	983	1154	3001	1343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.9	21.4	19.7	12.4	3.3	15.1	15.3	16.9	20.0	18.8	13.6
Incr Delay (d2), s/veh	0.0	0.2	1.5	0.9	0.3	0.3	0.1	0.3	2.2	1.5	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.8	2.2	2.0	1.3	0.4	2.1	3.9	2.7	2.6	0.1
LnGrp Delay(d),s/veh	0.0	21.1	22.9	20.7	12.7	3.5	15.2	15.6	19.1	21.5	19.6	13.6
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			660			689			794	
Approach Delay, s/veh		22.1			14.6			17.0			20.5	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	17.3	12.1	9.0	16.0	13.6	0.0	21.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.4	10.5	6.3	3.8	2.8	7.2	0.0	5.8				
Green Ext Time (p_c), s	0.9	2.9	1.8	0.4	0.4	2.4	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			17.8									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.






Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions
Saturday PM Peak

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	785	5	10	756	118	10	15	10	121	0	25
Future Volume (veh/h)	19	785	5	10	756	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	853	5	11	822	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1888	11	26	1811	810	157	156	80	354	5	39
Arrive On Green	0.03	0.52	0.52	0.01	0.51	0.51	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3607	21	1774	3539	1583	252	973	499	1174	33	247
Grp Volume(v), veh/h	21	418	440	11	822	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1724	0	0	1453	0	0
Q Serve(g_s), s	0.5	5.9	5.9	0.2	5.9	1.7	0.0	0.0	0.0	3.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	5.9	5.9	0.2	5.9	1.7	0.7	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	926	973	26	1811	810	393	0	0	399	0	0
V/C Ratio(X)	0.45	0.45	0.45	0.43	0.45	0.16	0.10	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	223	1426	1499	223	2853	1276	1803	0	0	1628	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.1	5.9	5.9	19.4	6.2	5.2	14.3	0.0	0.0	15.6	0.0	0.0
Incr Delay (d2), s/veh	6.8	0.3	0.3	11.1	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.9	3.0	0.2	2.8	0.8	0.4	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	25.9	6.3	6.2	30.5	6.3	5.2	14.4	0.0	0.0	16.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	879				961		38				159	
Approach Delay, s/veh	6.7				6.5		14.4				16.3	
Approach LOS	A				A		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.4	4.6	24.8		10.4	5.0	24.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		2.7	2.2	7.9		6.0	2.5	7.9				
Green Ext Time (p_c), s		1.2	0.0	12.4		1.2	0.0	12.4				
Intersection Summary												
HCM 2010 Ctrl Delay			7.5									
HCM 2010 LOS			A									

Redding Rancheria
8: S Bonnyview Rd & Victor Ave





Opening Year (2025) plus Project (2A) Conditions
Saturday PM Peak

Intersection						
Int Delay, s/veh	5.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	124	235	305	32	52	163
Future Vol, veh/h	124	235	305	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	255	332	35	57	177
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	366	0	-	0	874	349
Stage 1	-	-	-	-	349	-
Stage 2	-	-	-	-	525	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1193	-	-	-	320	694
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	593	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1193	-	-	-	284	694
Mov Cap-2 Maneuver	-	-	-	-	284	-
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	526	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.9	0		17.7		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1193	-	-	-	514	
HCM Lane V/C Ratio	0.113	-	-	-	0.455	
HCM Control Delay (s)	8.4	-	-	-	17.7	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0.4	-	-	-	2.3	

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (2A) Conditions

Saturday PM Peak




Intersection						
Int Delay, s/veh	6.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	219	82	86	27	22	223
Future Vol, veh/h	219	82	86	27	22	223
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	238	89	93	29	24	242
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	123	0	-	0	673	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	565	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1464	-	-	-	421	946
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	569	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1464	-	-	-	353	946
Mov Cap-2 Maneuver	-	-	-	-	353	-
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	476	-
Approach	EB	WB		SB		
HCM Control Delay, s	5.8	0		11.5		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1464	-	-	-	822	
HCM Lane V/C Ratio	0.163	-	-	-	0.324	
HCM Control Delay (s)	7.9	-	-	-	11.5	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.6	-	-	-	1.4	

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (2A) Conditions
Saturday PM Peak

Intersection




Int Delay, s/veh 6.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	144	243	68	84	20
Future Vol, veh/h	12	144	243	68	84	20
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	157	264	74	91	22

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	704	102	113
Stage 1	102	-	-
Stage 2	602	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	403	953	1476
Stage 1	922	-	-
Stage 2	547	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	328	953	1476
Mov Cap-2 Maneuver	328	-	-
Stage 1	922	-	-
Stage 2	445	-	-

























Approach	EB	NB	SB
HCM Control Delay, s	10.4	6.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	831	-	-
HCM Lane V/C Ratio	0.179	-	0.204	-	-
HCM Control Delay (s)	8	-	10.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.7	-	0.8	-	-

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	14	16	240	137	0
Future Vol, veh/h	0	14	16	240	137	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	17	261	149	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	278	0	-	0	163	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1285	-	-	-	828	899
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	1008	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1285	-	-	-	828	899
Mov Cap-2 Maneuver	-	-	-	-	828	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	1008	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		10.3		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1285	-	-	-	828	
HCM Lane V/C Ratio	-	-	-	-	0.18	
HCM Control Delay (s)	0	-	-	-	10.3	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.7	

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Opening Year (2025) plus Project (2B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	464	80	271	55	397	345	417	677	9
Future Volume (veh/h)	10	83	68	464	80	271	55	397	345	417	677	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	504	243	191	60	432	375	453	736	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	310	139	680	494	420	321	1063	475	589	1028	460
Arrive On Green	0.01	0.09	0.09	0.19	0.27	0.27	0.18	0.30	0.30	0.17	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	504	243	191	60	432	375	453	736	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.5	2.9	8.6	7.1	3.9	1.8	6.2	13.9	8.1	12.0	0.2
Cycle Q Clear(g_c), s	0.4	1.5	2.9	8.6	7.1	3.9	1.8	6.2	13.9	8.1	12.0	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	310	139	680	494	420	321	1063	475	589	1028	460
V/C Ratio(X)	0.45	0.29	0.53	0.74	0.49	0.45	0.19	0.41	0.79	0.77	0.72	0.02
Avail Cap(c_a), veh/h	152	2234	999	830	1452	1234	321	1738	777	912	2372	1061
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	27.4	28.0	24.4	19.9	7.0	22.3	17.9	20.6	25.4	20.4	10.5
Incr Delay (d2), s/veh	12.2	0.5	3.2	2.9	0.8	0.8	0.3	0.3	3.0	2.1	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.4	4.5	3.7	2.5	0.9	3.1	6.4	4.0	6.0	0.1
LnGrp Delay(d),s/veh	43.6	27.9	31.2	27.3	20.7	7.8	22.5	18.1	23.5	27.5	21.3	10.5
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		175			938			867			1199	
Approach Delay, s/veh		30.3			21.6			20.8			23.6	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	23.3	16.3	9.6	15.6	22.6	4.9	21.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	10.1	15.9	10.6	4.9	3.8	14.0	2.4	9.1				
Green Ext Time (p_c), s	0.9	3.3	1.7	0.7	0.3	4.7	0.0	4.1				
Intersection Summary												
HCM 2010 Ctrl Delay			22.6									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions
Friday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1027	5	10	1080	216	10	15	10	341	5	39
Future Volume (veh/h)	45	1027	5	10	1080	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1116	5	11	1174	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1694	8	24	1552	694	206	289	174	530	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3613	16	1774	3539	1583	403	843	508	1257	17	142
Grp Volume(v), veh/h	49	547	574	11	1174	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1754	0	0	1416	0	0
Q Serve(g_s), s	1.9	16.3	16.3	0.4	19.2	6.7	0.0	0.0	0.0	17.8	0.0	0.0
Cycle Q Clear(g_c), s	1.9	16.3	16.3	0.4	19.2	6.7	1.0	0.0	0.0	18.8	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	78	830	872	24	1552	694	668	0	0	584	0	0
V/C Ratio(X)	0.62	0.66	0.66	0.45	0.76	0.34	0.06	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	129	830	872	129	1648	737	1076	0	0	940	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.3	14.0	14.0	33.6	16.2	12.7	15.2	0.0	0.0	20.9	0.0	0.0
Incr Delay (d2), s/veh	7.9	1.9	1.8	12.4	1.9	0.3	0.0	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.3	8.7	0.3	9.7	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	40.2	15.9	15.9	46.0	18.2	13.0	15.2	0.0	0.0	22.6	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h	1170			1420			38			418		
Approach Delay, s/veh	16.9			17.5			15.2			22.6		
Approach LOS	B			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.5	4.9	36.2		27.5	7.0	34.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.0	2.4	18.3		20.8	3.9	21.2				
Green Ext Time (p_c), s		3.1	0.0	11.2		2.7	0.0	9.0				
Intersection Summary												
HCM 2010 Ctrl Delay	17.9											
HCM 2010 LOS	B											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (2B) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 15.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	198	439	395	73	75	157
Future Vol, veh/h	198	439	395	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	477	429	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	509	0	0 1377 469
Stage 1	-	-	- 469 -
Stage 2	-	-	- 908 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1056	-	- 160 594
Stage 1	-	-	- 630 -
Stage 2	-	-	- 393 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1056	-	- 127 594
Mov Cap-2 Maneuver	-	-	- 127 -
Stage 1	-	-	- 630 -
Stage 2	-	-	- 313 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	78.9
HCM LOS			F





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1056	-	-	-	271
HCM Lane V/C Ratio	0.204	-	-	-	0.931
HCM Control Delay (s)	9.3	-	-	-	78.9
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	8.6

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (2B) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 10.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	371	163	128	45	40	307
Future Vol, veh/h	371	163	128	45	40	307
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	403	177	139	49	43	334

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	188	0	0 1148 164
Stage 1	-	-	- 164 -
Stage 2	-	-	- 984 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1386	-	- 220 881
Stage 1	-	-	- 865 -
Stage 2	-	-	- 362 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1386	-	- 156 881
Mov Cap-2 Maneuver	-	-	- 156 -
Stage 1	-	-	- 865 -
Stage 2	-	-	- 257 -

Approach	EB	WB	SB
HCM Control Delay, s	6	0	22.5
HCM LOS			C




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	574
HCM Lane V/C Ratio	0.291	-	-	-	0.657
HCM Control Delay (s)	8.7	-	-	-	22.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.2	-	-	-	4.8

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (2B) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 4.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	97	166	115	140	31
Future Vol, veh/h	16	97	166	115	140	31
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	105	180	125	152	34

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	655	169	186
Stage 1	169	-	-
Stage 2	486	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	431	875	1388
Stage 1	861	-	-
Stage 2	618	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	371	875	1388
Mov Cap-2 Maneuver	371	-	-
Stage 1	861	-	-
Stage 2	532	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	4.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1388	-	734	-	-
HCM Lane V/C Ratio	0.13	-	0.167	-	-
HCM Control Delay (s)	8	-	10.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.6	-	-




Redding Rancheria
24: Smith Rd & Casino Dwy

Opening Year (2025) plus Project (2B) Conditions

Friday PM Peak

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	24	158	94	0
Future Vol, veh/h	0	12	24	158	94	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	26	172	102	0

























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	198	0	0 125 112
Stage 1	-	-	- - 112 -
Stage 2	-	-	- - 13 -
Critical Hdwy	4.12	-	- - 6.42 6.22
Critical Hdwy Stg 1	-	-	- - 5.42 -
Critical Hdwy Stg 2	-	-	- - 5.42 -
Follow-up Hdwy	2.218	-	- - 3.518 3.318
Pot Cap-1 Maneuver	1375	-	- - 870 941
Stage 1	-	-	- - 913 -
Stage 2	-	-	- - 1010 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1375	-	- - 870 941
Mov Cap-2 Maneuver	-	-	- - 870 -
Stage 1	-	-	- - 913 -
Stage 2	-	-	- - 1010 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1375	-	-	-	870
HCM Lane V/C Ratio	-	-	-	-	0.117
HCM Control Delay (s)	0	-	-	-	9.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd




















Opening Year (2025) plus Project (2B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	284	57	179	35	329	254	324	368	5
Future Volume (veh/h)	0	46	54	284	57	179	35	329	254	324	368	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	309	162	128	38	358	276	352	400	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	365	163	548	634	539	386	909	407	530	684	306
Arrive On Green	0.00	0.10	0.10	0.15	0.34	0.34	0.22	0.26	0.26	0.15	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	309	162	128	38	358	276	352	400	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.7	3.9	3.0	1.4	0.8	4.0	7.6	4.7	5.0	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.7	3.9	3.0	1.4	0.8	4.0	7.6	4.7	5.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	365	163	548	634	539	386	909	407	530	684	306
V/C Ratio(X)	0.00	0.14	0.36	0.56	0.26	0.24	0.10	0.39	0.68	0.66	0.59	0.02
Avail Cap(c_a), veh/h	202	2969	1328	1102	1929	1640	386	2309	1033	1212	3152	1410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	19.7	20.2	18.9	11.5	3.0	15.1	14.8	16.1	19.2	17.7	12.7
Incr Delay (d2), s/veh	0.0	0.2	1.3	0.9	0.2	0.2	0.1	0.3	2.0	1.4	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.8	2.0	1.6	1.1	0.4	2.0	3.5	2.3	2.5	0.1
LnGrp Delay(d),s/veh	0.0	19.9	21.5	19.8	11.7	3.3	15.2	15.1	18.1	20.7	18.5	12.7
LnGrp LOS		B	C	B	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			599			672			757	
Approach Delay, s/veh		20.8			14.1			16.4			19.5	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	16.4	11.5	9.0	14.5	13.3	0.0	20.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.7	9.6	5.9	3.7	2.8	7.0	0.0	5.0				
Green Ext Time (p_c), s	0.9	2.8	1.7	0.4	0.4	2.4	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			17.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions
Saturday PM Peak






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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	735	5	10	708	118	10	15	10	121	0	25
Future Volume (veh/h)	19	735	5	10	708	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	799	5	11	770	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1839	12	26	1763	789	163	156	80	362	5	40
Arrive On Green	0.03	0.51	0.51	0.01	0.50	0.50	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3606	23	1774	3539	1583	255	969	499	1176	30	247
Grp Volume(v), veh/h	21	392	412	11	770	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1724	0	0	1453	0	0
Q Serve(g_s), s	0.4	5.3	5.3	0.2	5.3	1.7	0.0	0.0	0.0	3.2	0.0	0.0
Cycle Q Clear(g_c), s	0.4	5.3	5.3	0.2	5.3	1.7	0.7	0.0	0.0	3.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	902	948	26	1763	789	399	0	0	407	0	0
V/C Ratio(X)	0.45	0.43	0.43	0.43	0.44	0.16	0.10	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	233	1485	1560	233	2970	1329	1876	0	0	1695	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.3	5.9	5.9	18.6	6.1	5.2	13.7	0.0	0.0	15.0	0.0	0.0
Incr Delay (d2), s/veh	6.7	0.3	0.3	11.0	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.6	2.7	0.2	2.6	0.7	0.3	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	25.0	6.2	6.2	29.6	6.3	5.3	13.8	0.0	0.0	15.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	825				909		38				159	
Approach Delay, s/veh	6.7				6.5		13.8				15.6	
Approach LOS	A				A		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.1	4.5	23.4		10.1	5.0	23.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		2.7	2.2	7.3		5.9	2.4	7.3				
Green Ext Time (p_c), s		1.2	0.0	11.7		1.2	0.0	11.7				
Intersection Summary												
HCM 2010 Ctrl Delay			7.4									
HCM 2010 LOS			A									

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (2B) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	124	226	296	32	52	163
Future Vol, veh/h	124	226	296	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	246	322	35	57	177

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	357	0	0 854 339
Stage 1	-	-	- 339 -
Stage 2	-	-	- 515 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1202	-	- 329 703
Stage 1	-	-	- 722 -
Stage 2	-	-	- 600 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1202	-	- 292 703
Mov Cap-2 Maneuver	-	-	- 292 -
Stage 1	-	-	- 722 -
Stage 2	-	-	- 533 -

Approach	EB	WB	SB
HCM Control Delay, s	3	0	17.3
HCM LOS			C





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1202	-	-	-	524
HCM Lane V/C Ratio	0.112	-	-	-	0.446
HCM Control Delay (s)	8.4	-	-	-	17.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.3

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (2B) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 6.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	210	82	86	27	22	214
Future Vol, veh/h	210	82	86	27	22	214
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	228	89	93	29	24	233

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	123	0	0 654 108
Stage 1	-	-	- 108 -
Stage 2	-	-	- 546 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1464	-	- 431 946
Stage 1	-	-	- 916 -
Stage 2	-	-	- 580 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1464	-	- 364 946
Mov Cap-2 Maneuver	-	-	- 364 -
Stage 1	-	-	- 916 -
Stage 2	-	-	- 490 -

Approach	EB	WB	SB
HCM Control Delay, s	5.7	0	11.3
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	823
HCM Lane V/C Ratio	0.156	-	-	-	0.312
HCM Control Delay (s)	7.9	-	-	-	11.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.3

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (2B) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	78	175	68	84	20
Future Vol, veh/h	12	78	175	68	84	20
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	85	190	74	91	22

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	556	102	113
Stage 1	102	-	-
Stage 2	454	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	492	953	1476
Stage 1	922	-	-
Stage 2	640	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	426	953	1476
Mov Cap-2 Maneuver	426	-	-
Stage 1	922	-	-
Stage 2	554	-	-




Approach	EB	NB	SB
HCM Control Delay, s	10	5.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	818	-	-
HCM Lane V/C Ratio	0.129	-	0.12	-	-
HCM Control Delay (s)	7.8	-	10	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.4	-	-

Redding Rancheria
24: Smith Rd & Casino Dwy

























Opening Year (2025) plus Project (2B) Conditions

Saturday PM Peak

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	14	16	172	71	0
Future Vol, veh/h	0	14	16	172	71	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	17	187	77	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	204	0	-	0	126	111
Stage 1	-	-	-	-	111	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1368	-	-	-	869	942
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	1008	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1368	-	-	-	869	942
Mov Cap-2 Maneuver	-	-	-	-	869	-
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	1008	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1368	-	-	-	869	
HCM Lane V/C Ratio	-	-	-	-	0.089	
HCM Control Delay (s)	0	-	-	-	9.5	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.3	

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Opening Year (2025) plus Project (2C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	467	80	278	55	397	347	422	677	9
Future Volume (veh/h)	10	83	68	467	80	278	55	397	347	422	677	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	508	248	194	60	432	377	459	736	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	309	138	681	494	420	326	1065	476	594	1025	459
Arrive On Green	0.01	0.09	0.09	0.19	0.27	0.27	0.18	0.30	0.30	0.17	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	508	248	194	60	432	377	459	736	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.5	2.9	8.7	7.3	4.0	1.8	6.3	14.1	8.2	12.1	0.2
Cycle Q Clear(g_c), s	0.4	1.5	2.9	8.7	7.3	4.0	1.8	6.3	14.1	8.2	12.1	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	309	138	681	494	420	326	1065	476	594	1025	459
V/C Ratio(X)	0.45	0.29	0.54	0.75	0.50	0.46	0.18	0.41	0.79	0.77	0.72	0.02
Avail Cap(c_a), veh/h	151	2216	991	823	1440	1224	326	1724	771	905	2353	1053
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	27.6	28.3	24.6	20.1	7.1	22.3	18.0	20.7	25.5	20.6	10.7
Incr Delay (d2), s/veh	12.2	0.5	3.2	3.0	0.8	0.8	0.3	0.2	3.0	2.3	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.4	4.5	3.8	2.6	0.9	3.1	6.5	4.1	6.0	0.1
LnGrp Delay(d),s/veh	43.8	28.2	31.5	27.7	20.9	7.9	22.6	18.3	23.7	27.8	21.6	10.7
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		175			950			869			1205	
Approach Delay, s/veh		30.5			21.9			20.9			23.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.2	23.5	16.4	9.6	15.9	22.7	4.9	21.2				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	10.2	16.1	10.7	4.9	3.8	14.1	2.4	9.3				
Green Ext Time (p_c), s	0.9	3.3	1.7	0.7	0.4	4.7	0.0	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			22.8									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions
Friday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1034	5	10	1090	216	10	15	10	341	5	39
Future Volume (veh/h)	45	1034	5	10	1090	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1124	5	11	1185	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1695	8	24	1553	695	205	289	174	530	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3613	16	1774	3539	1583	403	843	508	1257	17	142
Grp Volume(v), veh/h	49	550	579	11	1185	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1754	0	0	1416	0	0
Q Serve(g_s), s	1.9	16.5	16.5	0.4	19.4	6.7	0.0	0.0	0.0	17.9	0.0	0.0
Cycle Q Clear(g_c), s	1.9	16.5	16.5	0.4	19.4	6.7	1.0	0.0	0.0	18.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	78	830	873	24	1553	695	668	0	0	584	0	0
V/C Ratio(X)	0.63	0.66	0.66	0.45	0.76	0.34	0.06	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	129	830	873	129	1646	736	1075	0	0	939	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.3	14.1	14.1	33.7	16.3	12.7	15.2	0.0	0.0	20.9	0.0	0.0
Incr Delay (d2), s/veh	7.9	2.0	1.9	12.4	2.1	0.3	0.0	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.4	8.8	0.3	9.8	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	40.2	16.1	16.0	46.1	18.3	13.0	15.2	0.0	0.0	22.6	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h	1178			1431			38			418		
Approach Delay, s/veh	17.0			17.7			15.2			22.6		
Approach LOS	B			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.6	4.9	36.3		27.6	7.0	34.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.0	2.4	18.5		20.9	3.9	21.4				
Green Ext Time (p_c), s		3.1	0.0	11.1		2.7	0.0	8.8				
Intersection Summary												
HCM 2010 Ctrl Delay	18.1											
HCM 2010 LOS	B											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (2C) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 15.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	198	440	396	73	75	157
Future Vol, veh/h	198	440	396	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	478	430	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	510	0	0 1379 470
Stage 1	-	-	- 470 -
Stage 2	-	-	- 909 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1055	-	- 159 594
Stage 1	-	-	- 629 -
Stage 2	-	-	- 393 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1055	-	- 127 594
Mov Cap-2 Maneuver	-	-	- 127 -
Stage 1	-	-	- 629 -
Stage 2	-	-	- 313 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	78.9
HCM LOS			F





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1055	-	-	-	271
HCM Lane V/C Ratio	0.204	-	-	-	0.931
HCM Control Delay (s)	9.3	-	-	-	78.9
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	8.6

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (2C) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 10.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	372	163	128	45	40	308
Future Vol, veh/h	372	163	128	45	40	308
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	404	177	139	49	43	335

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	188	0	0 1150 164
Stage 1	-	-	- 164 -
Stage 2	-	-	- 986 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1386	-	- 219 881
Stage 1	-	-	- 865 -
Stage 2	-	-	- 361 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1386	-	- 155 881
Mov Cap-2 Maneuver	-	-	- 155 -
Stage 1	-	-	- 865 -
Stage 2	-	-	- 256 -

Approach	EB	WB	SB
HCM Control Delay, s	6	0	22.6
HCM LOS			C




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	573
HCM Lane V/C Ratio	0.292	-	-	-	0.66
HCM Control Delay (s)	8.7	-	-	-	22.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.2	-	-	-	4.9

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (2C) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	110	176	115	140	31
Future Vol, veh/h	16	110	176	115	140	31
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	120	191	125	152	34

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	677	169	186
Stage 1	169	-	-
Stage 2	508	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	418	875	1388
Stage 1	861	-	-
Stage 2	604	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	356	875	1388
Mov Cap-2 Maneuver	356	-	-
Stage 1	861	-	-
Stage 2	515	-	-




Approach	EB	NB	SB
HCM Control Delay, s	11	4.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1388	-	738	-	-
HCM Lane V/C Ratio	0.138	-	0.186	-	-
HCM Control Delay (s)	8	-	11	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.7	-	-

Redding Rancheria
24: Smith Rd & Casino Dwy

























Opening Year (2025) plus Project (2C) Conditions

Friday PM Peak

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	24	168	107	0
Future Vol, veh/h	0	12	24	168	107	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	26	183	116	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	209	0	-	0	130	117
Stage 1	-	-	-	-	117	-
Stage 2	-	-	-	-	13	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1362	-	-	-	864	935
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	1010	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1362	-	-	-	864	935
Mov Cap-2 Maneuver	-	-	-	-	864	-
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	1010	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9.8		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1362	-	-	-	864	
HCM Lane V/C Ratio	-	-	-	-	0.135	
HCM Control Delay (s)	0	-	-	-	9.8	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.5	

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd




















Opening Year (2025) plus Project (2C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	297	57	205	35	329	265	346	368	5
Future Volume (veh/h)	0	46	54	297	57	205	35	329	265	346	368	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	323	183	142	38	358	288	376	400	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	353	158	563	631	536	410	925	414	551	674	301
Arrive On Green	0.00	0.10	0.10	0.16	0.34	0.34	0.23	0.26	0.26	0.16	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	323	183	142	38	358	288	376	400	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.7	4.2	3.6	1.7	0.8	4.2	8.2	5.2	5.2	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.7	4.2	3.6	1.7	0.8	4.2	8.2	5.2	5.2	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	353	158	563	631	536	410	925	414	551	674	301
V/C Ratio(X)	0.00	0.14	0.37	0.57	0.29	0.26	0.09	0.39	0.70	0.68	0.59	0.02
Avail Cap(c_a), veh/h	195	2867	1282	1064	1863	1583	410	2230	997	1170	3044	1362
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.6	21.0	19.5	12.1	3.2	15.1	15.2	16.7	19.8	18.5	13.4
Incr Delay (d2), s/veh	0.0	0.2	1.5	0.9	0.3	0.3	0.1	0.3	2.1	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.8	2.1	1.9	0.8	0.4	2.1	3.8	2.6	2.6	0.1
LnGrp Delay(d),s/veh	0.0	20.7	22.5	20.4	12.4	3.5	15.2	15.4	18.8	21.3	19.3	13.4
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			648			684			781	
Approach Delay, s/veh		21.7			14.4			16.8			20.2	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	17.1	11.9	9.0	15.6	13.5	0.0	20.9				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.2	10.2	6.2	3.7	2.8	7.2	0.0	5.6				
Green Ext Time (p_c), s	0.9	2.9	1.8	0.4	0.4	2.4	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			17.6									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions
Saturday PM Peak





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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	768	5	10	746	118	10	15	10	121	0	25
Future Volume (veh/h)	19	768	5	10	746	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	835	5	11	811	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1876	11	26	1799	805	159	156	80	356	5	40
Arrive On Green	0.03	0.52	0.52	0.01	0.51	0.51	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3607	22	1774	3539	1583	253	972	499	1174	32	247
Grp Volume(v), veh/h	21	410	430	11	811	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1724	0	0	1453	0	0
Q Serve(g_s), s	0.5	5.7	5.7	0.2	5.7	1.7	0.0	0.0	0.0	3.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	5.7	5.7	0.2	5.7	1.7	0.7	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	920	967	26	1799	805	394	0	0	401	0	0
V/C Ratio(X)	0.45	0.45	0.45	0.43	0.45	0.16	0.10	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	226	1441	1514	226	2882	1289	1821	0	0	1644	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.9	5.9	5.9	19.2	6.2	5.2	14.2	0.0	0.0	15.5	0.0	0.0
Incr Delay (d2), s/veh	6.8	0.3	0.3	11.0	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.8	3.0	0.2	2.7	0.8	0.4	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	25.7	6.2	6.2	30.3	6.3	5.3	14.3	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	861				950		38				159	
Approach Delay, s/veh	6.7				6.5		14.3				16.1	
Approach LOS	A				A		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.3	4.6	24.4		10.3	5.0	24.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		2.7	2.2	7.7		6.0	2.5	7.7				
Green Ext Time (p_c), s		1.2	0.0	12.3		1.2	0.0	12.2				
Intersection Summary												
HCM 2010 Ctrl Delay			7.5									
HCM 2010 LOS			A									

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (2C) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	124	233	302	32	52	163
Future Vol, veh/h	124	233	302	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	253	328	35	57	177

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	363	0	0 869 346
Stage 1	-	-	- 346 -
Stage 2	-	-	- 523 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1196	-	- 322 697
Stage 1	-	-	- 716 -
Stage 2	-	-	- 595 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1196	-	- 286 697
Mov Cap-2 Maneuver	-	-	- 286 -
Stage 1	-	-	- 716 -
Stage 2	-	-	- 528 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	17.6
HCM LOS			C





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1196	-	-	-	517
HCM Lane V/C Ratio	0.113	-	-	-	0.452
HCM Control Delay (s)	8.4	-	-	-	17.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.3

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (2C) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 6.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	217	82	86	27	22	220
Future Vol, veh/h	217	82	86	27	22	220
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	236	89	93	29	24	239

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	123	0	0 669 108
Stage 1	-	-	- 108 -
Stage 2	-	-	- 561 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1464	-	- 423 946
Stage 1	-	-	- 916 -
Stage 2	-	-	- 571 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1464	-	- 355 946
Mov Cap-2 Maneuver	-	-	- 355 -
Stage 1	-	-	- 916 -
Stage 2	-	-	- 479 -

Approach	EB	WB	SB
HCM Control Delay, s	5.8	0	11.4
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	822
HCM Lane V/C Ratio	0.161	-	-	-	0.32
HCM Control Delay (s)	7.9	-	-	-	11.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.4

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (2C) Conditions
Saturday PM Peak

Intersection




Int Delay, s/veh 6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	129	220	68	84	20
Future Vol, veh/h	12	129	220	68	84	20
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	140	239	74	91	22

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	654	102	113
Stage 1	102	-	-
Stage 2	552	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	431	953	1476
Stage 1	922	-	-
Stage 2	577	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	358	953	1476
Mov Cap-2 Maneuver	358	-	-
Stage 1	922	-	-
Stage 2	479	-	-

























Approach	EB	NB	SB
HCM Control Delay, s	10.3	6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	835	-	-
HCM Lane V/C Ratio	0.162	-	0.184	-	-
HCM Control Delay (s)	7.9	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0.7	-	-

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	14	16	217	122	0
Future Vol, veh/h	0	14	16	217	122	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	17	236	133	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	253	0	-	0	150	135
Stage 1	-	-	-	-	135	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1312	-	-	-	842	914
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	1008	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1312	-	-	-	842	914
Mov Cap-2 Maneuver	-	-	-	-	842	-
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	1008	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		10.1		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1312	-	-	-	842	
HCM Lane V/C Ratio	-	-	-	-	0.157	
HCM Control Delay (s)	0	-	-	-	10.1	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.6	

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd




















Opening Year (2025) plus Project (2D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	452	80	246	55	397	319	361	677	9
Future Volume (veh/h)	10	83	68	452	80	246	55	397	319	361	677	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	491	222	177	60	432	347	392	736	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	321	144	688	504	429	264	1025	459	539	1052	471
Arrive On Green	0.01	0.09	0.09	0.19	0.27	0.27	0.15	0.29	0.29	0.16	0.30	0.30
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	491	222	177	60	432	347	392	736	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.4	2.7	7.7	5.9	3.3	1.8	5.9	11.9	6.4	11.0	0.2
Cycle Q Clear(g_c), s	0.4	1.4	2.7	7.7	5.9	3.3	1.8	5.9	11.9	6.4	11.0	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	321	144	688	504	429	264	1025	459	539	1052	471
V/C Ratio(X)	0.44	0.28	0.52	0.71	0.44	0.41	0.23	0.42	0.76	0.73	0.70	0.02
Avail Cap(c_a), veh/h	164	2410	1078	895	1566	1331	264	1874	839	984	2559	1145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	25.2	25.8	22.4	18.0	6.4	22.3	17.1	19.2	23.9	18.5	9.2
Incr Delay (d2), s/veh	12.0	0.5	2.8	1.9	0.6	0.6	0.4	0.3	2.6	1.9	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.7	1.3	3.9	3.1	2.1	0.9	2.9	5.5	3.2	5.4	0.1
LnGrp Delay(d),s/veh	41.0	25.7	28.6	24.3	18.6	7.1	22.7	17.4	21.8	25.8	19.4	9.2
LnGrp LOS	D	C	C	C	B	A	C	B	C	C	B	A
Approach Vol, veh/h		175			890			839			1138	
Approach Delay, s/veh		27.9			19.4			19.6			21.5	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	21.2	15.5	9.4	12.9	21.7	4.8	20.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	8.4	13.9	9.7	4.7	3.8	13.0	2.4	7.9				
Green Ext Time (p_c), s	0.9	3.4	1.8	0.7	0.3	4.7	0.0	3.8				
Intersection Summary												
HCM 2010 Ctrl Delay			20.7									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions
Friday PM Peak






	<div></div>											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	945	5	10	1044	216	10	15	10	341	5	39
Future Volume (veh/h)	45	945	5	10	1044	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1027	5	11	1135	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	1686	8	24	1544	691	206	290	174	531	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3612	18	1774	3539	1583	402	844	508	1257	17	142
Grp Volume(v), veh/h	49	503	529	11	1135	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1753	0	0	1416	0	0
Q Serve(g_s), s	1.8	14.4	14.4	0.4	18.1	6.7	0.0	0.0	0.0	17.7	0.0	0.0
Cycle Q Clear(g_c), s	1.8	14.4	14.4	0.4	18.1	6.7	1.0	0.0	0.0	18.7	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	79	826	868	24	1544	691	670	0	0	586	0	0
V/C Ratio(X)	0.62	0.61	0.61	0.45	0.73	0.34	0.06	0.00	0.00	0.71	0.00	0.00
Avail Cap(c_a), veh/h	130	831	873	130	1662	744	1085	0	0	948	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.0	13.5	13.5	33.3	15.9	12.7	15.0	0.0	0.0	20.7	0.0	0.0
Incr Delay (d2), s/veh	7.8	1.3	1.2	12.4	1.6	0.3	0.0	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.3	7.6	0.3	9.2	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	39.8	14.8	14.8	45.7	17.5	13.0	15.1	0.0	0.0	22.3	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h	1081				1381		38				418	
Approach Delay, s/veh	15.9				17.0		15.1				22.3	
Approach LOS	B				B		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.4	4.9	35.8		27.4	7.0	33.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.0	2.4	16.4		20.7	3.8	20.1				
Green Ext Time (p_c), s		3.1	0.0	12.0		2.7	0.0	9.6				
Intersection Summary												
HCM 2010 Ctrl Delay	17.3											
HCM 2010 LOS	B											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (2D) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 13.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	198	432	380	73	75	157
Future Vol, veh/h	198	432	380	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	470	413	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	492	0	0 1353 453
Stage 1	-	-	- 453 -
Stage 2	-	-	- 900 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1071	-	- 165 607
Stage 1	-	-	- 640 -
Stage 2	-	-	- 397 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1071	-	- 132 607
Mov Cap-2 Maneuver	-	-	- 132 -
Stage 1	-	-	- 640 -
Stage 2	-	-	- 317 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	70.3
HCM LOS			F





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1071	-	-	-	281
HCM Lane V/C Ratio	0.201	-	-	-	0.897
HCM Control Delay (s)	9.2	-	-	-	70.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.7	-	-	-	8.1

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (2D) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 9.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	364	163	128	45	40	292
Future Vol, veh/h	364	163	128	45	40	292
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	396	177	139	49	43	317

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	188	0	0 1132 164
Stage 1	-	-	- 164 -
Stage 2	-	-	- 968 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1386	-	- 225 881
Stage 1	-	-	- 865 -
Stage 2	-	-	- 368 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1386	-	- 161 881
Mov Cap-2 Maneuver	-	-	- 161 -
Stage 1	-	-	- 865 -
Stage 2	-	-	- 263 -

Approach	EB	WB	SB
HCM Control Delay, s	6	0	21.4
HCM LOS			C




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	573
HCM Lane V/C Ratio	0.285	-	-	-	0.63
HCM Control Delay (s)	8.6	-	-	-	21.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.2	-	-	-	4.4

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (2D) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	48	54	115	140	31
Future Vol, veh/h	16	48	54	115	140	31
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	52	59	125	152	34




Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	411	169	186
Stage 1	169	-	-
Stage 2	242	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	597	875	1388
Stage 1	861	-	-
Stage 2	798	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	570	875	1388
Mov Cap-2 Maneuver	570	-	-
Stage 1	861	-	-
Stage 2	761	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	2.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1388	-	772	-	-
HCM Lane V/C Ratio	0.042	-	0.09	-	-
HCM Control Delay (s)	7.7	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	24	46	45	0
Future Vol, veh/h	0	12	24	46	45	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	26	50	49	0

























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	76	0	64
Stage 1	-	-	51
Stage 2	-	-	13
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1523	-	942
Stage 1	-	-	971
Stage 2	-	-	1010
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1523	-	942
Mov Cap-2 Maneuver	-	-	942
Stage 1	-	-	971
Stage 2	-	-	1010

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1523	-	-	-	942
HCM Lane V/C Ratio	-	-	-	-	0.052
HCM Control Delay (s)	0	-	-	-	9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Opening Year (2025) plus Project (2D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	286	57	182	35	329	233	280	368	5
Future Volume (veh/h)	0	46	54	286	57	182	35	329	233	280	368	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	311	164	130	38	358	253	304	400	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	382	171	563	658	559	336	873	391	481	697	312
Arrive On Green	0.00	0.11	0.11	0.16	0.35	0.35	0.19	0.25	0.25	0.14	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	311	164	130	38	358	253	304	400	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.6	3.7	2.9	1.4	0.8	3.9	6.6	3.8	4.7	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.6	3.7	2.9	1.4	0.8	3.9	6.6	3.8	4.7	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	382	171	563	658	559	336	873	391	481	697	312
V/C Ratio(X)	0.00	0.13	0.35	0.55	0.25	0.23	0.11	0.41	0.65	0.63	0.57	0.02
Avail Cap(c_a), veh/h	212	3109	1391	1154	2020	1717	336	2418	1082	1269	3301	1477
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	18.6	19.1	17.9	10.6	2.8	15.5	14.6	15.6	18.7	16.8	11.9
Incr Delay (d2), s/veh	0.0	0.2	1.2	0.9	0.2	0.2	0.1	0.3	1.8	1.4	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.7	1.9	1.5	1.0	0.4	1.9	3.1	1.9	2.4	0.1
LnGrp Delay(d),s/veh	0.0	18.8	20.3	18.7	10.8	3.0	15.6	14.9	17.4	20.1	17.5	11.9
LnGrp LOS		B	C	B	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			605			649			709	
Approach Delay, s/veh		19.6			13.2			15.9			18.6	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	15.4	11.3	9.0	12.7	13.1	0.0	20.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	5.8	8.6	5.7	3.6	2.8	6.7	0.0	4.9				
Green Ext Time (p_c), s	0.7	2.8	1.7	0.4	0.3	2.4	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			16.2									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions
Saturday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	670	5	10	712	118	10	15	10	121	0	25
Future Volume (veh/h)	19	670	5	10	712	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	728	5	11	774	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1816	12	26	1742	779	165	156	81	366	5	40
Arrive On Green	0.03	0.50	0.50	0.01	0.49	0.49	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3603	25	1774	3539	1583	257	968	499	1177	29	247
Grp Volume(v), veh/h	21	358	375	11	774	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	1774	1770	1583	1724	0	0	1452	0	0
Q Serve(g_s), s	0.4	4.7	4.7	0.2	5.3	1.7	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	0.4	4.7	4.7	0.2	5.3	1.7	0.7	0.0	0.0	3.8	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	892	937	26	1742	779	402	0	0	410	0	0
V/C Ratio(X)	0.45	0.40	0.40	0.43	0.44	0.16	0.09	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	237	1511	1587	237	3022	1352	1909	0	0	1724	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.0	5.8	5.8	18.3	6.2	5.3	13.5	0.0	0.0	14.7	0.0	0.0
Incr Delay (d2), s/veh	6.7	0.3	0.3	11.0	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.4	2.5	0.2	2.6	0.7	0.3	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	24.7	6.1	6.1	29.3	6.4	5.4	13.6	0.0	0.0	15.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	754			913			38			159		
Approach Delay, s/veh	6.6			6.5			13.6			15.3		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.0	4.5	22.9		10.0	5.0	22.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		2.7	2.2	6.7		5.8	2.4	7.3				
Green Ext Time (p_c), s		1.2	0.0	11.2		1.2	0.0	11.1				
Intersection Summary												
HCM 2010 Ctrl Delay	7.4											
HCM 2010 LOS	A											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (2D) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	124	227	284	32	52	163
Future Vol, veh/h	124	227	284	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	247	309	35	57	177

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	343	0	842
Stage 1	-	-	326
Stage 2	-	-	516
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1216	-	334
Stage 1	-	-	731
Stage 2	-	-	599
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1216	-	297
Mov Cap-2 Maneuver	-	-	297
Stage 1	-	-	731
Stage 2	-	-	532






Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1216	-	-	-	533
HCM Lane V/C Ratio	0.111	-	-	-	0.438
HCM Control Delay (s)	8.3	-	-	-	16.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.2

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (2D) Conditions

Saturday PM Peak




Intersection						
Int Delay, s/veh	6.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations					 	
Traffic Vol, veh/h	211	82	86	27	22	202
Future Vol, veh/h	211	82	86	27	22	202
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	229	89	93	29	24	220
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	123	0	-	0	656	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	548	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1464	-	-	-	430	946
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	579	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1464	-	-	-	363	946
Mov Cap-2 Maneuver	-	-	-	-	363	-
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	488	-
Approach	EB	WB		SB		
HCM Control Delay, s	5.7	0		11.3		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1464	-	-	-	817	
HCM Lane V/C Ratio	0.157	-	-	-	0.298	
HCM Control Delay (s)	7.9	-	-	-	11.3	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.6	-	-	-	1.3	

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (2D) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	83	86	68	84	20
Future Vol, veh/h	12	83	86	68	84	20
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	90	93	74	91	22




Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	363	102	113
Stage 1	102	-	-
Stage 2	261	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	636	953	1476
Stage 1	922	-	-
Stage 2	783	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	594	953	1476
Mov Cap-2 Maneuver	594	-	-
Stage 1	922	-	-
Stage 2	731	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	4.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	885	-	-
HCM Lane V/C Ratio	0.063	-	0.117	-	-
HCM Control Delay (s)	7.6	-	9.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	14	16	83	76	0
Future Vol, veh/h	0	14	16	83	76	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	17	90	83	0

























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	108	0	78
Stage 1	-	-	63
Stage 2	-	-	15
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1483	-	925
Stage 1	-	-	960
Stage 2	-	-	1008
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1483	-	925
Mov Cap-2 Maneuver	-	-	925
Stage 1	-	-	960
Stage 2	-	-	1008

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1483	-	-	-	925
HCM Lane V/C Ratio	-	-	-	-	0.089
HCM Control Delay (s)	0	-	-	-	9.3
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd




















Opening Year (2025) plus Project (3A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	88	60	464	73	321	61	381	376	438	675	8
Future Volume (veh/h)	8	88	60	464	73	321	61	381	376	438	675	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	9	96	65	504	0	402	66	414	409	476	734	9
Adj No. of Lanes	1	2	1	2	0	2	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	286	128	663	0	811	365	1119	501	606	1014	454
Arrive On Green	0.01	0.08	0.08	0.19	0.00	0.26	0.21	0.32	0.32	0.18	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	0	3167	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	9	96	65	504	0	402	66	414	409	476	734	9
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	0	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.3	1.7	2.6	9.0	0.0	4.3	2.0	6.0	15.9	8.8	12.4	0.2
Cycle Q Clear(g_c), s	0.3	1.7	2.6	9.0	0.0	4.3	2.0	6.0	15.9	8.8	12.4	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	20	286	128	663	0	811	365	1119	501	606	1014	454
V/C Ratio(X)	0.44	0.34	0.51	0.76	0.00	0.50	0.18	0.37	0.82	0.79	0.72	0.02
Avail Cap(c_a), veh/h	146	2152	963	799	0	2377	365	1674	749	878	2285	1022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	28.9	29.4	25.7	0.0	7.6	21.8	17.6	21.0	26.2	21.4	11.3
Incr Delay (d2), s/veh	14.2	0.7	3.1	3.5	0.0	0.5	0.2	0.2	4.4	3.0	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.9	1.3	4.7	0.0	1.9	1.0	3.0	7.5	4.4	6.2	0.1
LnGrp Delay(d),s/veh	46.9	29.6	32.5	29.2	0.0	8.1	22.1	17.8	25.4	29.2	22.4	11.4
LnGrp LOS	D	C	C	C		A	C	B	C	C	C	B
Approach Vol, veh/h		170			906			889			1219	
Approach Delay, s/veh		31.6			19.8			21.6			25.0	
Approach LOS		C			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	25.1	16.4	9.4	17.7	23.1	4.8	21.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	10.8	17.9	11.0	4.6	4.0	14.4	2.3	6.3				
Green Ext Time (p_c), s	0.9	3.2	1.5	0.8	0.3	4.6	0.0	3.7				
Intersection Summary												
HCM 2010 Ctrl Delay			22.9									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions
Friday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	1075	5	9	1114	222	10	15	13	313	3	41
Future Volume (veh/h)	44	1075	5	9	1114	222	10	15	13	313	3	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	48	1168	5	10	1211	241	11	16	14	340	3	45
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1751	7	22	1603	717	182	257	192	502	4	53
Arrive On Green	0.04	0.48	0.48	0.01	0.45	0.45	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	3614	15	1774	3539	1583	353	796	596	1242	11	164
Grp Volume(v), veh/h	48	572	601	10	1211	241	41	0	0	388	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1745	0	0	1418	0	0
Q Serve(g_s), s	1.8	16.4	16.4	0.4	19.0	6.5	0.0	0.0	0.0	15.8	0.0	0.0
Cycle Q Clear(g_c), s	1.8	16.4	16.4	0.4	19.0	6.5	1.1	0.0	0.0	16.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.27		0.34	0.88		0.12
Lane Grp Cap(c), veh/h	78	857	901	22	1603	717	632	0	0	559	0	0
V/C Ratio(X)	0.61	0.67	0.67	0.44	0.76	0.34	0.06	0.00	0.00	0.69	0.00	0.00
Avail Cap(c_a), veh/h	133	857	901	133	1699	760	1101	0	0	968	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.3	13.1	13.1	32.7	15.2	11.8	15.6	0.0	0.0	20.9	0.0	0.0
Incr Delay (d2), s/veh	7.5	2.0	1.9	13.1	1.9	0.3	0.0	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.4	8.8	0.3	9.5	2.9	0.5	0.0	0.0	6.8	0.0	0.0
LnGrp Delay(d),s/veh	38.8	15.1	15.0	45.8	17.0	12.0	15.7	0.0	0.0	22.4	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h	1221			1462			41			388		
Approach Delay, s/veh	16.0			16.4			15.7			22.4		
Approach LOS	B			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.5	4.8	36.3		25.5	6.9	34.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.1	2.4	18.4		18.9	3.8	21.0				
Green Ext Time (p_c), s		2.9	0.0	11.4		2.6	0.0	9.2				
Intersection Summary												
HCM 2010 Ctrl Delay	17.0											
HCM 2010 LOS	B											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (3A) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 8.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	180	400	343	77	73	137
Future Vol, veh/h	180	400	343	77	73	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	196	435	373	84	79	149

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	457	0	0 1241 415
Stage 1	-	-	- 415 -
Stage 2	-	-	- 826 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1104	-	- 193 637
Stage 1	-	-	- 666 -
Stage 2	-	-	- 430 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1104	-	- 159 637
Mov Cap-2 Maneuver	-	-	- 159 -
Stage 1	-	-	- 666 -
Stage 2	-	-	- 354 -

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	42.8
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1104	-	-	-	311
HCM Lane V/C Ratio	0.177	-	-	-	0.734
HCM Control Delay (s)	9	-	-	-	42.8
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.6	-	-	-	5.4






Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (3A) Conditions

Friday PM Peak

Intersection

Int Delay, s/veh 11.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	354	131	109	59	55	281
Future Vol, veh/h	354	131	109	59	55	281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	385	142	118	64	60	305

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	183	0	0 1063 151
Stage 1	-	-	- 151 -
Stage 2	-	-	- 912 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1392	-	- 247 895
Stage 1	-	-	- 877 -
Stage 2	-	-	- 392 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1392	-	- 179 895
Mov Cap-2 Maneuver	-	-	- 179 -
Stage 1	-	-	- 877 -
Stage 2	-	-	- 284 -

Approach	EB	WB	SB
HCM Control Delay, s	6.3	0	24.4
HCM LOS			C




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1392	-	-	-	541
HCM Lane V/C Ratio	0.276	-	-	-	0.675
HCM Control Delay (s)	8.6	-	-	-	24.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.1	-	-	-	5.1

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (3A) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	14	34	109	116	27
Future Vol, veh/h	17	14	34	109	116	27
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	15	37	118	126	29

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	333	141	155
Stage 1	141	-	-
Stage 2	192	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	662	907	1425
Stage 1	886	-	-
Stage 2	841	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	643	907	1425
Mov Cap-2 Maneuver	643	-	-
Stage 1	886	-	-
Stage 2	817	-	-




Approach	EB	NB	SB
HCM Control Delay, s	10.1	1.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1425	-	740	-	-
HCM Lane V/C Ratio	0.026	-	0.046	-	-
HCM Control Delay (s)	7.6	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Redding Rancheria
24: Smith Rd & Casino Dwy

Opening Year (2025) plus Project (3A) Conditions

Friday PM Peak

Intersection						
Int Delay, s/veh	14.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	15	29	670	468	0
Future Vol, veh/h	0	15	29	670	468	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	32	728	509	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	760	0	-	0	412	396
Stage 1	-	-	-	-	396	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	852	-	-	-	596	653
Stage 1	-	-	-	-	680	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	852	-	-	-	596	653
Mov Cap-2 Maneuver	-	-	-	-	596	-
Stage 1	-	-	-	-	680	-
Stage 2	-	-	-	-	1007	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		36.4		
HCM LOS				E		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	852	-	-	-	596	
HCM Lane V/C Ratio	-	-	-	-	0.854	
HCM Control Delay (s)	0	-	-	-	36.4	
HCM Lane LOS	A	-	-	-	E	
HCM 95th %tile Q(veh)	0	-	-	-	9.4	

Redding Rancheria
25: I-5 SB & Smith Rd

Opening Year (2025) plus Project (3A) Conditions
Friday PM Peak

Intersection												
Int Delay, s/veh	8.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱						↱↲	
Traffic Vol, veh/h	151	332	0	0	258	2	0	0	0	5	0	442
Future Vol, veh/h	151	332	0	0	258	2	0	0	0	5	0	442
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	164	361	0	0	280	2	0	0	0	5	0	480
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	283	0	0	361	0	0				971	971	282
Stage 1	-	-	-	-	-	-				282	282	-
Stage 2	-	-	-	-	-	-				689	689	-
Critical Hdwy	4.12	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	1279	-	-	1198	-	-				280	253	757
Stage 1	-	-	-	-	-	-				766	678	-
Stage 2	-	-	-	-	-	-				498	446	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1279	-	-	1198	-	-				235	0	757
Mov Cap-2 Maneuver	-	-	-	-	-	-				235	0	-
Stage 1	-	-	-	-	-	-				766	0	-
Stage 2	-	-	-	-	-	-				418	0	-
Approach	EB			WB			SB					
HCM Control Delay, s	2.6			0			18.7					
HCM LOS							C					
Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	1279	-	-	1198	-	-	739					
HCM Lane V/C Ratio	0.128	-	-	-	-	-	0.657					
HCM Control Delay (s)	8.2	-	-	0	-	-	18.7					
HCM Lane LOS	A	-	-	A	-	-	C					
HCM 95th %tile Q(veh)	0.4	-	-	0	-	-	5					

Redding Rancheria
26: I-5 NB & Smith Rd

Opening Year (2025) plus Project (3A) Conditions
Friday PM Peak

Intersection												
Int Delay, s/veh	21.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	306	31	0	0	47	4	212	0	2	0	0	0
Future Vol, veh/h	306	31	0	0	47	4	212	0	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	333	34	0	0	51	4	230	0	2	0	0	0

























Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	55	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1550	-	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1550	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	7.2	0	49.9
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	297	1550	-	-	-
HCM Lane V/C Ratio	0.783	0.215	-	-	-
HCM Control Delay (s)	49.9	8	0	-	-
HCM Lane LOS	E	A	A	-	-
HCM 95th %tile Q(veh)	6.1	0.8	-	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Opening Year (2025) plus Project (3A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	49	47	295	52	233	39	316	287	362	367	5
Future Volume (veh/h)	0	49	47	295	52	233	39	316	287	362	367	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	53	51	321	0	291	42	343	312	393	399	5
Adj No. of Lanes	1	2	1	2	0	2	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	344	154	543	0	1040	442	965	432	566	666	298
Arrive On Green	0.00	0.10	0.10	0.15	0.00	0.33	0.25	0.27	0.27	0.16	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	0	3167	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	53	51	321	0	291	42	343	312	393	399	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	0	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.7	1.5	4.3	0.0	1.8	0.9	4.0	9.1	5.5	5.3	0.1
Cycle Q Clear(g_c), s	0.0	0.7	1.5	4.3	0.0	1.8	0.9	4.0	9.1	5.5	5.3	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	344	154	543	0	1040	442	965	432	566	666	298
V/C Ratio(X)	0.00	0.15	0.33	0.59	0.00	0.28	0.10	0.36	0.72	0.69	0.60	0.02
Avail Cap(c_a), veh/h	191	2800	1252	1039	0	3092	442	2177	974	1143	2972	1330
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.2	21.6	20.2	0.0	3.5	14.8	15.0	16.9	20.2	19.0	13.8
Incr Delay (d2), s/veh	0.0	0.2	1.2	1.0	0.0	0.1	0.1	0.2	2.3	1.5	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.7	2.2	0.0	0.8	0.5	2.0	4.2	2.7	2.6	0.1
LnGrp Delay(d),s/veh	0.0	21.4	22.8	21.2	0.0	3.6	14.9	15.2	19.2	21.7	19.9	13.8
LnGrp LOS		C	C	C		A	B	B	B	C	B	B
Approach Vol, veh/h		104			612			697			797	
Approach Delay, s/veh		22.1			12.8			17.0			20.8	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	18.0	11.8	9.0	16.7	13.6	0.0	20.8				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.5	11.1	6.3	3.5	2.9	7.3	0.0	3.8				
Green Ext Time (p_c), s	0.9	2.8	1.6	0.4	0.4	2.4	0.0	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			17.4									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.





Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	803	5	9	762	121	10	15	13	111	0	27
Future Volume (veh/h)	18	803	5	9	762	121	10	15	13	111	0	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	20	873	5	10	828	132	11	16	14	121	0	29
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	1915	11	23	1837	822	152	135	89	339	6	43
Arrive On Green	0.02	0.53	0.53	0.01	0.52	0.52	0.15	0.15	0.15	0.15	0.00	0.15
Sat Flow, veh/h	1774	3608	21	1774	3539	1583	241	888	586	1141	37	282
Grp Volume(v), veh/h	20	428	450	10	828	132	41	0	0	150	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1715	0	0	1461	0	0
Q Serve(g_s), s	0.4	5.9	5.9	0.2	5.8	1.7	0.0	0.0	0.0	2.9	0.0	0.0
Cycle Q Clear(g_c), s	0.4	5.9	5.9	0.2	5.8	1.7	0.8	0.0	0.0	3.7	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.27		0.34	0.81		0.19
Lane Grp Cap(c), veh/h	44	939	987	23	1837	822	377	0	0	387	0	0
V/C Ratio(X)	0.45	0.46	0.46	0.43	0.45	0.16	0.11	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	225	1433	1506	225	2867	1283	1805	0	0	1636	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.0	5.7	5.7	19.3	6.0	5.0	14.5	0.0	0.0	15.7	0.0	0.0
Incr Delay (d2), s/veh	7.0	0.3	0.3	11.9	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.9	3.1	0.2	2.8	0.8	0.4	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	26.0	6.1	6.1	31.3	6.1	5.1	14.7	0.0	0.0	16.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	898			970			41			150		
Approach Delay, s/veh	6.5			6.3			14.7			16.3		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.0	4.5	25.0		10.0	5.0	24.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		2.8	2.2	7.9		5.7	2.4	7.8				
Green Ext Time (p_c), s		1.1	0.0	12.7		1.1	0.0	12.7				
Intersection Summary												
HCM 2010 Ctrl Delay	7.3											
HCM 2010 LOS	A											

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	113	204	250	34	51	142
Future Vol, veh/h	113	204	250	34	51	142
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	222	272	37	55	154

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	309	0	0 757 290
Stage 1	-	-	- 290 -
Stage 2	-	-	- 467 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1252	-	- 375 749
Stage 1	-	-	- 759 -
Stage 2	-	-	- 631 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1252	-	- 338 749
Mov Cap-2 Maneuver	-	-	- 338 -
Stage 1	-	-	- 759 -
Stage 2	-	-	- 569 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	15
HCM LOS			C





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1252	-	-	-	567
HCM Lane V/C Ratio	0.098	-	-	-	0.37
HCM Control Delay (s)	8.2	-	-	-	15
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	1.7

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (3A) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 7.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	199	66	73	43	49	188
Future Vol, veh/h	199	66	73	43	49	188
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	216	72	79	47	53	204

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	126	0	0 607 103
Stage 1	-	-	- 103 -
Stage 2	-	-	- 504 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1460	-	- 460 952
Stage 1	-	-	- 921 -
Stage 2	-	-	- 607 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1460	-	- 392 952
Mov Cap-2 Maneuver	-	-	- 392 -
Stage 1	-	-	- 921 -
Stage 2	-	-	- 517 -

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	12.5
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1460	-	-	-	735
HCM Lane V/C Ratio	0.148	-	-	-	0.35
HCM Control Delay (s)	7.9	-	-	-	12.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1.6

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (3A) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	32	13	65	69	33
Future Vol, veh/h	18	32	13	65	69	33
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	35	14	71	75	36




Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	192	93	111
Stage 1	93	-	-
Stage 2	99	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	797	964	1479
Stage 1	931	-	-
Stage 2	925	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	789	964	1479
Mov Cap-2 Maneuver	789	-	-
Stage 1	931	-	-
Stage 2	916	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1479	-	893	-	-
HCM Lane V/C Ratio	0.01	-	0.061	-	-
HCM Control Delay (s)	7.5	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Redding Rancheria
24: Smith Rd & Casino Dwy

Opening Year (2025) plus Project (3A) Conditions
Saturday PM Peak

Intersection						
Int Delay, s/veh	28.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	22	862	501	0
Future Vol, veh/h	0	18	22	862	501	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	937	545	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	961	0	-	0	512	492
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	716	-	-	-	~ 522	577
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	716	-	-	-	~ 522	577
Mov Cap-2 Maneuver	-	-	-	-	~ 522	-
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	1003	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		79.3		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	716	-	-	-	522	
HCM Lane V/C Ratio	-	-	-	-	1.043	
HCM Control Delay (s)	0	-	-	-	79.3	
HCM Lane LOS	A	-	-	-	F	
HCM 95th %tile Q(veh)	0	-	-	-	15.8	
Notes						
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Redding Rancheria
25: I-5 SB & Smith Rd

Opening Year (2025) plus Project (3A) Conditions
Saturday PM Peak

Intersection												
Int Delay, s/veh	20.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱						↰↱	
Traffic Vol, veh/h	161	358	0	0	319	2	0	0	0	11	0	565
Future Vol, veh/h	161	358	0	0	319	2	0	0	0	11	0	565
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	175	389	0	0	347	2	0	0	0	12	0	614
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	349	0	0	389	0	0				1087	1087	348
Stage 1	-	-	-	-	-	-				348	348	-
Stage 2	-	-	-	-	-	-				739	739	-
Critical Hdwy	4.12	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	1210	-	-	1170	-	-				239	216	695
Stage 1	-	-	-	-	-	-				715	634	-
Stage 2	-	-	-	-	-	-				472	424	-
Platoon blocked, %	-	-	-	-	-	-				-	-	-
Mov Cap-1 Maneuver	1210	-	-	1170	-	-				195	0	695
Mov Cap-2 Maneuver	-	-	-	-	-	-				195	0	-
Stage 1	-	-	-	-	-	-				715	0	-
Stage 2	-	-	-	-	-	-				385	0	-
Approach	EB			WB			SB					
HCM Control Delay, s	2.6			0			47.5					
HCM LOS							E					
Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	1210	-	-	1170	-	-	663					
HCM Lane V/C Ratio	0.145	-	-	-	-	-	0.944					
HCM Control Delay (s)	8.5	-	-	0	-	-	47.5					
HCM Lane LOS	A	-	-	A	-	-	E					
HCM 95th %tile Q(veh)	0.5	-	-	0	-	-	13.2					

Redding Rancheria
26: I-5 NB & Smith Rd

Opening Year (2025) plus Project (3A) Conditions
Saturday PM Peak

Intersection												
Int Delay, s/veh	55											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	327	40	0	0	47	4	274	0	4	0	0	0
Future Vol, veh/h	327	40	0	0	47	4	274	0	4	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	355	43	0	0	51	4	298	0	4	0	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	55	0	- - - 0 807 809 43
Stage 1	-	-	- - - 754 754 -
Stage 2	-	-	- - - 53 55 -
Critical Hdwy	4.12	-	- - - 6.42 6.52 6.22
Critical Hdwy Stg 1	-	-	- - - 5.42 5.52 -
Critical Hdwy Stg 2	-	-	- - - 5.42 5.52 -
Follow-up Hdwy	2.218	-	- - - 3.518 4.018 3.318
Pot Cap-1 Maneuver	1550	-	0 0 - - 351 314 1027
Stage 1	-	-	0 0 - - 465 417 -
Stage 2	-	-	0 0 - - 970 849 -
Platoon blocked, %	-	-	- - -
Mov Cap-1 Maneuver	1550	-	- - - ~ 269 0 1027
Mov Cap-2 Maneuver	-	-	- - - ~ 269 0 -
Stage 1	-	-	- - - 356 0 -
Stage 2	-	-	- - - 970 0 -

























Approach	EB	WB	NB
HCM Control Delay, s	7.1	0	128.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	272	1550	-	-	-
HCM Lane V/C Ratio	1.111	0.229	-	-	-
HCM Control Delay (s)	128.3	8	0	-	-
HCM Lane LOS	F	A	A	-	-
HCM 95th %tile Q(veh)	12.7	0.9	-	-	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Opening Year (2025) plus Project (3B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	88	60	456	73	304	61	381	369	423	675	8
Future Volume (veh/h)	8	88	60	456	73	304	61	381	369	423	675	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	9	96	65	496	267	204	66	414	401	460	734	9
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	288	129	671	482	410	350	1107	495	593	1019	456
Arrive On Green	0.01	0.08	0.08	0.19	0.26	0.26	0.20	0.31	0.31	0.17	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	9	96	65	496	267	204	66	414	401	460	734	9
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.3	1.7	2.6	8.6	8.1	4.3	2.0	6.0	15.3	8.4	12.2	0.2
Cycle Q Clear(g_c), s	0.3	1.7	2.6	8.6	8.1	4.3	2.0	6.0	15.3	8.4	12.2	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	20	288	129	671	482	410	350	1107	495	593	1019	456
V/C Ratio(X)	0.44	0.33	0.50	0.74	0.55	0.50	0.19	0.37	0.81	0.78	0.72	0.02
Avail Cap(c_a), veh/h	149	2189	979	813	1423	1209	350	1703	762	894	2325	1040
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	28.4	28.8	25.0	21.0	7.5	21.9	17.5	20.7	25.9	20.9	11.0
Incr Delay (d2), s/veh	14.1	0.7	3.0	2.9	1.0	0.9	0.3	0.2	3.8	2.5	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.8	1.2	4.5	4.3	2.8	1.0	2.9	7.1	4.2	6.1	0.1
LnGrp Delay(d),s/veh	46.3	29.1	31.8	27.9	22.0	8.4	22.2	17.7	24.5	28.3	21.9	11.0
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		170			967			881			1203	
Approach Delay, s/veh		31.0			22.2			21.1			24.3	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.3	24.5	16.4	9.3	16.9	22.9	4.8	21.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	10.4	17.3	10.6	4.6	4.0	14.2	2.3	10.1				
Green Ext Time (p_c), s	0.9	3.2	1.8	0.8	0.3	4.7	0.0	4.3				
Intersection Summary												
HCM 2010 Ctrl Delay			23.1									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions
Friday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	1053	5	9	1089	222	10	15	13	313	3	41
Future Volume (veh/h)	44	1053	5	9	1089	222	10	15	13	313	3	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	48	1145	5	10	1184	241	11	16	14	340	3	45
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1748	8	22	1601	716	183	257	192	503	4	53
Arrive On Green	0.04	0.48	0.48	0.01	0.45	0.45	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	3614	16	1774	3539	1583	353	797	596	1242	11	164
Grp Volume(v), veh/h	48	561	589	10	1184	241	41	0	0	388	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1745	0	0	1418	0	0
Q Serve(g_s), s	1.8	15.9	15.9	0.4	18.3	6.5	0.0	0.0	0.0	15.8	0.0	0.0
Cycle Q Clear(g_c), s	1.8	15.9	15.9	0.4	18.3	6.5	1.1	0.0	0.0	16.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.27		0.34	0.88		0.12
Lane Grp Cap(c), veh/h	78	856	900	22	1601	716	632	0	0	559	0	0
V/C Ratio(X)	0.61	0.65	0.65	0.44	0.74	0.34	0.06	0.00	0.00	0.69	0.00	0.00
Avail Cap(c_a), veh/h	133	856	900	133	1704	763	1104	0	0	971	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.2	13.0	13.0	32.6	15.0	11.8	15.6	0.0	0.0	20.8	0.0	0.0
Incr Delay (d2), s/veh	7.5	1.8	1.7	13.1	1.6	0.3	0.0	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.1	8.5	0.3	9.2	2.9	0.5	0.0	0.0	6.8	0.0	0.0
LnGrp Delay(d),s/veh	38.7	14.8	14.7	45.7	16.6	12.0	15.6	0.0	0.0	22.4	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h	1198			1435			41			388		
Approach Delay, s/veh	15.7			16.1			15.6			22.4		
Approach LOS	B			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.5	4.8	36.1		25.5	6.9	34.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.1	2.4	17.9		18.9	3.8	20.3				
Green Ext Time (p_c), s		2.9	0.0	11.6		2.6	0.0	9.8				
Intersection Summary												
HCM 2010 Ctrl Delay	16.7											
HCM 2010 LOS	B											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (3B) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 8.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	180	400	343	77	73	137
Future Vol, veh/h	180	400	343	77	73	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	196	435	373	84	79	149

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	457	0	0 1241 415
Stage 1	-	-	- 415 -
Stage 2	-	-	- 826 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1104	-	- 193 637
Stage 1	-	-	- 666 -
Stage 2	-	-	- 430 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1104	-	- 159 637
Mov Cap-2 Maneuver	-	-	- 159 -
Stage 1	-	-	- 666 -
Stage 2	-	-	- 354 -

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	42.8
HCM LOS			E






Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1104	-	-	-	311
HCM Lane V/C Ratio	0.177	-	-	-	0.734
HCM Control Delay (s)	9	-	-	-	42.8
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.6	-	-	-	5.4

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (3B) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 10.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	354	131	109	55	51	281
Future Vol, veh/h	354	131	109	55	51	281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	385	142	118	60	55	305

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	178	0	0 1060 148
Stage 1	-	-	- 148 -
Stage 2	-	-	- 912 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1398	-	- 248 899
Stage 1	-	-	- 880 -
Stage 2	-	-	- 392 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1398	-	- 180 899
Mov Cap-2 Maneuver	-	-	- 180 -
Stage 1	-	-	- 880 -
Stage 2	-	-	- 284 -

Approach	EB	WB	SB
HCM Control Delay, s	6.2	0	22.6
HCM LOS			C




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1398	-	-	-	557
HCM Lane V/C Ratio	0.275	-	-	-	0.648
HCM Control Delay (s)	8.6	-	-	-	22.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.1	-	-	-	4.6

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (3B) Conditions
Friday PM Peak

Intersection




Int Delay, s/veh 1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	14	34	109	116	23
Future Vol, veh/h	13	14	34	109	116	23
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	15	37	118	126	25

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	331	139	151
Stage 1	139	-	-
Stage 2	192	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	664	909	1430
Stage 1	888	-	-
Stage 2	841	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	645	909	1430
Mov Cap-2 Maneuver	645	-	-
Stage 1	888	-	-
Stage 2	817	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1430	-	759	-	-
HCM Lane V/C Ratio	0.026	-	0.039	-	-
HCM Control Delay (s)	7.6	-	9.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection						
Int Delay, s/veh	6.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	15	29	556	344	0
Future Vol, veh/h	0	15	29	556	344	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	32	604	374	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	636	0	-	0	350	334
Stage 1	-	-	-	-	334	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	947	-	-	-	647	708
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	947	-	-	-	647	708
Mov Cap-2 Maneuver	-	-	-	-	647	-
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	1007	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		17.9		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	947	-	-	-	647	
HCM Lane V/C Ratio	-	-	-	-	0.578	
HCM Control Delay (s)	0	-	-	-	17.9	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	3.7	

Redding Rancheria
25: I-5 SB & Smith Rd

Opening Year (2025) plus Project (3B) Conditions
Friday PM Peak

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱						↱↲	
Traffic Vol, veh/h	111	248	0	0	217	2	0	0	0	5	0	368
Future Vol, veh/h	111	248	0	0	217	2	0	0	0	5	0	368
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	121	270	0	0	236	2	0	0	0	5	0	400
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	238	0	0	270	0	0				748	748	237
Stage 1	-	-	-	-	-	-				237	237	-
Stage 2	-	-	-	-	-	-				511	511	-
Critical Hdwy	4.12	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	1329	-	-	1293	-	-				380	341	802
Stage 1	-	-	-	-	-	-				802	709	-
Stage 2	-	-	-	-	-	-				602	537	-
Platoon blocked, %	-	-	-	-	-	-				-	-	-
Mov Cap-1 Maneuver	1329	-	-	1293	-	-				339	0	802
Mov Cap-2 Maneuver	-	-	-	-	-	-				339	0	-
Stage 1	-	-	-	-	-	-				802	0	-
Stage 2	-	-	-	-	-	-				538	0	-
Approach	EB			WB			SB					
HCM Control Delay, s	2.5			0			14.3					
HCM LOS							B					
Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	1329	-	-	1293	-	-	788					
HCM Lane V/C Ratio	0.091	-	-	-	-	-	0.515					
HCM Control Delay (s)	8	-	-	0	-	-	14.3					
HCM Lane LOS	A	-	-	A	-	-	B					
HCM 95th %tile Q(veh)	0.3	-	-	0	-	-	3					

Redding Rancheria
26: I-5 NB & Smith Rd

Opening Year (2025) plus Project (3B) Conditions
Friday PM Peak

Intersection												
Int Delay, s/veh	11.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	226	27	0	0	43	4	176	0	2	0	0	0
Future Vol, veh/h	226	27	0	0	43	4	176	0	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	246	29	0	0	47	4	191	0	2	0	0	0

























Major/Minor	Major1		Major2		Minor1				
Conflicting Flow All	51	0	-	-	-	0	570	572	29
Stage 1	-	-	-	-	-	-	521	521	-
Stage 2	-	-	-	-	-	-	49	51	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1555	-	0	0	-	-	483	430	1046
Stage 1	-	-	0	0	-	-	596	532	-
Stage 2	-	-	0	0	-	-	973	852	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1555	-	-	-	-	-	405	0	1046
Mov Cap-2 Maneuver	-	-	-	-	-	-	405	0	-
Stage 1	-	-	-	-	-	-	500	0	-
Stage 2	-	-	-	-	-	-	973	0	-

Approach	EB	WB	NB
HCM Control Delay, s	6.9	0	21.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	408	1555	-	-	-
HCM Lane V/C Ratio	0.474	0.158	-	-	-
HCM Control Delay (s)	21.5	7.7	0	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	2.5	0.6	-	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd




















Opening Year (2025) plus Project (3B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	49	47	279	52	200	39	316	271	328	367	5
Future Volume (veh/h)	0	49	47	279	52	200	39	316	271	328	367	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	53	51	303	177	137	42	343	295	357	399	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	359	160	543	625	531	406	940	420	533	677	303
Arrive On Green	0.00	0.10	0.10	0.15	0.34	0.34	0.23	0.27	0.27	0.15	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	53	51	303	177	137	42	343	295	357	399	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.7	1.5	3.9	3.4	1.6	0.9	3.9	8.3	4.8	5.1	0.1
Cycle Q Clear(g_c), s	0.0	0.7	1.5	3.9	3.4	1.6	0.9	3.9	8.3	4.8	5.1	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	359	160	543	625	531	406	940	420	533	677	303
V/C Ratio(X)	0.00	0.15	0.32	0.56	0.28	0.26	0.10	0.36	0.70	0.67	0.59	0.02
Avail Cap(c_a), veh/h	198	2915	1304	1082	1894	1610	406	2267	1014	1190	3094	1384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.2	20.5	19.3	12.0	3.2	15.0	14.7	16.3	19.6	18.1	13.1
Incr Delay (d2), s/veh	0.0	0.2	1.1	0.9	0.2	0.3	0.1	0.2	2.1	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.7	2.0	1.8	1.2	0.5	1.9	3.9	2.4	2.5	0.1
LnGrp Delay(d),s/veh	0.0	20.3	21.6	20.2	12.2	3.5	15.1	14.9	18.4	21.1	18.9	13.1
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		104			617			680			761	
Approach Delay, s/veh		21.0			14.2			16.5			19.9	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	17.1	11.5	9.0	15.3	13.4	0.0	20.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.8	10.3	5.9	3.5	2.9	7.1	0.0	5.4				
Green Ext Time (p_c), s	0.9	2.8	1.8	0.4	0.4	2.4	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			17.2									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions
Saturday PM Peak






												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	753	5	9	714	121	10	15	13	111	0	27
Future Volume (veh/h)	18	753	5	9	714	121	10	15	13	111	0	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	20	818	5	10	776	132	11	16	14	121	0	29
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	1866	11	23	1789	800	158	136	90	347	5	43
Arrive On Green	0.03	0.52	0.52	0.01	0.51	0.51	0.15	0.15	0.15	0.15	0.00	0.15
Sat Flow, veh/h	1774	3606	22	1774	3539	1583	244	885	585	1144	34	282
Grp Volume(v), veh/h	20	401	422	10	776	132	41	0	0	150	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1715	0	0	1461	0	0
Q Serve(g_s), s	0.4	5.4	5.4	0.2	5.3	1.7	0.0	0.0	0.0	2.8	0.0	0.0
Cycle Q Clear(g_c), s	0.4	5.4	5.4	0.2	5.3	1.7	0.8	0.0	0.0	3.6	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.27		0.34	0.81		0.19
Lane Grp Cap(c), veh/h	44	916	962	23	1789	800	383	0	0	395	0	0
V/C Ratio(X)	0.45	0.44	0.44	0.43	0.43	0.16	0.11	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	234	1492	1567	234	2984	1335	1877	0	0	1702	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.2	5.7	5.7	18.6	5.9	5.1	13.9	0.0	0.0	15.1	0.0	0.0
Incr Delay (d2), s/veh	7.0	0.3	0.3	11.9	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.6	2.8	0.2	2.5	0.8	0.4	0.0	0.0	1.5	0.0	0.0
LnGrp Delay(d),s/veh	25.2	6.0	6.0	30.5	6.1	5.2	14.1	0.0	0.0	15.7	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		843			918			41			150	
Approach Delay, s/veh		6.5			6.2			14.1			15.7	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.8	4.5	23.6		9.8	5.0	23.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		2.8	2.2	7.4		5.6	2.4	7.3				
Green Ext Time (p_c), s		1.1	0.0	11.9		1.1	0.0	11.9				
Intersection Summary												
HCM 2010 Ctrl Delay			7.2									
HCM 2010 LOS			A									

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (3B) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	113	204	250	34	51	142
Future Vol, veh/h	113	204	250	34	51	142
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	222	272	37	55	154

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	309	0	0 757 290
Stage 1	-	-	- 290 -
Stage 2	-	-	- 467 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1252	-	- 375 749
Stage 1	-	-	- 759 -
Stage 2	-	-	- 631 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1252	-	- 338 749
Mov Cap-2 Maneuver	-	-	- 338 -
Stage 1	-	-	- 759 -
Stage 2	-	-	- 569 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	15
HCM LOS			C






Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1252	-	-	-	567
HCM Lane V/C Ratio	0.098	-	-	-	0.37
HCM Control Delay (s)	8.2	-	-	-	15
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	1.7

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (3B) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 7.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	199	66	73	34	40	188
Future Vol, veh/h	199	66	73	34	40	188
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	216	72	79	37	43	204

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	116	0	0 602 98
Stage 1	-	-	- 98 -
Stage 2	-	-	- 504 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1473	-	- 463 958
Stage 1	-	-	- 926 -
Stage 2	-	-	- 607 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1473	-	- 395 958
Mov Cap-2 Maneuver	-	-	- 395 -
Stage 1	-	-	- 926 -
Stage 2	-	-	- 518 -

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	11.9
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1473	-	-	-	766
HCM Lane V/C Ratio	0.147	-	-	-	0.324
HCM Control Delay (s)	7.9	-	-	-	11.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1.4

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (3B) Conditions
Saturday PM Peak

Intersection




Int Delay, s/veh 2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	32	13	65	69	24
Future Vol, veh/h	9	32	13	65	69	24
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	35	14	71	75	26

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	187	88	101
Stage 1	88	-	-
Stage 2	99	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	802	970	1491
Stage 1	935	-	-
Stage 2	925	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	794	970	1491
Mov Cap-2 Maneuver	794	-	-
Stage 1	935	-	-
Stage 2	916	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1491	-	925	-	-
HCM Lane V/C Ratio	0.009	-	0.048	-	-
HCM Control Delay (s)	7.4	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection						
Int Delay, s/veh	4.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	22	607	256	0
Future Vol, veh/h	0	18	22	607	256	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	660	278	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	684	0	-	0	374	354
Stage 1	-	-	-	-	354	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	909	-	-	-	627	690
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	909	-	-	-	627	690
Mov Cap-2 Maneuver	-	-	-	-	627	-
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	1003	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		15.2		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	909	-	-	-	627	
HCM Lane V/C Ratio	-	-	-	-	0.444	
HCM Control Delay (s)	0	-	-	-	15.2	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	2.3	

Redding Rancheria
25: I-5 SB & Smith Rd

Opening Year (2025) plus Project (3B) Conditions

Saturday PM Peak

Intersection												
Int Delay, s/veh	7.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱						↰↱	
Traffic Vol, veh/h	83	191	0	0	228	2	0	0	0	11	0	401
Future Vol, veh/h	83	191	0	0	228	2	0	0	0	11	0	401
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	90	208	0	0	248	2	0	0	0	12	0	436
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	250	0	0	208	0	0				637	637	249
Stage 1	-	-	-	-	-	-				249	249	-
Stage 2	-	-	-	-	-	-				388	388	-
Critical Hdwy	4.12	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	1316	-	-	1363	-	-				441	395	790
Stage 1	-	-	-	-	-	-				792	701	-
Stage 2	-	-	-	-	-	-				686	609	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1316	-	-	1363	-	-				407	0	790
Mov Cap-2 Maneuver	-	-	-	-	-	-				407	0	-
Stage 1	-	-	-	-	-	-				792	0	-
Stage 2	-	-	-	-	-	-				633	0	-
Approach	EB			WB			SB					
HCM Control Delay, s	2.4			0						15.9		
HCM LOS										C		
Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	1316	-	-	1363	-	-	771					
HCM Lane V/C Ratio	0.069	-	-	-	-	-	0.581					
HCM Control Delay (s)	7.9	-	-	0	-	-	15.9					
HCM Lane LOS	A	-	-	A	-	-	C					
HCM 95th %tile Q(veh)	0.2	-	-	0	-	-	3.8					

Redding Rancheria
26: I-5 NB & Smith Rd

Opening Year (2025) plus Project (3B) Conditions
Saturday PM Peak

Intersection												
Int Delay, s/veh	10.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	170	31	0	0	38	4	192	0	4	0	0	0
Future Vol, veh/h	170	31	0	0	38	4	192	0	4	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	185	34	0	0	41	4	209	0	4	0	0	0

























Major/Minor	Major1		Major2		Minor1					
Conflicting Flow All	46	0	-	-	-	0	446	449	34	
Stage 1	-	-	-	-	-	-	403	403	-	
Stage 2	-	-	-	-	-	-	43	46	-	
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22	
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-	
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318	
Pot Cap-1 Maneuver	1562	-	0	0	-	-	570	505	1039	
Stage 1	-	-	0	0	-	-	675	600	-	
Stage 2	-	-	0	0	-	-	979	857	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	1562	-	-	-	-	-	501	0	1039	
Mov Cap-2 Maneuver	-	-	-	-	-	-	501	0	-	
Stage 1	-	-	-	-	-	-	593	0	-	
Stage 2	-	-	-	-	-	-	979	0	-	

Approach	EB	WB	NB
HCM Control Delay, s	6.4	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	506	1562	-	-	-
HCM Lane V/C Ratio	0.421	0.118	-	-	-
HCM Control Delay (s)	17.2	7.6	0	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	2.1	0.4	-	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Opening Year (2025) plus Project (3C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	88	60	459	73	311	61	381	371	428	675	8
Future Volume (veh/h)	8	88	60	459	73	311	61	381	371	428	675	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	9	96	65	499	273	208	66	414	403	465	734	9
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	287	128	672	482	410	354	1109	496	597	1017	455
Arrive On Green	0.01	0.08	0.08	0.19	0.26	0.26	0.20	0.31	0.31	0.17	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	9	96	65	499	273	208	66	414	403	465	734	9
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.3	1.7	2.6	8.7	8.4	4.5	2.0	6.0	15.5	8.5	12.3	0.2
Cycle Q Clear(g_c), s	0.3	1.7	2.6	8.7	8.4	4.5	2.0	6.0	15.5	8.5	12.3	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	20	287	128	672	482	410	354	1109	496	597	1017	455
V/C Ratio(X)	0.44	0.33	0.51	0.74	0.57	0.51	0.19	0.37	0.81	0.78	0.72	0.02
Avail Cap(c_a), veh/h	148	2174	973	807	1413	1201	354	1691	756	887	2308	1033
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	28.6	29.0	25.2	21.2	7.6	21.9	17.6	20.8	26.0	21.1	11.1
Incr Delay (d2), s/veh	14.2	0.7	3.1	3.0	1.0	1.0	0.3	0.2	4.0	2.6	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.9	1.2	4.6	4.5	2.8	1.0	3.0	7.3	4.2	6.2	0.1
LnGrp Delay(d),s/veh	46.5	29.3	32.1	28.2	22.3	8.5	22.2	17.8	24.8	28.7	22.1	11.2
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		170			980			883			1208	
Approach Delay, s/veh		31.3			22.4			21.3			24.6	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	24.7	16.5	9.3	17.2	22.9	4.8	21.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	10.5	17.5	10.7	4.6	4.0	14.3	2.3	10.4				
Green Ext Time (p_c), s	0.9	3.2	1.7	0.8	0.3	4.6	0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay			23.4									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions
Friday PM Peak






												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	1060	5	9	1099	222	10	15	13	313	3	41
Future Volume (veh/h)	44	1060	5	9	1099	222	10	15	13	313	3	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	48	1152	5	10	1195	241	11	16	14	340	3	45
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1749	8	22	1602	717	182	257	192	503	4	53
Arrive On Green	0.04	0.48	0.48	0.01	0.45	0.45	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	3614	16	1774	3539	1583	353	796	596	1242	11	164
Grp Volume(v), veh/h	48	564	593	10	1195	241	41	0	0	388	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1745	0	0	1418	0	0
Q Serve(g_s), s	1.8	16.1	16.1	0.4	18.6	6.5	0.0	0.0	0.0	15.8	0.0	0.0
Cycle Q Clear(g_c), s	1.8	16.1	16.1	0.4	18.6	6.5	1.1	0.0	0.0	16.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.27		0.34	0.88		0.12
Lane Grp Cap(c), veh/h	78	857	900	22	1602	717	632	0	0	559	0	0
V/C Ratio(X)	0.61	0.66	0.66	0.44	0.75	0.34	0.06	0.00	0.00	0.69	0.00	0.00
Avail Cap(c_a), veh/h	133	857	900	133	1702	762	1103	0	0	970	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.2	13.0	13.0	32.6	15.1	11.8	15.6	0.0	0.0	20.8	0.0	0.0
Incr Delay (d2), s/veh	7.5	1.9	1.8	13.1	1.7	0.3	0.0	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.3	8.7	0.3	9.3	2.9	0.5	0.0	0.0	6.8	0.0	0.0
LnGrp Delay(d),s/veh	38.7	14.9	14.8	45.8	16.8	12.0	15.7	0.0	0.0	22.4	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h	1205			1446			41			388		
Approach Delay, s/veh	15.8			16.2			15.7			22.4		
Approach LOS	B			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.5	4.8	36.2		25.5	6.9	34.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.1	2.4	18.1		18.9	3.8	20.6				
Green Ext Time (p_c), s		2.9	0.0	11.5		2.6	0.0	9.5				
Intersection Summary												
HCM 2010 Ctrl Delay	16.8											
HCM 2010 LOS	B											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (3C) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 8.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	180	400	343	77	73	137
Future Vol, veh/h	180	400	343	77	73	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	196	435	373	84	79	149

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	457	0	0 1241 415
Stage 1	-	-	- 415 -
Stage 2	-	-	- 826 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1104	-	- 193 637
Stage 1	-	-	- 666 -
Stage 2	-	-	- 430 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1104	-	- 159 637
Mov Cap-2 Maneuver	-	-	- 159 -
Stage 1	-	-	- 666 -
Stage 2	-	-	- 354 -

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	42.8
HCM LOS			E






Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1104	-	-	-	311
HCM Lane V/C Ratio	0.177	-	-	-	0.734
HCM Control Delay (s)	9	-	-	-	42.8
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.6	-	-	-	5.4

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (3C) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 10.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	354	131	109	56	52	281
Future Vol, veh/h	354	131	109	56	52	281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	385	142	118	61	57	305

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	179	0	0 1061 149
Stage 1	-	-	- 149 -
Stage 2	-	-	- 912 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1397	-	- 248 898
Stage 1	-	-	- 879 -
Stage 2	-	-	- 392 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1397	-	- 180 898
Mov Cap-2 Maneuver	-	-	- 180 -
Stage 1	-	-	- 879 -
Stage 2	-	-	- 284 -

Approach	EB	WB	SB
HCM Control Delay, s	6.2	0	23
HCM LOS			C




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1397	-	-	-	553
HCM Lane V/C Ratio	0.275	-	-	-	0.655
HCM Control Delay (s)	8.6	-	-	-	23
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.1	-	-	-	4.7

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (3C) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	14	34	109	116	24
Future Vol, veh/h	14	14	34	109	116	24
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	15	37	118	126	26

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	331	139	152
Stage 1	139	-	-
Stage 2	192	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	664	909	1429
Stage 1	888	-	-
Stage 2	841	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	645	909	1429
Mov Cap-2 Maneuver	645	-	-
Stage 1	888	-	-
Stage 2	817	-	-




Approach	EB	NB	SB
HCM Control Delay, s	10	1.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1429	-	755	-	-
HCM Lane V/C Ratio	0.026	-	0.04	-	-
HCM Control Delay (s)	7.6	-	10	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Redding Rancheria
24: Smith Rd & Casino Dwy

Opening Year (2025) plus Project (3C) Conditions

Friday PM Peak

Intersection						
Int Delay, s/veh	8.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	15	29	595	393	0
Future Vol, veh/h	0	15	29	595	393	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	32	647	427	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	678	0	-	0	371	355
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	914	-	-	-	630	689
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	914	-	-	-	630	689
Mov Cap-2 Maneuver	-	-	-	-	630	-
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	1007	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		21.9		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	914	-	-	-	630	
HCM Lane V/C Ratio	-	-	-	-	0.678	
HCM Control Delay (s)	0	-	-	-	21.9	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	5.2	

Redding Rancheria
25: I-5 SB & Smith Rd

Opening Year (2025) plus Project (3C) Conditions

Friday PM Peak

Intersection												
Int Delay, s/veh	6.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↰						↰↱	
Traffic Vol, veh/h	127	281	0	0	231	2	0	0	0	5	0	393
Future Vol, veh/h	127	281	0	0	231	2	0	0	0	5	0	393
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	138	305	0	0	251	2	0	0	0	5	0	427
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	253	0	0	305	0	0				834	834	252
Stage 1	-	-	-	-	-	-				252	252	-
Stage 2	-	-	-	-	-	-				582	582	-
Critical Hdwy	4.12	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	1312	-	-	1256	-	-				338	304	787
Stage 1	-	-	-	-	-	-				790	698	-
Stage 2	-	-	-	-	-	-				559	499	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1312	-	-	1256	-	-				295	0	787
Mov Cap-2 Maneuver	-	-	-	-	-	-				295	0	-
Stage 1	-	-	-	-	-	-				790	0	-
Stage 2	-	-	-	-	-	-				488	0	-
Approach	EB			WB			SB					
HCM Control Delay, s	2.5			0			15.5					
HCM LOS							C					
Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	1312	-	-	1256	-	-	771					
HCM Lane V/C Ratio	0.105	-	-	-	-	-	0.561					
HCM Control Delay (s)	8.1	-	-	0	-	-	15.5					
HCM Lane LOS	A	-	-	A	-	-	C					
HCM 95th %tile Q(veh)	0.4	-	-	0	-	-	3.5					

Redding Rancheria
26: I-5 NB & Smith Rd

Opening Year (2025) plus Project (3C) Conditions
Friday PM Peak

Intersection												
Int Delay, s/veh	13.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	258	28	0	0	44	4	188	0	2	0	0	0
Future Vol, veh/h	258	28	0	0	44	4	188	0	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	280	30	0	0	48	4	204	0	2	0	0	0

























Major/Minor	Major1		Major2		Minor1					
Conflicting Flow All	52	0	-	-	-	0	641	643	30	
Stage 1	-	-	-	-	-	-	591	591	-	
Stage 2	-	-	-	-	-	-	50	52	-	
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22	
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-	
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318	
Pot Cap-1 Maneuver	1554	-	0	0	-	-	439	392	1044	
Stage 1	-	-	0	0	-	-	553	494	-	
Stage 2	-	-	0	0	-	-	972	852	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	1554	-	-	-	-	-	359	0	1044	
Mov Cap-2 Maneuver	-	-	-	-	-	-	359	0	-	
Stage 1	-	-	-	-	-	-	452	0	-	
Stage 2	-	-	-	-	-	-	972	0	-	

Approach	EB	WB	NB
HCM Control Delay, s	7.1	0	27.5
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	361	1554	-	-	-
HCM Lane V/C Ratio	0.572	0.18	-	-	-
HCM Control Delay (s)	27.5	7.8	0	-	-
HCM Lane LOS	D	A	A	-	-
HCM 95th %tile Q(veh)	3.4	0.7	-	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd




















Opening Year (2025) plus Project (3C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	49	47	292	52	226	39	316	282	350	367	5
Future Volume (veh/h)	0	49	47	292	52	226	39	316	282	350	367	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	53	51	317	199	152	42	343	307	380	399	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	347	155	558	622	529	429	956	428	552	667	299
Arrive On Green	0.00	0.10	0.10	0.16	0.33	0.33	0.24	0.27	0.27	0.16	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	53	51	317	199	152	42	343	307	380	399	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.7	1.5	4.2	4.1	1.9	0.9	4.0	8.9	5.3	5.3	0.1
Cycle Q Clear(g_c), s	0.0	0.7	1.5	4.2	4.1	1.9	0.9	4.0	8.9	5.3	5.3	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	347	155	558	622	529	429	956	428	552	667	299
V/C Ratio(X)	0.00	0.15	0.33	0.57	0.32	0.29	0.10	0.36	0.72	0.69	0.60	0.02
Avail Cap(c_a), veh/h	192	2814	1259	1045	1829	1554	429	2189	979	1149	2988	1337
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.0	21.4	19.9	12.7	3.4	15.0	15.0	16.8	20.2	18.9	13.7
Incr Delay (d2), s/veh	0.0	0.2	1.2	0.9	0.3	0.3	0.1	0.2	2.3	1.5	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.7	2.1	2.1	1.4	0.5	2.0	4.1	2.6	2.6	0.1
LnGrp Delay(d),s/veh	0.0	21.2	22.6	20.8	12.9	3.7	15.1	15.3	19.1	21.7	19.8	13.7
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		104			668			692			784	
Approach Delay, s/veh		21.9			14.6			17.0			20.7	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.2	17.8	12.0	9.0	16.3	13.6	0.0	21.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.3	10.9	6.2	3.5	2.9	7.3	0.0	6.1				
Green Ext Time (p_c), s	0.9	2.8	1.9	0.4	0.4	2.4	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			17.8									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions
Saturday PM Peak






												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	786	5	9	752	121	10	15	13	111	0	27
Future Volume (veh/h)	18	786	5	9	752	121	10	15	13	111	0	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	20	854	5	10	817	132	11	16	14	121	0	29
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	1903	11	23	1825	816	154	135	89	341	6	43
Arrive On Green	0.02	0.53	0.53	0.01	0.52	0.52	0.15	0.15	0.15	0.15	0.00	0.15
Sat Flow, veh/h	1774	3608	21	1774	3539	1583	242	887	586	1142	36	282
Grp Volume(v), veh/h	20	419	440	10	817	132	41	0	0	150	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1715	0	0	1461	0	0
Q Serve(g_s), s	0.4	5.7	5.7	0.2	5.7	1.7	0.0	0.0	0.0	2.9	0.0	0.0
Cycle Q Clear(g_c), s	0.4	5.7	5.7	0.2	5.7	1.7	0.8	0.0	0.0	3.7	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.27		0.34	0.81		0.19
Lane Grp Cap(c), veh/h	44	933	980	23	1825	816	378	0	0	389	0	0
V/C Ratio(X)	0.45	0.45	0.45	0.43	0.45	0.16	0.11	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	227	1448	1521	227	2896	1296	1823	0	0	1652	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.8	5.7	5.7	19.1	6.0	5.0	14.4	0.0	0.0	15.5	0.0	0.0
Incr Delay (d2), s/veh	7.0	0.3	0.3	11.9	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.8	2.9	0.2	2.8	0.8	0.4	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	25.8	6.1	6.0	31.1	6.1	5.1	14.5	0.0	0.0	16.2	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		879			959			41			150	
Approach Delay, s/veh		6.5			6.3			14.5			16.2	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.0	4.5	24.6		10.0	5.0	24.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		2.8	2.2	7.7		5.7	2.4	7.7				
Green Ext Time (p_c), s		1.1	0.0	12.5		1.1	0.0	12.5				
Intersection Summary												
HCM 2010 Ctrl Delay			7.3									
HCM 2010 LOS			A									

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (3C) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	113	204	250	34	51	142
Future Vol, veh/h	113	204	250	34	51	142
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	222	272	37	55	154

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	309	0	0 757 290
Stage 1	-	-	- 290 -
Stage 2	-	-	- 467 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1252	-	- 375 749
Stage 1	-	-	- 759 -
Stage 2	-	-	- 631 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1252	-	- 338 749
Mov Cap-2 Maneuver	-	-	- 338 -
Stage 1	-	-	- 759 -
Stage 2	-	-	- 569 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	15
HCM LOS			C





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1252	-	-	-	567
HCM Lane V/C Ratio	0.098	-	-	-	0.37
HCM Control Delay (s)	8.2	-	-	-	15
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	1.7

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (3C) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 7.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	199	66	73	41	46	188
Future Vol, veh/h	199	66	73	41	46	188
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	216	72	79	45	50	204

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	124	0	0 606 102
Stage 1	-	-	- 102 -
Stage 2	-	-	- 504 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1463	-	- 460 953
Stage 1	-	-	- 922 -
Stage 2	-	-	- 607 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1463	-	- 392 953
Mov Cap-2 Maneuver	-	-	- 392 -
Stage 1	-	-	- 922 -
Stage 2	-	-	- 517 -

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	12.3
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1463	-	-	-	744
HCM Lane V/C Ratio	0.148	-	-	-	0.342
HCM Control Delay (s)	7.9	-	-	-	12.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1.5

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (3C) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	32	13	65	69	30
Future Vol, veh/h	16	32	13	65	69	30
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	35	14	71	75	33




Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	190	91	108
Stage 1	91	-	-
Stage 2	99	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	799	967	1483
Stage 1	933	-	-
Stage 2	925	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	791	967	1483
Mov Cap-2 Maneuver	791	-	-
Stage 1	933	-	-
Stage 2	916	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1483	-	900	-	-
HCM Lane V/C Ratio	0.01	-	0.058	-	-
HCM Control Delay (s)	7.5	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection

Int Delay, s/veh 14.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	22	775	448	0
Future Vol, veh/h	0	18	22	775	448	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	842	487	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	866	0	0 465 445
Stage 1	-	-	- - 445 -
Stage 2	-	-	- - 20 -
Critical Hdwy	4.12	-	- - 6.42 6.22
Critical Hdwy Stg 1	-	-	- - 5.42 -
Critical Hdwy Stg 2	-	-	- - 5.42 -
Follow-up Hdwy	2.218	-	- - 3.518 3.318
Pot Cap-1 Maneuver	777	-	- - 556 613
Stage 1	-	-	- - 646 -
Stage 2	-	-	- - 1003 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	777	-	- - 556 613
Mov Cap-2 Maneuver	-	-	- - 556 -
Stage 1	-	-	- - 646 -
Stage 2	-	-	- - 1003 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	41.3
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	777	-	-	-	556
HCM Lane V/C Ratio	-	-	-	-	0.876
HCM Control Delay (s)	0	-	-	-	41.3
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	9.9

Redding Rancheria
25: I-5 SB & Smith Rd

Opening Year (2025) plus Project (3C) Conditions
Saturday PM Peak

Intersection												
Int Delay, s/veh	12.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱						↰↱	
Traffic Vol, veh/h	144	321	0	0	288	2	0	0	0	11	0	509
Future Vol, veh/h	144	321	0	0	288	2	0	0	0	11	0	509
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	157	349	0	0	313	2	0	0	0	12	0	553
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	315	0	0	349	0	0				976	976	314
Stage 1	-	-	-	-	-	-				314	314	-
Stage 2	-	-	-	-	-	-				662	662	-
Critical Hdwy	4.12	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	1245	-	-	1210	-	-				279	251	726
Stage 1	-	-	-	-	-	-				741	656	-
Stage 2	-	-	-	-	-	-				513	459	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1245	-	-	1210	-	-				235	0	726
Mov Cap-2 Maneuver	-	-	-	-	-	-				235	0	-
Stage 1	-	-	-	-	-	-				741	0	-
Stage 2	-	-	-	-	-	-				433	0	-
Approach	EB			WB			SB					
HCM Control Delay, s	2.6			0			28.7					
HCM LOS							D					
Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	1245	-	-	1210	-	-	695					
HCM Lane V/C Ratio	0.126	-	-	-	-	-	0.813					
HCM Control Delay (s)	8.3	-	-	0	-	-	28.7					
HCM Lane LOS	A	-	-	A	-	-	D					
HCM 95th %tile Q(veh)	0.4	-	-	0	-	-	8.6					

Redding Rancheria
26: I-5 NB & Smith Rd

Opening Year (2025) plus Project (3C) Conditions
Saturday PM Peak

Intersection												
Int Delay, s/veh	28.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱			↰↱				
Traffic Vol, veh/h	293	38	0	0	44	4	246	0	4	0	0	0
Future Vol, veh/h	293	38	0	0	44	4	246	0	4	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	318	41	0	0	48	4	267	0	4	0	0	0

























Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	52	0	-	-	-	0	728 730 41
Stage 1	-	-	-	-	-	-	678 678 -
Stage 2	-	-	-	-	-	-	50 52 -
Critical Hdwy	4.12	-	-	-	-	-	6.42 6.52 6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42 5.52 -
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42 5.52 -
Follow-up Hdwy	2.218	-	-	-	-	-	3.518 4.018 3.318
Pot Cap-1 Maneuver	1554	-	0	0	-	-	390 349 1030
Stage 1	-	-	0	0	-	-	504 452 -
Stage 2	-	-	0	0	-	-	972 852 -
Platoon blocked, %	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1554	-	-	-	-	-	308 0 1030
Mov Cap-2 Maneuver	-	-	-	-	-	-	308 0 -
Stage 1	-	-	-	-	-	-	399 0 -
Stage 2	-	-	-	-	-	-	972 0 -

Approach	EB	WB	NB
HCM Control Delay, s	7	0	61.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	311	1554	-	-	-
HCM Lane V/C Ratio	0.874	0.205	-	-	-
HCM Control Delay (s)	61.4	7.9	0	-	-
HCM Lane LOS	F	A	A	-	-
HCM 95th %tile Q(veh)	7.9	0.8	-	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Opening Year (2025) plus Project (3D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	88	60	444	73	279	61	381	343	367	675	8
Future Volume (veh/h)	8	88	60	444	73	279	61	381	343	367	675	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	9	96	65	483	247	191	66	414	373	399	734	9
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	299	134	680	493	419	293	1070	479	543	1043	466
Arrive On Green	0.01	0.08	0.08	0.19	0.26	0.26	0.17	0.30	0.30	0.16	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	9	96	65	483	247	191	66	414	373	399	734	9
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.3	1.5	2.4	7.7	6.8	3.7	2.0	5.6	13.1	6.7	11.2	0.2
Cycle Q Clear(g_c), s	0.3	1.5	2.4	7.7	6.8	3.7	2.0	5.6	13.1	6.7	11.2	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	21	299	134	680	493	419	293	1070	479	543	1043	466
V/C Ratio(X)	0.44	0.32	0.49	0.71	0.50	0.46	0.22	0.39	0.78	0.73	0.70	0.02
Avail Cap(c_a), veh/h	161	2362	1057	877	1535	1305	293	1837	822	964	2508	1122
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	26.1	26.5	22.9	18.9	6.9	22.0	16.7	19.3	24.3	19.0	9.6
Incr Delay (d2), s/veh	13.9	0.6	2.7	1.9	0.8	0.8	0.4	0.2	2.8	2.0	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.8	1.1	3.9	3.6	2.4	1.0	2.7	6.0	3.3	5.5	0.1
LnGrp Delay(d),s/veh	43.7	26.7	29.2	24.8	19.7	7.6	22.3	17.0	22.1	26.3	19.9	9.7
LnGrp LOS	D	C	C	C	B	A	C	B	C	C	B	A
Approach Vol, veh/h		170			921			853			1142	
Approach Delay, s/veh		28.6			19.9			19.6			22.1	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	22.3	15.6	9.1	14.0	21.9	4.7	20.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.7	15.1	9.7	4.4	4.0	13.2	2.3	8.8				
Green Ext Time (p_c), s	0.9	3.3	1.9	0.8	0.3	4.7	0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay			21.1									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions
Friday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	971	5	9	1053	222	10	15	13	313	3	41
Future Volume (veh/h)	44	971	5	9	1053	222	10	15	13	313	3	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	48	1055	5	10	1145	241	11	16	14	340	3	45
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	1739	8	23	1591	712	183	258	193	505	4	53
Arrive On Green	0.04	0.48	0.48	0.01	0.45	0.45	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	3612	17	1774	3539	1583	352	797	596	1242	11	164
Grp Volume(v), veh/h	48	517	543	10	1145	241	41	0	0	388	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1744	0	0	1418	0	0
Q Serve(g_s), s	1.7	14.1	14.1	0.4	17.3	6.5	0.0	0.0	0.0	15.6	0.0	0.0
Cycle Q Clear(g_c), s	1.7	14.1	14.1	0.4	17.3	6.5	1.1	0.0	0.0	16.7	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.27		0.34	0.88		0.12
Lane Grp Cap(c), veh/h	79	852	895	23	1591	712	634	0	0	561	0	0
V/C Ratio(X)	0.61	0.61	0.61	0.44	0.72	0.34	0.06	0.00	0.00	0.69	0.00	0.00
Avail Cap(c_a), veh/h	135	861	905	135	1722	770	1114	0	0	980	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.9	12.5	12.5	32.2	14.7	11.7	15.4	0.0	0.0	20.6	0.0	0.0
Incr Delay (d2), s/veh	7.4	1.2	1.2	13.1	1.4	0.3	0.0	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.0	7.4	0.3	8.7	2.9	0.5	0.0	0.0	6.7	0.0	0.0
LnGrp Delay(d),s/veh	38.3	13.7	13.6	45.3	16.1	12.0	15.5	0.0	0.0	22.1	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h	1108			1396			41			388		
Approach Delay, s/veh	14.7			15.6			15.5			22.1		
Approach LOS	B			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.3	4.8	35.7		25.3	6.9	33.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.1	2.4	16.1		18.7	3.7	19.3				
Green Ext Time (p_c), s		2.9	0.0	12.4		2.6	0.0	10.3				
Intersection Summary												
HCM 2010 Ctrl Delay	16.1											
HCM 2010 LOS	B											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (3D) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 8.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	180	400	343	77	73	137
Future Vol, veh/h	180	400	343	77	73	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	196	435	373	84	79	149

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	457	0	0 1241 415
Stage 1	-	-	- 415 -
Stage 2	-	-	- 826 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1104	-	- 193 637
Stage 1	-	-	- 666 -
Stage 2	-	-	- 430 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1104	-	- 159 637
Mov Cap-2 Maneuver	-	-	- 159 -
Stage 1	-	-	- 666 -
Stage 2	-	-	- 354 -






Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	42.8
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1104	-	-	-	311
HCM Lane V/C Ratio	0.177	-	-	-	0.734
HCM Control Delay (s)	9	-	-	-	42.8
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.6	-	-	-	5.4

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (3D) Conditions

Friday PM Peak




Intersection						
Int Delay, s/veh	9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	354	131	109	48	36	281
Future Vol, veh/h	354	131	109	48	36	281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	385	142	118	52	39	305
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	171	0	-	0	1057	145
Stage 1	-	-	-	-	145	-
Stage 2	-	-	-	-	912	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1406	-	-	-	249	902
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	392	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1406	-	-	-	181	902
Mov Cap-2 Maneuver	-	-	-	-	181	-
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	285	-
Approach	EB	WB		SB		
HCM Control Delay, s	6.2	0		17.8		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1406	-	-	-	621	
HCM Lane V/C Ratio	0.274	-	-	-	0.555	
HCM Control Delay (s)	8.5	-	-	-	17.8	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	1.1	-	-	-	3.4	

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (3D) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	14	34	109	116	8
Future Vol, veh/h	6	14	34	109	116	8
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	15	37	118	126	9

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	322	130	135
Stage 1	130	-	-
Stage 2	192	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	672	920	1449
Stage 1	896	-	-
Stage 2	841	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	654	920	1449
Mov Cap-2 Maneuver	654	-	-
Stage 1	896	-	-
Stage 2	818	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1449	-	820	-	-
HCM Lane V/C Ratio	0.026	-	0.027	-	-
HCM Control Delay (s)	7.5	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-




Redding Rancheria
24: Smith Rd & Casino Dwy

Opening Year (2025) plus Project (3D) Conditions

Friday PM Peak

Intersection

Int Delay, s/veh 4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	15	29	180	176	0
Future Vol, veh/h	0	15	29	180	176	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	32	196	191	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	227	0	0 145 129
Stage 1	-	-	- 129 -
Stage 2	-	-	- 16 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1341	-	- 847 921
Stage 1	-	-	- 897 -
Stage 2	-	-	- 1007 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1341	-	- 847 921
Mov Cap-2 Maneuver	-	-	- 847 -
Stage 1	-	-	- 897 -
Stage 2	-	-	- 1007 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1341	-	-	-	847
HCM Lane V/C Ratio	-	-	-	-	0.226
HCM Control Delay (s)	0	-	-	-	10.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Redding Rancheria
25: I-5 SB & Smith Rd

Opening Year (2025) plus Project (3D) Conditions
Friday PM Peak

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱						↰↱	
Traffic Vol, veh/h	60	131	0	0	88	2	0	0	0	5	0	120
Future Vol, veh/h	60	131	0	0	88	2	0	0	0	5	0	120
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	142	0	0	96	2	0	0	0	5	0	130
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	98	0	0	142	0	0				370	370	97
Stage 1	-	-	-	-	-	-				97	97	-
Stage 2	-	-	-	-	-	-				273	273	-
Critical Hdwy	4.12	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	1495	-	-	1441	-	-				630	560	959
Stage 1	-	-	-	-	-	-				927	815	-
Stage 2	-	-	-	-	-	-				773	684	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1495	-	-	1441	-	-				600	0	959
Mov Cap-2 Maneuver	-	-	-	-	-	-				600	0	-
Stage 1	-	-	-	-	-	-				927	0	-
Stage 2	-	-	-	-	-	-				737	0	-
Approach	EB			WB			SB					
HCM Control Delay, s	2.4			0			9.5					
HCM LOS							A					
Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	1495	-	-	1441	-	-	937					
HCM Lane V/C Ratio	0.044	-	-	-	-	-	0.145					
HCM Control Delay (s)	7.5	-	-	0	-	-	9.5					
HCM Lane LOS	A	-	-	A	-	-	A					
HCM 95th %tile Q(veh)	0.1	-	-	0	-	-	0.5					

Redding Rancheria
26: I-5 NB & Smith Rd

























Opening Year (2025) plus Project (3D) Conditions

Friday PM Peak

Intersection												
Int Delay, s/veh	6.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	116	20	0	0	28	4	62	0	2	0	0	0
Future Vol, veh/h	116	20	0	0	28	4	62	0	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	126	22	0	0	30	4	67	0	2	0	0	0
Major/Minor	Major1		Major2			Minor1						
Conflicting Flow All	35	0	-	-	-	0	307	309	22			
Stage 1	-	-	-	-	-	-	274	274	-			
Stage 2	-	-	-	-	-	-	33	35	-			
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-			
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318			
Pot Cap-1 Maneuver	1576	-	0	0	-	-	685	605	1055			
Stage 1	-	-	0	0	-	-	772	683	-			
Stage 2	-	-	0	0	-	-	989	866	-			
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1576	-	-	-	-	-	630	0	1055			
Mov Cap-2 Maneuver	-	-	-	-	-	-	630	0	-			
Stage 1	-	-	-	-	-	-	709	0	-			
Stage 2	-	-	-	-	-	-	989	0	-			
Approach	EB		WB			NB						
HCM Control Delay, s	6.4			0			11.3					
HCM LOS							B					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR							
Capacity (veh/h)	638	1576	-	-	-							
HCM Lane V/C Ratio	0.109	0.08	-	-	-							
HCM Control Delay (s)	11.3	7.5	0	-	-							
HCM Lane LOS	B	A	A	-	-							
HCM 95th %tile Q(veh)	0.4	0.3	-	-	-							

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd




















Opening Year (2025) plus Project (3D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	49	47	281	52	203	39	316	250	284	367	5
Future Volume (veh/h)	0	49	47	281	52	203	39	316	250	284	367	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	53	51	305	180	139	42	343	272	309	399	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	375	168	558	649	552	357	903	404	485	690	309
Arrive On Green	0.00	0.11	0.11	0.16	0.35	0.35	0.20	0.26	0.26	0.14	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	53	51	305	180	139	42	343	272	309	399	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.4	3.7	3.3	1.5	0.9	3.8	7.3	4.0	4.8	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.4	3.7	3.3	1.5	0.9	3.8	7.3	4.0	4.8	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	375	168	558	649	552	357	903	404	485	690	309
V/C Ratio(X)	0.00	0.14	0.30	0.55	0.28	0.25	0.12	0.38	0.67	0.64	0.58	0.02
Avail Cap(c_a), veh/h	208	3053	1366	1134	1984	1686	357	2375	1062	1246	3242	1450
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	19.0	19.4	18.2	11.0	3.0	15.4	14.4	15.7	19.0	17.1	12.2
Incr Delay (d2), s/veh	0.0	0.2	1.0	0.8	0.2	0.2	0.1	0.3	2.0	1.4	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.7	1.9	1.7	1.2	0.5	1.8	3.4	2.0	2.4	0.0
LnGrp Delay(d),s/veh	0.0	19.2	20.4	19.1	11.3	3.2	15.5	14.7	17.7	20.4	17.9	12.2
LnGrp LOS		B	C	B	B	A	B	B	B	C	B	B
Approach Vol, veh/h		104			624			657			713	
Approach Delay, s/veh		19.8			13.3			16.0			19.0	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	16.0	11.4	9.0	13.4	13.2	0.0	20.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.0	9.3	5.7	3.4	2.9	6.8	0.0	5.3				
Green Ext Time (p_c), s	0.8	2.7	1.8	0.4	0.3	2.4	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			16.4									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions
Saturday PM Peak





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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	688	5	9	718	121	10	15	13	111	0	27
Future Volume (veh/h)	18	688	5	9	718	121	10	15	13	111	0	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	20	748	5	10	780	132	11	16	14	121	0	29
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	45	1844	12	23	1769	791	160	136	90	350	5	43
Arrive On Green	0.03	0.51	0.51	0.01	0.50	0.50	0.15	0.15	0.15	0.15	0.00	0.15
Sat Flow, veh/h	1774	3604	24	1774	3539	1583	246	883	585	1146	32	282
Grp Volume(v), veh/h	20	367	386	10	780	132	41	0	0	150	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	1774	1770	1583	1714	0	0	1460	0	0
Q Serve(g_s), s	0.4	4.8	4.8	0.2	5.3	1.7	0.0	0.0	0.0	2.8	0.0	0.0
Cycle Q Clear(g_c), s	0.4	4.8	4.8	0.2	5.3	1.7	0.8	0.0	0.0	3.5	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.27		0.34	0.81		0.19
Lane Grp Cap(c), veh/h	45	905	951	23	1769	791	386	0	0	399	0	0
V/C Ratio(X)	0.45	0.41	0.41	0.43	0.44	0.17	0.11	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	238	1518	1594	238	3035	1358	1910	0	0	1731	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.9	5.6	5.6	18.3	6.0	5.1	13.7	0.0	0.0	14.8	0.0	0.0
Incr Delay (d2), s/veh	6.9	0.3	0.3	11.8	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.3	2.4	0.2	2.5	0.8	0.4	0.0	0.0	1.5	0.0	0.0
LnGrp Delay(d),s/veh	24.9	5.9	5.9	30.1	6.2	5.2	13.8	0.0	0.0	15.4	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	773				922		41				150	
Approach Delay, s/veh	6.4				6.3		13.8				15.4	
Approach LOS	A				A		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.7	4.5	23.1		9.7	4.9	22.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		2.8	2.2	6.8		5.5	2.4	7.3				
Green Ext Time (p_c), s		1.1	0.0	11.5		1.1	0.0	11.4				
Intersection Summary												
HCM 2010 Ctrl Delay			7.2									
HCM 2010 LOS			A									

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (3D) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	113	204	250	34	51	142
Future Vol, veh/h	113	204	250	34	51	142
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	222	272	37	55	154

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	309	0	0 757 290
Stage 1	-	-	- 290 -
Stage 2	-	-	- 467 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1252	-	- 375 749
Stage 1	-	-	- 759 -
Stage 2	-	-	- 631 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1252	-	- 338 749
Mov Cap-2 Maneuver	-	-	- 338 -
Stage 1	-	-	- 759 -
Stage 2	-	-	- 569 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	15
HCM LOS			C






Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1252	-	-	-	567
HCM Lane V/C Ratio	0.098	-	-	-	0.37
HCM Control Delay (s)	8.2	-	-	-	15
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	1.7

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Opening Year (2025) plus Project (3D) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 6.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	199	66	73	35	28	188
Future Vol, veh/h	199	66	73	35	28	188
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	216	72	79	38	30	204

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	117	0	0 602 98
Stage 1	-	-	- 98 -
Stage 2	-	-	- 504 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1471	-	- 463 958
Stage 1	-	-	- 926 -
Stage 2	-	-	- 607 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1471	-	- 395 958
Mov Cap-2 Maneuver	-	-	- 395 -
Stage 1	-	-	- 926 -
Stage 2	-	-	- 518 -

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	11.3
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1471	-	-	-	809
HCM Lane V/C Ratio	0.147	-	-	-	0.29
HCM Control Delay (s)	7.9	-	-	-	11.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1.2

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Opening Year (2025) plus Project (3D) Conditions
Saturday PM Peak

Intersection




Int Delay, s/veh 2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	32	13	65	69	12
Future Vol, veh/h	10	32	13	65	69	12
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	35	14	71	75	13

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	181	82	88
Stage 1	82	-	-
Stage 2	99	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	808	978	1508
Stage 1	941	-	-
Stage 2	925	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	800	978	1508
Mov Cap-2 Maneuver	800	-	-
Stage 1	941	-	-
Stage 2	916	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1508	-	929	-	-
HCM Lane V/C Ratio	0.009	-	0.049	-	-
HCM Control Delay (s)	7.4	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	22	327	300	0
Future Vol, veh/h	0	18	22	327	300	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	355	326	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	379	0	-	0	222	202
Stage 1	-	-	-	-	202	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1179	-	-	-	766	839
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1179	-	-	-	766	839
Mov Cap-2 Maneuver	-	-	-	-	766	-
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	1003	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		13.1		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1179	-	-	-	766	
HCM Lane V/C Ratio	-	-	-	-	0.426	
HCM Control Delay (s)	0	-	-	-	13.1	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	2.1	

Redding Rancheria
25: I-5 SB & Smith Rd

Opening Year (2025) plus Project (3D) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↰						↰	
Traffic Vol, veh/h	101	217	0	0	135	2	0	0	0	11	0	214
Future Vol, veh/h	101	217	0	0	135	2	0	0	0	11	0	214
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	236	0	0	147	2	0	0	0	12	0	233

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	149	0	0	236	0	0	603	603	148
Stage 1	-	-	-	-	-	-	148	148	-
Stage 2	-	-	-	-	-	-	455	455	-
Critical Hdwy	4.12	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1432	-	-	1331	-	-	462	413	899
Stage 1	-	-	-	-	-	-	880	775	-
Stage 2	-	-	-	-	-	-	639	569	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1432	-	-	1331	-	-	421	0	899
Mov Cap-2 Maneuver	-	-	-	-	-	-	421	0	-
Stage 1	-	-	-	-	-	-	880	0	-
Stage 2	-	-	-	-	-	-	583	0	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1432	-	-	1331	-	-	852
HCM Lane V/C Ratio	0.077	-	-	-	-	-	0.287
HCM Control Delay (s)	7.7	-	-	0	-	-	10.9
HCM Lane LOS	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	0	-	-	1.2

Redding Rancheria
26: I-5 NB & Smith Rd

Opening Year (2025) plus Project (3D) Conditions
Saturday PM Peak

Intersection												
Int Delay, s/veh	8.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱			↰↱				
Traffic Vol, veh/h	195	32	0	0	26	4	111	0	4	0	0	0
Future Vol, veh/h	195	32	0	0	26	4	111	0	4	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	212	35	0	0	28	4	121	0	4	0	0	0























Major/Minor	Major1		Major2		Minor1				
Conflicting Flow All	33	0	-	-	-	0	489	492	35
Stage 1	-	-	-	-	-	-	459	459	-
Stage 2	-	-	-	-	-	-	30	33	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1579	-	0	0	-	-	538	478	1038
Stage 1	-	-	0	0	-	-	636	566	-
Stage 2	-	-	0	0	-	-	993	868	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1579	-	-	-	-	-	464	0	1038
Mov Cap-2 Maneuver	-	-	-	-	-	-	464	0	-
Stage 1	-	-	-	-	-	-	549	0	-
Stage 2	-	-	-	-	-	-	993	0	-

Approach	EB	WB	NB
HCM Control Delay, s	6.6	0	15.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	473	1579	-	-	-
HCM Lane V/C Ratio	0.264	0.134	-	-	-
HCM Control Delay (s)	15.3	7.6	0	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	1.1	0.5	-	-	-

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (1A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	163	543	1102	306	119	32	388	756	45	265
Future Volume (veh/h)	208	989	163	543	1102	306	119	32	388	756	45	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1075	177	590	1198	333	129	35	422	857	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	1076	177	84	1218	545	246	67	276	972	0	434
Arrive On Green	0.06	0.35	0.35	0.05	0.34	0.34	0.17	0.17	0.17	0.27	0.00	0.27
Sat Flow, veh/h	1774	3044	500	1774	3539	1583	1410	382	1583	3548	0	1583
Grp Volume(v), veh/h	226	624	628	590	1198	333	164	0	422	857	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1774	1774	1770	1583	1792	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	37.3	37.5	5.0	35.6	18.5	8.8	0.0	18.5	24.5	0.0	17.1
Cycle Q Clear(g_c), s	6.0	37.3	37.5	5.0	35.6	18.5	8.8	0.0	18.5	24.5	0.0	17.1
Prop In Lane	1.00		0.28	1.00		1.00	0.79		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	100	626	627	84	1218	545	313	0	276	972	0	434
V/C Ratio(X)	2.25	1.00	1.00	7.05	0.98	0.61	0.52	0.00	1.53	0.88	0.00	0.66
Avail Cap(c_a), veh/h	100	626	627	84	1218	545	313	0	276	1104	0	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.0	34.2	34.3	50.5	34.5	28.9	39.8	0.0	43.8	36.9	0.0	34.2
Incr Delay (d2), s/veh	593.9	35.2	36.2	2749.1	21.8	2.0	1.6	0.0	255.1	7.8	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.5	24.3	24.6	66.3	21.0	8.4	4.5	0.0	27.7	13.1	0.0	7.8
LnGrp Delay(d),s/veh	643.9	69.4	70.4	2799.6	56.3	30.9	41.4	0.0	298.9	44.7	0.0	37.0
LnGrp LOS	F	E	F	F	E	C	D		F	D		D
Approach Vol, veh/h		1478			2121			586			1145	
Approach Delay, s/veh		157.7			815.4			226.8			42.7	
Approach LOS		F			F			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	9.0	41.5		33.1	10.0	40.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		20.5	7.0	39.5		26.5	8.0	37.6				
Green Ext Time (p_c), s		0.0	0.0	0.0		2.5	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			402.3									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd






















Opening Year (2025) plus Project (1A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	1418	715	300	1097	0	0	0	0	285	1	855
Future Volume (veh/h)	0	1418	715	300	1097	0	0	0	0	285	1	855
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1541	777	326	1192	0				310	1	929
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1110	519	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1541	777	326	1192	0				311	0	929
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	24.7	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	24.7	0.0				11.3	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.39	1.50	0.98	0.60	0.00				0.52	0.00	1.75
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.44	0.44	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	24.2	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	175.1	225.2	27.6	0.6	0.0				0.8	0.0	345.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	39.2	43.8	9.8	12.3	0.0				5.7	0.0	62.6
LnGrp Delay(d),s/veh	0.0	202.0	252.1	64.9	24.8	0.0				22.3	0.0	372.5
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2318			1518						1240	
Approach Delay, s/veh		218.8			33.4						284.7	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.7	28.2		28.8		26.7				
Green Ext Time (p_c), s			0.0	0.0		0.0		17.5				
Intersection Summary												
HCM 2010 Ctrl Delay		179.4										
HCM 2010 LOS		F										

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	815	889	0	0	844	285	552	5	255	0	0	0
Future Volume (veh/h)	815	889	0	0	844	285	552	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	886	966	0	0	917	310	600	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	407	3	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1760	15	1583			
Grp Volume(v), veh/h	886	966	0	0	917	310	605	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.8	0.0	0.0	15.6	9.3	18.5	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.8	0.0	0.0	15.6	9.3	18.5	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.66	0.41	0.00	0.00	0.81	0.61	1.47	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.36	0.36	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.7	11.6	30.8	0.0	28.7			
Incr Delay (d2), s/veh	299.9	0.0	0.0	0.0	2.4	2.0	226.2	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	56.0	1.6	0.0	0.0	7.8	4.2	34.8	0.0	6.6			
LnGrp Delay(d),s/veh	323.9	1.7	0.0	0.0	15.1	13.6	257.0	0.0	37.4			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h	1852				1227			882				
Approach Delay, s/veh	155.9				14.7			188.0				
Approach LOS	F				B			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		20.5		5.8			26.0	17.6				
Green Ext Time (p_c), s		0.0		22.6			0.0	6.5				
Intersection Summary												
HCM 2010 Ctrl Delay				119.3								
HCM 2010 LOS				F								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	646	80	35	521	130	125	10	25	145	15	483
Future Volume (veh/h)	418	646	80	35	521	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	702	87	38	566	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1024	458	63	632	157	402	32	386	374	38	366
Arrive On Green	0.20	0.58	0.58	0.04	0.22	0.22	0.24	0.24	0.24	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2811	698	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	702	87	38	356	351	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1740	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	11.1	2.1	1.7	15.6	15.7	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	11.1	2.1	1.7	15.6	15.7	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1024	458	63	398	391	434	0	386	412	0	366
V/C Ratio(X)	1.32	0.69	0.19	0.60	0.89	0.90	0.34	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1024	458	111	409	402	434	0	386	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.3	12.4	38.0	30.1	30.1	24.9	0.0	23.3	26.2	0.0	30.8
Incr Delay (d2), s/veh	160.9	1.7	0.2	8.8	21.0	22.0	2.1	0.0	0.4	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.5	0.9	1.0	9.9	9.9	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	192.9	16.0	12.6	46.8	51.0	52.1	27.0	0.0	23.6	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h	1243				745			174		699		
Approach Delay, s/veh	80.4				51.3			26.5		187.8		
Approach LOS	F				D			C		F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.5	6.9	27.1		22.5	12.0	22.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.4	3.7	13.1		20.5	10.0	17.7				
Green Ext Time (p_c), s		0.5	0.0	5.3		0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay	95.8											
HCM 2010 LOS	F											

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	711	591	30	25	95
Future Vol, veh/h	105	711	591	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	773	642	33	27	103























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	675	0	0 1274 338
Stage 1	-	-	- 659 -
Stage 2	-	-	- 615 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	912	-	- 159 658
Stage 1	-	-	- 476 -
Stage 2	-	-	- 502 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	912	-	- 124 658
Mov Cap-2 Maneuver	-	-	- 124 -
Stage 1	-	-	- 476 -
Stage 2	-	-	- 392 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	912	-	-	-	124	658
HCM Lane V/C Ratio	0.125	-	-	-	0.219	0.157
HCM Control Delay (s)	9.5	-	-	-	42	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd


Opening Year (2025) plus Project (1A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	201	669	783	174	122	23	396	271	44	112
Future Volume (veh/h)	113	721	201	669	783	174	122	23	396	271	44	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	218	727	851	189	133	25	430	329	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	1078	300	107	1351	604	335	63	353	464	0	207
Arrive On Green	0.07	0.39	0.39	0.06	0.38	0.38	0.22	0.22	0.22	0.13	0.00	0.13
Sat Flow, veh/h	1774	2737	761	1774	3539	1583	1505	283	1583	3548	0	1583
Grp Volume(v), veh/h	123	507	495	727	851	189	158	0	430	329	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1728	1774	1770	1583	1788	0	1583	1774	0	1583
Q Serve(g_s), s	5.7	20.2	20.2	5.0	16.3	7.0	6.3	0.0	18.5	7.4	0.0	6.0
Cycle Q Clear(g_c), s	5.7	20.2	20.2	5.0	16.3	7.0	6.3	0.0	18.5	7.4	0.0	6.0
Prop In Lane	1.00		0.44	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	697	681	107	1351	604	398	0	353	464	0	207
V/C Ratio(X)	0.96	0.73	0.73	6.81	0.63	0.31	0.40	0.00	1.22	0.71	0.00	0.59
Avail Cap(c_a), veh/h	128	799	780	107	1555	696	398	0	353	1410	0	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.4	21.4	21.4	39.0	20.9	18.0	27.5	0.0	32.3	34.6	0.0	34.0
Incr Delay (d2), s/veh	66.9	2.9	2.9	2633.3	0.7	0.3	0.6	0.0	121.8	2.0	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	10.4	10.2	80.5	8.0	3.1	3.1	0.0	20.0	3.7	0.0	2.8
LnGrp Delay(d),s/veh	105.3	24.3	24.3	2672.4	21.6	18.3	28.2	0.0	154.0	36.6	0.0	36.7
LnGrp LOS	F	C	C	F	C	B	C		F	D		D
Approach Vol, veh/h		1125			1767			588			451	
Approach Delay, s/veh		33.2			1111.8			120.2			36.6	
Approach LOS		C			F			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	9.0	36.7		14.9	10.0	35.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		20.5	7.0	22.2		9.4	7.7	18.3				
Green Ext Time (p_c), s		0.0	0.0	10.5		1.5	0.0	11.9				
Intersection Summary												
HCM 2010 Ctrl Delay			531.5									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd






















Opening Year (2025) plus Project (1A) Conditions
Saturday PM Peak

	<div></div>											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	947	440	178	895	0	0	0	0	176	1	732
Future Volume (veh/h)	0	947	440	178	895	0	0	0	0	176	1	732
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1029	478	193	973	0				191	1	796
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1296	602	237	2000	0				591	3	530
Arrive On Green	0.00	0.38	0.38	0.04	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3564	1578	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	1027	480	193	973	0				192	0	796
Grp Sat Flow(s),veh/h/ln	0	1695	1584	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	21.5	21.5	8.6	19.7	0.0				6.5	0.0	26.8
Cycle Q Clear(g_c), s	0.0	21.5	21.5	8.6	19.7	0.0				6.5	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1294	605	237	2000	0				594	0	530
V/C Ratio(X)	0.00	0.79	0.79	0.82	0.49	0.00				0.32	0.00	1.50
Avail Cap(c_a), veh/h	0	1294	605	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.52	0.52	0.67	0.67	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.9	21.9	37.3	22.2	0.0				19.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	2.7	5.6	7.1	0.6	0.0				0.3	0.0	235.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.5	10.3	4.7	9.8	0.0				3.2	0.0	46.3
LnGrp Delay(d),s/veh	0.0	24.6	27.5	44.4	22.7	0.0				20.1	0.0	261.7
LnGrp LOS		C	C	D	C					C		F
Approach Vol, veh/h		1507			1166						988	
Approach Delay, s/veh		25.6			26.3						214.7	
Approach LOS		C			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	34.5		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	23.5		28.8		21.7				
Green Ext Time (p_c), s			0.2	2.5		0.0		17.9				
Intersection Summary												
HCM 2010 Ctrl Delay			76.9									
HCM 2010 LOS			E									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	592	531	0	0	603	222	470	3	255	0	0	0
Future Volume (veh/h)	592	531	0	0	603	222	470	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	643	577	0	0	655	241	511	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	408	2	366			
Arrive On Green	0.50	1.00	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1764	10	1583			
Grp Volume(v), veh/h	643	577	0	0	655	241	514	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	8.5	6.3	18.5	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	8.5	6.3	18.5	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.21	0.24	0.00	0.00	0.58	0.48	1.25	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.44	0.44	0.00	0.00	0.68	0.68	1.00	0.00	1.00			
Uniform Delay (d), s/veh	20.0	0.0	0.0	0.0	11.4	11.0	30.8	0.0	28.7			
Incr Delay (d2), s/veh	101.6	0.1	0.0	0.0	1.5	2.2	132.3	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	26.3	0.0	0.0	0.0	4.2	3.0	24.1	0.0	6.6			
LnGrp Delay(d),s/veh	121.5	0.1	0.0	0.0	12.9	13.2	163.1	0.0	37.4			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h	1220				896			791				
Approach Delay, s/veh	64.1				13.0			119.1				
Approach LOS	E				B			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		20.5		2.0			26.0	10.5				
Green Ext Time (p_c), s		0.0		11.9			0.0	7.6				
Intersection Summary												
HCM 2010 Ctrl Delay			63.3									
HCM 2010 LOS			E									

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	349	104	35	347	110	175	5	50	129	0	303
Future Volume (veh/h)	333	349	104	35	347	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	379	113	38	377	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	914	409	63	514	162	481	13	440	405	0	361
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2652	833	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	379	113	38	250	247	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1716	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.9	3.7	1.7	10.6	10.8	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.9	3.7	1.7	10.6	10.8	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.49	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	914	409	63	343	333	493	0	440	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.73	0.74	0.40	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	397	493	0	440	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.6	17.9	38.0	30.3	30.4	23.4	0.0	21.6	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.7	0.3	0.3	8.8	5.3	6.0	2.4	0.0	0.6	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.6	1.0	5.6	5.7	3.8	0.0	1.0	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.1	18.8	18.3	46.8	35.5	36.4	25.8	0.0	22.2	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	D	D	C		C	C		E
Approach Vol, veh/h		854			535			249			469	
Approach Delay, s/veh		51.1			36.7			25.0			47.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.2	6.9	24.7		22.3	12.0	19.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		9.1	3.7	7.9		18.2	10.0	12.8				
Green Ext Time (p_c), s		0.8	0.0	4.7		0.1	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay					43.5							
HCM 2010 LOS					D							

Redding Rancheria
7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Opening Year (2025) plus Project (1A) Conditions

Saturday PM Peak

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	451	418	30	10	74
Future Vol, veh/h	77	451	418	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	490	454	33	11	80























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	487	0	884
Stage 1	-	-	471
Stage 2	-	-	413
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1072	-	285
Stage 1	-	-	594
Stage 2	-	-	636
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1072	-	254
Mov Cap-2 Maneuver	-	-	254
Stage 1	-	-	594
Stage 2	-	-	567

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1072	-	-	-	254	758
HCM Lane V/C Ratio	0.078	-	-	-	0.043	0.106
HCM Control Delay (s)	8.6	-	-	-	19.8	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (1B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	141	455	1102	306	94	28	292	756	41	265
Future Volume (veh/h)	208	989	141	455	1102	306	94	28	292	756	41	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1075	153	495	1198	333	102	30	317	854	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	1101	157	84	1219	545	242	71	276	970	0	433
Arrive On Green	0.06	0.35	0.35	0.05	0.34	0.34	0.17	0.17	0.17	0.27	0.00	0.27
Sat Flow, veh/h	1774	3112	442	1774	3539	1583	1386	408	1583	3548	0	1583
Grp Volume(v), veh/h	226	611	617	495	1198	333	132	0	317	854	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1785	1774	1770	1583	1793	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	36.1	36.2	5.0	35.5	18.5	6.9	0.0	18.5	24.4	0.0	17.1
Cycle Q Clear(g_c), s	6.0	36.1	36.2	5.0	35.5	18.5	6.9	0.0	18.5	24.4	0.0	17.1
Prop In Lane	1.00		0.25	1.00		1.00	0.77		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	100	626	632	84	1219	545	313	0	276	970	0	433
V/C Ratio(X)	2.25	0.97	0.98	5.91	0.98	0.61	0.42	0.00	1.15	0.88	0.00	0.67
Avail Cap(c_a), veh/h	100	626	632	84	1219	545	313	0	276	1105	0	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.0	33.8	33.8	50.5	34.4	28.8	39.0	0.0	43.7	36.8	0.0	34.2
Incr Delay (d2), s/veh	593.0	29.6	30.1	2236.4	21.6	2.0	0.9	0.0	99.7	7.7	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.5	22.8	23.1	54.4	21.0	8.3	3.5	0.0	15.8	13.0	0.0	7.8
LnGrp Delay(d),s/veh	643.0	63.4	63.9	2286.9	56.0	30.8	39.9	0.0	143.4	44.6	0.0	37.0
LnGrp LOS	F	E	E	F	E	C	D		F	D		D
Approach Vol, veh/h	1454				2026				449		1142	
Approach Delay, s/veh	153.7				596.9				113.0		42.7	
Approach LOS	F				F				F		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	22.5		9.0	41.5	33.0		10.0	40.5				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	18.5		5.0	37.5	33.0		6.0	36.5				
Max Q Clear Time (g_c+I1), s	20.5		7.0	38.2	26.4		8.0	37.5				
Green Ext Time (p_c), s	0.0		0.0	0.0	2.6		0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	302.2											
HCM 2010 LOS	F											
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd






















Opening Year (2025) plus Project (1B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	1362	675	300	1056	0	0	0	0	285	1	808
Future Volume (veh/h)	0	1362	675	300	1056	0	0	0	0	285	1	808
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1480	734	326	1148	0				310	1	878
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1110	519	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1480	734	326	1148	0				311	0	878
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	23.6	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	23.6	0.0				11.3	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.33	1.42	0.98	0.57	0.00				0.52	0.00	1.66
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.16	0.16	0.44	0.44	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	23.8	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	150.9	188.9	27.7	0.5	0.0				0.8	0.0	303.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	35.4	38.6	9.8	11.7	0.0				5.7	0.0	56.3
LnGrp Delay(d),s/veh	0.0	177.8	215.8	65.1	24.3	0.0				22.3	0.0	329.8
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2214			1474						1189	
Approach Delay, s/veh		190.4			33.3						249.4	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.7	28.2		28.8		25.6				
Green Ext Time (p_c), s			0.0	0.0		0.0		18.2				
Intersection Summary												
HCM 2010 Ctrl Delay		157.3										
HCM 2010 LOS		F										

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	764	885	0	0	840	285	516	5	255	0	0	0
Future Volume (veh/h)	764	885	0	0	840	285	516	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	830	962	0	0	913	310	561	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	407	4	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1759	16	1583			
Grp Volume(v), veh/h	830	962	0	0	913	310	566	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.8	0.0	0.0	15.5	9.3	18.5	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.8	0.0	0.0	15.5	9.3	18.5	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.56	0.41	0.00	0.00	0.81	0.61	1.38	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.36	0.36	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.7	11.6	30.8	0.0	28.7			
Incr Delay (d2), s/veh	252.6	0.0	0.0	0.0	2.4	2.0	185.3	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	49.0	1.6	0.0	0.0	7.5	4.2	30.1	0.0	6.6			
LnGrp Delay(d),s/veh	276.7	1.7	0.0	0.0	15.1	13.6	216.0	0.0	37.4			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h	1792				1223				843			
Approach Delay, s/veh	129.1				14.7				157.3			
Approach LOS	F				B				F			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4				7	8				
Phs Duration (G+Y+Rc), s	22.5		57.5				28.0	29.5				
Change Period (Y+Rc), s	4.0		4.0				4.0	4.0				
Max Green Setting (Gmax), s	18.5		53.5				24.0	25.5				
Max Q Clear Time (g_c+I1), s	20.5		5.8				26.0	17.5				
Green Ext Time (p_c), s	0.0		22.5				0.0	6.5				
Intersection Summary												
HCM 2010 Ctrl Delay			99.0									
HCM 2010 LOS			F									

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	642	80	35	517	130	125	10	25	145	15	483
Future Volume (veh/h)	418	642	80	35	517	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	698	87	38	562	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1021	457	63	629	157	403	33	387	374	38	366
Arrive On Green	0.20	0.58	0.58	0.04	0.22	0.22	0.24	0.24	0.24	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2807	702	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	698	87	38	354	349	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1739	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	11.0	2.1	1.7	15.5	15.6	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	11.0	2.1	1.7	15.5	15.6	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1021	457	63	397	390	435	0	387	412	0	366
V/C Ratio(X)	1.32	0.68	0.19	0.60	0.89	0.90	0.34	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1021	457	111	409	402	435	0	387	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.4	12.5	38.0	30.1	30.1	24.9	0.0	23.2	26.2	0.0	30.8
Incr Delay (d2), s/veh	160.9	1.7	0.2	8.8	20.6	21.6	2.1	0.0	0.3	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.5	0.9	1.0	9.8	9.8	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	192.9	16.1	12.7	46.8	50.7	51.7	27.0	0.0	23.6	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h	1239				741			174		699		
Approach Delay, s/veh	80.6				51.0			26.4		187.8		
Approach LOS	F				D			C		F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.6	6.9	27.1		22.5	12.0	21.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.4	3.7	13.0		20.5	10.0	17.6				
Green Ext Time (p_c), s		0.5	0.0	5.3		0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay	95.9											
HCM 2010 LOS	F											

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	707	587	30	25	95
Future Vol, veh/h	105	707	587	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	768	638	33	27	103























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	671	0	0 1267 335
Stage 1	-	-	- 654 -
Stage 2	-	-	- 613 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	915	-	- 161 661
Stage 1	-	-	- 479 -
Stage 2	-	-	- 503 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	915	-	- 126 661
Mov Cap-2 Maneuver	-	-	- 126 -
Stage 1	-	-	- 479 -
Stage 2	-	-	- 394 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	126	661
HCM Lane V/C Ratio	0.125	-	-	-	0.216	0.156
HCM Control Delay (s)	9.5	-	-	-	41.3	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (1B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	151	474	783	174	74	14	208	271	35	112
Future Volume (veh/h)	113	721	151	474	783	174	74	14	208	271	35	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	164	515	851	189	80	15	226	322	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1191	249	120	1398	625	261	49	274	473	0	211
Arrive On Green	0.08	0.41	0.41	0.07	0.39	0.39	0.17	0.17	0.17	0.13	0.00	0.13
Sat Flow, veh/h	1774	2915	610	1774	3539	1583	1505	282	1583	3548	0	1583
Grp Volume(v), veh/h	123	476	472	515	851	189	95	0	226	322	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1755	1774	1770	1583	1787	0	1583	1774	0	1583
Q Serve(g_s), s	5.0	16.0	16.0	5.0	14.1	6.0	3.4	0.0	10.2	6.4	0.0	5.3
Cycle Q Clear(g_c), s	5.0	16.0	16.0	5.0	14.1	6.0	3.4	0.0	10.2	6.4	0.0	5.3
Prop In Lane	1.00		0.35	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	723	717	120	1398	625	310	0	274	473	0	211
V/C Ratio(X)	0.85	0.66	0.66	4.28	0.61	0.30	0.31	0.00	0.82	0.68	0.00	0.58
Avail Cap(c_a), veh/h	144	900	893	120	1752	784	448	0	397	1588	0	709
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.4	17.6	17.6	34.4	17.8	15.3	26.6	0.0	29.4	30.5	0.0	30.0
Incr Delay (d2), s/veh	35.9	1.2	1.3	1496.0	0.4	0.3	0.6	0.0	8.9	1.7	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	8.0	8.0	52.4	6.9	2.7	1.7	0.0	5.1	3.2	0.0	2.5
LnGrp Delay(d),s/veh	69.3	18.9	18.9	1530.3	18.2	15.6	27.2	0.0	38.3	32.2	0.0	32.5
LnGrp LOS	E	B	B	F	B	B	C		D	C		C
Approach Vol, veh/h	1071				1555				321		444	
Approach Delay, s/veh	24.7				518.7				35.0		32.3	
Approach LOS	C				F				D		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	16.8		9.0	34.1	13.8		10.0	33.1				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	18.5		5.0	37.5	33.0		6.0	36.5				
Max Q Clear Time (g_c+I1), s	12.2		7.0	18.0	8.4		7.0	16.1				
Green Ext Time (p_c), s	0.6		0.0	12.1	1.5		0.0	12.5				
Intersection Summary												
HCM 2010 Ctrl Delay	253.2											
HCM 2010 LOS	F											
Notes												

User approved volume balancing among the lanes for turning movement.








Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↖	↑↑						↖	↖
Traffic Volume (veh/h)	0	838	362	178	804	0	0	0	0	176	1	627
Future Volume (veh/h)	0	838	362	178	804	0	0	0	0	176	1	627
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	911	393	193	874	0				191	1	682
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1330	573	237	2000	0				591	3	530
Arrive On Green	0.00	0.38	0.38	0.04	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3654	1502	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	886	418	193	874	0				192	0	682
Grp Sat Flow(s),veh/h/ln	0	1695	1598	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	17.5	17.5	8.6	17.5	0.0				6.5	0.0	26.8
Cycle Q Clear(g_c), s	0.0	17.5	17.5	8.6	17.5	0.0				6.5	0.0	26.8
Prop In Lane	0.00		0.94	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1294	610	237	2000	0				594	0	530
V/C Ratio(X)	0.00	0.68	0.69	0.82	0.44	0.00				0.32	0.00	1.29
Avail Cap(c_a), veh/h	0	1294	610	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.67	0.67	0.68	0.68	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.7	20.7	37.3	21.3	0.0				19.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	2.0	4.2	7.2	0.5	0.0				0.3	0.0	142.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.5	8.4	4.7	8.7	0.0				3.2	0.0	32.6
LnGrp Delay(d),s/veh	0.0	22.7	24.9	44.4	21.7	0.0				20.1	0.0	169.0
LnGrp LOS		C	C	D	C					C		F
Approach Vol, veh/h		1304			1067						874	
Approach Delay, s/veh		23.4			25.8						136.3	
Approach LOS		C			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	34.5		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	19.5		28.8		19.5				
Green Ext Time (p_c), s			0.2	5.6		0.0		16.9				
Intersection Summary												
HCM 2010 Ctrl Delay			54.6									
HCM 2010 LOS			D									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd






















Opening Year (2025) plus Project (1B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	492	522	0	0	594	222	388	3	255	0	0	0
Future Volume (veh/h)	492	522	0	0	594	222	388	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	535	567	0	0	646	241	422	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	407	3	366			
Arrive On Green	0.60	1.00	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1762	13	1583			
Grp Volume(v), veh/h	535	567	0	0	646	241	425	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	8.3	6.3	18.5	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	8.3	6.3	18.5	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.01	0.24	0.00	0.00	0.57	0.48	1.04	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.58	0.58	0.00	0.00	0.68	0.68	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.0	0.0	0.0	0.0	11.4	11.0	30.8	0.0	28.7			
Incr Delay (d2), s/veh	30.9	0.1	0.0	0.0	1.4	2.2	53.9	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	15.8	0.0	0.0	0.0	4.2	3.0	15.2	0.0	6.6			
LnGrp Delay(d),s/veh	46.9	0.1	0.0	0.0	12.8	13.2	84.7	0.0	37.4			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h	1102				887			702				
Approach Delay, s/veh	22.8				12.9			66.0				
Approach LOS	C				B			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		20.5		2.0			26.0	10.3				
Green Ext Time (p_c), s		0.0		11.7			0.0	7.6				
Intersection Summary												
HCM 2010 Ctrl Delay				30.8								
HCM 2010 LOS				C								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (1B) Conditions

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	340	104	35	338	110	175	5	50	129	0	303
Future Volume (veh/h)	333	340	104	35	338	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	370	113	38	367	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	906	405	63	505	163	485	13	443	405	0	361
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2633	849	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	370	113	38	245	242	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1713	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.8	3.7	1.7	10.4	10.6	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.8	3.7	1.7	10.4	10.6	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.50	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	906	405	63	339	328	497	0	443	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.72	0.74	0.39	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	396	497	0	443	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.7	18.1	38.0	30.3	30.4	23.3	0.0	21.5	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.8	0.3	0.4	8.8	4.9	5.7	2.3	0.0	0.6	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.7	1.0	5.5	5.6	3.8	0.0	0.9	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.1	19.0	18.4	46.8	35.3	36.2	25.6	0.0	22.0	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	D	D	C		C	C		E
Approach Vol, veh/h		845			525			249			469	
Approach Delay, s/veh		51.5			36.5			24.8			47.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.4	6.9	24.5		22.3	12.0	19.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		9.1	3.7	7.8		18.2	10.0	12.6				
Green Ext Time (p_c), s		0.8	0.0	4.6		0.1	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			43.6									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	442	409	30	10	74
Future Vol, veh/h	77	442	409	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	480	445	33	11	80























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	477	0	869
Stage 1	-	-	461
Stage 2	-	-	408
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1082	-	291
Stage 1	-	-	601
Stage 2	-	-	640
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1082	-	260
Mov Cap-2 Maneuver	-	-	260
Stage 1	-	-	601
Stage 2	-	-	572

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1082	-	-	-	260	762
HCM Lane V/C Ratio	0.077	-	-	-	0.042	0.106
HCM Control Delay (s)	8.6	-	-	-	19.4	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (1C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	148	485	1102	306	104	29	330	756	42	265
Future Volume (veh/h)	208	989	148	485	1102	306	104	29	330	756	42	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1075	161	527	1198	333	113	32	359	855	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	1093	163	84	1219	545	244	69	276	970	0	433
Arrive On Green	0.06	0.35	0.35	0.05	0.34	0.34	0.17	0.17	0.17	0.27	0.00	0.27
Sat Flow, veh/h	1774	3089	462	1774	3539	1583	1397	396	1583	3548	0	1583
Grp Volume(v), veh/h	226	615	621	527	1198	333	145	0	359	855	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1781	1774	1770	1583	1793	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	36.5	36.7	5.0	35.6	18.5	7.7	0.0	18.5	24.4	0.0	17.1
Cycle Q Clear(g_c), s	6.0	36.5	36.7	5.0	35.6	18.5	7.7	0.0	18.5	24.4	0.0	17.1
Prop In Lane	1.00		0.26	1.00		1.00	0.78		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	100	626	630	84	1219	545	313	0	276	970	0	433
V/C Ratio(X)	2.25	0.98	0.99	6.30	0.98	0.61	0.46	0.00	1.30	0.88	0.00	0.67
Avail Cap(c_a), veh/h	100	626	630	84	1219	545	313	0	276	1105	0	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.0	33.9	34.0	50.5	34.4	28.8	39.3	0.0	43.7	36.8	0.0	34.2
Incr Delay (d2), s/veh	593.3	31.4	32.0	2409.0	21.7	2.0	1.1	0.0	158.6	7.7	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.5	23.2	23.6	58.4	21.0	8.3	3.9	0.0	20.3	13.0	0.0	7.8
LnGrp Delay(d),s/veh	643.3	65.3	66.0	2459.5	56.1	30.8	40.4	0.0	202.3	44.6	0.0	37.0
LnGrp LOS	F	E	E	F	E	C	D		F	D		D
Approach Vol, veh/h	1462				2058				504		1143	
Approach Delay, s/veh	154.9				667.5				155.7		42.7	
Approach LOS	F				F				F		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	22.5		9.0	41.5	33.0		10.0	40.5				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	18.5		5.0	37.5	33.0		6.0	36.5				
Max Q Clear Time (g_c+I1), s	20.5		7.0	38.7	26.4		8.0	37.6				
Green Ext Time (p_c), s	0.0		0.0	0.0	2.5		0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	334.3											
HCM 2010 LOS	F											
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd






















Opening Year (2025) plus Project (1C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	1384	691	300	1070	0	0	0	0	285	1	824
Future Volume (veh/h)	0	1384	691	300	1070	0	0	0	0	285	1	824
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1504	751	326	1163	0				310	1	896
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1110	519	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1504	751	326	1163	0				311	0	896
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	24.0	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	24.0	0.0				11.3	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.35	1.45	0.98	0.58	0.00				0.52	0.00	1.69
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.10	0.10	0.44	0.44	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	23.9	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	160.2	202.8	27.7	0.5	0.0				0.8	0.0	318.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	36.9	40.6	9.8	11.9	0.0				5.7	0.0	58.5
LnGrp Delay(d),s/veh	0.0	187.1	229.7	65.1	24.5	0.0				22.3	0.0	344.9
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2255			1489						1207	
Approach Delay, s/veh		201.3			33.4						261.7	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.7	28.2		28.8		26.0				
Green Ext Time (p_c), s			0.0	0.0		0.0		18.0				
Intersection Summary												
HCM 2010 Ctrl Delay		165.5										
HCM 2010 LOS		F										

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	784	886	0	0	841	285	528	5	255	0	0	0
Future Volume (veh/h)	784	886	0	0	841	285	528	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	852	963	0	0	914	310	574	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	407	4	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1759	15	1583			
Grp Volume(v), veh/h	852	963	0	0	914	310	579	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.8	0.0	0.0	15.5	9.3	18.5	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.8	0.0	0.0	15.5	9.3	18.5	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.60	0.41	0.00	0.00	0.81	0.61	1.41	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.36	0.36	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.7	11.6	30.8	0.0	28.7			
Incr Delay (d2), s/veh	271.2	0.0	0.0	0.0	2.4	2.0	198.8	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.7	1.6	0.0	0.0	7.5	4.2	31.7	0.0	6.6			
LnGrp Delay(d),s/veh	295.2	1.7	0.0	0.0	15.1	13.6	229.6	0.0	37.4			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h		1815			1224			856				
Approach Delay, s/veh		139.5			14.7			167.4				
Approach LOS		F			B			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		20.5		5.8			26.0	17.5				
Green Ext Time (p_c), s		0.0		22.5			0.0	6.5				
Intersection Summary												
HCM 2010 Ctrl Delay				106.4								
HCM 2010 LOS				F								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	643	80	35	518	130	125	10	25	145	15	483
Future Volume (veh/h)	418	643	80	35	518	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	699	87	38	563	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1022	457	63	630	157	403	33	387	374	38	366
Arrive On Green	0.20	0.58	0.58	0.04	0.22	0.22	0.24	0.24	0.24	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2808	701	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	699	87	38	354	350	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1739	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	11.0	2.1	1.7	15.5	15.6	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	11.0	2.1	1.7	15.5	15.6	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1022	457	63	397	390	435	0	387	412	0	366
V/C Ratio(X)	1.32	0.68	0.19	0.60	0.89	0.90	0.34	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1022	457	111	409	402	435	0	387	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.4	12.5	38.0	30.1	30.1	24.9	0.0	23.2	26.2	0.0	30.8
Incr Delay (d2), s/veh	160.9	1.7	0.2	8.8	20.7	21.7	2.1	0.0	0.3	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.5	0.9	1.0	9.9	9.8	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	192.9	16.1	12.6	46.8	50.8	51.8	27.0	0.0	23.6	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h	1240				742			174		699		
Approach Delay, s/veh	80.6				51.1			26.5		187.8		
Approach LOS	F				D			C		F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.5	6.9	27.1		22.5	12.0	22.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.4	3.7	13.0		20.5	10.0	17.6				
Green Ext Time (p_c), s		0.5	0.0	5.3		0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay	95.9											
HCM 2010 LOS	F											

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	708	588	30	25	95
Future Vol, veh/h	105	708	588	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	770	639	33	27	103























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	672	0	0 1268 336
Stage 1	-	-	- 655 -
Stage 2	-	-	- 613 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	915	-	- 160 660
Stage 1	-	-	- 479 -
Stage 2	-	-	- 503 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	915	-	- 125 660
Mov Cap-2 Maneuver	-	-	- 125 -
Stage 1	-	-	- 479 -
Stage 2	-	-	- 393 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	125	660
HCM Lane V/C Ratio	0.125	-	-	-	0.217	0.156
HCM Control Delay (s)	9.5	-	-	-	41.6	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (1C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	184	603	783	174	112	21	355	271	41	112
Future Volume (veh/h)	113	721	184	603	783	174	112	21	355	271	41	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	200	655	851	189	122	23	386	327	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	1093	279	107	1342	600	337	64	355	462	0	206
Arrive On Green	0.07	0.39	0.39	0.06	0.38	0.38	0.22	0.22	0.22	0.13	0.00	0.13
Sat Flow, veh/h	1774	2794	713	1774	3539	1583	1504	284	1583	3548	0	1583
Grp Volume(v), veh/h	123	497	487	655	851	189	145	0	386	327	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1737	1774	1770	1583	1788	0	1583	1774	0	1583
Q Serve(g_s), s	5.7	19.6	19.6	5.0	16.2	6.9	5.7	0.0	18.5	7.3	0.0	6.0
Cycle Q Clear(g_c), s	5.7	19.6	19.6	5.0	16.2	6.9	5.7	0.0	18.5	7.3	0.0	6.0
Prop In Lane	1.00		0.41	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	129	692	680	107	1342	600	400	0	355	462	0	206
V/C Ratio(X)	0.95	0.72	0.72	6.10	0.63	0.31	0.36	0.00	1.09	0.71	0.00	0.59
Avail Cap(c_a), veh/h	129	804	789	107	1564	700	400	0	355	1418	0	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.2	21.3	21.3	38.8	20.9	18.1	27.1	0.0	32.0	34.4	0.0	33.8
Incr Delay (d2), s/veh	65.0	2.6	2.6	2313.7	0.7	0.3	0.6	0.0	73.5	2.0	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	10.0	9.8	71.5	8.0	3.1	2.8	0.0	15.3	3.7	0.0	2.8
LnGrp Delay(d),s/veh	103.2	23.9	23.9	2352.5	21.6	18.4	27.6	0.0	105.5	36.4	0.0	36.5
LnGrp LOS	F	C	C	F	C	B	C		F	D		D
Approach Vol, veh/h		1107			1695			531			449	
Approach Delay, s/veh		32.7			922.0			84.2			36.4	
Approach LOS		C			F			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	9.0	36.3		14.8	10.0	35.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		20.5	7.0	21.6		9.3	7.7	18.2				
Green Ext Time (p_c), s		0.0	0.0	10.7		1.5	0.0	11.8				
Intersection Summary												
HCM 2010 Ctrl Delay			438.9									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.








Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↙	↑↑						↗	↗
Traffic Volume (veh/h)	0	923	423	178	864	0	0	0	0	176	1	696
Future Volume (veh/h)	0	923	423	178	864	0	0	0	0	176	1	696
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1003	460	193	939	0				191	1	757
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1302	597	237	2000	0				591	3	530
Arrive On Green	0.00	0.38	0.38	0.04	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3580	1565	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	997	466	193	939	0				192	0	757
Grp Sat Flow(s),veh/h/ln	0	1695	1587	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	20.6	20.6	8.6	18.9	0.0				6.5	0.0	26.8
Cycle Q Clear(g_c), s	0.0	20.6	20.6	8.6	18.9	0.0				6.5	0.0	26.8
Prop In Lane	0.00		0.99	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1294	605	237	2000	0				594	0	530
V/C Ratio(X)	0.00	0.77	0.77	0.82	0.47	0.00				0.32	0.00	1.43
Avail Cap(c_a), veh/h	0	1294	605	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.56	0.56	0.67	0.67	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.7	21.7	37.3	21.9	0.0				19.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	2.5	5.3	7.1	0.5	0.0				0.3	0.0	203.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.0	9.8	4.7	9.4	0.0				3.2	0.0	41.5
LnGrp Delay(d),s/veh	0.0	24.2	27.0	44.4	22.4	0.0				20.1	0.0	229.6
LnGrp LOS		C	C	D	C					C		F
Approach Vol, veh/h		1463			1132						949	
Approach Delay, s/veh		25.1			26.1						187.2	
Approach LOS		C			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	34.5		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	22.6		28.8		20.9				
Green Ext Time (p_c), s			0.2	3.3		0.0		17.8				
Intersection Summary												
HCM 2010 Ctrl Delay			68.8									
HCM 2010 LOS			E									


Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	570	529	0	0	600	222	442	3	255	0	0	0
Future Volume (veh/h)	570	529	0	0	600	222	442	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	620	575	0	0	652	241	480	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	408	3	366			
Arrive On Green	0.50	1.00	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1764	11	1583			
Grp Volume(v), veh/h	620	575	0	0	652	241	483	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	8.5	6.3	18.5	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	8.5	6.3	18.5	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.16	0.24	0.00	0.00	0.58	0.48	1.18	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.47	0.47	0.00	0.00	0.68	0.68	1.00	0.00	1.00			
Uniform Delay (d), s/veh	20.0	0.0	0.0	0.0	11.4	11.0	30.8	0.0	28.7			
Incr Delay (d2), s/veh	84.0	0.1	0.0	0.0	1.5	2.2	102.3	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	23.8	0.0	0.0	0.0	4.2	3.0	20.7	0.0	6.6			
LnGrp Delay(d),s/veh	104.0	0.1	0.0	0.0	12.9	13.2	133.1	0.0	37.4			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h	1195				893			760				
Approach Delay, s/veh	54.0				13.0			98.2				
Approach LOS	D				B			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		20.5		2.0			26.0	10.5				
Green Ext Time (p_c), s		0.0		11.8			0.0	7.6				
Intersection Summary												
HCM 2010 Ctrl Delay				52.9								
HCM 2010 LOS				D								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (1C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↗	↘	↔	↗	↘		↗	↘		↗	↘
Traffic Volume (veh/h)	333	347	104	35	344	110	175	5	50	129	0	303
Future Volume (veh/h)	333	347	104	35	344	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	377	113	38	374	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	912	408	63	512	162	482	13	441	405	0	361
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2646	838	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	377	113	38	248	246	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1715	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.9	3.7	1.7	10.5	10.8	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.9	3.7	1.7	10.5	10.8	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.49	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	912	408	63	342	332	494	0	441	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.73	0.74	0.39	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	397	494	0	441	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.6	18.0	38.0	30.3	30.4	23.4	0.0	21.6	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.7	0.3	0.3	8.8	5.1	5.9	2.3	0.0	0.6	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.6	1.0	5.6	5.7	3.8	0.0	1.0	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.1	18.9	18.3	46.8	35.4	36.3	25.7	0.0	22.1	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	D	D	C		C	C		E
Approach Vol, veh/h	852				532			249			469	
Approach Delay, s/veh	51.2				36.7			25.0			47.1	
Approach LOS	D				D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.3	6.9	24.6		22.3	12.0	19.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		9.1	3.7	7.9		18.2	10.0	12.8				
Green Ext Time (p_c), s		0.8	0.0	4.7		0.1	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay	43.5											
HCM 2010 LOS	D											

Redding Rancheria
7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Opening Year (2025) plus Project (1C) Conditions

Saturday PM Peak

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	449	415	30	10	74
Future Vol, veh/h	77	449	415	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	488	451	33	11	80























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	484	0	878
Stage 1	-	-	467
Stage 2	-	-	411
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1075	-	287
Stage 1	-	-	597
Stage 2	-	-	638
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1075	-	256
Mov Cap-2 Maneuver	-	-	256
Stage 1	-	-	597
Stage 2	-	-	570

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1075	-	-	-	256	759
HCM Lane V/C Ratio	0.078	-	-	-	0.042	0.106
HCM Control Delay (s)	8.6	-	-	-	19.7	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd


Opening Year (2025) plus Project (1D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	59	176	1102	306	58	21	167	756	26	265
Future Volume (veh/h)	208	989	59	176	1102	306	58	21	167	756	26	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1075	64	191	1198	333	63	23	182	842	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	1277	76	89	1296	580	180	66	217	977	0	436
Arrive On Green	0.06	0.38	0.38	0.05	0.37	0.37	0.14	0.14	0.14	0.28	0.00	0.28
Sat Flow, veh/h	1774	3395	202	1774	3539	1583	1316	481	1583	3548	0	1583
Grp Volume(v), veh/h	226	560	579	191	1198	333	86	0	182	842	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1827	1774	1770	1583	1797	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	28.7	28.7	5.0	32.2	16.8	4.3	0.0	11.1	22.4	0.0	16.0
Cycle Q Clear(g_c), s	6.0	28.7	28.7	5.0	32.2	16.8	4.3	0.0	11.1	22.4	0.0	16.0
Prop In Lane	1.00		0.11	1.00		1.00	0.73		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	107	666	687	89	1296	580	246	0	217	977	0	436
V/C Ratio(X)	2.11	0.84	0.84	2.14	0.92	0.57	0.35	0.00	0.84	0.86	0.00	0.66
Avail Cap(c_a), veh/h	107	668	690	89	1301	582	335	0	295	1179	0	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.6	28.3	28.3	47.1	30.1	25.3	38.9	0.0	41.8	34.2	0.0	31.9
Incr Delay (d2), s/veh	528.8	9.5	9.2	547.5	11.2	1.4	0.8	0.0	14.6	5.8	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.7	15.8	16.2	16.0	17.7	7.5	2.2	0.0	5.8	11.8	0.0	7.2
LnGrp Delay(d),s/veh	575.4	37.7	37.5	594.6	41.3	26.6	39.7	0.0	56.4	39.9	0.0	34.1
LnGrp LOS	F	D	D	F	D	C	D		E	D		C
Approach Vol, veh/h	1365				1722				268		1130	
Approach Delay, s/veh	126.6				99.9				51.0		38.5	
Approach LOS	F				F				D		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	17.6		9.0	41.4	31.4		10.0	40.4				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	18.5		5.0	37.5	33.0		6.0	36.5				
Max Q Clear Time (g_c+I1), s	13.1		7.0	30.7	24.4		8.0	34.2				
Green Ext Time (p_c), s	0.5		0.0	6.1	3.0		0.0	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay	89.6											
HCM 2010 LOS	F											
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions
Friday PM Peak

	<div></div>											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↖	↑↑						↗	↖
Traffic Volume (veh/h)	0	1288	624	300	927	0	0	0	0	285	1	658
Future Volume (veh/h)	0	1288	624	300	927	0	0	0	0	285	1	658
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1400	678	326	1008	0				310	1	715
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1110	519	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1400	678	326	1008	0				311	0	715
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	20.5	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	20.5	0.0				11.3	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.26	1.31	0.98	0.50	0.00				0.52	0.00	1.35
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.43	0.43	0.46	0.46	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	22.5	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	120.7	144.4	28.5	0.4	0.0				0.8	0.0	168.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	30.8	32.2	9.9	10.2	0.0				5.7	0.0	36.5
LnGrp Delay(d),s/veh	0.0	147.6	171.3	65.9	22.9	0.0				22.3	0.0	195.4
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2078			1334						1026	
Approach Delay, s/veh		155.3			33.4						142.9	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.7	28.2		28.8		22.5				
Green Ext Time (p_c), s			0.0	0.0		0.0		20.2				
Intersection Summary												
HCM 2010 Ctrl Delay		115.8										
HCM 2010 LOS		F										






















Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	696	878	0	0	825	285	402	5	255	0	0	0
Future Volume (veh/h)	696	878	0	0	825	285	402	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	757	954	0	0	897	310	437	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	406	5	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1755	20	1583			
Grp Volume(v), veh/h	757	954	0	0	897	310	442	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.7	0.0	0.0	14.9	9.3	18.5	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.7	0.0	0.0	14.9	9.3	18.5	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.42	0.40	0.00	0.00	0.80	0.61	1.08	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.38	0.38	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.6	11.6	30.8	0.0	28.7			
Incr Delay (d2), s/veh	191.1	0.0	0.0	0.0	2.3	2.1	66.5	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	39.9	1.6	0.0	0.0	7.3	4.3	16.6	0.0	6.6			
LnGrp Delay(d),s/veh	215.1	1.7	0.0	0.0	14.9	13.7	97.3	0.0	37.4			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h	1711			1207			719					
Approach Delay, s/veh	96.1			14.6			74.2					
Approach LOS	F			B			E					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		7		8					
Phs Duration (G+Y+Rc), s	22.5		57.5		28.0		29.5					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	18.5		53.5		24.0		25.5					
Max Q Clear Time (g_c+I1), s	20.5		5.7		26.0		16.9					
Green Ext Time (p_c), s	0.0		22.1		0.0		6.9					
Intersection Summary												
HCM 2010 Ctrl Delay	64.7											
HCM 2010 LOS	E											

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (1D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	635	80	35	502	130	125	10	25	145	15	483
Future Volume (veh/h)	418	635	80	35	502	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	690	87	38	546	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1011	452	63	617	159	408	33	392	374	38	366
Arrive On Green	0.20	0.57	0.57	0.04	0.22	0.22	0.25	0.25	0.25	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2788	717	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	690	87	38	346	341	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1736	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	11.0	2.1	1.7	15.1	15.2	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	11.0	2.1	1.7	15.1	15.2	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.41	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1011	452	63	391	384	441	0	392	412	0	366
V/C Ratio(X)	1.32	0.68	0.19	0.60	0.88	0.89	0.33	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1011	452	111	409	401	441	0	392	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.6	12.7	38.0	30.2	30.2	24.7	0.0	23.0	26.2	0.0	30.8
Incr Delay (d2), s/veh	161.0	1.7	0.2	8.8	19.3	20.3	2.0	0.0	0.3	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.4	0.9	1.0	9.5	9.5	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	193.0	16.3	12.9	46.8	49.4	50.5	26.7	0.0	23.4	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h	1231				725		174				699	
Approach Delay, s/veh	81.2				49.8		26.2				187.8	
Approach LOS	F				D		C				F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	23.8		6.9	26.8	22.5		12.0	21.7				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	19.0		5.0	21.5	18.5		8.0	18.5				
Max Q Clear Time (g_c+I1), s	7.4		3.7	13.0	20.5		10.0	17.2				
Green Ext Time (p_c), s	0.5		0.0	5.2	0.0		0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	96.1											
HCM 2010 LOS	F											

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	700	572	30	25	95
Future Vol, veh/h	105	700	572	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	761	622	33	27	103























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	654	0	0 1247 327
Stage 1	-	-	- 638 -
Stage 2	-	-	- 609 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	929	-	- 166 669
Stage 1	-	-	- 488 -
Stage 2	-	-	- 505 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	929	-	- 131 669
Mov Cap-2 Maneuver	-	-	- 131 -
Stage 1	-	-	- 488 -
Stage 2	-	-	- 397 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	929	-	-	-	131	669
HCM Lane V/C Ratio	0.123	-	-	-	0.207	0.154
HCM Control Delay (s)	9.4	-	-	-	39.5	11.4
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (1D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	86	271	783	174	78	15	247	271	23	112
Future Volume (veh/h)	113	721	86	271	783	174	78	15	247	271	23	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	93	295	851	189	85	16	268	313	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	1251	148	118	1342	600	297	56	313	461	0	206
Arrive On Green	0.08	0.39	0.39	0.07	0.38	0.38	0.20	0.20	0.20	0.13	0.00	0.13
Sat Flow, veh/h	1774	3188	378	1774	3539	1583	1504	283	1583	3548	0	1583
Grp Volume(v), veh/h	123	435	442	295	851	189	101	0	268	313	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1796	1774	1770	1583	1788	0	1583	1774	0	1583
Q Serve(g_s), s	5.1	14.9	14.9	5.0	14.7	6.3	3.6	0.0	12.3	6.3	0.0	5.4
Cycle Q Clear(g_c), s	5.1	14.9	14.9	5.0	14.7	6.3	3.6	0.0	12.3	6.3	0.0	5.4
Prop In Lane	1.00		0.21	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	142	695	705	118	1342	600	353	0	313	461	0	206
V/C Ratio(X)	0.87	0.63	0.63	2.50	0.63	0.31	0.29	0.00	0.86	0.68	0.00	0.59
Avail Cap(c_a), veh/h	142	885	898	118	1722	770	441	0	390	1561	0	696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.1	18.4	18.4	35.0	19.0	16.4	25.6	0.0	29.1	31.1	0.0	30.8
Incr Delay (d2), s/veh	39.4	0.9	0.9	697.3	0.5	0.3	0.4	0.0	14.3	1.8	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	7.4	7.5	25.3	7.3	2.8	1.8	0.0	6.6	3.2	0.0	2.5
LnGrp Delay(d),s/veh	73.6	19.3	19.3	732.3	19.5	16.7	26.0	0.0	43.4	32.9	0.0	33.5
LnGrp LOS	E	B	B	F	B	B	C		D	C		C
Approach Vol, veh/h		1000			1335			369			435	
Approach Delay, s/veh		26.0			176.6			38.6			33.1	
Approach LOS		C			F			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.8	9.0	33.5		13.7	10.0	32.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		14.3	7.0	16.9		8.3	7.1	16.7				
Green Ext Time (p_c), s		0.6	0.0	12.0		1.4	0.0	11.7				
Intersection Summary												
HCM 2010 Ctrl Delay			92.5									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.








Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↙	↑↑						↗	↗
Traffic Volume (veh/h)	0	859	380	178	711	0	0	0	0	176	1	517
Future Volume (veh/h)	0	859	380	178	711	0	0	0	0	176	1	517
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	934	413	193	773	0				191	1	562
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1319	583	237	2000	0				591	3	530
Arrive On Green	0.00	0.38	0.38	0.04	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3624	1527	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	916	431	193	773	0				192	0	562
Grp Sat Flow(s),veh/h/ln	0	1695	1593	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	18.3	18.3	8.6	15.3	0.0				6.5	0.0	26.8
Cycle Q Clear(g_c), s	0.0	18.3	18.3	8.6	15.3	0.0				6.5	0.0	26.8
Prop In Lane	0.00		0.96	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1294	608	237	2000	0				594	0	530
V/C Ratio(X)	0.00	0.71	0.71	0.82	0.39	0.00				0.32	0.00	1.06
Avail Cap(c_a), veh/h	0	1294	608	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.71	0.71	0.71	0.71	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.0	21.0	37.3	20.4	0.0				19.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	2.3	4.9	7.5	0.4	0.0				0.3	0.0	55.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.9	8.8	4.7	7.6	0.0				3.2	0.0	19.9
LnGrp Delay(d),s/veh	0.0	23.3	25.9	44.8	20.8	0.0				20.1	0.0	82.4
LnGrp LOS		C	C	D	C					C		F
Approach Vol, veh/h		1347			966						754	
Approach Delay, s/veh		24.1			25.6						66.5	
Approach LOS		C			C						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	34.5		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+l1), s			10.6	20.3		28.8		17.3				
Green Ext Time (p_c), s			0.2	5.0		0.0		17.4				
Intersection Summary												
HCM 2010 Ctrl Delay			35.0									
HCM 2010 LOS			D									






















Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	511	523	0	0	582	222	307	3	255	0	0	0
Future Volume (veh/h)	511	523	0	0	582	222	307	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	555	568	0	0	633	241	334	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2421	0	0	1182	529	380	3	342			
Arrive On Green	0.60	1.00	0.00	0.00	0.67	0.67	0.22	0.22	0.22			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1759	16	1583			
Grp Volume(v), veh/h	555	568	0	0	633	241	337	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	7.4	5.8	14.7	0.0	13.3			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	7.4	5.8	14.7	0.0	13.3			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2421	0	0	1182	529	383	0	342			
V/C Ratio(X)	1.04	0.23	0.00	0.00	0.54	0.46	0.88	0.00	0.81			
Avail Cap(c_a), veh/h	532	2421	0	0	1182	529	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.66	0.66	0.00	0.00	0.69	0.69	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.0	0.0	0.0	0.0	10.1	9.8	30.4	0.0	29.8			
Incr Delay (d2), s/veh	43.4	0.2	0.0	0.0	1.2	2.0	18.4	0.0	12.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	17.7	0.1	0.0	0.0	3.7	2.7	9.2	0.0	6.9			
LnGrp Delay(d),s/veh	59.4	0.2	0.0	0.0	11.3	11.8	48.8	0.0	42.0			
LnGrp LOS	F	A			B	B	D		D			
Approach Vol, veh/h	1123				874			614				
Approach Delay, s/veh	29.4				11.4			45.7				
Approach LOS	C				B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		21.3		58.7			28.0	30.7				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		16.7		2.0			26.0	9.4				
Green Ext Time (p_c), s		0.6		11.5			0.0	7.8				
Intersection Summary												
HCM 2010 Ctrl Delay				27.2								
HCM 2010 LOS				C								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (1D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	341	104	35	326	110	175	5	50	129	0	303
Future Volume (veh/h)	333	341	104	35	326	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	371	113	38	354	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	897	401	63	493	165	489	13	448	405	0	361
Arrive On Green	0.17	0.42	0.42	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2608	871	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	371	113	38	239	235	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1709	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.9	3.7	1.7	10.1	10.4	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.9	3.7	1.7	10.1	10.4	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.51	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	897	401	63	335	323	502	0	448	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.71	0.73	0.39	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	395	502	0	448	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.9	18.3	38.0	30.4	30.5	23.1	0.0	21.3	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	4.5	5.3	2.3	0.0	0.6	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	2.9	1.7	1.0	5.3	5.4	3.8	0.0	0.9	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.0	19.2	18.7	46.8	34.9	35.8	25.4	0.0	21.9	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	C	D	C		C	C		E
Approach Vol, veh/h		846			512			249			469	
Approach Delay, s/veh		51.6			36.2			24.6			47.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.6	6.9	24.3		22.3	12.0	19.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		9.1	3.7	7.9		18.2	10.0	12.4				
Green Ext Time (p_c), s		0.8	0.0	4.6		0.1	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay		43.5										
HCM 2010 LOS		D										

Redding Rancheria
7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Opening Year (2025) plus Project (1D) Conditions

Saturday PM Peak

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	443	397	30	10	74
Future Vol, veh/h	77	443	397	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	482	432	33	11	80























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	464	0	856
Stage 1	-	-	448
Stage 2	-	-	408
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1094	-	297
Stage 1	-	-	611
Stage 2	-	-	640
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1094	-	266
Mov Cap-2 Maneuver	-	-	266
Stage 1	-	-	611
Stage 2	-	-	573

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1094	-	-	-	266	770
HCM Lane V/C Ratio	0.077	-	-	-	0.041	0.104
HCM Control Delay (s)	8.6	-	-	-	19.1	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (2A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	163	354	1102	306	119	32	260	756	45	265
Future Volume (veh/h)	208	989	163	354	1102	306	119	32	260	756	45	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1075	177	385	1198	333	129	35	283	857	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	1076	177	84	1218	545	246	67	276	972	0	434
Arrive On Green	0.06	0.35	0.35	0.05	0.34	0.34	0.17	0.17	0.17	0.27	0.00	0.27
Sat Flow, veh/h	1774	3044	500	1774	3539	1583	1410	382	1583	3548	0	1583
Grp Volume(v), veh/h	226	624	628	385	1198	333	164	0	283	857	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1774	1774	1770	1583	1792	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	37.3	37.5	5.0	35.6	18.5	8.8	0.0	18.5	24.5	0.0	17.1
Cycle Q Clear(g_c), s	6.0	37.3	37.5	5.0	35.6	18.5	8.8	0.0	18.5	24.5	0.0	17.1
Prop In Lane	1.00		0.28	1.00		1.00	0.79		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	100	626	627	84	1218	545	313	0	276	972	0	434
V/C Ratio(X)	2.25	1.00	1.00	4.60	0.98	0.61	0.52	0.00	1.02	0.88	0.00	0.66
Avail Cap(c_a), veh/h	100	626	627	84	1218	545	313	0	276	1104	0	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.0	34.2	34.3	50.5	34.5	28.9	39.8	0.0	43.8	36.9	0.0	34.2
Incr Delay (d2), s/veh	593.9	35.2	36.2	1648.4	21.8	2.0	1.6	0.0	60.6	7.8	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.5	24.3	24.6	40.7	21.0	8.4	4.5	0.0	12.7	13.1	0.0	7.8
LnGrp Delay(d),s/veh	643.9	69.4	70.4	1698.9	56.3	30.9	41.4	0.0	104.5	44.7	0.0	37.0
LnGrp LOS	F	E	F	F	E	C	D		F	D		D
Approach Vol, veh/h		1478			1916			447			1145	
Approach Delay, s/veh		157.7			381.9			81.3			42.7	
Approach LOS		F			F			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	9.0	41.5		33.1	10.0	40.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		20.5	7.0	39.5		26.5	8.0	37.6				
Green Ext Time (p_c), s		0.0	0.0	0.0		2.5	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			210.6									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd






















Opening Year (2025) plus Project (2A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↶	↑↑						↷	↷
Traffic Volume (veh/h)	0	1418	587	300	908	0	0	0	0	285	1	855
Future Volume (veh/h)	0	1418	587	300	908	0	0	0	0	285	1	855
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1541	638	326	987	0				310	1	929
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1169	469	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3737	1431	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1461	718	326	987	0				311	0	929
Grp Sat Flow(s),veh/h/ln	0	1695	1610	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	20.0	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	20.0	0.0				11.3	0.0	26.8
Prop In Lane	0.00		0.89	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	527	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.32	1.36	0.98	0.49	0.00				0.52	0.00	1.75
Avail Cap(c_a), veh/h	0	1110	527	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.18	0.18	0.44	0.44	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	22.3	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	143.4	164.7	27.6	0.4	0.0				0.8	0.0	345.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	34.3	35.7	9.8	9.9	0.0				5.7	0.0	62.6
LnGrp Delay(d),s/veh	0.0	170.3	191.6	64.9	22.7	0.0				22.3	0.0	372.5
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2179			1313						1240	
Approach Delay, s/veh		177.3			33.2						284.7	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.7	28.2		28.8		22.0				
Green Ext Time (p_c), s			0.0	0.0		0.0		20.8				
Intersection Summary												
HCM 2010 Ctrl Delay		165.5										
HCM 2010 LOS		F										

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	815	889	0	0	844	285	364	5	255	0	0	0
Future Volume (veh/h)	815	889	0	0	844	285	364	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	886	966	0	0	917	310	396	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	405	5	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	22	1583			
Grp Volume(v), veh/h	886	966	0	0	917	310	401	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.8	0.0	0.0	15.6	9.3	17.9	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.8	0.0	0.0	15.6	9.3	17.9	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.66	0.41	0.00	0.00	0.81	0.61	0.98	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.36	0.36	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.7	11.6	30.5	0.0	28.7			
Incr Delay (d2), s/veh	299.9	0.0	0.0	0.0	2.4	2.0	38.2	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	56.0	1.6	0.0	0.0	7.8	4.2	13.2	0.0	6.6			
LnGrp Delay(d),s/veh	323.9	1.7	0.0	0.0	15.1	13.6	68.7	0.0	37.4			
LnGrp LOS	F	A			B	B	E		D			
Approach Vol, veh/h	1852				1227				678			
Approach Delay, s/veh	155.9				14.7				55.9			
Approach LOS	F				B				E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4				7	8				
Phs Duration (G+Y+Rc), s	22.5		57.5				28.0	29.5				
Change Period (Y+Rc), s	4.0		4.0				4.0	4.0				
Max Green Setting (Gmax), s	18.5		53.5				24.0	25.5				
Max Q Clear Time (g_c+I1), s	19.9		5.8				26.0	17.6				
Green Ext Time (p_c), s	0.0		22.6				0.0	6.5				
Intersection Summary												
HCM 2010 Ctrl Delay			91.7									
HCM 2010 LOS			F									

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	646	80	35	521	130	125	10	25	145	15	483
Future Volume (veh/h)	418	646	80	35	521	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	702	87	38	566	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1024	458	63	632	157	402	32	386	374	38	366
Arrive On Green	0.20	0.58	0.58	0.04	0.22	0.22	0.24	0.24	0.24	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2811	698	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	702	87	38	356	351	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1740	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	11.1	2.1	1.7	15.6	15.7	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	11.1	2.1	1.7	15.6	15.7	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1024	458	63	398	391	434	0	386	412	0	366
V/C Ratio(X)	1.32	0.69	0.19	0.60	0.89	0.90	0.34	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1024	458	111	409	402	434	0	386	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.3	12.4	38.0	30.1	30.1	24.9	0.0	23.3	26.2	0.0	30.8
Incr Delay (d2), s/veh	160.9	1.7	0.2	8.8	21.0	22.0	2.1	0.0	0.4	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.5	0.9	1.0	9.9	9.9	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	192.9	16.0	12.6	46.8	51.0	52.1	27.0	0.0	23.6	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h	1243				745			174		699		
Approach Delay, s/veh	80.4				51.3			26.5		187.8		
Approach LOS	F				D			C		F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.5	6.9	27.1		22.5	12.0	22.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.4	3.7	13.1		20.5	10.0	17.7				
Green Ext Time (p_c), s		0.5	0.0	5.3		0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay	95.8											
HCM 2010 LOS	F											

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	711	591	30	25	95
Future Vol, veh/h	105	711	591	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	773	642	33	27	103























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	675	0	0 1274 338
Stage 1	-	-	- 659 -
Stage 2	-	-	- 615 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	912	-	- 159 658
Stage 1	-	-	- 476 -
Stage 2	-	-	- 502 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	912	-	- 124 658
Mov Cap-2 Maneuver	-	-	- 124 -
Stage 1	-	-	- 476 -
Stage 2	-	-	- 392 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	912	-	-	-	124	658
HCM Lane V/C Ratio	0.125	-	-	-	0.219	0.157
HCM Control Delay (s)	9.5	-	-	-	42	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd


Opening Year (2025) plus Project (2A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	201	429	783	174	122	23	259	271	44	112
Future Volume (veh/h)	113	721	201	429	783	174	122	23	259	271	44	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	218	466	851	189	133	25	282	329	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	1100	306	111	1379	617	307	58	323	469	0	209
Arrive On Green	0.07	0.40	0.40	0.06	0.39	0.39	0.20	0.20	0.20	0.13	0.00	0.13
Sat Flow, veh/h	1774	2737	761	1774	3539	1583	1505	283	1583	3548	0	1583
Grp Volume(v), veh/h	123	507	495	466	851	189	158	0	282	329	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1728	1774	1770	1583	1788	0	1583	1774	0	1583
Q Serve(g_s), s	5.5	19.2	19.2	5.0	15.5	6.6	6.2	0.0	13.8	7.1	0.0	5.8
Cycle Q Clear(g_c), s	5.5	19.2	19.2	5.0	15.5	6.6	6.2	0.0	13.8	7.1	0.0	5.8
Prop In Lane	1.00		0.44	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	133	711	695	111	1379	617	364	0	323	469	0	209
V/C Ratio(X)	0.93	0.71	0.71	4.21	0.62	0.31	0.43	0.00	0.87	0.70	0.00	0.58
Avail Cap(c_a), veh/h	133	828	809	111	1612	721	413	0	366	1461	0	652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.8	20.1	20.1	37.6	19.7	17.0	27.9	0.0	30.9	33.3	0.0	32.7
Incr Delay (d2), s/veh	55.9	2.4	2.5	1465.5	0.5	0.3	0.8	0.0	18.7	1.9	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	9.8	9.6	47.5	7.7	2.9	3.1	0.0	7.7	3.6	0.0	2.7
LnGrp Delay(d),s/veh	92.8	22.5	22.5	1503.1	20.2	17.2	28.7	0.0	49.6	35.2	0.0	35.3
LnGrp LOS	F	C	C	F	C	B	C		D	D		D
Approach Vol, veh/h		1125			1506			440			451	
Approach Delay, s/veh		30.2			478.7			42.1			35.2	
Approach LOS		C			F			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.3	9.0	36.2		14.6	10.0	35.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		15.8	7.0	21.2		9.1	7.5	17.5				
Green Ext Time (p_c), s		0.5	0.0	11.0		1.5	0.0	12.3				
Intersection Summary												
HCM 2010 Ctrl Delay			224.1									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	947	304	178	654	0	0	0	0	176	1	732
Future Volume (veh/h)	0	947	304	178	654	0	0	0	0	176	1	732
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1029	330	193	711	0				191	1	796
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1455	467	237	2000	0				591	3	530
Arrive On Green	0.00	0.38	0.38	0.04	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3982	1223	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	914	445	193	711	0				192	0	796
Grp Sat Flow(s),veh/h/ln	0	1695	1647	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	18.3	18.3	8.6	14.0	0.0				6.5	0.0	26.8
Cycle Q Clear(g_c), s	0.0	18.3	18.3	8.6	14.0	0.0				6.5	0.0	26.8
Prop In Lane	0.00		0.74	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1294	628	237	2000	0				594	0	530
V/C Ratio(X)	0.00	0.71	0.71	0.82	0.36	0.00				0.32	0.00	1.50
Avail Cap(c_a), veh/h	0	1294	628	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.62	0.62	0.67	0.67	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.0	21.0	37.3	19.9	0.0				19.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	2.0	4.1	7.1	0.3	0.0				0.3	0.0	235.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.9	9.0	4.7	6.9	0.0				3.2	0.0	46.3
LnGrp Delay(d),s/veh	0.0	23.0	25.1	44.4	20.2	0.0				20.1	0.0	261.7
LnGrp LOS		C	C	D	C					C		F
Approach Vol, veh/h	1359					904				988		
Approach Delay, s/veh	23.7					25.3				214.7		
Approach LOS	C					C				F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	34.5		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	20.3		28.8		16.0				
Green Ext Time (p_c), s			0.2	4.9		0.0		17.3				
Intersection Summary												
HCM 2010 Ctrl Delay			82.2									
HCM 2010 LOS			F									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd


Opening Year (2025) plus Project (2A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	592	531	0	0	603	222	229	3	255	0	0	0
Future Volume (veh/h)	592	531	0	0	603	222	229	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	643	577	0	0	655	241	249	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2467	0	0	1228	549	356	4	321			
Arrive On Green	0.50	1.00	0.00	0.00	0.69	0.69	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1754	21	1583			
Grp Volume(v), veh/h	643	577	0	0	655	241	252	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	7.2	5.4	10.5	0.0	13.5			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	7.2	5.4	10.5	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2467	0	0	1228	549	360	0	321			
V/C Ratio(X)	1.21	0.23	0.00	0.00	0.53	0.44	0.70	0.00	0.86			
Avail Cap(c_a), veh/h	532	2467	0	0	1228	549	410	0	366			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.54	0.54	0.00	0.00	0.68	0.68	1.00	0.00	1.00			
Uniform Delay (d), s/veh	20.0	0.0	0.0	0.0	9.1	8.8	29.6	0.0	30.8			
Incr Delay (d2), s/veh	103.3	0.1	0.0	0.0	1.1	1.7	4.4	0.0	17.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	26.6	0.0	0.0	0.0	3.5	2.5	5.6	0.0	7.4			
LnGrp Delay(d),s/veh	123.3	0.1	0.0	0.0	10.2	10.5	34.0	0.0	47.7			
LnGrp LOS	F	A			B	B	C		D			
Approach Vol, veh/h	1220				896			529				
Approach Delay, s/veh	65.0				10.3			41.2				
Approach LOS	E				B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.2		59.8			28.0	31.8				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		15.5		2.0			26.0	9.2				
Green Ext Time (p_c), s		0.7		11.9			0.0	8.0				
Intersection Summary												
HCM 2010 Ctrl Delay				41.7								
HCM 2010 LOS				D								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (2A) Conditions

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↗	↘	↔	↗	↘		↕	↗		↕	↘
Traffic Volume (veh/h)	333	349	104	35	347	110	175	5	50	129	0	303
Future Volume (veh/h)	333	349	104	35	347	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	379	113	38	377	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	914	409	63	514	162	481	13	440	405	0	361
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2652	833	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	379	113	38	250	247	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1716	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.9	3.7	1.7	10.6	10.8	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.9	3.7	1.7	10.6	10.8	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.49	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	914	409	63	343	333	493	0	440	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.73	0.74	0.40	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	397	493	0	440	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.6	17.9	38.0	30.3	30.4	23.4	0.0	21.6	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.7	0.3	0.3	8.8	5.3	6.0	2.4	0.0	0.6	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.6	1.0	5.6	5.7	3.8	0.0	1.0	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.0	18.8	18.3	46.8	35.5	36.4	25.8	0.0	22.2	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	D	D	C		C	C		E
Approach Vol, veh/h	854			535			249			469		
Approach Delay, s/veh	51.0			36.7			25.0			47.1		
Approach LOS	D			D			C			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.2	6.9	24.7		22.3	12.0	19.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		9.1	3.7	7.9		18.2	10.0	12.8				
Green Ext Time (p_c), s		0.8	0.0	4.7		0.1	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay	43.5											
HCM 2010 LOS	D											

Redding Rancheria
7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Opening Year (2025) plus Project (2A) Conditions

Saturday PM Peak

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	451	418	30	10	74
Future Vol, veh/h	77	451	418	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	490	454	33	11	80























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	487	0	884
Stage 1	-	-	471
Stage 2	-	-	413
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1072	-	285
Stage 1	-	-	594
Stage 2	-	-	636
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1072	-	254
Mov Cap-2 Maneuver	-	-	254
Stage 1	-	-	594
Stage 2	-	-	567

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1072	-	-	-	254	758
HCM Lane V/C Ratio	0.078	-	-	-	0.043	0.106
HCM Control Delay (s)	8.6	-	-	-	19.8	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (2B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	141	297	1102	306	94	28	198	756	41	265
Future Volume (veh/h)	208	989	141	297	1102	306	94	28	198	756	41	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1075	153	323	1198	333	102	30	215	854	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	1134	161	86	1255	561	216	64	247	978	0	436
Arrive On Green	0.06	0.36	0.36	0.05	0.35	0.35	0.16	0.16	0.16	0.28	0.00	0.28
Sat Flow, veh/h	1774	3112	442	1774	3539	1583	1386	408	1583	3548	0	1583
Grp Volume(v), veh/h	226	611	617	323	1198	333	132	0	215	854	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1785	1774	1770	1583	1793	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	34.4	34.6	5.0	34.0	17.7	6.9	0.0	13.6	23.6	0.0	16.6
Cycle Q Clear(g_c), s	6.0	34.4	34.6	5.0	34.0	17.7	6.9	0.0	13.6	23.6	0.0	16.6
Prop In Lane	1.00		0.25	1.00		1.00	0.77		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	103	645	650	86	1255	561	280	0	247	978	0	436
V/C Ratio(X)	2.18	0.95	0.95	3.75	0.95	0.59	0.47	0.00	0.87	0.87	0.00	0.66
Avail Cap(c_a), veh/h	103	645	651	86	1256	562	322	0	285	1138	0	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.4	31.7	31.8	48.9	32.4	27.1	39.6	0.0	42.4	35.5	0.0	33.0
Incr Delay (d2), s/veh	563.3	23.2	23.6	1263.7	15.8	1.7	1.2	0.0	22.0	6.9	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.1	20.9	21.2	32.7	19.4	7.9	3.5	0.0	7.5	12.4	0.0	7.5
LnGrp Delay(d),s/veh	611.8	54.9	55.4	1312.6	48.2	28.8	40.8	0.0	64.4	42.4	0.0	35.5
LnGrp LOS	F	D	E	F	D	C	D		E	D		D
Approach Vol, veh/h		1454			1854			347			1142	
Approach Delay, s/veh		141.7			265.0			55.4			40.7	
Approach LOS		F			F			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.0	9.0	41.5		32.4	10.0	40.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		15.6	7.0	36.6		25.6	8.0	36.0				
Green Ext Time (p_c), s		0.4	0.0	0.9		2.7	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			159.1									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↵	↑↑						↵	↵
Traffic Volume (veh/h)	0	1362	581	300	898	0	0	0	0	285	1	808
Future Volume (veh/h)	0	1362	581	300	898	0	0	0	0	285	1	808
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1480	632	326	976	0				310	1	878
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1155	480	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3696	1466	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1421	691	326	976	0				311	0	878
Grp Sat Flow(s),veh/h/ln	0	1695	1604	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	19.7	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	19.7	0.0				11.3	0.0	26.8
Prop In Lane	0.00		0.91	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	525	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.28	1.32	0.98	0.49	0.00				0.52	0.00	1.66
Avail Cap(c_a), veh/h	0	1110	525	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.28	0.28	0.44	0.44	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	22.2	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	127.9	146.2	27.7	0.4	0.0				0.8	0.0	303.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	31.9	32.9	9.8	9.8	0.0				5.7	0.0	56.3
LnGrp Delay(d),s/veh	0.0	154.8	173.1	65.1	22.6	0.0				22.3	0.0	329.8
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2112			1302						1189	
Approach Delay, s/veh		160.8			33.2						249.4	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.7	28.2		28.8		21.7				
Green Ext Time (p_c), s			0.0	0.0		0.0		20.7				
Intersection Summary												
HCM 2010 Ctrl Delay		147.6										
HCM 2010 LOS		F										






















Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	764	885	0	0	840	285	358	5	255	0	0	0
Future Volume (veh/h)	764	885	0	0	840	285	358	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	830	962	0	0	913	310	389	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	405	5	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	23	1583			
Grp Volume(v), veh/h	830	962	0	0	913	310	394	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.8	0.0	0.0	15.5	9.3	17.5	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.8	0.0	0.0	15.5	9.3	17.5	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.56	0.41	0.00	0.00	0.81	0.61	0.96	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.36	0.36	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.7	11.6	30.4	0.0	28.7			
Incr Delay (d2), s/veh	252.6	0.0	0.0	0.0	2.4	2.0	34.0	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	49.0	1.6	0.0	0.0	7.5	4.2	12.4	0.0	6.6			
LnGrp Delay(d),s/veh	276.7	1.7	0.0	0.0	15.1	13.6	64.4	0.0	37.4			
LnGrp LOS	F	A			B	B	E		D			
Approach Vol, veh/h	1792				1223		671					
Approach Delay, s/veh	129.1				14.7		53.3					
Approach LOS	F				B		D					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4				7	8				
Phs Duration (G+Y+Rc), s	22.5		57.5				28.0	29.5				
Change Period (Y+Rc), s	4.0		4.0				4.0	4.0				
Max Green Setting (Gmax), s	18.5		53.5				24.0	25.5				
Max Q Clear Time (g_c+l1), s	19.5		5.8				26.0	17.5				
Green Ext Time (p_c), s	0.0		22.5				0.0	6.5				
Intersection Summary												
HCM 2010 Ctrl Delay			77.3									
HCM 2010 LOS			E									

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (2B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	642	80	35	517	130	125	10	25	145	15	483
Future Volume (veh/h)	418	642	80	35	517	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	698	87	38	562	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1021	457	63	629	157	403	33	387	374	38	366
Arrive On Green	0.20	0.58	0.58	0.04	0.22	0.22	0.24	0.24	0.24	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2807	702	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	698	87	38	354	349	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1739	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	11.0	2.1	1.7	15.5	15.6	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	11.0	2.1	1.7	15.5	15.6	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1021	457	63	397	390	435	0	387	412	0	366
V/C Ratio(X)	1.32	0.68	0.19	0.60	0.89	0.90	0.34	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1021	457	111	409	402	435	0	387	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.4	12.5	38.0	30.1	30.1	24.9	0.0	23.2	26.2	0.0	30.8
Incr Delay (d2), s/veh	160.9	1.7	0.2	8.8	20.6	21.6	2.1	0.0	0.3	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.5	0.9	1.0	9.8	9.8	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	192.9	16.1	12.7	46.8	50.7	51.7	27.0	0.0	23.6	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h	1239					741		174		699		
Approach Delay, s/veh	80.6					51.0		26.4		187.8		
Approach LOS	F					D		C		F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.6	6.9	27.1		22.5	12.0	21.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.4	3.7	13.0		20.5	10.0	17.6				
Green Ext Time (p_c), s		0.5	0.0	5.3		0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay	95.9											
HCM 2010 LOS	F											

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	707	587	30	25	95
Future Vol, veh/h	105	707	587	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	768	638	33	27	103























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	671	0	0 1267 335
Stage 1	-	-	- 654 -
Stage 2	-	-	- 613 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	915	-	- 161 661
Stage 1	-	-	- 479 -
Stage 2	-	-	- 503 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	915	-	- 126 661
Mov Cap-2 Maneuver	-	-	- 126 -
Stage 1	-	-	- 479 -
Stage 2	-	-	- 394 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	126	661
HCM Lane V/C Ratio	0.125	-	-	-	0.216	0.156
HCM Control Delay (s)	9.5	-	-	-	41.3	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd


Opening Year (2025) plus Project (2B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	151	303	783	174	74	14	138	271	35	112
Future Volume (veh/h)	113	721	151	303	783	174	74	14	138	271	35	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	164	329	851	189	80	15	150	322	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	1244	260	130	1459	653	194	36	204	486	0	217
Arrive On Green	0.09	0.43	0.43	0.07	0.41	0.41	0.13	0.13	0.13	0.14	0.00	0.14
Sat Flow, veh/h	1774	2915	610	1774	3539	1583	1505	282	1583	3548	0	1583
Grp Volume(v), veh/h	123	476	472	329	851	189	95	0	150	322	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1755	1774	1770	1583	1787	0	1583	1774	0	1583
Q Serve(g_s), s	4.6	14.4	14.4	5.0	12.7	5.4	3.3	0.0	6.2	5.9	0.0	4.9
Cycle Q Clear(g_c), s	4.6	14.4	14.4	5.0	12.7	5.4	3.3	0.0	6.2	5.9	0.0	4.9
Prop In Lane	1.00		0.35	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	755	749	130	1459	653	230	0	204	486	0	217
V/C Ratio(X)	0.79	0.63	0.63	2.53	0.58	0.29	0.41	0.00	0.74	0.66	0.00	0.56
Avail Cap(c_a), veh/h	156	972	964	130	1893	847	485	0	429	1716	0	766
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.5	15.3	15.3	31.6	15.5	13.4	27.4	0.0	28.6	28.0	0.0	27.5
Incr Delay (d2), s/veh	23.3	0.9	0.9	711.3	0.4	0.2	1.2	0.0	5.1	1.6	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	7.2	7.1	28.1	6.2	2.4	1.7	0.0	3.0	3.0	0.0	2.3
LnGrp Delay(d),s/veh	53.8	16.2	16.2	743.0	15.9	13.6	28.6	0.0	33.7	29.5	0.0	29.8
LnGrp LOS	D	B	B	F	B	B	C		C	C		C
Approach Vol, veh/h		1071			1369			245			444	
Approach Delay, s/veh		20.5			190.3			31.7			29.6	
Approach LOS		C			F			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.8	9.0	33.1		13.3	10.0	32.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		8.2	7.0	16.4		7.9	6.6	14.7				
Green Ext Time (p_c), s		0.6	0.0	12.7		1.5	0.0	13.0				
Intersection Summary												
HCM 2010 Ctrl Delay				97.0								
HCM 2010 LOS				F								
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↖	↑↑						↖	↖
Traffic Volume (veh/h)	0	838	292	178	632	0	0	0	0	176	1	627
Future Volume (veh/h)	0	838	292	178	632	0	0	0	0	176	1	627
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	911	317	193	687	0				191	1	682
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1423	494	237	2000	0				591	3	530
Arrive On Green	0.00	0.38	0.38	0.04	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3898	1294	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	828	400	193	687	0				192	0	682
Grp Sat Flow(s),veh/h/ln	0	1695	1634	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	16.0	16.0	8.6	13.5	0.0				6.5	0.0	26.8
Cycle Q Clear(g_c), s	0.0	16.0	16.0	8.6	13.5	0.0				6.5	0.0	26.8
Prop In Lane	0.00		0.79	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1294	624	237	2000	0				594	0	530
V/C Ratio(X)	0.00	0.64	0.64	0.82	0.34	0.00				0.32	0.00	1.29
Avail Cap(c_a), veh/h	0	1294	624	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.68	0.68	0.78	0.78	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.2	20.3	37.3	19.6	0.0				19.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	1.7	3.4	8.2	0.4	0.0				0.3	0.0	142.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.8	7.8	4.8	6.7	0.0				3.2	0.0	32.6
LnGrp Delay(d),s/veh	0.0	21.9	23.7	45.4	20.0	0.0				20.1	0.0	169.0
LnGrp LOS		C	C	D	C					C		F
Approach Vol, veh/h	1228					880				874		
Approach Delay, s/veh	22.5					25.6				136.3		
Approach LOS	C					C				F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	34.5		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	18.0		28.8		15.5				
Green Ext Time (p_c), s			0.2	6.3		0.0		16.0				
Intersection Summary												
HCM 2010 Ctrl Delay			56.8									
HCM 2010 LOS			E									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd






















Opening Year (2025) plus Project (2B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	492	522	0	0	594	222	216	3	255	0	0	0
Future Volume (veh/h)	492	522	0	0	594	222	216	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	535	567	0	0	646	241	235	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2468	0	0	1229	550	355	5	321			
Arrive On Green	0.60	1.00	0.00	0.00	0.69	0.69	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	22	1583			
Grp Volume(v), veh/h	535	567	0	0	646	241	238	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	7.0	5.3	9.9	0.0	13.5			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	7.0	5.3	9.9	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2468	0	0	1229	550	360	0	321			
V/C Ratio(X)	1.01	0.23	0.00	0.00	0.53	0.44	0.66	0.00	0.86			
Avail Cap(c_a), veh/h	532	2468	0	0	1229	550	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.62	0.62	0.00	0.00	0.68	0.68	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.0	0.0	0.0	0.0	9.0	8.8	29.4	0.0	30.8			
Incr Delay (d2), s/veh	32.0	0.1	0.0	0.0	1.1	1.7	3.3	0.0	17.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	16.0	0.0	0.0	0.0	3.4	2.5	5.2	0.0	7.4			
LnGrp Delay(d),s/veh	48.1	0.1	0.0	0.0	10.2	10.5	32.6	0.0	47.9			
LnGrp LOS	F	A			B	B	C		D			
Approach Vol, veh/h	1102				887			515				
Approach Delay, s/veh	23.4				10.3			40.8				
Approach LOS	C				B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.2		59.8			28.0	31.8				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		15.5		2.0			26.0	9.0				
Green Ext Time (p_c), s		0.7		11.7			0.0	7.9				
Intersection Summary												
HCM 2010 Ctrl Delay				22.3								
HCM 2010 LOS				C								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (2B) Conditions

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	340	104	35	338	110	175	5	50	129	0	303
Future Volume (veh/h)	333	340	104	35	338	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	370	113	38	367	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	906	405	63	505	163	485	13	443	405	0	361
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2633	849	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	370	113	38	245	242	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1713	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.8	3.7	1.7	10.4	10.6	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.8	3.7	1.7	10.4	10.6	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.50	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	906	405	63	339	328	497	0	443	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.72	0.74	0.39	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	396	497	0	443	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.7	18.1	38.0	30.3	30.4	23.3	0.0	21.5	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	4.9	5.7	2.3	0.0	0.6	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	2.9	1.7	1.0	5.5	5.6	3.8	0.0	0.9	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.0	19.0	18.4	46.8	35.3	36.2	25.6	0.0	22.0	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	D	D	C		C	C		E
Approach Vol, veh/h		845			525			249			469	
Approach Delay, s/veh		51.5			36.5			24.8			47.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.4	6.9	24.5		22.3	12.0	19.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		9.1	3.7	7.8		18.2	10.0	12.6				
Green Ext Time (p_c), s		0.8	0.0	4.6		0.1	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			43.6									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	442	409	30	10	74
Future Vol, veh/h	77	442	409	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	480	445	33	11	80























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	477	0	0 869 239
Stage 1	-	-	- 461 -
Stage 2	-	-	- 408 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	1082	-	- 291 762
Stage 1	-	-	- 601 -
Stage 2	-	-	- 640 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1082	-	- 260 762
Mov Cap-2 Maneuver	-	-	- 260 -
Stage 1	-	-	- 601 -
Stage 2	-	-	- 572 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1082	-	-	-	260	762
HCM Lane V/C Ratio	0.077	-	-	-	0.042	0.106
HCM Control Delay (s)	8.6	-	-	-	19.4	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (2C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	148	317	1102	306	104	29	223	756	42	265
Future Volume (veh/h)	208	989	148	317	1102	306	104	29	223	756	42	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1075	161	345	1198	333	113	32	242	855	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	1101	165	84	1228	549	238	67	269	973	0	434
Arrive On Green	0.06	0.36	0.36	0.05	0.35	0.35	0.17	0.17	0.17	0.27	0.00	0.27
Sat Flow, veh/h	1774	3089	462	1774	3539	1583	1397	396	1583	3548	0	1583
Grp Volume(v), veh/h	226	615	621	345	1198	333	145	0	242	855	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1781	1774	1770	1583	1793	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	36.1	36.3	5.0	35.2	18.3	7.7	0.0	15.8	24.3	0.0	17.0
Cycle Q Clear(g_c), s	6.0	36.1	36.3	5.0	35.2	18.3	7.7	0.0	15.8	24.3	0.0	17.0
Prop In Lane	1.00		0.26	1.00		1.00	0.78		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	101	631	635	84	1228	549	305	0	269	973	0	434
V/C Ratio(X)	2.23	0.98	0.98	4.09	0.98	0.61	0.48	0.00	0.90	0.88	0.00	0.66
Avail Cap(c_a), veh/h	101	631	635	84	1228	549	315	0	278	1113	0	497
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.6	33.4	33.5	50.1	33.9	28.4	39.4	0.0	42.8	36.5	0.0	33.9
Incr Delay (d2), s/veh	586.0	29.6	30.2	1419.6	20.1	1.9	1.2	0.0	28.9	7.5	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.4	22.8	23.1	35.7	20.6	8.2	3.9	0.0	9.0	12.9	0.0	7.7
LnGrp Delay(d),s/veh	635.6	63.0	63.7	1469.7	54.0	30.3	40.6	0.0	71.7	44.1	0.0	36.6
LnGrp LOS	F	E	E	F	D	C	D		E	D		D
Approach Vol, veh/h		1462			1876			387			1143	
Approach Delay, s/veh		151.8			310.1			60.1			42.2	
Approach LOS		F			F			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		21.9	9.0	41.5		32.8	10.0	40.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		17.8	7.0	38.3		26.3	8.0	37.2				
Green Ext Time (p_c), s		0.1	0.0	0.0		2.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			179.8									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd






















Opening Year (2025) plus Project (2C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↙	↑↑						↕	↗
Traffic Volume (veh/h)	0	1384	584	300	902	0	0	0	0	285	1	824
Future Volume (veh/h)	0	1384	584	300	902	0	0	0	0	285	1	824
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1504	635	326	980	0				310	1	896
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1160	476	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3711	1453	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1437	702	326	980	0				311	0	896
Grp Sat Flow(s),veh/h/ln	0	1695	1606	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	19.8	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	19.8	0.0				11.3	0.0	26.8
Prop In Lane	0.00		0.90	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	526	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.29	1.33	0.98	0.49	0.00				0.52	0.00	1.69
Avail Cap(c_a), veh/h	0	1110	526	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.24	0.24	0.44	0.44	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	22.2	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	134.2	153.7	27.7	0.4	0.0				0.8	0.0	318.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	32.9	34.0	9.8	9.8	0.0				5.7	0.0	58.5
LnGrp Delay(d),s/veh	0.0	161.1	180.6	65.1	22.6	0.0				22.3	0.0	344.9
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2139			1306						1207	
Approach Delay, s/veh		167.5			33.2						261.7	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.7	28.2		28.8		21.8				
Green Ext Time (p_c), s			0.0	0.0		0.0		20.8				
Intersection Summary												
HCM 2010 Ctrl Delay		154.2										
HCM 2010 LOS		F										

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	784	886	0	0	841	285	360	5	255	0	0	0
Future Volume (veh/h)	784	886	0	0	841	285	360	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	852	963	0	0	914	310	391	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	405	5	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	22	1583			
Grp Volume(v), veh/h	852	963	0	0	914	310	396	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.8	0.0	0.0	15.5	9.3	17.7	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.8	0.0	0.0	15.5	9.3	17.7	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.60	0.41	0.00	0.00	0.81	0.61	0.96	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.36	0.36	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.7	11.6	30.4	0.0	28.7			
Incr Delay (d2), s/veh	271.2	0.0	0.0	0.0	2.4	2.0	35.2	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.7	1.6	0.0	0.0	7.5	4.2	12.6	0.0	6.6			
LnGrp Delay(d),s/veh	295.2	1.7	0.0	0.0	15.1	13.6	65.6	0.0	37.4			
LnGrp LOS	F	A			B	B	E		D			
Approach Vol, veh/h		1815			1224			673				
Approach Delay, s/veh		139.5			14.7			54.0				
Approach LOS		F			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		19.7		5.8			26.0	17.5				
Green Ext Time (p_c), s		0.0		22.5			0.0	6.5				
Intersection Summary												
HCM 2010 Ctrl Delay				82.8								
HCM 2010 LOS				F								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	643	80	35	518	130	125	10	25	145	15	483
Future Volume (veh/h)	418	643	80	35	518	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	699	87	38	563	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1022	457	63	630	157	403	33	387	374	38	366
Arrive On Green	0.20	0.58	0.58	0.04	0.22	0.22	0.24	0.24	0.24	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2808	701	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	699	87	38	354	350	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1739	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	11.0	2.1	1.7	15.5	15.6	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	11.0	2.1	1.7	15.5	15.6	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1022	457	63	397	390	435	0	387	412	0	366
V/C Ratio(X)	1.32	0.68	0.19	0.60	0.89	0.90	0.34	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1022	457	111	409	402	435	0	387	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.4	12.5	38.0	30.1	30.1	24.9	0.0	23.2	26.2	0.0	30.8
Incr Delay (d2), s/veh	160.9	1.7	0.2	8.8	20.7	21.7	2.1	0.0	0.3	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.5	0.9	1.0	9.9	9.8	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	192.9	16.1	12.6	46.8	50.8	51.8	27.0	0.0	23.6	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h	1240				742			174		699		
Approach Delay, s/veh	80.6				51.1			26.5		187.8		
Approach LOS	F				D			C		F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.5	6.9	27.1		22.5	12.0	22.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.4	3.7	13.0		20.5	10.0	17.6				
Green Ext Time (p_c), s		0.5	0.0	5.3		0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay	95.9											
HCM 2010 LOS	F											

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	708	588	30	25	95
Future Vol, veh/h	105	708	588	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	770	639	33	27	103























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	672	0	0 1268 336
Stage 1	-	-	- 655 -
Stage 2	-	-	- 613 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	915	-	- 160 660
Stage 1	-	-	- 479 -
Stage 2	-	-	- 503 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	915	-	- 125 660
Mov Cap-2 Maneuver	-	-	- 125 -
Stage 1	-	-	- 479 -
Stage 2	-	-	- 393 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	125	660
HCM Lane V/C Ratio	0.125	-	-	-	0.217	0.156
HCM Control Delay (s)	9.5	-	-	-	41.6	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (2C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	184	386	783	174	112	21	233	271	41	112
Future Volume (veh/h)	113	721	184	386	783	174	112	21	233	271	41	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	200	420	851	189	122	23	253	327	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	1135	290	115	1392	623	284	54	299	472	0	211
Arrive On Green	0.08	0.41	0.41	0.06	0.39	0.39	0.19	0.19	0.19	0.13	0.00	0.13
Sat Flow, veh/h	1774	2794	713	1774	3539	1583	1504	284	1583	3548	0	1583
Grp Volume(v), veh/h	123	497	487	420	851	189	145	0	253	327	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1737	1774	1770	1583	1788	0	1583	1774	0	1583
Q Serve(g_s), s	5.3	17.9	17.9	5.0	14.8	6.4	5.5	0.0	11.9	6.8	0.0	5.6
Cycle Q Clear(g_c), s	5.3	17.9	17.9	5.0	14.8	6.4	5.5	0.0	11.9	6.8	0.0	5.6
Prop In Lane	1.00		0.41	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	719	706	115	1392	623	338	0	299	472	0	211
V/C Ratio(X)	0.89	0.69	0.69	3.66	0.61	0.30	0.43	0.00	0.85	0.69	0.00	0.58
Avail Cap(c_a), veh/h	138	859	843	115	1671	748	428	0	379	1515	0	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.3	18.9	18.9	36.1	18.7	16.1	27.7	0.0	30.3	32.0	0.0	31.5
Incr Delay (d2), s/veh	46.3	1.9	1.9	1218.1	0.5	0.3	0.9	0.0	13.3	1.8	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	9.1	8.9	41.3	7.3	2.8	2.8	0.0	6.3	3.4	0.0	2.6
LnGrp Delay(d),s/veh	81.7	20.8	20.8	1254.3	19.2	16.4	28.5	0.0	43.5	33.8	0.0	34.0
LnGrp LOS	F	C	C	F	B	B	C		D	C		C
Approach Vol, veh/h		1107			1460			398			449	
Approach Delay, s/veh		27.6			374.1			38.1			33.9	
Approach LOS		C			F			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.6	9.0	35.4		14.3	10.0	34.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		13.9	7.0	19.9		8.8	7.3	16.8				
Green Ext Time (p_c), s		0.7	0.0	11.5		1.5	0.0	12.4				
Intersection Summary												
HCM 2010 Ctrl Delay			177.8									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	923	301	178	647	0	0	0	0	176	1	696
Future Volume (veh/h)	0	923	301	178	647	0	0	0	0	176	1	696
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1003	327	193	703	0				191	1	757
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1449	472	237	2000	0				591	3	530
Arrive On Green	0.00	0.38	0.38	0.04	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3965	1237	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	895	435	193	703	0				192	0	757
Grp Sat Flow(s),veh/h/ln	0	1695	1644	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	17.8	17.8	8.6	13.8	0.0				6.5	0.0	26.8
Cycle Q Clear(g_c), s	0.0	17.8	17.8	8.6	13.8	0.0				6.5	0.0	26.8
Prop In Lane	0.00		0.75	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1294	627	237	2000	0				594	0	530
V/C Ratio(X)	0.00	0.69	0.69	0.82	0.35	0.00				0.32	0.00	1.43
Avail Cap(c_a), veh/h	0	1294	627	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.64	0.64	0.67	0.67	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.8	20.8	37.3	19.8	0.0				19.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	2.0	4.0	7.1	0.3	0.0				0.3	0.0	203.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.6	8.7	4.7	6.9	0.0				3.2	0.0	41.5
LnGrp Delay(d),s/veh	0.0	22.8	24.8	44.4	20.1	0.0				20.1	0.0	229.6
LnGrp LOS		C	C	D	C					C		F
Approach Vol, veh/h		1330			896						949	
Approach Delay, s/veh		23.4			25.3						187.2	
Approach LOS		C			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	34.5		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	19.8		28.8		15.8				
Green Ext Time (p_c), s			0.2	5.3		0.0		17.0				
Intersection Summary												
HCM 2010 Ctrl Delay			72.9									
HCM 2010 LOS			E									






















Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	570	529	0	0	600	222	225	3	255	0	0	0
Future Volume (veh/h)	570	529	0	0	600	222	225	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	620	575	0	0	652	241	245	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2467	0	0	1228	550	356	4	321			
Arrive On Green	0.50	1.00	0.00	0.00	0.69	0.69	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1754	21	1583			
Grp Volume(v), veh/h	620	575	0	0	652	241	248	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	7.1	5.4	10.4	0.0	13.5			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	7.1	5.4	10.4	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2467	0	0	1228	550	360	0	321			
V/C Ratio(X)	1.16	0.23	0.00	0.00	0.53	0.44	0.69	0.00	0.86			
Avail Cap(c_a), veh/h	532	2467	0	0	1228	550	410	0	366			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.56	0.56	0.00	0.00	0.68	0.68	1.00	0.00	1.00			
Uniform Delay (d), s/veh	20.0	0.0	0.0	0.0	9.1	8.8	29.5	0.0	30.8			
Incr Delay (d2), s/veh	85.8	0.1	0.0	0.0	1.1	1.7	4.1	0.0	17.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	24.0	0.0	0.0	0.0	3.4	2.5	5.4	0.0	7.4			
LnGrp Delay(d),s/veh	105.7	0.1	0.0	0.0	10.2	10.5	33.6	0.0	47.8			
LnGrp LOS	F	A			B	B	C		D			
Approach Vol, veh/h	1195				893			525				
Approach Delay, s/veh	54.9				10.3			41.1				
Approach LOS	D				B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		7		8					
Phs Duration (G+Y+Rc), s	20.2		59.8		28.0		31.8					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	18.5		53.5		24.0		25.5					
Max Q Clear Time (g_c+I1), s	15.5		2.0		26.0		9.1					
Green Ext Time (p_c), s	0.7		11.8		0.0		8.0					
Intersection Summary												
HCM 2010 Ctrl Delay	36.9											
HCM 2010 LOS	D											

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (2C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	347	104	35	344	110	175	5	50	129	0	303
Future Volume (veh/h)	333	347	104	35	344	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	377	113	38	374	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	912	408	63	512	162	482	13	441	405	0	361
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2646	838	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	377	113	38	248	246	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1715	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.9	3.7	1.7	10.5	10.8	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.9	3.7	1.7	10.5	10.8	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.49	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	912	408	63	342	332	494	0	441	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.73	0.74	0.39	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	397	494	0	441	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.6	18.0	38.0	30.3	30.4	23.4	0.0	21.6	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.7	0.3	0.3	8.8	5.1	5.9	2.3	0.0	0.6	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	2.9	1.6	1.0	5.6	5.7	3.8	0.0	1.0	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.0	18.9	18.3	46.8	35.4	36.3	25.7	0.0	22.1	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	D	D	C		C	C		E
Approach Vol, veh/h		852			532			249			469	
Approach Delay, s/veh		51.1			36.7			25.0			47.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.3	6.9	24.6		22.3	12.0	19.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		9.1	3.7	7.9		18.2	10.0	12.8				
Green Ext Time (p_c), s		0.8	0.0	4.7		0.1	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			43.5									
HCM 2010 LOS			D									

Redding Rancheria
7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Opening Year (2025) plus Project (2C) Conditions

Saturday PM Peak

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	449	415	30	10	74
Future Vol, veh/h	77	449	415	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	488	451	33	11	80























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	484	0	878
Stage 1	-	-	467
Stage 2	-	-	411
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1075	-	287
Stage 1	-	-	597
Stage 2	-	-	638
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1075	-	256
Mov Cap-2 Maneuver	-	-	256
Stage 1	-	-	597
Stage 2	-	-	570

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1075	-	-	-	256	759
HCM Lane V/C Ratio	0.078	-	-	-	0.042	0.106
HCM Control Delay (s)	8.6	-	-	-	19.7	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (2D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	59	130	1102	306	58	21	122	756	26	265
Future Volume (veh/h)	208	989	59	130	1102	306	58	21	122	756	26	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1075	64	141	1198	333	63	23	133	842	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	1330	79	94	1349	603	142	52	171	990	0	442
Arrive On Green	0.06	0.39	0.39	0.05	0.38	0.38	0.11	0.11	0.11	0.28	0.00	0.28
Sat Flow, veh/h	1774	3395	202	1774	3539	1583	1316	481	1583	3548	0	1583
Grp Volume(v), veh/h	226	560	579	141	1198	333	86	0	133	842	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1827	1774	1770	1583	1797	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	26.7	26.7	5.0	30.0	15.6	4.3	0.0	7.8	21.3	0.0	15.2
Cycle Q Clear(g_c), s	6.0	26.7	26.7	5.0	30.0	15.6	4.3	0.0	7.8	21.3	0.0	15.2
Prop In Lane	1.00		0.11	1.00		1.00	0.73		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	112	693	716	94	1349	603	194	0	171	990	0	442
V/C Ratio(X)	2.01	0.81	0.81	1.51	0.89	0.55	0.44	0.00	0.78	0.85	0.00	0.65
Avail Cap(c_a), veh/h	112	700	723	94	1363	610	351	0	309	1235	0	551
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.4	25.7	25.7	44.9	27.4	23.0	39.6	0.0	41.2	32.3	0.0	30.1
Incr Delay (d2), s/veh	485.7	7.0	6.8	275.5	7.5	1.1	1.6	0.0	7.5	4.8	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.0	14.3	14.7	9.6	16.0	7.0	2.2	0.0	3.7	11.1	0.0	6.8
LnGrp Delay(d),s/veh	530.1	32.6	32.5	320.4	34.9	24.0	41.2	0.0	48.6	37.2	0.0	32.0
LnGrp LOS	F	C	C	F	C	C	D		D	D		C
Approach Vol, veh/h	1365				1672				219		1130	
Approach Delay, s/veh	114.9				56.8				45.7		35.8	
Approach LOS	F				E				D		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	14.2		9.0	41.1	30.4		10.0	40.1				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	18.5		5.0	37.5	33.0		6.0	36.5				
Max Q Clear Time (g_c+I1), s	9.8		7.0	28.7	23.3		8.0	32.0				
Green Ext Time (p_c), s	0.5		0.0	7.7	3.2		0.0	4.1				
Intersection Summary												
HCM 2010 Ctrl Delay	68.9											
HCM 2010 LOS	E											
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↙	↑↑						↕	↗
Traffic Volume (veh/h)	0	1288	579	300	882	0	0	0	0	285	1	658
Future Volume (veh/h)	0	1288	579	300	882	0	0	0	0	285	1	658
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1400	629	326	959	0				310	1	715
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1134	498	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3630	1522	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1370	659	326	959	0				311	0	715
Grp Sat Flow(s),veh/h/ln	0	1695	1594	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	19.4	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	19.4	0.0				11.3	0.0	26.8
Prop In Lane	0.00		0.95	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	522	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.23	1.26	0.98	0.48	0.00				0.52	0.00	1.35
Avail Cap(c_a), veh/h	0	1110	522	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.46	0.46	0.46	0.46	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	22.0	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	109.2	125.0	28.5	0.4	0.0				0.8	0.0	168.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	29.0	29.6	9.9	9.6	0.0				5.7	0.0	36.5
LnGrp Delay(d),s/veh	0.0	136.1	151.9	65.9	22.4	0.0				22.3	0.0	195.4
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2029			1285						1026	
Approach Delay, s/veh		141.2			33.5						142.9	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.7	28.2		28.8		21.4				
Green Ext Time (p_c), s			0.0	0.0		0.0		20.7				
Intersection Summary												
HCM 2010 Ctrl Delay		109.7										
HCM 2010 LOS		F										






















Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	696	878	0	0	825	285	356	5	255	0	0	0
Future Volume (veh/h)	696	878	0	0	825	285	356	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	757	954	0	0	897	310	387	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	405	5	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1752	23	1583			
Grp Volume(v), veh/h	757	954	0	0	897	310	392	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.7	0.0	0.0	14.9	9.3	17.4	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.7	0.0	0.0	14.9	9.3	17.4	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.42	0.40	0.00	0.00	0.80	0.61	0.95	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.38	0.38	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.6	11.6	30.3	0.0	28.7			
Incr Delay (d2), s/veh	191.1	0.0	0.0	0.0	2.3	2.1	32.9	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	39.9	1.6	0.0	0.0	7.3	4.3	12.2	0.0	6.6			
LnGrp Delay(d),s/veh	215.1	1.7	0.0	0.0	14.9	13.7	63.3	0.0	37.4			
LnGrp LOS	F	A			B	B	E		D			
Approach Vol, veh/h		1711			1207			669				
Approach Delay, s/veh		96.1			14.6			52.6				
Approach LOS		F			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		19.4		5.7			26.0	16.9				
Green Ext Time (p_c), s		0.0		22.1			0.0	6.9				
Intersection Summary												
HCM 2010 Ctrl Delay				60.6								
HCM 2010 LOS				E								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (2D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	635	80	35	502	130	125	10	25	145	15	483
Future Volume (veh/h)	418	635	80	35	502	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	690	87	38	546	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1011	452	63	617	159	408	33	392	374	38	366
Arrive On Green	0.20	0.57	0.57	0.04	0.22	0.22	0.25	0.25	0.25	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2788	717	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	690	87	38	346	341	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1736	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	11.0	2.1	1.7	15.1	15.2	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	11.0	2.1	1.7	15.1	15.2	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.41	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1011	452	63	391	384	441	0	392	412	0	366
V/C Ratio(X)	1.32	0.68	0.19	0.60	0.88	0.89	0.33	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1011	452	111	409	401	441	0	392	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.6	12.7	38.0	30.2	30.2	24.7	0.0	23.0	26.2	0.0	30.8
Incr Delay (d2), s/veh	161.0	1.7	0.2	8.8	19.3	20.3	2.0	0.0	0.3	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.4	0.9	1.0	9.5	9.5	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	193.0	16.3	12.9	46.8	49.4	50.5	26.7	0.0	23.4	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h	1231				725		174				699	
Approach Delay, s/veh	81.2				49.8		26.2				187.8	
Approach LOS	F				D		C				F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	23.8		6.9	26.8	22.5		12.0	21.7				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	19.0		5.0	21.5	18.5		8.0	18.5				
Max Q Clear Time (g_c+l1), s	7.4		3.7	13.0	20.5		10.0	17.2				
Green Ext Time (p_c), s	0.5		0.0	5.2	0.0		0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	96.1											
HCM 2010 LOS	F											

Redding Rancheria
7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Opening Year (2025) plus Project (2D) Conditions

Friday PM Peak

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	700	572	30	25	95
Future Vol, veh/h	105	700	572	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	761	622	33	27	103























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	654	0	0 1247 327
Stage 1	-	-	- 638 -
Stage 2	-	-	- 609 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	929	-	- 166 669
Stage 1	-	-	- 488 -
Stage 2	-	-	- 505 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	929	-	- 131 669
Mov Cap-2 Maneuver	-	-	- 131 -
Stage 1	-	-	- 488 -
Stage 2	-	-	- 397 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	929	-	-	-	131	669
HCM Lane V/C Ratio	0.123	-	-	-	0.207	0.154
HCM Control Delay (s)	9.4	-	-	-	39.5	11.4
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (2D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	86	187	783	174	78	15	170	271	23	112
Future Volume (veh/h)	113	721	86	187	783	174	78	15	170	271	23	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	93	203	851	189	85	16	185	313	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	1313	156	128	1406	629	227	43	239	474	0	211
Arrive On Green	0.09	0.41	0.41	0.07	0.40	0.40	0.15	0.15	0.15	0.13	0.00	0.13
Sat Flow, veh/h	1774	3188	378	1774	3539	1583	1504	283	1583	3548	0	1583
Grp Volume(v), veh/h	123	435	442	203	851	189	101	0	185	313	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1796	1774	1770	1583	1788	0	1583	1774	0	1583
Q Serve(g_s), s	4.7	13.3	13.3	5.0	13.2	5.6	3.5	0.0	7.8	5.8	0.0	5.0
Cycle Q Clear(g_c), s	4.7	13.3	13.3	5.0	13.2	5.6	3.5	0.0	7.8	5.8	0.0	5.0
Prop In Lane	1.00		0.21	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	154	729	740	128	1406	629	269	0	239	474	0	211
V/C Ratio(X)	0.80	0.60	0.60	1.58	0.61	0.30	0.37	0.00	0.78	0.66	0.00	0.58
Avail Cap(c_a), veh/h	154	960	975	128	1870	836	479	0	424	1695	0	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.0	15.9	15.9	32.0	16.5	14.2	26.4	0.0	28.2	28.4	0.0	28.1
Incr Delay (d2), s/veh	24.9	0.8	0.8	295.4	0.4	0.3	0.9	0.0	5.3	1.6	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	6.6	6.7	13.0	6.5	2.5	1.8	0.0	3.7	2.9	0.0	2.3
LnGrp Delay(d),s/veh	55.8	16.6	16.6	327.4	16.9	14.5	27.3	0.0	33.5	30.0	0.0	30.6
LnGrp LOS	E	B	B	F	B	B	C		C	C		C
Approach Vol, veh/h	1000				1243				286		435	
Approach Delay, s/veh	21.5				67.3				31.3		30.2	
Approach LOS	C				E				C		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	14.4		9.0	32.5	13.2		10.0	31.5				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	18.5		5.0	37.5	33.0		6.0	36.5				
Max Q Clear Time (g_c+I1), s	9.8		7.0	15.3	7.8		6.7	15.2				
Green Ext Time (p_c), s	0.7		0.0	12.6	1.4		0.0	12.3				
Intersection Summary												
HCM 2010 Ctrl Delay	42.9											
HCM 2010 LOS	D											
Notes												

User approved volume balancing among the lanes for turning movement.





















Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions
Saturday PM Peak

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	859	303	178	628	0	0	0	0	176	1	517
Future Volume (veh/h)	0	859	303	178	628	0	0	0	0	176	1	517
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	934	329	193	683	0				191	1	562
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1418	498	237	2000	0				591	3	530
Arrive On Green	0.00	0.38	0.38	0.04	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3884	1306	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	852	411	193	683	0				192	0	562
Grp Sat Flow(s),veh/h/ln	0	1695	1632	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	16.6	16.7	8.6	13.4	0.0				6.5	0.0	26.8
Cycle Q Clear(g_c), s	0.0	16.6	16.7	8.6	13.4	0.0				6.5	0.0	26.8
Prop In Lane	0.00		0.80	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1294	623	237	2000	0				594	0	530
V/C Ratio(X)	0.00	0.66	0.66	0.82	0.34	0.00				0.32	0.00	1.06
Avail Cap(c_a), veh/h	0	1294	623	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.73	0.73	0.75	0.75	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.4	20.4	37.3	19.6	0.0				19.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	1.9	4.0	7.9	0.4	0.0				0.3	0.0	55.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.0	8.1	4.8	6.7	0.0				3.2	0.0	19.9
LnGrp Delay(d),s/veh	0.0	22.4	24.5	45.1	20.0	0.0				20.1	0.0	82.4
LnGrp LOS		C	C	D	B					C		F
Approach Vol, veh/h		1263			876						754	
Approach Delay, s/veh		23.1			25.5						66.5	
Approach LOS		C			C						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	34.5		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	18.7		28.8		15.4				
Green Ext Time (p_c), s			0.2	5.9		0.0		16.3				
Intersection Summary												
HCM 2010 Ctrl Delay			35.1									
HCM 2010 LOS			D									











Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (veh/h)	511	523	0	0	582	222	224	3	255	0	0	0
Future Volume (veh/h)	511	523	0	0	582	222	224	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	555	568	0	0	633	241	243	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2467	0	0	1228	550	356	4	321			
Arrive On Green	0.60	1.00	0.00	0.00	0.69	0.69	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	22	1583			
Grp Volume(v), veh/h	555	568	0	0	633	241	246	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	6.8	5.4	10.3	0.0	13.5			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	6.8	5.4	10.3	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2467	0	0	1228	550	360	0	321			
V/C Ratio(X)	1.04	0.23	0.00	0.00	0.52	0.44	0.68	0.00	0.86			
Avail Cap(c_a), veh/h	532	2467	0	0	1228	550	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.74	0.74	0.00	0.00	0.69	0.69	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.0	0.0	0.0	0.0	9.0	8.8	29.5	0.0	30.8			
Incr Delay (d2), s/veh	45.2	0.2	0.0	0.0	1.1	1.8	3.9	0.0	17.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	17.9	0.1	0.0	0.0	3.3	2.5	5.4	0.0	7.4			
LnGrp Delay(d),s/veh	61.2	0.2	0.0	0.0	10.1	10.6	33.4	0.0	47.8			
LnGrp LOS	F	A			B	B	C		D			
Approach Vol, veh/h	1123				874				523			
Approach Delay, s/veh	30.3				10.2				41.0			
Approach LOS	C				B				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		7			8				
Phs Duration (G+Y+Rc), s	20.2		59.8		28.0			31.8				
Change Period (Y+Rc), s	4.0		4.0		4.0			4.0				
Max Green Setting (Gmax), s	18.5		53.5		24.0			25.5				
Max Q Clear Time (g_c+l1), s	15.5		2.0		26.0			8.8				
Green Ext Time (p_c), s	0.7		11.5		0.0			7.9				
Intersection Summary												
HCM 2010 Ctrl Delay	25.6											
HCM 2010 LOS	C											

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (2D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	341	104	35	326	110	175	5	50	129	0	303
Future Volume (veh/h)	333	341	104	35	326	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	371	113	38	354	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	897	401	63	493	165	489	13	448	405	0	361
Arrive On Green	0.17	0.42	0.42	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2608	871	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	371	113	38	239	235	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1709	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.9	3.7	1.7	10.1	10.4	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.9	3.7	1.7	10.1	10.4	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.51	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	897	401	63	335	323	502	0	448	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.71	0.73	0.39	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	395	502	0	448	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.9	18.3	38.0	30.4	30.5	23.1	0.0	21.3	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	4.5	5.3	2.3	0.0	0.6	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	2.9	1.7	1.0	5.3	5.4	3.8	0.0	0.9	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.0	19.2	18.7	46.8	34.9	35.8	25.4	0.0	21.9	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	C	D	C		C	C		E
Approach Vol, veh/h		846			512			249			469	
Approach Delay, s/veh		51.6			36.2			24.6			47.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.6	6.9	24.3		22.3	12.0	19.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		9.1	3.7	7.9		18.2	10.0	12.4				
Green Ext Time (p_c), s		0.8	0.0	4.6		0.1	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			43.5									
HCM 2010 LOS			D									

Redding Rancheria
7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Opening Year (2025) plus Project (2D) Conditions

Saturday PM Peak

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	443	397	30	10	74
Future Vol, veh/h	77	443	397	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	482	432	33	11	80























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	464	0	856
Stage 1	-	-	448
Stage 2	-	-	408
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1094	-	297
Stage 1	-	-	611
Stage 2	-	-	640
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1094	-	266
Mov Cap-2 Maneuver	-	-	266
Stage 1	-	-	611
Stage 2	-	-	573

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1094	-	-	-	266	770
HCM Lane V/C Ratio	0.077	-	-	-	0.041	0.104
HCM Control Delay (s)	8.6	-	-	-	19.1	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (3A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1142	15	42	1222	335	21	15	38	797	10	242
Future Volume (veh/h)	212	1142	15	42	1222	335	21	15	38	797	10	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	230	1241	16	46	1328	364	23	16	41	874	0	263
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	1565	20	68	1442	645	52	36	77	1038	0	463
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.05	0.05	0.05	0.29	0.00	0.29
Sat Flow, veh/h	1774	3578	46	1774	3539	1583	1067	742	1583	3548	0	1583
Grp Volume(v), veh/h	230	614	643	46	1328	364	39	0	41	874	0	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1809	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	26.2	26.2	2.2	31.2	15.5	1.8	0.0	2.2	20.3	0.0	12.3
Cycle Q Clear(g_c), s	6.0	26.2	26.2	2.2	31.2	15.5	1.8	0.0	2.2	20.3	0.0	12.3
Prop In Lane	1.00		0.02	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	121	774	811	68	1442	645	89	0	77	1038	0	463
V/C Ratio(X)	1.89	0.79	0.79	0.67	0.92	0.56	0.44	0.00	0.53	0.84	0.00	0.57
Avail Cap(c_a), veh/h	121	774	811	101	1475	660	382	0	334	1336	0	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.8	21.2	21.2	41.6	24.6	20.0	40.5	0.0	40.7	29.1	0.0	26.3
Incr Delay (d2), s/veh	431.1	5.7	5.4	11.0	9.7	1.1	3.4	0.0	5.5	4.0	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.5	13.8	14.4	1.3	17.1	7.0	1.0	0.0	1.1	10.4	0.0	5.5
LnGrp Delay(d),s/veh	471.9	26.9	26.6	52.6	34.3	21.0	43.9	0.0	46.2	33.1	0.0	27.4
LnGrp LOS	F	C	C	D	C	C	D		D	C		C
Approach Vol, veh/h		1487			1738			80			1137	
Approach Delay, s/veh		95.6			32.0			45.1			31.8	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.4	42.3		29.6	10.0	39.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.2	4.2	28.2		22.3	8.0	33.2				
Green Ext Time (p_c), s		0.2	0.0	8.5		3.4	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			53.5									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd






















Opening Year (2025) plus Project (3A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↶	↑↑						↷	↷
Traffic Volume (veh/h)	0	1236	741	291	979	0	0	0	0	256	1	620
Future Volume (veh/h)	0	1236	741	291	979	0	0	0	0	256	1	620
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1343	805	316	1064	0				278	1	674
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1110	519	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1768	6	1583
Grp Volume(v), veh/h	0	1343	805	316	1064	0				279	0	674
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.2	21.7	0.0				9.9	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.2	21.7	0.0				9.9	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.21	1.55	0.95	0.53	0.00				0.47	0.00	1.27
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.47	0.47	0.49	0.49	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.2	23.0	0.0				21.0	0.0	26.6
Incr Delay (d2), s/veh	0.0	98.5	253.1	23.0	0.5	0.0				0.6	0.0	136.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	27.4	47.8	9.1	10.8	0.0				4.9	0.0	31.7
LnGrp Delay(d),s/veh	0.0	125.4	280.0	60.1	23.5	0.0				21.6	0.0	162.7
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2148			1380						953	
Approach Delay, s/veh		183.3			31.9						121.4	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.2	28.2		28.8		23.7				
Green Ext Time (p_c), s			0.0	0.0		0.0		19.5				
Intersection Summary												
HCM 2010 Ctrl Delay		123.5										
HCM 2010 LOS		F										

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	641	851	0	0	798	261	472	5	249	0	0	0
Future Volume (veh/h)	641	851	0	0	798	261	472	5	249	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	697	925	0	0	867	284	513	5	271			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	406	4	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1758	17	1583			
Grp Volume(v), veh/h	697	925	0	0	867	284	518	0	271			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.5	0.0	0.0	13.9	8.1	18.5	0.0	12.7			
Cycle Q Clear(g_c), s	24.0	3.5	0.0	0.0	13.9	8.1	18.5	0.0	12.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.31	0.39	0.00	0.00	0.77	0.56	1.26	0.00	0.74			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.46	0.46	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.4	11.3	30.8	0.0	28.5			
Incr Delay (d2), s/veh	140.6	0.0	0.0	0.0	2.4	2.1	136.2	0.0	7.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	32.4	1.6	0.0	0.0	6.9	3.8	24.5	0.0	6.3			
LnGrp Delay(d),s/veh	164.6	1.7	0.0	0.0	14.8	13.4	167.0	0.0	36.3			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h	1622				1151			789				
Approach Delay, s/veh	71.7				14.4			122.1				
Approach LOS	E				B			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		20.5		5.5			26.0	15.9				
Green Ext Time (p_c), s		0.0		20.8			0.0	7.4				
Intersection Summary												
HCM 2010 Ctrl Delay				64.4								
HCM 2010 LOS				E								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Future Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	459	650	87	38	501	122	136	11	27	154	16	514
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	977	437	63	599	145	423	34	407	373	39	366
Arrive On Green	0.20	0.55	0.55	0.04	0.21	0.21	0.26	0.26	0.26	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2827	685	1647	133	1583	1614	168	1583
Grp Volume(v), veh/h	459	650	87	38	313	310	147	0	27	170	0	514
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1742	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	10.4	2.2	1.7	13.5	13.7	5.3	0.0	1.0	6.5	0.0	18.5
Cycle Q Clear(g_c), s	8.0	10.4	2.2	1.7	13.5	13.7	5.3	0.0	1.0	6.5	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.39	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	977	437	63	375	369	458	0	407	412	0	366
V/C Ratio(X)	1.33	0.67	0.20	0.60	0.83	0.84	0.32	0.00	0.07	0.41	0.00	1.40
Avail Cap(c_a), veh/h	344	977	437	111	409	403	458	0	407	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	15.3	13.5	38.0	30.2	30.2	24.1	0.0	22.5	26.1	0.0	30.8
Incr Delay (d2), s/veh	167.2	1.6	0.2	8.8	13.0	13.9	1.9	0.0	0.3	0.7	0.0	197.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.1	1.0	1.0	8.0	8.0	2.8	0.0	0.5	3.2	0.0	28.2
LnGrp Delay(d),s/veh	199.2	16.9	13.7	46.8	43.2	44.1	25.9	0.0	22.8	26.8	0.0	228.2
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h	1196				661		174				684	
Approach Delay, s/veh	86.6				43.8		25.4				178.1	
Approach LOS	F				D		C				F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.6	6.9	26.1		22.5	12.0	20.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.3	3.7	12.4		20.5	10.0	15.7				
Green Ext Time (p_c), s		0.5	0.0	5.1		0.0	0.0	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay	95.3											
HCM 2010 LOS	F											

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	106	659	515	26	24	93
Future Vol, veh/h	106	659	515	26	24	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	716	560	28	26	101























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	588	0	0 1163 294
Stage 1	-	-	- 574 -
Stage 2	-	-	- 589 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	983	-	- 188 702
Stage 1	-	-	- 527 -
Stage 2	-	-	- 517 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	983	-	- 152 702
Mov Cap-2 Maneuver	-	-	- 152 -
Stage 1	-	-	- 527 -
Stage 2	-	-	- 417 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	152	702
HCM Lane V/C Ratio	0.117	-	-	-	0.172	0.144
HCM Control Delay (s)	9.1	-	-	-	33.5	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (3A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	910	15	18	882	199	18	5	16	309	6	102
Future Volume (veh/h)	115	910	15	18	882	199	18	5	16	309	6	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	125	989	16	20	959	216	20	5	17	341	0	111
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1887	31	42	1640	734	60	15	66	522	0	233
Arrive On Green	0.09	0.53	0.53	0.02	0.46	0.46	0.04	0.04	0.04	0.15	0.00	0.15
Sat Flow, veh/h	1774	3565	58	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	125	491	514	20	959	216	25	0	17	341	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1853	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	4.3	11.2	11.2	0.7	12.3	5.2	0.8	0.0	0.6	5.6	0.0	4.0
Cycle Q Clear(g_c), s	4.3	11.2	11.2	0.7	12.3	5.2	0.8	0.0	0.6	5.6	0.0	4.0
Prop In Lane	1.00		0.03	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	937	981	42	1640	734	74	0	66	522	0	233
V/C Ratio(X)	0.79	0.52	0.52	0.48	0.58	0.29	0.34	0.00	0.26	0.65	0.00	0.48
Avail Cap(c_a), veh/h	172	1072	1122	143	2086	933	535	0	473	1891	0	844
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.6	9.5	9.5	29.9	12.2	10.3	28.8	0.0	28.7	24.9	0.0	24.2
Incr Delay (d2), s/veh	19.9	0.5	0.4	8.3	0.3	0.2	2.6	0.0	2.0	1.4	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	5.6	5.8	0.4	6.1	2.3	0.5	0.0	0.3	2.8	0.0	1.8
LnGrp Delay(d),s/veh	47.5	9.9	9.9	38.2	12.6	10.5	31.5	0.0	30.8	26.3	0.0	25.7
LnGrp LOS	D	A	A	D	B	B	C		C	C		C
Approach Vol, veh/h	1130				1195				42		452	
Approach Delay, s/veh	14.1				12.6				31.2		26.2	
Approach LOS	B				B				C		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	6.6		5.5	36.8	13.1		9.5	32.7				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	18.5		5.0	37.5	33.0		6.0	36.5				
Max Q Clear Time (g_c+I1), s	2.8		2.7	13.2	7.6		6.3	14.3				
Green Ext Time (p_c), s	0.1		0.0	15.2	1.5		0.0	14.3				
Intersection Summary												
HCM 2010 Ctrl Delay	15.7											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd






















Opening Year (2025) plus Project (3A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↶	↑↑						↶	↷
Traffic Volume (veh/h)	0	740	495	172	692	0	0	0	0	158	1	407
Future Volume (veh/h)	0	740	495	172	692	0	0	0	0	158	1	407
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	538	187	752	0				172	1	442
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1407	657	230	2106	0				538	3	483
Arrive On Green	0.00	0.42	0.42	0.04	0.20	0.00				0.31	0.31	0.31
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1764	10	1583
Grp Volume(v), veh/h	0	804	538	187	752	0				173	0	442
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	14.5	24.1	8.4	14.7	0.0				6.0	0.0	21.5
Cycle Q Clear(g_c), s	0.0	14.5	24.1	8.4	14.7	0.0				6.0	0.0	21.5
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1407	657	230	2106	0				541	0	483
V/C Ratio(X)	0.00	0.57	0.82	0.81	0.36	0.00				0.32	0.00	0.92
Avail Cap(c_a), veh/h	0	1407	657	333	2106	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.84	0.84	0.85	0.85	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.9	20.7	37.3	18.9	0.0				21.4	0.0	26.8
Incr Delay (d2), s/veh	0.0	1.4	9.3	8.1	0.4	0.0				0.3	0.0	19.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.1	12.2	4.6	7.4	0.0				3.0	0.0	12.0
LnGrp Delay(d),s/veh	0.0	19.4	30.0	45.5	19.3	0.0				21.7	0.0	46.4
LnGrp LOS		B	C	D	B					C		D
Approach Vol, veh/h		1342			939						615	
Approach Delay, s/veh		23.6			24.5						39.5	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.4	37.2		28.4		51.6				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+l1), s			10.4	26.1		23.5		16.7				
Green Ext Time (p_c), s			0.2	0.1		0.9		17.5				
Intersection Summary												
HCM 2010 Ctrl Delay			27.3									
HCM 2010 LOS			C									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	500	0	0	536	257	328	3	255	0	0	0
Future Volume (veh/h)	398	500	0	0	536	257	328	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	433	543	0	0	583	279	357	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	462	2388	0	0	1290	577	397	3	357			
Arrive On Green	0.52	1.00	0.00	0.00	0.73	0.73	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1760	15	1583			
Grp Volume(v), veh/h	433	543	0	0	583	279	360	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	18.3	0.0	0.0	0.0	5.3	5.9	15.8	0.0	13.1			
Cycle Q Clear(g_c), s	18.3	0.0	0.0	0.0	5.3	5.9	15.8	0.0	13.1			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	462	2388	0	0	1290	577	400	0	357			
V/C Ratio(X)	0.94	0.23	0.00	0.00	0.45	0.48	0.90	0.00	0.78			
Avail Cap(c_a), veh/h	532	2388	0	0	1290	577	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.78	0.78	0.00	0.00	0.72	0.72	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.6	0.0	0.0	0.0	7.6	7.7	30.1	0.0	29.1			
Incr Delay (d2), s/veh	19.2	0.2	0.0	0.0	0.8	2.1	22.0	0.0	9.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.1	0.1	0.0	0.0	2.6	2.8	10.1	0.0	6.7			
LnGrp Delay(d),s/veh	37.7	0.2	0.0	0.0	8.4	9.8	52.1	0.0	39.0			
LnGrp LOS	D	A			A	A	D		D			
Approach Vol, veh/h		976			862			637				
Approach Delay, s/veh		16.8			8.9			46.4				
Approach LOS		B			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.0		58.0			24.8	33.2				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		17.8		2.0			20.3	7.9				
Green Ext Time (p_c), s		0.3		10.8			0.5	7.8				
Intersection Summary												
HCM 2010 Ctrl Delay				21.7								
HCM 2010 LOS				C								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Future Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	365	342	113	38	350	75	190	5	54	137	0	322
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	848	379	63	509	108	519	14	475	399	0	356
Arrive On Green	0.17	0.40	0.40	0.04	0.18	0.18	0.30	0.30	0.30	0.22	0.00	0.22
Sat Flow, veh/h	3442	3539	1583	1774	2908	616	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	365	342	113	38	211	214	195	0	54	137	0	322
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1754	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.5	3.9	1.7	9.0	9.1	6.9	0.0	2.0	5.2	0.0	15.8
Cycle Q Clear(g_c), s	8.0	5.5	3.9	1.7	9.0	9.1	6.9	0.0	2.0	5.2	0.0	15.8
Prop In Lane	1.00		1.00	1.00		0.35	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	848	379	63	310	307	533	0	475	399	0	356
V/C Ratio(X)	1.06	0.40	0.30	0.60	0.68	0.69	0.37	0.00	0.11	0.34	0.00	0.90
Avail Cap(c_a), veh/h	344	951	426	111	409	406	533	0	475	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	19.9	19.4	38.0	30.9	31.0	22.0	0.0	20.3	26.1	0.0	30.2
Incr Delay (d2), s/veh	64.4	0.3	0.4	8.8	3.0	3.4	1.9	0.0	0.5	0.5	0.0	24.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	2.7	1.7	1.0	4.6	4.7	3.6	0.0	0.9	2.6	0.0	9.3
LnGrp Delay(d),s/veh	97.8	20.2	19.8	46.8	33.9	34.3	24.0	0.0	20.8	26.6	0.0	54.9
LnGrp LOS	F	C	B	D	C	C	C		C	C		D
Approach Vol, veh/h		820			463			249			459	
Approach Delay, s/veh		54.7			35.1			23.3			46.5	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.0	6.9	23.2		22.0	12.0	18.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	7.5		17.8	10.0	11.1				
Green Ext Time (p_c), s		0.8	0.0	4.2		0.1	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			44.3									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	78	413	354	26	10	72
Future Vol, veh/h	78	413	354	26	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	449	385	28	11	78























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	413	0	0 793 207
Stage 1	-	-	- 399 -
Stage 2	-	-	- 394 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	1142	-	- 326 799
Stage 1	-	-	- 647 -
Stage 2	-	-	- 650 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1142	-	- 294 799
Mov Cap-2 Maneuver	-	-	- 294 -
Stage 1	-	-	- 647 -
Stage 2	-	-	- 586 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1142	-	-	-	294	799
HCM Lane V/C Ratio	0.074	-	-	-	0.037	0.098
HCM Control Delay (s)	8.4	-	-	-	17.7	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd


Opening Year (2025) plus Project (3B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1120	15	42	1197	331	21	15	38	793	10	242
Future Volume (veh/h)	212	1120	15	42	1197	331	21	15	38	793	10	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	230	1217	16	46	1301	360	23	16	41	870	0	263
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	1566	21	68	1443	645	52	36	78	1035	0	462
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.05	0.05	0.05	0.29	0.00	0.29
Sat Flow, veh/h	1774	3577	47	1774	3539	1583	1067	742	1583	3548	0	1583
Grp Volume(v), veh/h	230	602	631	46	1301	360	39	0	41	870	0	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1583	1809	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	25.3	25.3	2.2	30.1	15.2	1.8	0.0	2.2	20.1	0.0	12.3
Cycle Q Clear(g_c), s	6.0	25.3	25.3	2.2	30.1	15.2	1.8	0.0	2.2	20.1	0.0	12.3
Prop In Lane	1.00		0.03	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	775	812	68	1443	645	89	0	78	1035	0	462
V/C Ratio(X)	1.89	0.78	0.78	0.67	0.90	0.56	0.44	0.00	0.53	0.84	0.00	0.57
Avail Cap(c_a), veh/h	122	775	812	101	1478	661	383	0	335	1340	0	598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.7	20.9	20.9	41.5	24.2	19.8	40.4	0.0	40.6	29.1	0.0	26.3
Incr Delay (d2), s/veh	429.2	5.0	4.8	11.0	7.9	1.0	3.4	0.0	5.5	3.9	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.4	13.5	14.1	1.3	16.2	6.8	1.0	0.0	1.1	10.4	0.0	5.5
LnGrp Delay(d),s/veh	469.9	25.9	25.7	52.4	32.1	20.8	43.8	0.0	46.1	33.0	0.0	27.4
LnGrp LOS	F	C	C	D	C	C	D		D	C		C
Approach Vol, veh/h		1463			1707			80			1133	
Approach Delay, s/veh		95.7			30.3			45.0			31.7	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.4	42.3		29.5	10.0	39.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.2	4.2	27.3		22.1	8.0	32.1				
Green Ext Time (p_c), s		0.2	0.0	9.1		3.4	0.0	3.5				
Intersection Summary												
HCM 2010 Ctrl Delay				52.7								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd



















Opening Year (2025) plus Project (3B) Conditions
Friday PM Peak

	<div></div>											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↖	↑↑						↗	↖
Traffic Volume (veh/h)	0	1236	715	291	950	0	0	0	0	256	1	620
Future Volume (veh/h)	0	1236	715	291	950	0	0	0	0	256	1	620
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1343	777	316	1033	0				278	1	674
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1110	519	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1768	6	1583
Grp Volume(v), veh/h	0	1343	777	316	1033	0				279	0	674
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.2	21.0	0.0				9.9	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.2	21.0	0.0				9.9	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.21	1.50	0.95	0.52	0.00				0.47	0.00	1.27
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.49	0.49	0.49	0.49	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.2	22.7	0.0				21.0	0.0	26.6
Incr Delay (d2), s/veh	0.0	98.7	229.3	23.0	0.5	0.0				0.6	0.0	136.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	27.4	44.4	9.1	10.4	0.0				4.9	0.0	31.7
LnGrp Delay(d),s/veh	0.0	125.6	256.2	60.1	23.2	0.0				21.6	0.0	162.7
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2120			1349						953	
Approach Delay, s/veh		173.5			31.8						121.4	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.2	28.2		28.8		23.0				
Green Ext Time (p_c), s			0.0	0.0		0.0		19.9				
Intersection Summary												
HCM 2010 Ctrl Delay	119.0											
HCM 2010 LOS	F											

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions






















Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	641	851	0	0	798	261	443	5	249	0	0	0
Future Volume (veh/h)	641	851	0	0	798	261	443	5	249	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	697	925	0	0	867	284	482	5	271			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	406	4	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1757	18	1583			
Grp Volume(v), veh/h	697	925	0	0	867	284	487	0	271			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.5	0.0	0.0	13.9	8.1	18.5	0.0	12.7			
Cycle Q Clear(g_c), s	24.0	3.5	0.0	0.0	13.9	8.1	18.5	0.0	12.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.31	0.39	0.00	0.00	0.77	0.56	1.19	0.00	0.74			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.46	0.46	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.4	11.3	30.8	0.0	28.5			
Incr Delay (d2), s/veh	140.6	0.0	0.0	0.0	2.4	2.1	106.0	0.0	7.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	32.4	1.6	0.0	0.0	6.9	3.8	21.1	0.0	6.3			
LnGrp Delay(d),s/veh	164.6	1.7	0.0	0.0	14.8	13.4	136.8	0.0	36.3			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h	1622				1151			758				
Approach Delay, s/veh	71.7				14.4			100.8				
Approach LOS	E				B			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		20.5		5.5			26.0	15.9				
Green Ext Time (p_c), s		0.0		20.8			0.0	7.4				
Intersection Summary												
HCM 2010 Ctrl Delay				59.3								
HCM 2010 LOS				E								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (3B) Conditions

Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Future Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	459	650	87	38	501	122	136	11	27	154	16	514
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	977	437	63	599	145	423	34	407	373	39	366
Arrive On Green	0.20	0.55	0.55	0.04	0.21	0.21	0.26	0.26	0.26	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2827	685	1647	133	1583	1614	168	1583
Grp Volume(v), veh/h	459	650	87	38	313	310	147	0	27	170	0	514
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1742	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	10.4	2.2	1.7	13.5	13.7	5.3	0.0	1.0	6.5	0.0	18.5
Cycle Q Clear(g_c), s	8.0	10.4	2.2	1.7	13.5	13.7	5.3	0.0	1.0	6.5	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.39	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	977	437	63	375	369	458	0	407	412	0	366
V/C Ratio(X)	1.33	0.67	0.20	0.60	0.83	0.84	0.32	0.00	0.07	0.41	0.00	1.40
Avail Cap(c_a), veh/h	344	977	437	111	409	403	458	0	407	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	15.3	13.5	38.0	30.2	30.2	24.1	0.0	22.5	26.1	0.0	30.8
Incr Delay (d2), s/veh	167.2	1.6	0.2	8.8	13.0	13.9	1.9	0.0	0.3	0.7	0.0	197.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.1	1.0	1.0	8.0	8.0	2.8	0.0	0.5	3.2	0.0	28.2
LnGrp Delay(d),s/veh	199.2	16.9	13.7	46.8	43.2	44.1	25.9	0.0	22.8	26.8	0.0	228.2
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h	1196				661		174				684	
Approach Delay, s/veh	86.6				43.8		25.4				178.1	
Approach LOS	F				D		C				F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	24.6		6.9	26.1	22.5		12.0	20.9				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	19.0		5.0	21.5	18.5		8.0	18.5				
Max Q Clear Time (g_c+I1), s	7.3		3.7	12.4	20.5		10.0	15.7				
Green Ext Time (p_c), s	0.5		0.0	5.1	0.0		0.0	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			95.3									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	106	659	515	26	24	93
Future Vol, veh/h	106	659	515	26	24	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	716	560	28	26	101























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	588	0	0 1163 294
Stage 1	-	-	- 574 -
Stage 2	-	-	- 589 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	983	-	- 188 702
Stage 1	-	-	- 527 -
Stage 2	-	-	- 517 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	983	-	- 152 702
Mov Cap-2 Maneuver	-	-	- 152 -
Stage 1	-	-	- 527 -
Stage 2	-	-	- 417 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	152	702
HCM Lane V/C Ratio	0.117	-	-	-	0.172	0.144
HCM Control Delay (s)	9.1	-	-	-	33.5	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (3B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	860	15	18	834	190	18	5	16	300	6	102
Future Volume (veh/h)	115	860	15	18	834	190	18	5	16	300	6	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	125	935	16	20	907	207	20	5	17	331	0	111
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1855	32	42	1610	720	60	15	66	517	0	231
Arrive On Green	0.09	0.52	0.52	0.02	0.45	0.45	0.04	0.04	0.04	0.15	0.00	0.15
Sat Flow, veh/h	1774	3561	61	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	125	465	486	20	907	207	25	0	17	331	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1852	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	4.1	10.2	10.2	0.7	11.2	4.9	0.8	0.0	0.6	5.3	0.0	3.8
Cycle Q Clear(g_c), s	4.1	10.2	10.2	0.7	11.2	4.9	0.8	0.0	0.6	5.3	0.0	3.8
Prop In Lane	1.00		0.03	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	922	965	42	1610	720	75	0	66	517	0	231
V/C Ratio(X)	0.79	0.50	0.50	0.48	0.56	0.29	0.33	0.00	0.26	0.64	0.00	0.48
Avail Cap(c_a), veh/h	178	1110	1162	148	2161	967	554	0	490	1959	0	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.7	9.3	9.3	28.8	11.9	10.2	27.8	0.0	27.7	24.1	0.0	23.5
Incr Delay (d2), s/veh	18.6	0.4	0.4	8.2	0.3	0.2	2.6	0.0	2.0	1.3	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	5.0	5.2	0.4	5.5	2.2	0.5	0.0	0.3	2.7	0.0	1.8
LnGrp Delay(d),s/veh	45.3	9.7	9.7	37.0	12.3	10.4	30.4	0.0	29.7	25.4	0.0	25.0
LnGrp LOS	D	A	A	D	B	B	C		C	C		C
Approach Vol, veh/h		1076			1134			42			442	
Approach Delay, s/veh		13.8			12.4			30.1			25.3	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.5	5.4	35.1		12.7	9.4	31.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		2.8	2.7	12.2		7.3	6.1	13.2				
Green Ext Time (p_c), s		0.1	0.0	14.7		1.5	0.0	14.0				
Intersection Summary												
HCM 2010 Ctrl Delay			15.4									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd























Opening Year (2025) plus Project (3B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↶	↑↑						↷	↷
Traffic Volume (veh/h)	0	740	436	172	635	0	0	0	0	158	1	407
Future Volume (veh/h)	0	740	436	172	635	0	0	0	0	158	1	407
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	474	187	690	0				172	1	442
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1407	657	230	2106	0				538	3	483
Arrive On Green	0.00	0.42	0.42	0.04	0.20	0.00				0.31	0.31	0.31
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1764	10	1583
Grp Volume(v), veh/h	0	804	474	187	690	0				173	0	442
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	14.5	20.0	8.4	13.4	0.0				6.0	0.0	21.5
Cycle Q Clear(g_c), s	0.0	14.5	20.0	8.4	13.4	0.0				6.0	0.0	21.5
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1407	657	230	2106	0				541	0	483
V/C Ratio(X)	0.00	0.57	0.72	0.81	0.33	0.00				0.32	0.00	0.92
Avail Cap(c_a), veh/h	0	1407	657	333	2106	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.85	0.85	0.88	0.88	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.9	19.5	37.3	18.4	0.0				21.4	0.0	26.8
Incr Delay (d2), s/veh	0.0	1.4	5.8	8.4	0.4	0.0				0.3	0.0	19.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.1	9.7	4.7	6.7	0.0				3.0	0.0	12.0
LnGrp Delay(d),s/veh	0.0	19.4	25.3	45.7	18.8	0.0				21.7	0.0	46.4
LnGrp LOS		B	C	D	B					C		D
Approach Vol, veh/h		1278			877						615	
Approach Delay, s/veh		21.6			24.5						39.5	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.4	37.2		28.4		51.6				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.4	22.0		23.5		15.4				
Green Ext Time (p_c), s			0.2	3.5		0.9		16.6				
Intersection Summary												
HCM 2010 Ctrl Delay			26.5									
HCM 2010 LOS			C									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	500	0	0	536	257	271	3	255	0	0	0
Future Volume (veh/h)	398	500	0	0	536	257	271	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	433	543	0	0	583	279	295	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	462	2463	0	0	1365	611	358	4	323			
Arrive On Green	0.52	1.00	0.00	0.00	0.77	0.77	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1757	18	1583			
Grp Volume(v), veh/h	433	543	0	0	583	279	298	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	18.3	0.0	0.0	0.0	4.5	5.0	12.8	0.0	13.5			
Cycle Q Clear(g_c), s	18.3	0.0	0.0	0.0	4.5	5.0	12.8	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	462	2463	0	0	1365	611	362	0	323			
V/C Ratio(X)	0.94	0.22	0.00	0.00	0.43	0.46	0.82	0.00	0.86			
Avail Cap(c_a), veh/h	532	2463	0	0	1365	611	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.82	0.82	0.00	0.00	0.72	0.72	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.6	0.0	0.0	0.0	6.1	6.2	30.5	0.0	30.7			
Incr Delay (d2), s/veh	19.9	0.2	0.0	0.0	0.7	1.8	11.5	0.0	16.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.2	0.1	0.0	0.0	2.2	2.3	7.5	0.0	7.3			
LnGrp Delay(d),s/veh	38.4	0.2	0.0	0.0	6.8	7.9	42.0	0.0	47.2			
LnGrp LOS	D	A			A	A	D		D			
Approach Vol, veh/h		976			862			575				
Approach Delay, s/veh		17.1			7.2			44.5				
Approach LOS		B			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.3		59.7			24.8	34.9				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		15.5		2.0			20.3	7.0				
Green Ext Time (p_c), s		0.8		10.8			0.5	8.0				
Intersection Summary												
HCM 2010 Ctrl Delay				20.1								
HCM 2010 LOS				C								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Future Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	365	342	113	38	350	75	190	5	54	137	0	322
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	848	379	63	509	108	519	14	475	399	0	356
Arrive On Green	0.17	0.40	0.40	0.04	0.18	0.18	0.30	0.30	0.30	0.22	0.00	0.22
Sat Flow, veh/h	3442	3539	1583	1774	2908	616	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	365	342	113	38	211	214	195	0	54	137	0	322
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1754	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.5	3.9	1.7	9.0	9.1	6.9	0.0	2.0	5.2	0.0	15.8
Cycle Q Clear(g_c), s	8.0	5.5	3.9	1.7	9.0	9.1	6.9	0.0	2.0	5.2	0.0	15.8
Prop In Lane	1.00		1.00	1.00		0.35	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	848	379	63	310	307	533	0	475	399	0	356
V/C Ratio(X)	1.06	0.40	0.30	0.60	0.68	0.69	0.37	0.00	0.11	0.34	0.00	0.90
Avail Cap(c_a), veh/h	344	951	426	111	409	406	533	0	475	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	19.9	19.4	38.0	30.9	31.0	22.0	0.0	20.3	26.1	0.0	30.2
Incr Delay (d2), s/veh	64.4	0.3	0.4	8.8	3.0	3.4	1.9	0.0	0.5	0.5	0.0	24.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	2.7	1.7	1.0	4.6	4.7	3.6	0.0	0.9	2.6	0.0	9.3
LnGrp Delay(d),s/veh	97.7	20.2	19.8	46.8	33.9	34.3	24.0	0.0	20.8	26.6	0.0	54.9
LnGrp LOS	F	C	B	D	C	C	C		C	C		D
Approach Vol, veh/h		820			463			249			459	
Approach Delay, s/veh		54.7			35.1			23.3			46.5	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.0	6.9	23.2		22.0	12.0	18.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	7.5		17.8	10.0	11.1				
Green Ext Time (p_c), s		0.8	0.0	4.2		0.1	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			44.3									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	78	413	354	26	10	72
Future Vol, veh/h	78	413	354	26	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	449	385	28	11	78























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	413	0	0 793 207
Stage 1	-	-	- 399 -
Stage 2	-	-	- 394 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	1142	-	- 326 799
Stage 1	-	-	- 647 -
Stage 2	-	-	- 650 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1142	-	- 294 799
Mov Cap-2 Maneuver	-	-	- 294 -
Stage 1	-	-	- 647 -
Stage 2	-	-	- 586 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1142	-	-	-	294	799
HCM Lane V/C Ratio	0.074	-	-	-	0.037	0.098
HCM Control Delay (s)	8.4	-	-	-	17.7	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (3C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1128	15	42	1207	332	21	15	38	794	10	242
Future Volume (veh/h)	212	1128	15	42	1207	332	21	15	38	794	10	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	230	1226	16	46	1312	361	23	16	41	871	0	263
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	1566	20	68	1443	645	52	36	78	1036	0	462
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.05	0.05	0.05	0.29	0.00	0.29
Sat Flow, veh/h	1774	3577	47	1774	3539	1583	1067	742	1583	3548	0	1583
Grp Volume(v), veh/h	230	606	636	46	1312	361	39	0	41	871	0	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1809	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	25.6	25.6	2.2	30.5	15.3	1.8	0.0	2.2	20.2	0.0	12.3
Cycle Q Clear(g_c), s	6.0	25.6	25.6	2.2	30.5	15.3	1.8	0.0	2.2	20.2	0.0	12.3
Prop In Lane	1.00		0.03	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	775	812	68	1443	645	89	0	78	1036	0	462
V/C Ratio(X)	1.89	0.78	0.78	0.67	0.91	0.56	0.44	0.00	0.53	0.84	0.00	0.57
Avail Cap(c_a), veh/h	122	775	812	101	1477	661	383	0	335	1339	0	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.7	21.0	21.0	41.5	24.4	19.9	40.4	0.0	40.6	29.1	0.0	26.3
Incr Delay (d2), s/veh	429.8	5.2	5.0	11.0	8.5	1.0	3.4	0.0	5.5	3.9	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.4	13.6	14.2	1.3	16.5	6.8	1.0	0.0	1.1	10.4	0.0	5.5
LnGrp Delay(d),s/veh	470.6	26.3	26.1	52.5	32.9	20.9	43.8	0.0	46.1	33.0	0.0	27.4
LnGrp LOS	F	C	C	D	C	C	D		D	C		C
Approach Vol, veh/h		1472			1719			80			1134	
Approach Delay, s/veh		95.6			30.9			45.0			31.7	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.4	42.3		29.5	10.0	39.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.2	4.2	27.6		22.2	8.0	32.5				
Green Ext Time (p_c), s		0.2	0.0	8.9		3.4	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			53.0									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd























Opening Year (2025) plus Project (3C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↵	↑↑						↵	↵
Traffic Volume (veh/h)	0	1236	724	291	961	0	0	0	0	256	1	620
Future Volume (veh/h)	0	1236	724	291	961	0	0	0	0	256	1	620
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1343	787	316	1045	0				278	1	674
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1110	519	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1768	6	1583
Grp Volume(v), veh/h	0	1343	787	316	1045	0				279	0	674
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.2	21.3	0.0				9.9	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.2	21.3	0.0				9.9	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.21	1.52	0.95	0.52	0.00				0.47	0.00	1.27
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.48	0.48	0.49	0.49	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.2	22.8	0.0				21.0	0.0	26.6
Incr Delay (d2), s/veh	0.0	98.6	237.8	23.0	0.5	0.0				0.6	0.0	136.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	27.4	45.6	9.1	10.5	0.0				4.9	0.0	31.7
LnGrp Delay(d),s/veh	0.0	125.5	264.7	60.1	23.3	0.0				21.6	0.0	162.7
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2130			1361						953	
Approach Delay, s/veh		176.9			31.8						121.4	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.2	28.2		28.8		23.3				
Green Ext Time (p_c), s			0.0	0.0		0.0		19.8				
Intersection Summary												
HCM 2010 Ctrl Delay		120.6										
HCM 2010 LOS		F										

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	641	851	0	0	798	261	454	5	249	0	0	0
Future Volume (veh/h)	641	851	0	0	798	261	454	5	249	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	697	925	0	0	867	284	493	5	271			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	406	4	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1757	18	1583			
Grp Volume(v), veh/h	697	925	0	0	867	284	498	0	271			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.5	0.0	0.0	13.9	8.1	18.5	0.0	12.7			
Cycle Q Clear(g_c), s	24.0	3.5	0.0	0.0	13.9	8.1	18.5	0.0	12.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.31	0.39	0.00	0.00	0.77	0.56	1.21	0.00	0.74			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.46	0.46	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.4	11.3	30.8	0.0	28.5			
Incr Delay (d2), s/veh	140.6	0.0	0.0	0.0	2.4	2.1	116.5	0.0	7.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	32.4	1.6	0.0	0.0	6.9	3.8	22.3	0.0	6.3			
LnGrp Delay(d),s/veh	164.6	1.7	0.0	0.0	14.8	13.4	147.3	0.0	36.3			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h	1622				1151				769			
Approach Delay, s/veh	71.7				14.4				108.2			
Approach LOS	E				B				F			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4				7		8			
Phs Duration (G+Y+Rc), s	22.5		57.5				28.0		29.5			
Change Period (Y+Rc), s	4.0		4.0				4.0		4.0			
Max Green Setting (Gmax), s	18.5		53.5				24.0		25.5			
Max Q Clear Time (g_c+I1), s	20.5		5.5				26.0		15.9			
Green Ext Time (p_c), s	0.0		20.8				0.0		7.4			
Intersection Summary												
HCM 2010 Ctrl Delay			61.0									
HCM 2010 LOS			E									

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Future Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	459	650	87	38	501	122	136	11	27	154	16	514
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	977	437	63	599	145	423	34	407	373	39	366
Arrive On Green	0.20	0.55	0.55	0.04	0.21	0.21	0.26	0.26	0.26	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2827	685	1647	133	1583	1614	168	1583
Grp Volume(v), veh/h	459	650	87	38	313	310	147	0	27	170	0	514
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1742	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	10.4	2.2	1.7	13.5	13.7	5.3	0.0	1.0	6.5	0.0	18.5
Cycle Q Clear(g_c), s	8.0	10.4	2.2	1.7	13.5	13.7	5.3	0.0	1.0	6.5	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.39	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	977	437	63	375	369	458	0	407	412	0	366
V/C Ratio(X)	1.33	0.67	0.20	0.60	0.83	0.84	0.32	0.00	0.07	0.41	0.00	1.40
Avail Cap(c_a), veh/h	344	977	437	111	409	403	458	0	407	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	15.3	13.5	38.0	30.2	30.2	24.1	0.0	22.5	26.1	0.0	30.8
Incr Delay (d2), s/veh	167.2	1.6	0.2	8.8	13.0	13.9	1.9	0.0	0.3	0.7	0.0	197.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.1	1.0	1.0	8.0	8.0	2.8	0.0	0.5	3.2	0.0	28.2
LnGrp Delay(d),s/veh	199.2	16.9	13.7	46.8	43.2	44.1	25.9	0.0	22.8	26.8	0.0	228.2
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h		1196			661			174			684	
Approach Delay, s/veh		86.6			43.8			25.4			178.1	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.6	6.9	26.1		22.5	12.0	20.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.3	3.7	12.4		20.5	10.0	15.7				
Green Ext Time (p_c), s		0.5	0.0	5.1		0.0	0.0	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			95.3									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	106	659	515	26	24	93
Future Vol, veh/h	106	659	515	26	24	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	716	560	28	26	101























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	588	0	0 1163 294
Stage 1	-	-	- 574 -
Stage 2	-	-	- 589 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	983	-	- 188 702
Stage 1	-	-	- 527 -
Stage 2	-	-	- 517 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	983	-	- 152 702
Mov Cap-2 Maneuver	-	-	- 152 -
Stage 1	-	-	- 527 -
Stage 2	-	-	- 417 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	152	702
HCM Lane V/C Ratio	0.117	-	-	-	0.172	0.144
HCM Control Delay (s)	9.1	-	-	-	33.5	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (3C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	893	15	18	872	197	18	5	16	306	6	102
Future Volume (veh/h)	115	893	15	18	872	197	18	5	16	306	6	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	125	971	16	20	948	214	20	5	17	338	0	111
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1880	31	42	1633	731	60	15	66	520	0	232
Arrive On Green	0.09	0.53	0.53	0.02	0.46	0.46	0.04	0.04	0.04	0.15	0.00	0.15
Sat Flow, veh/h	1774	3563	59	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	125	482	505	20	948	214	25	0	17	338	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1852	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	4.2	10.9	10.9	0.7	12.1	5.2	0.8	0.0	0.6	5.5	0.0	3.9
Cycle Q Clear(g_c), s	4.2	10.9	10.9	0.7	12.1	5.2	0.8	0.0	0.6	5.5	0.0	3.9
Prop In Lane	1.00		0.03	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	933	977	42	1633	731	75	0	66	520	0	232
V/C Ratio(X)	0.79	0.52	0.52	0.48	0.58	0.29	0.34	0.00	0.26	0.65	0.00	0.48
Avail Cap(c_a), veh/h	173	1081	1132	145	2104	941	540	0	477	1907	0	851
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.4	9.4	9.4	29.6	12.2	10.3	28.6	0.0	28.5	24.7	0.0	24.0
Incr Delay (d2), s/veh	19.5	0.4	0.4	8.3	0.3	0.2	2.6	0.0	2.0	1.4	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	5.3	5.6	0.4	5.9	2.3	0.5	0.0	0.3	2.8	0.0	1.8
LnGrp Delay(d),s/veh	46.9	9.9	9.8	37.9	12.5	10.5	31.2	0.0	30.5	26.1	0.0	25.6
LnGrp LOS	D	A	A	D	B	B	C		C	C		C
Approach Vol, veh/h	1112				1182		42				449	
Approach Delay, s/veh	14.0				12.6		30.9				25.9	
Approach LOS	B				B		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	6.6		5.4	36.4	13.0		9.5	32.3				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	18.5		5.0	37.5	33.0		6.0	36.5				
Max Q Clear Time (g_c+I1), s	2.8		2.7	12.9	7.5		6.2	14.1				
Green Ext Time (p_c), s	0.1		0.0	15.1	1.5		0.0	14.2				
Intersection Summary												
HCM 2010 Ctrl Delay	15.6											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↶	↑↑						↷	↷
Traffic Volume (veh/h)	0	740	475	172	680	0	0	0	0	158	1	407
Future Volume (veh/h)	0	740	475	172	680	0	0	0	0	158	1	407
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	516	187	739	0				172	1	442
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1407	657	230	2106	0				538	3	483
Arrive On Green	0.00	0.42	0.42	0.04	0.20	0.00				0.31	0.31	0.31
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1764	10	1583
Grp Volume(v), veh/h	0	804	516	187	739	0				173	0	442
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	14.5	22.6	8.4	14.4	0.0				6.0	0.0	21.5
Cycle Q Clear(g_c), s	0.0	14.5	22.6	8.4	14.4	0.0				6.0	0.0	21.5
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1407	657	230	2106	0				541	0	483
V/C Ratio(X)	0.00	0.57	0.79	0.81	0.35	0.00				0.32	0.00	0.92
Avail Cap(c_a), veh/h	0	1407	657	333	2106	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.84	0.84	0.85	0.85	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.9	20.3	37.3	18.8	0.0				21.4	0.0	26.8
Incr Delay (d2), s/veh	0.0	1.4	7.8	8.2	0.4	0.0				0.3	0.0	19.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.1	11.2	4.7	7.2	0.0				3.0	0.0	12.0
LnGrp Delay(d),s/veh	0.0	19.4	28.1	45.5	19.2	0.0				21.7	0.0	46.4
LnGrp LOS		B	C	D	B					C		D
Approach Vol, veh/h		1320			926						615	
Approach Delay, s/veh		22.8			24.5						39.5	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.4	37.2		28.4		51.6				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.4	24.6		23.5		16.4				
Green Ext Time (p_c), s			0.2	1.4		0.9		17.2				
Intersection Summary												
HCM 2010 Ctrl Delay			26.9									
HCM 2010 LOS			C									






















Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	500	0	0	536	257	316	3	255	0	0	0
Future Volume (veh/h)	398	500	0	0	536	257	316	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	433	543	0	0	583	279	343	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	462	2408	0	0	1310	586	386	3	348			
Arrive On Green	0.52	1.00	0.00	0.00	0.74	0.74	0.22	0.22	0.22			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1759	15	1583			
Grp Volume(v), veh/h	433	543	0	0	583	279	346	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	18.3	0.0	0.0	0.0	5.1	5.7	15.1	0.0	13.2			
Cycle Q Clear(g_c), s	18.3	0.0	0.0	0.0	5.1	5.7	15.1	0.0	13.2			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	462	2408	0	0	1310	586	390	0	348			
V/C Ratio(X)	0.94	0.23	0.00	0.00	0.45	0.48	0.89	0.00	0.80			
Avail Cap(c_a), veh/h	532	2408	0	0	1310	586	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.79	0.79	0.00	0.00	0.72	0.72	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.6	0.0	0.0	0.0	7.2	7.3	30.3	0.0	29.5			
Incr Delay (d2), s/veh	19.4	0.2	0.0	0.0	0.8	2.0	19.7	0.0	11.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.1	0.1	0.0	0.0	2.6	2.6	9.5	0.0	6.8			
LnGrp Delay(d),s/veh	38.0	0.2	0.0	0.0	8.0	9.3	50.0	0.0	40.7			
LnGrp LOS	D	A			A	A	D		D			
Approach Vol, veh/h		976			862			623				
Approach Delay, s/veh		16.9			8.4			45.9				
Approach LOS		B			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		21.6		58.4			24.8	33.6				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		17.1		2.0			20.3	7.7				
Green Ext Time (p_c), s		0.5		10.8			0.5	7.9				
Intersection Summary												
HCM 2010 Ctrl Delay				21.3								
HCM 2010 LOS				C								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (3C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Future Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	365	342	113	38	350	75	190	5	54	137	0	322
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	848	379	63	509	108	519	14	475	399	0	356
Arrive On Green	0.17	0.40	0.40	0.04	0.18	0.18	0.30	0.30	0.30	0.22	0.00	0.22
Sat Flow, veh/h	3442	3539	1583	1774	2908	616	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	365	342	113	38	211	214	195	0	54	137	0	322
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1754	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.5	3.9	1.7	9.0	9.1	6.9	0.0	2.0	5.2	0.0	15.8
Cycle Q Clear(g_c), s	8.0	5.5	3.9	1.7	9.0	9.1	6.9	0.0	2.0	5.2	0.0	15.8
Prop In Lane	1.00		1.00	1.00		0.35	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	848	379	63	310	307	533	0	475	399	0	356
V/C Ratio(X)	1.06	0.40	0.30	0.60	0.68	0.69	0.37	0.00	0.11	0.34	0.00	0.90
Avail Cap(c_a), veh/h	344	951	426	111	409	406	533	0	475	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	19.9	19.4	38.0	30.9	31.0	22.0	0.0	20.3	26.1	0.0	30.2
Incr Delay (d2), s/veh	64.4	0.3	0.4	8.8	3.0	3.4	1.9	0.0	0.5	0.5	0.0	24.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	2.7	1.7	1.0	4.6	4.7	3.6	0.0	0.9	2.6	0.0	9.3
LnGrp Delay(d),s/veh	97.7	20.2	19.8	46.8	33.9	34.3	24.0	0.0	20.8	26.6	0.0	54.9
LnGrp LOS	F	C	B	D	C	C	C		C	C		D
Approach Vol, veh/h	820				463		249				459	
Approach Delay, s/veh	54.7				35.1		23.3				46.5	
Approach LOS	D				D		C				D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	28.0		6.9	23.2	22.0		12.0	18.0				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	19.0		5.0	21.5	18.5		8.0	18.5				
Max Q Clear Time (g_c+I1), s	8.9		3.7	7.5	17.8		10.0	11.1				
Green Ext Time (p_c), s	0.8		0.0	4.2	0.1		0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			44.3									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	78	413	354	26	10	72
Future Vol, veh/h	78	413	354	26	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	449	385	28	11	78























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	413	0	0 793 207
Stage 1	-	-	- 399 -
Stage 2	-	-	- 394 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	1142	-	- 326 799
Stage 1	-	-	- 647 -
Stage 2	-	-	- 650 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1142	-	- 294 799
Mov Cap-2 Maneuver	-	-	- 294 -
Stage 1	-	-	- 647 -
Stage 2	-	-	- 586 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1142	-	-	-	294	799
HCM Lane V/C Ratio	0.074	-	-	-	0.037	0.098
HCM Control Delay (s)	8.4	-	-	-	17.7	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (3D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1038	15	42	1161	324	21	15	38	778	10	242
Future Volume (veh/h)	212	1038	15	42	1161	324	21	15	38	778	10	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	230	1128	16	46	1262	352	23	16	41	854	0	263
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	1571	22	69	1448	648	53	37	78	1022	0	456
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.05	0.05	0.05	0.29	0.00	0.29
Sat Flow, veh/h	1774	3573	51	1774	3539	1583	1067	742	1583	3548	0	1583
Grp Volume(v), veh/h	230	559	585	46	1262	352	39	0	41	854	0	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1583	1809	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	22.4	22.4	2.2	28.4	14.7	1.8	0.0	2.2	19.6	0.0	12.3
Cycle Q Clear(g_c), s	6.0	22.4	22.4	2.2	28.4	14.7	1.8	0.0	2.2	19.6	0.0	12.3
Prop In Lane	1.00		0.03	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	123	778	815	69	1448	648	89	0	78	1022	0	456
V/C Ratio(X)	1.87	0.72	0.72	0.67	0.87	0.54	0.44	0.00	0.53	0.84	0.00	0.58
Avail Cap(c_a), veh/h	123	778	815	102	1489	666	386	0	338	1350	0	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.4	19.9	19.9	41.2	23.5	19.5	40.1	0.0	40.2	29.0	0.0	26.4
Incr Delay (d2), s/veh	422.7	3.2	3.1	10.8	5.8	0.9	3.4	0.0	5.4	3.6	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.3	11.6	12.1	1.3	15.0	6.5	1.0	0.0	1.1	10.1	0.0	5.5
LnGrp Delay(d),s/veh	463.1	23.1	23.0	52.0	29.4	20.3	43.4	0.0	45.6	32.6	0.0	27.5
LnGrp LOS	F	C	C	D	C	C	D		D	C		C
Approach Vol, veh/h		1374			1660			80			1117	
Approach Delay, s/veh		96.7			28.1			44.6			31.4	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.3	42.1		29.0	10.0	39.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.2	4.2	24.4		21.6	8.0	30.4				
Green Ext Time (p_c), s		0.2	0.0	11.2		3.4	0.0	5.1				
Intersection Summary												
HCM 2010 Ctrl Delay			51.5									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.



















Redding Rancheria
4: I-5 SB & S Bonnyview Rd























Opening Year (2025) plus Project (3D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↙	↑↑						↗	↗
Traffic Volume (veh/h)	0	1236	618	291	907	0	0	0	0	256	1	620
Future Volume (veh/h)	0	1236	618	291	907	0	0	0	0	256	1	620
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1343	672	316	986	0				278	1	674
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1110	519	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1768	6	1583
Grp Volume(v), veh/h	0	1343	672	316	986	0				279	0	674
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.2	20.0	0.0				9.9	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.2	20.0	0.0				9.9	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.21	1.30	0.95	0.49	0.00				0.47	0.00	1.27
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.57	0.57	0.49	0.49	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.2	22.3	0.0				21.0	0.0	26.6
Incr Delay (d2), s/veh	0.0	99.4	141.3	23.0	0.4	0.0				0.6	0.0	136.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	27.5	31.7	9.1	9.9	0.0				4.9	0.0	31.7
LnGrp Delay(d),s/veh	0.0	126.3	168.2	60.1	22.7	0.0				21.6	0.0	162.7
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2015			1302						953	
Approach Delay, s/veh		140.2			31.8						121.4	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.2	28.2		28.8		22.0				
Green Ext Time (p_c), s			0.0	0.0		0.0		20.2				
Intersection Summary												
HCM 2010 Ctrl Delay			103.0									
HCM 2010 LOS			F									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	641	851	0	0	798	261	400	5	249	0	0	0
Future Volume (veh/h)	641	851	0	0	798	261	400	5	249	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	697	925	0	0	867	284	435	5	271			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	406	5	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1755	20	1583			
Grp Volume(v), veh/h	697	925	0	0	867	284	440	0	271			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.5	0.0	0.0	13.9	8.1	18.5	0.0	12.7			
Cycle Q Clear(g_c), s	24.0	3.5	0.0	0.0	13.9	8.1	18.5	0.0	12.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.31	0.39	0.00	0.00	0.77	0.56	1.07	0.00	0.74			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.46	0.46	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.4	11.3	30.8	0.0	28.5			
Incr Delay (d2), s/veh	140.6	0.0	0.0	0.0	2.4	2.1	64.9	0.0	7.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	32.4	1.6	0.0	0.0	6.9	3.8	16.4	0.0	6.3			
LnGrp Delay(d),s/veh	164.6	1.7	0.0	0.0	14.8	13.4	95.7	0.0	36.3			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h	1622			1151			711					
Approach Delay, s/veh	71.7			14.4			73.1					
Approach LOS	E			B			E					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		7		8					
Phs Duration (G+Y+Rc), s	22.5		57.5		28.0		29.5					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	18.5		53.5		24.0		25.5					
Max Q Clear Time (g_c+I1), s	20.5		5.5		26.0		15.9					
Green Ext Time (p_c), s	0.0		20.8		0.0		7.4					
Intersection Summary												
HCM 2010 Ctrl Delay	53.1											
HCM 2010 LOS	D											

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Future Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	459	650	87	38	501	122	136	11	27	154	16	514
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	977	437	63	599	145	423	34	407	373	39	366
Arrive On Green	0.20	0.55	0.55	0.04	0.21	0.21	0.26	0.26	0.26	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2827	685	1647	133	1583	1614	168	1583
Grp Volume(v), veh/h	459	650	87	38	313	310	147	0	27	170	0	514
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1742	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	10.4	2.2	1.7	13.5	13.7	5.3	0.0	1.0	6.5	0.0	18.5
Cycle Q Clear(g_c), s	8.0	10.4	2.2	1.7	13.5	13.7	5.3	0.0	1.0	6.5	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.39	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	977	437	63	375	369	458	0	407	412	0	366
V/C Ratio(X)	1.33	0.67	0.20	0.60	0.83	0.84	0.32	0.00	0.07	0.41	0.00	1.40
Avail Cap(c_a), veh/h	344	977	437	111	409	403	458	0	407	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	15.3	13.5	38.0	30.2	30.2	24.1	0.0	22.5	26.1	0.0	30.8
Incr Delay (d2), s/veh	167.2	1.6	0.2	8.8	13.0	13.9	1.9	0.0	0.3	0.7	0.0	197.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.1	1.0	1.0	8.0	8.0	2.8	0.0	0.5	3.2	0.0	28.2
LnGrp Delay(d),s/veh	199.2	16.9	13.7	46.8	43.2	44.1	25.9	0.0	22.8	26.8	0.0	228.2
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h		1196			661			174			684	
Approach Delay, s/veh		86.6			43.8			25.4			178.1	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.6	6.9	26.1		22.5	12.0	20.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.3	3.7	12.4		20.5	10.0	15.7				
Green Ext Time (p_c), s		0.5	0.0	5.1		0.0	0.0	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay					95.3							
HCM 2010 LOS					F							

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	106	659	515	26	24	93
Future Vol, veh/h	106	659	515	26	24	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	716	560	28	26	101























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	588	0	0 1163 294
Stage 1	-	-	- 574 -
Stage 2	-	-	- 589 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	983	-	- 188 702
Stage 1	-	-	- 527 -
Stage 2	-	-	- 517 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	983	-	- 152 702
Mov Cap-2 Maneuver	-	-	- 152 -
Stage 1	-	-	- 527 -
Stage 2	-	-	- 417 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	152	702
HCM Lane V/C Ratio	0.117	-	-	-	0.172	0.144
HCM Control Delay (s)	9.1	-	-	-	33.5	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd













Opening Year (2025) plus Project (3D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	795	15	18	838	191	18	5	16	288	6	102
Future Volume (veh/h)	115	795	15	18	838	191	18	5	16	288	6	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	125	864	16	20	911	208	20	5	17	318	0	111
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1846	34	42	1604	718	60	15	67	506	0	226
Arrive On Green	0.09	0.52	0.52	0.02	0.45	0.45	0.04	0.04	0.04	0.14	0.00	0.14
Sat Flow, veh/h	1774	3555	66	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	125	430	450	20	911	208	25	0	17	318	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1851	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	4.1	9.1	9.1	0.7	11.1	4.9	0.8	0.0	0.6	5.0	0.0	3.8
Cycle Q Clear(g_c), s	4.1	9.1	9.1	0.7	11.1	4.9	0.8	0.0	0.6	5.0	0.0	3.8
Prop In Lane	1.00		0.04	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	919	961	42	1604	718	76	0	67	506	0	226
V/C Ratio(X)	0.79	0.47	0.47	0.48	0.57	0.29	0.33	0.00	0.25	0.63	0.00	0.49
Avail Cap(c_a), veh/h	181	1129	1181	151	2199	984	564	0	499	1993	0	889
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.2	9.0	9.0	28.3	11.8	10.1	27.3	0.0	27.2	23.7	0.0	23.2
Incr Delay (d2), s/veh	18.0	0.4	0.4	8.1	0.3	0.2	2.5	0.0	2.0	1.3	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	4.5	4.7	0.4	5.5	2.1	0.4	0.0	0.3	2.5	0.0	1.7
LnGrp Delay(d),s/veh	44.2	9.3	9.3	36.4	12.1	10.3	29.9	0.0	29.2	25.0	0.0	24.9
LnGrp LOS	D	A	A	D	B	B	C		C	C		C
Approach Vol, veh/h		1005			1139			42			429	
Approach Delay, s/veh		13.7			12.2			29.6			25.0	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.5	5.4	34.5		12.4	9.3	30.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		2.8	2.7	11.1		7.0	6.1	13.1				
Green Ext Time (p_c), s		0.1	0.0	14.5		1.4	0.0	13.5				
Intersection Summary												
HCM 2010 Ctrl Delay			15.2									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.








Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↶	↑↑						↶	↷
Traffic Volume (veh/h)	0	740	359	172	640	0	0	0	0	158	1	407
Future Volume (veh/h)	0	740	359	172	640	0	0	0	0	158	1	407
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	390	187	696	0				172	1	442
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1407	657	230	2106	0				538	3	483
Arrive On Green	0.00	0.42	0.42	0.04	0.20	0.00				0.31	0.31	0.31
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1764	10	1583
Grp Volume(v), veh/h	0	804	390	187	696	0				173	0	442
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	14.5	15.3	8.4	13.5	0.0				6.0	0.0	21.5
Cycle Q Clear(g_c), s	0.0	14.5	15.3	8.4	13.5	0.0				6.0	0.0	21.5
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1407	657	230	2106	0				541	0	483
V/C Ratio(X)	0.00	0.57	0.59	0.81	0.33	0.00				0.32	0.00	0.92
Avail Cap(c_a), veh/h	0	1407	657	333	2106	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.88	0.88	0.87	0.87	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.9	18.2	37.3	18.5	0.0				21.4	0.0	26.8
Incr Delay (d2), s/veh	0.0	1.5	3.4	8.4	0.4	0.0				0.3	0.0	19.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.1	7.2	4.7	6.7	0.0				3.0	0.0	12.0
LnGrp Delay(d),s/veh	0.0	19.4	21.6	45.7	18.8	0.0				21.7	0.0	46.4
LnGrp LOS		B	C	D	B					C		D
Approach Vol, veh/h		1194			883						615	
Approach Delay, s/veh		20.1			24.5						39.5	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.4	37.2		28.4		51.6				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.4	17.3		23.5		15.5				
Green Ext Time (p_c), s			0.2	6.7		0.9		15.8				
Intersection Summary												
HCM 2010 Ctrl Delay			26.0									
HCM 2010 LOS			C									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd






















Opening Year (2025) plus Project (3D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	500	0	0	536	257	276	3	255	0	0	0
Future Volume (veh/h)	398	500	0	0	536	257	276	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	433	543	0	0	583	279	300	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	462	2463	0	0	1365	611	359	4	323			
Arrive On Green	0.52	1.00	0.00	0.00	0.77	0.77	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1757	18	1583			
Grp Volume(v), veh/h	433	543	0	0	583	279	303	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	18.3	0.0	0.0	0.0	4.5	5.0	13.1	0.0	13.5			
Cycle Q Clear(g_c), s	18.3	0.0	0.0	0.0	4.5	5.0	13.1	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	462	2463	0	0	1365	611	362	0	323			
V/C Ratio(X)	0.94	0.22	0.00	0.00	0.43	0.46	0.84	0.00	0.86			
Avail Cap(c_a), veh/h	532	2463	0	0	1365	611	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.85	0.85	0.00	0.00	0.72	0.72	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.6	0.0	0.0	0.0	6.1	6.2	30.6	0.0	30.7			
Incr Delay (d2), s/veh	20.4	0.2	0.0	0.0	0.7	1.8	12.8	0.0	16.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.3	0.1	0.0	0.0	2.2	2.3	7.7	0.0	7.3			
LnGrp Delay(d),s/veh	38.9	0.2	0.0	0.0	6.8	8.0	43.3	0.0	47.2			
LnGrp LOS	D	A			A	A	D		D			
Approach Vol, veh/h		976			862			580				
Approach Delay, s/veh		17.4			7.2			45.2				
Approach LOS		B			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.3		59.7			24.8	34.9				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		15.5		2.0			20.3	7.0				
Green Ext Time (p_c), s		0.8		10.8			0.5	8.0				
Intersection Summary												
HCM 2010 Ctrl Delay				20.4								
HCM 2010 LOS				C								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (3D) Conditions

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Future Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	365	342	113	38	350	75	190	5	54	137	0	322
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	848	379	63	509	108	519	14	475	399	0	356
Arrive On Green	0.17	0.40	0.40	0.04	0.18	0.18	0.30	0.30	0.30	0.22	0.00	0.22
Sat Flow, veh/h	3442	3539	1583	1774	2908	616	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	365	342	113	38	211	214	195	0	54	137	0	322
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1754	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.5	3.9	1.7	9.0	9.1	6.9	0.0	2.0	5.2	0.0	15.8
Cycle Q Clear(g_c), s	8.0	5.5	3.9	1.7	9.0	9.1	6.9	0.0	2.0	5.2	0.0	15.8
Prop In Lane	1.00		1.00	1.00		0.35	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	848	379	63	310	307	533	0	475	399	0	356
V/C Ratio(X)	1.06	0.40	0.30	0.60	0.68	0.69	0.37	0.00	0.11	0.34	0.00	0.90
Avail Cap(c_a), veh/h	344	951	426	111	409	406	533	0	475	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	19.9	19.4	38.0	30.9	31.0	22.0	0.0	20.3	26.1	0.0	30.2
Incr Delay (d2), s/veh	64.4	0.3	0.4	8.8	3.0	3.4	1.9	0.0	0.5	0.5	0.0	24.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.8	2.7	1.7	1.0	4.6	4.7	3.6	0.0	0.9	2.6	0.0	9.3
LnGrp Delay(d),s/veh	97.7	20.2	19.8	46.8	33.9	34.3	24.0	0.0	20.8	26.6	0.0	54.9
LnGrp LOS	F	C	B	D	C	C	C		C	C		D
Approach Vol, veh/h		820			463			249			459	
Approach Delay, s/veh		54.7			35.1			23.3			46.5	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.0	6.9	23.2		22.0	12.0	18.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	7.5		17.8	10.0	11.1				
Green Ext Time (p_c), s		0.8	0.0	4.2		0.1	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			44.3									
HCM 2010 LOS			D									

Redding Rancheria
7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Opening Year (2025) plus Project (3D) Conditions

Saturday PM Peak

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	78	413	354	26	10	72
Future Vol, veh/h	78	413	354	26	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	449	385	28	11	78
























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	413	0	0 793 207
Stage 1	-	-	- 399 -
Stage 2	-	-	- 394 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	1142	-	- 326 799
Stage 1	-	-	- 647 -
Stage 2	-	-	- 650 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1142	-	- 294 799
Mov Cap-2 Maneuver	-	-	- 294 -
Stage 1	-	-	- 647 -
Stage 2	-	-	- 586 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1142	-	-	-	294	799
HCM Lane V/C Ratio	0.074	-	-	-	0.037	0.098
HCM Control Delay (s)	8.4	-	-	-	17.7	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3







Redding Rancheria
17: SR-273 & North St

Opening Year (2025) plus Project (E) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	125	48	154	116	174	47	182	157	223	304	17
Future Volume (veh/h)	14	125	48	154	116	174	47	182	157	223	304	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	15	136	52	167	126	189	51	198	171	242	330	18
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	274	198	76	320	337	286	91	687	308	254	1014	453
Arrive On Green	0.15	0.15	0.15	0.18	0.18	0.18	0.05	0.19	0.19	0.14	0.29	0.29
Sat Flow, veh/h	1774	1285	491	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	15	0	188	167	126	189	51	198	171	242	330	18
Grp Sat Flow(s),veh/h/ln	1774	0	1776	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.4	0.0	4.9	4.2	2.9	5.4	1.4	2.3	4.8	6.6	3.6	0.4
Cycle Q Clear(g_c), s	0.4	0.0	4.9	4.2	2.9	5.4	1.4	2.3	4.8	6.6	3.6	0.4
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	274	0	274	320	337	286	91	687	308	254	1014	453
V/C Ratio(X)	0.05	0.00	0.69	0.52	0.37	0.66	0.56	0.29	0.56	0.95	0.33	0.04
Avail Cap(c_a), veh/h	1307	0	1309	654	686	583	218	1304	583	254	1376	616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.6	0.0	19.5	18.1	17.6	18.6	22.6	16.8	17.8	20.8	13.7	12.6
Incr Delay (d2), s/veh	0.1	0.0	3.0	1.3	0.7	2.6	5.4	0.2	1.6	43.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.6	2.2	1.5	2.6	0.8	1.1	2.2	6.3	1.8	0.2
LnGrp Delay(d),s/veh	17.7	0.0	22.6	19.4	18.3	21.2	28.0	17.0	19.3	64.0	13.9	12.6
LnGrp LOS	B		C	B	B	C	C	B	B	E	B	B
Approach Vol, veh/h		203			482			420			590	
Approach Delay, s/veh		22.2			19.8			19.3			34.4	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	13.5		11.5	6.5	18.0		12.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	18.0		36.0	6.0	19.0		18.0				
Max Q Clear Time (g_c+I1), s	8.6	6.8		6.9	3.4	5.6		7.4				
Green Ext Time (p_c), s	0.0	2.7		1.2	0.0	3.0		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			25.1									
HCM 2010 LOS			C									

Redding Rancheria
18: Oak St & North St

Opening Year (2025) plus Project (E) Conditions
Friday PM Peak

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	176	344	4	12	429	379	3	176	16	274	127	114
Future Vol, veh/h	176	344	4	12	429	379	3	176	16	274	127	114
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	191	374	4	13	466	412	3	191	17	298	138	124

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	878	0	0	378	0	0	1087	1663	376	1561	1459	439
Stage 1	-	-	-	-	-	-	759	759	-	698	698	-
Stage 2	-	-	-	-	-	-	328	904	-	863	761	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	767	-	-	1179	-	-	182	~ 97	670	~ 83	~ 129	567
Stage 1	-	-	-	-	-	-	398	414	-	398	441	-
Stage 2	-	-	-	-	-	-	660	355	-	348	413	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	767	-	-	1179	-	-	-	~ 72	670	-	~ 96	567
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 72	-	-	~ 96	-
Stage 1	-	-	-	-	-	-	299	311	-	299	436	-
Stage 2	-	-	-	-	-	-	349	351	-	~ 98	310	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.8	0.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	767	-	-	1179	-	-	-
HCM Lane V/C Ratio	-	0.249	-	-	0.011	-	-	-
HCM Control Delay (s)	-	11.2	-	-	8.1	-	-	-
HCM Lane LOS	-	B	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	1	-	-	0	-	-	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection

Intersection Delay, s/veh	36.1
Intersection LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	0	669	347	0	226	515
Future Vol, veh/h	0	669	347	0	226	515
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	727	377	0	246	560
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	23.7	14.5	57.4
HCM LOS	C	B	F

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	335	335	174	174	226	515
LT Vol	0	0	0	0	226	0
Through Vol	335	335	174	174	0	0
RT Vol	0	0	0	0	0	515
Lane Flow Rate	364	364	189	189	246	560
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.761	0.58	0.42	0.326	0.538	1.037
Departure Headway (Hd)	7.681	5.895	8.19	6.394	7.891	6.667
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	473	614	443	566	459	549
Service Time	5.381	3.595	5.89	4.094	5.591	4.367
HCM Lane V/C Ratio	0.77	0.593	0.427	0.334	0.536	1.02
HCM Control Delay	30.9	16.4	16.7	12.2	19.4	74.1
HCM Lane LOS	D	C	C	B	C	F
HCM 95th-tile Q	6.5	3.7	2	1.4	3.1	15.8







Redding Rancheria
20: McMurray Dr/I-5 NB On Ramp & North St

Opening Year (2025) plus Project (E) Conditions
Friday PM Peak

Intersection

Intersection Delay, s/veh50.7

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	350	217	296	151	252	32	92	210	199	0	0	0
Future Vol, veh/h	350	217	296	151	252	32	92	210	199	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	380	236	322	164	274	35	100	228	216	0	0	0
Number of Lanes	1	2	0	1	2	0	1	0	1	0	0	0







Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	45.9	19.6	86
HCM LOS	E	C	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	51%	0%	100%	20%	0%	100%	72%
Vol Right, %	0%	49%	0%	0%	80%	0%	0%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	92	409	350	145	368	151	168	116
LT Vol	92	0	350	0	0	151	0	0
Through Vol	0	210	0	145	72	0	168	84
RT Vol	0	199	0	0	296	0	0	32
Lane Flow Rate	100	445	380	157	400	164	183	126
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.27	1.093	0.933	0.363	0.859	0.443	0.467	0.315
Departure Headway (Hd)	9.706	8.854	9.216	8.695	8.108	10.198	9.675	9.473
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	372	413	396	417	448	356	374	382
Service Time	7.406	6.554	6.916	6.395	5.808	7.898	7.375	7.173
HCM Lane V/C Ratio	0.269	1.077	0.96	0.376	0.893	0.461	0.489	0.33
HCM Control Delay	16	101.7	60.8	16.3	43.4	20.8	20.6	16.5
HCM Lane LOS	C	F	F	C	E	C	C	C
HCM 95th-tile Q	1.1	15.5	10.2	1.6	8.7	2.2	2.4	1.3

Redding Rancheria
21: Oak St & Balls Ferry Rd

Opening Year (2025) plus Project (E) Conditions




















Friday PM Peak






















Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	292	11	22	289	169	15	3	54	143	0	0
Future Vol, veh/h	1	292	11	22	289	169	15	3	54	143	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	317	12	24	314	184	16	3	59	155	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	498	0	0	329	0	0	531	872	165	617	-	-
Stage 1	-	-	-	-	-	-	326	326	-	454	-	-
Stage 2	-	-	-	-	-	-	205	546	-	163	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	-
Pot Cap-1 Maneuver	1062	-	-	1227	-	-	431	287	850	374	0	0
Stage 1	-	-	-	-	-	-	661	647	-	555	0	0
Stage 2	-	-	-	-	-	-	778	516	-	823	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1062	-	-	1227	-	-	424	281	850	340	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	424	281	-	340	-	-
Stage 1	-	-	-	-	-	-	660	646	-	554	-	-
Stage 2	-	-	-	-	-	-	763	506	-	762	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.4			11.2			24.2		
HCM LOS							B			C		
























Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	657	1062	-	-	1227	-	-	340
HCM Lane V/C Ratio	0.119	0.001	-	-	0.019	-	-	0.457
HCM Control Delay (s)	11.2	8.4	-	-	8	-	-	24.2
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	2.3

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	330	155	364	475	22	0	0	0	18	68	7
Future Volume (veh/h)	3	330	155	364	475	22	0	0	0	18	68	7
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	3	359	168	396	516	24				20	74	8
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	7	437	201	1118	2873	1285				114	106	11
Arrive On Green	0.00	0.19	0.19	0.63	0.81	0.81				0.06	0.06	0.06
Sat Flow, veh/h	1774	2356	1085	1774	3539	1583				1774	1653	179
Grp Volume(v), veh/h	3	268	259	396	516	24				20	0	82
Grp Sat Flow(s),veh/h/ln	1774	1770	1671	1774	1770	1583				1774	0	1831
Q Serve(g_s), s	0.2	14.5	14.9	10.6	3.2	0.3				1.1	0.0	4.4
Cycle Q Clear(g_c), s	0.2	14.5	14.9	10.6	3.2	0.3				1.1	0.0	4.4
Prop In Lane	1.00		0.65	1.00		1.00				1.00		0.10
Lane Grp Cap(c), veh/h	7	328	310	1118	2873	1285				114	0	118
V/C Ratio(X)	0.42	0.82	0.84	0.35	0.18	0.02				0.18	0.00	0.70
Avail Cap(c_a), veh/h	89	407	384	1118	2873	1285				550	0	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.78	0.78	0.78				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.7	39.1	39.3	8.8	2.1	1.8				44.3	0.0	45.8
Incr Delay (d2), s/veh	35.4	19.8	22.6	0.1	0.1	0.0				0.7	0.0	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	8.9	8.8	5.2	1.5	0.1				0.5	0.0	2.4
LnGrp Delay(d),s/veh	85.1	58.9	61.9	8.9	2.2	1.8				45.0	0.0	53.1
LnGrp LOS	F	E	E	A	A	A				D		D
Approach Vol, veh/h		530			936						102	
Approach Delay, s/veh		60.5			5.0						51.5	
Approach LOS		E			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			67.0	22.5		10.4	4.4	85.2				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			34.0	23.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			12.6	16.9		6.4	2.2	5.2				
Green Ext Time (p_c), s			4.7	1.6		0.4	0.0	5.3				
Intersection Summary												
HCM 2010 Ctrl Delay			26.8									
HCM 2010 LOS			C									

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	262	0	0	503	196	218	129	201	231	0	194
Future Volume (veh/h)	80	262	0	0	503	196	218	129	201	231	0	194
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	87	285	0	0	547	213	237	140	218	251	0	211
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	89	2647	0	0	1641	637	305	321	272	0	0	0
Arrive On Green	0.10	1.00	0.00	0.00	0.66	0.66	0.17	0.17	0.17	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2587	968	1774	1863	1583		0	
Grp Volume(v), veh/h	87	285	0	0	388	372	237	140	218		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1692	1774	1863	1583			
Q Serve(g_s), s	4.9	0.0	0.0	0.0	9.6	9.7	12.8	6.7	13.2			
Cycle Q Clear(g_c), s	4.9	0.0	0.0	0.0	9.6	9.7	12.8	6.7	13.2			
Prop In Lane	1.00		0.00	0.00		0.57	1.00		1.00			
Lane Grp Cap(c), veh/h	89	2647	0	0	1164	1113	305	321	272			
V/C Ratio(X)	0.98	0.11	0.00	0.00	0.33	0.33	0.78	0.44	0.80			
Avail Cap(c_a), veh/h	89	2647	0	0	1164	1113	603	633	538			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.96	0.96	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	45.0	0.0	0.0	0.0	7.5	7.5	39.6	37.1	39.7			
Incr Delay (d2), s/veh	87.3	0.1	0.0	0.0	0.8	0.8	4.2	0.9	5.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.5	0.0	0.0	0.0	4.9	4.7	6.6	3.5	6.2			
LnGrp Delay(d),s/veh	132.2	0.1	0.0	0.0	8.3	8.3	43.8	38.0	45.1			
LnGrp LOS	F	A			A	A	D	D	D			
Approach Vol, veh/h		372			760			595				
Approach Delay, s/veh		31.0			8.3			42.9				
Approach LOS		C			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		21.2		78.8			9.0	69.8				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+l1), s		15.2		2.0			6.9	11.7				
Green Ext Time (p_c), s		2.0		7.8			0.0	5.9				
Intersection Summary												
HCM 2010 Ctrl Delay				25.1								
HCM 2010 LOS				C								







Redding Rancheria
17: SR-273 & North St

Opening Year (2025) plus Project (E) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	94	16	93	69	165	24	134	113	232	188	9
Future Volume (veh/h)	5	94	16	93	69	165	24	134	113	232	188	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	5	102	17	101	75	179	26	146	123	252	204	10
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	151	25	312	327	278	55	585	262	304	1079	483
Arrive On Green	0.10	0.10	0.10	0.18	0.18	0.18	0.03	0.17	0.17	0.17	0.30	0.30
Sat Flow, veh/h	1774	1557	260	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	5	0	119	101	75	179	26	146	123	252	204	10
Grp Sat Flow(s),veh/h/ln	1774	0	1817	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.1	0.0	2.6	2.0	1.4	4.3	0.6	1.5	2.9	5.6	1.7	0.2
Cycle Q Clear(g_c), s	0.1	0.0	2.6	2.0	1.4	4.3	0.6	1.5	2.9	5.6	1.7	0.2
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	172	0	176	312	327	278	55	585	262	304	1079	483
V/C Ratio(X)	0.03	0.00	0.67	0.32	0.23	0.64	0.47	0.25	0.47	0.83	0.19	0.02
Avail Cap(c_a), veh/h	1561	0	1599	780	819	697	260	1557	697	304	1644	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.7	0.0	17.8	14.7	14.5	15.7	19.5	14.9	15.5	16.4	10.5	9.9
Incr Delay (d2), s/veh	0.1	0.0	4.4	0.6	0.4	2.5	6.0	0.2	1.3	17.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.5	1.0	0.8	2.1	0.4	0.7	1.3	4.2	0.9	0.1
LnGrp Delay(d),s/veh	16.8	0.0	22.3	15.3	14.8	18.2	25.5	15.1	16.8	33.7	10.6	10.0
LnGrp LOS	B		C	B	B	B	C	B	B	C	B	A
Approach Vol, veh/h		124			355			295			466	
Approach Delay, s/veh		22.1			16.7			16.7			23.1	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	10.8		8.0	5.3	16.5		11.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	18.0		36.0	6.0	19.0		18.0				
Max Q Clear Time (g_c+I1), s	7.6	4.9		4.6	2.6	3.7		6.3				
Green Ext Time (p_c), s	0.0	1.9		0.7	0.0	2.0		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			19.6									
HCM 2010 LOS			B									

Redding Rancheria
18: Oak St & North St

Opening Year (2025) plus Project (E) Conditions
Saturday PM Peak

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	207	221	2	9	226	459	3	220	13	293	137	119
Future Vol, veh/h	207	221	2	9	226	459	3	220	13	293	137	119
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	225	240	2	10	246	499	3	239	14	318	149	129

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	745	0	0	242	0	0	908	1455	241	1333	1207	372
Stage 1	-	-	-	-	-	-	691	691	-	515	515	-
Stage 2	-	-	-	-	-	-	217	764	-	818	692	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	861	-	-	1323	-	-	243	~ 129	797	~ 121	183	626
Stage 1	-	-	-	-	-	-	434	445	-	512	534	-
Stage 2	-	-	-	-	-	-	766	412	-	369	444	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	861	-	-	1323	-	-	-	~ 95	797	-	~ 134	626
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 95	-	-	~ 134	-
Stage 1	-	-	-	-	-	-	321	329	-	378	530	-
Stage 2	-	-	-	-	-	-	434	409	-	~ 73	328	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.1	0.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	861	-	-	1323	-	-	-
HCM Lane V/C Ratio	-	0.261	-	-	0.007	-	-	-
HCM Control Delay (s)	-	10.7	-	-	7.7	-	-	-
HCM Lane LOS	-	B	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	1	-	-	0	-	-	-

Notes												
-: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Intersection

Intersection Delay, s/veh	26.5
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↘	↗
Traffic Vol, veh/h	0	542	211	0	135	527
Future Vol, veh/h	0	542	211	0	135	527
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	589	229	0	147	573
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	15.5	11.3	40.4
HCM LOS	C	B	E

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	271	271	106	106	135	527
LT Vol	0	0	0	0	135	0
Through Vol	271	271	106	106	0	0
RT Vol	0	0	0	0	0	527
Lane Flow Rate	295	295	115	115	147	573
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.58	0.426	0.242	0.185	0.291	0.941
Departure Headway (Hd)	7.085	5.21	7.596	5.808	7.127	5.912
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	513	683	475	620	502	607
Service Time	4.785	3.009	5.304	3.516	4.915	3.7
HCM Lane V/C Ratio	0.575	0.432	0.242	0.185	0.293	0.944
HCM Control Delay	19.1	11.9	12.7	9.8	12.8	47.5
HCM Lane LOS	C	B	B	A	B	E
HCM 95th-tile Q	3.6	2.1	0.9	0.7	1.2	12.5







Redding Rancheria
20: McMurray Dr/I-5 NB On Ramp & North St

Opening Year (2025) plus Project (E) Conditions
Saturday PM Peak

Intersection

Intersection Delay, s/veh18.5

Intersection LOS C







Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	304	155	198	114	153	35	61	127	165	0	0	0
Future Vol, veh/h	304	155	198	114	153	35	61	127	165	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	330	168	215	124	166	38	66	138	179	0	0	0
Number of Lanes	1	2	0	1	2	0	1	0	1	0	0	0




















Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	19.9	13.3	20.5
HCM LOS	C	B	C






















Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	43%	0%	100%	21%	0%	100%	59%
Vol Right, %	0%	57%	0%	0%	79%	0%	0%	41%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	61	292	304	103	250	114	102	86
LT Vol	61	0	304	0	0	114	0	0
Through Vol	0	127	0	103	52	0	102	51
RT Vol	0	165	0	0	198	0	0	35
Lane Flow Rate	66	317	330	112	271	124	111	93
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.151	0.642	0.698	0.221	0.492	0.288	0.242	0.196
Departure Headway (Hd)	8.183	7.283	7.602	7.09	6.522	8.358	7.844	7.551
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	438	495	476	507	554	430	458	475
Service Time	5.927	5.026	5.345	4.833	4.264	6.108	5.594	5.301
HCM Lane V/C Ratio	0.151	0.64	0.693	0.221	0.489	0.288	0.242	0.196
HCM Control Delay	12.4	22.2	26.2	11.8	15.5	14.5	13.1	12.1
HCM Lane LOS	B	C	D	B	C	B	B	B
HCM 95th-tile Q	0.5	4.5	5.3	0.8	2.7	1.2	0.9	0.7

Redding Rancheria
21: Oak St & Balls Ferry Rd

Opening Year (2025) plus Project (E) Conditions
Saturday PM Peak

























Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	166	4	37	227	207	12	4	34	134	0	0
Future Vol, veh/h	1	166	4	37	227	207	12	4	34	134	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	180	4	40	247	225	13	4	37	146	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	472	0	0	185	0	0	389	737	92	535	-	-
Stage 1	-	-	-	-	-	-	185	185	-	440	-	-
Stage 2	-	-	-	-	-	-	204	552	-	95	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	-
Pot Cap-1 Maneuver	1086	-	-	1387	-	-	544	344	947	428	0	0
Stage 1	-	-	-	-	-	-	799	746	-	566	0	0
Stage 2	-	-	-	-	-	-	779	513	-	901	0	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1086	-	-	1387	-	-	532	334	947	398	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	532	334	-	398	-	-
Stage 1	-	-	-	-	-	-	798	745	-	565	-	-
Stage 2	-	-	-	-	-	-	757	498	-	860	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.6			10.5			19.2		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	710	1086	-	-	1387	-	-	398				
HCM Lane V/C Ratio	0.077	0.001	-	-	0.029	-	-	0.366				
HCM Control Delay (s)	10.5	8.3	-	-	7.7	-	-	19.2				
HCM Lane LOS	B	A	-	-	A	-	-	C				
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	1.6				

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	184	148	305	460	17	0	0	0	12	43	21
Future Volume (veh/h)	2	184	148	305	460	17	0	0	0	12	43	21
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	2	200	161	332	500	18				13	47	23
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	5	270	206	1211	2906	1300				100	67	33
Arrive On Green	0.00	0.14	0.14	0.68	0.82	0.82				0.06	0.06	0.06
Sat Flow, veh/h	1774	1913	1462	1774	3539	1583				1774	1182	579
Grp Volume(v), veh/h	2	184	177	332	500	18				13	0	70
Grp Sat Flow(s),veh/h/ln	1774	1770	1605	1774	1770	1583				1774	0	1761
Q Serve(g_s), s	0.1	10.0	10.6	7.3	2.9	0.2				0.7	0.0	3.9
Cycle Q Clear(g_c), s	0.1	10.0	10.6	7.3	2.9	0.2				0.7	0.0	3.9
Prop In Lane	1.00		0.91	1.00		1.00				1.00		0.33
Lane Grp Cap(c), veh/h	5	250	227	1211	2906	1300				100	0	99
V/C Ratio(X)	0.42	0.74	0.78	0.27	0.17	0.01				0.13	0.00	0.71
Avail Cap(c_a), veh/h	89	407	369	1211	2906	1300				550	0	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.87	0.87	0.87				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.8	41.2	41.4	6.2	1.9	1.6				44.9	0.0	46.4
Incr Delay (d2), s/veh	48.9	17.6	22.9	0.1	0.1	0.0				0.6	0.0	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	6.1	6.2	3.5	1.4	0.1				0.4	0.0	2.1
LnGrp Delay(d),s/veh	98.7	58.8	64.4	6.3	2.0	1.6				45.4	0.0	55.2
LnGrp LOS	F	E	E	A	A	A				D		E
Approach Vol, veh/h		363			850						83	
Approach Delay, s/veh		61.7			3.7						53.6	
Approach LOS		E			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			72.2	18.1		9.6	4.3	86.1				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			34.0	23.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			9.3	12.6		5.9	2.1	4.9				
Green Ext Time (p_c), s			4.5	1.5		0.4	0.0	4.8				
Intersection Summary												
HCM 2010 Ctrl Delay			23.1									
HCM 2010 LOS			C									

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	144	0	0	409	137	235	96	116	161	0	166
Future Volume (veh/h)	43	144	0	0	409	137	235	96	116	161	0	166
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	47	157	0	0	445	149	255	104	126	175	0	180
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	65	2640	0	0	1749	581	309	324	275	0	0	0
Arrive On Green	0.07	1.00	0.00	0.00	0.67	0.67	0.17	0.17	0.17	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2705	867	1774	1863	1583		0	
Grp Volume(v), veh/h	47	157	0	0	300	294	255	104	126		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1710	1774	1863	1583			
Q Serve(g_s), s	2.6	0.0	0.0	0.0	6.8	6.9	13.9	4.9	7.1			
Cycle Q Clear(g_c), s	2.6	0.0	0.0	0.0	6.8	6.9	13.9	4.9	7.1			
Prop In Lane	1.00		0.00	0.00		0.51	1.00		1.00			
Lane Grp Cap(c), veh/h	65	2640	0	0	1185	1145	309	324	275			
V/C Ratio(X)	0.73	0.06	0.00	0.00	0.25	0.26	0.83	0.32	0.46			
Avail Cap(c_a), veh/h	89	2640	0	0	1185	1145	603	633	538			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.99	0.99	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	45.9	0.0	0.0	0.0	6.6	6.6	39.8	36.1	37.1			
Incr Delay (d2), s/veh	16.9	0.0	0.0	0.0	0.5	0.5	5.6	0.6	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	0.0	3.4	3.4	7.3	2.6	3.2			
LnGrp Delay(d),s/veh	62.8	0.0	0.0	0.0	7.1	7.1	45.4	36.7	38.2			
LnGrp LOS	E	A			A	A	D	D	D			
Approach Vol, veh/h		204			594			485				
Approach Delay, s/veh		14.5			7.1			41.7				
Approach LOS		B			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		21.4		78.6			7.6	71.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+l1), s		15.9		2.0			4.6	8.9				
Green Ext Time (p_c), s		1.5		5.1			0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay			21.4									
HCM 2010 LOS			C									

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (F) Conditions
Friday PM Peak

























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	523	80	224	55	420	377	338	705	9
Future Volume (veh/h)	10	83	68	523	80	224	55	420	377	338	705	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	568	204	165	60	457	410	367	766	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	307	137	717	512	436	296	1136	508	499	1059	474
Arrive On Green	0.01	0.09	0.09	0.20	0.28	0.28	0.17	0.32	0.32	0.14	0.30	0.30
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	568	204	165	60	457	410	367	766	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.6	2.9	9.9	5.8	3.5	1.9	6.6	15.5	6.7	12.6	0.2
Cycle Q Clear(g_c), s	0.4	1.6	2.9	9.9	5.8	3.5	1.9	6.6	15.5	6.7	12.6	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	307	137	717	512	436	296	1136	508	499	1059	474
V/C Ratio(X)	0.45	0.29	0.54	0.79	0.40	0.38	0.20	0.40	0.81	0.74	0.72	0.02
Avail Cap(c_a), veh/h	150	2197	983	816	1427	1213	296	1709	764	897	2332	1043
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	27.9	28.5	24.7	19.3	7.6	23.4	17.3	20.3	26.7	20.5	10.5
Incr Delay (d2), s/veh	12.2	0.5	3.2	4.8	0.5	0.5	0.3	0.2	3.9	2.1	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.4	5.3	3.1	2.2	1.0	3.2	7.3	3.3	6.3	0.1
LnGrp Delay(d),s/veh	44.2	28.4	31.8	29.5	19.8	8.2	23.8	17.5	24.2	28.8	21.4	10.5
LnGrp LOS	D	C	C	C	B	A	C	B	C	C	C	B
Approach Vol, veh/h		175			937			927			1143	
Approach Delay, s/veh		30.8			23.6			20.9			23.7	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	24.9	17.2	9.7	14.9	23.5	4.9	21.9				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.7	17.5	11.9	4.9	3.9	14.6	2.4	7.8				
Green Ext Time (p_c), s	0.8	3.5	1.3	0.7	0.3	4.9	0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay			23.2									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.













Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (F) Conditions

Friday PM Peak













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9999	9999	9999	9999	9999	9999	9999	9999	9999	9999	9999	9999
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	19086	3539	3586	19086	3539	3586	19086	3539	3586	19086	3539	3586
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	19086	3539	3586	19086	3539	3586	19086	3539	3586	19086	3539	3586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS												
Approach Vol, veh/h	0				0				0			
Approach Delay, s/veh	0.0				0.0				0.0			
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	0.0											
HCM 2010 LOS	A											
Notes												

User approved volume balancing among the lanes for turning movement.

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	278	236	152	592	777	421		
Future Volume (veh/h)	278	236	152	592	777	421		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	302	257	165	643	845	458		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	775	356	213	2129	1398	626		
Arrive On Green	0.23	0.23	0.12	0.60	0.40	0.40		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	302	257	165	643	845	458		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	3.4	6.9	4.2	4.1	8.8	11.4		
Cycle Q Clear(g_c), s	3.4	6.9	4.2	4.1	8.8	11.4		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	775	356	213	2129	1398	626		
V/C Ratio(X)	0.39	0.72	0.78	0.30	0.60	0.73		
Avail Cap(c_a), veh/h	1341	617	384	2605	1532	686		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.2	16.6	19.7	4.5	11.1	11.9		
Incr Delay (d2), s/veh	0.3	2.8	5.9	0.1	0.6	3.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	6.1	2.4	2.0	4.3	5.5		
LnGrp Delay(d),s/veh	15.5	19.3	25.7	4.6	11.7	15.6		
LnGrp LOS	B	B	C	A	B	B		
Approach Vol, veh/h	559			808	1303			
Approach Delay, s/veh	17.3			8.9	13.0			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		31.8		14.4	9.5	22.2		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		34.0		18.0	10.0	20.0		
Max Q Clear Time (g_c+I1), s		6.1		8.9	6.2	13.4		
Green Ext Time (p_c), s		12.9		1.5	0.1	4.9		
Intersection Summary								
HCM 2010 Ctrl Delay			12.7					
HCM 2010 LOS			B					






















Redding Rancheria
12: SR-273 & Clear Creek Rd

Opening Year (2025) plus Project (F) Conditions
Friday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	130	37	21	627	931	77		
Future Volume (veh/h)	130	37	21	627	931	77		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	141	40	23	682	1012	84		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	217	194	51	2267	1745	781		
Arrive On Green	0.12	0.12	0.03	0.64	0.49	0.49		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	141	40	23	682	1012	84		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	2.6	0.8	0.4	2.9	6.8	1.0		
Cycle Q Clear(g_c), s	2.6	0.8	0.4	2.9	6.8	1.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	217	194	51	2267	1745	781		
V/C Ratio(X)	0.65	0.21	0.45	0.30	0.58	0.11		
Avail Cap(c_a), veh/h	1946	1737	263	6297	5353	2395		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	14.1	13.3	16.1	2.7	6.1	4.6		
Incr Delay (d2), s/veh	3.3	0.5	6.1	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	0.4	0.3	1.3	3.3	0.4		
LnGrp Delay(d),s/veh	17.4	13.8	22.2	2.8	6.4	4.6		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	181			705	1096			
Approach Delay, s/veh	16.6			3.4	6.2			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		25.6		8.1	5.0	20.6		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+I1), s		4.9		4.6	2.4	8.8		
Green Ext Time (p_c), s		4.5		0.5	1.0	7.8		
Intersection Summary								
HCM 2010 Ctrl Delay			6.2					
HCM 2010 LOS			A					













Redding Rancheria
13: SR-273 & Westside Rd/Girvan Rd

Opening Year (2025) plus Project (F) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	20	57	160	18	61	35	580	148	94	814	32
Future Volume (veh/h)	8	20	57	160	18	61	35	580	148	94	814	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	9	22	62	174	20	66	38	630	161	102	885	35
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	13	31	88	268	58	190	76	979	438	193	1213	543
Arrive On Green	0.08	0.08	0.08	0.15	0.15	0.15	0.04	0.28	0.28	0.11	0.34	0.34
Sat Flow, veh/h	161	393	1106	1774	382	1259	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	93	0	0	174	0	86	38	630	161	102	885	35
Grp Sat Flow(s),veh/h/ln	1659	0	0	1774	0	1641	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	2.3	0.0	0.0	3.8	0.0	2.0	0.9	6.5	3.4	2.3	9.1	0.6
Cycle Q Clear(g_c), s	2.3	0.0	0.0	3.8	0.0	2.0	0.9	6.5	3.4	2.3	9.1	0.6
Prop In Lane	0.10		0.67	1.00		0.77	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	131	0	0	268	0	248	76	979	438	193	1213	543
V/C Ratio(X)	0.71	0.00	0.00	0.65	0.00	0.35	0.50	0.64	0.37	0.53	0.73	0.06
Avail Cap(c_a), veh/h	1475	0	0	788	0	729	213	1573	704	213	1573	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	0.0	0.0	16.6	0.0	15.8	19.5	13.2	12.1	17.5	12.0	9.2
Incr Delay (d2), s/veh	6.8	0.0	0.0	2.6	0.0	0.8	5.1	0.7	0.5	2.2	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	2.1	0.0	0.9	0.5	3.2	1.5	1.2	4.6	0.3
LnGrp Delay(d),s/veh	25.5	0.0	0.0	19.3	0.0	16.7	24.5	14.0	12.6	19.8	13.2	9.2
LnGrp LOS	C			B		B	C	B	B	B	B	A
Approach Vol, veh/h	93				260		829				1022	
Approach Delay, s/veh	25.5				18.4		14.2				13.8	
Approach LOS	C				B		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	15.5			7.3	5.8	18.3	10.3					
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.5			37.0	5.0	18.5	18.5					
Max Q Clear Time (g_c+I1), s	8.5			4.3	2.9	11.1	5.8					
Green Ext Time (p_c), s	0.0	3.0			0.5	0.1	3.1	0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			15.0									
HCM 2010 LOS			B									

Redding Rancheria
14: SR-273 & Canyon Rd













Opening Year (2025) plus Project (F) Conditions
Friday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	377	83	94	472	547	496		
Future Volume (veh/h)	377	83	94	472	547	496		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	494	0	102	513	595	0		
Adj No. of Lanes	2	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	805	366	155	1977	1288	1014		
Arrive On Green	0.23	0.00	0.09	0.56	0.36	0.00		
Sat Flow, veh/h	3548	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	494	0	102	513	595	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	4.7	0.0	2.1	2.8	4.8	0.0		
Cycle Q Clear(g_c), s	4.7	0.0	2.1	2.8	4.8	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	805	366	155	1977	1288	1014		
V/C Ratio(X)	0.61	0.00	0.66	0.26	0.46	0.00		
Avail Cap(c_a), veh/h	2854	1299	381	3986	2847	2242		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	12.9	0.0	16.5	4.2	9.1	0.0		
Incr Delay (d2), s/veh	0.8	0.0	4.7	0.1	0.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.3	0.0	1.2	1.4	2.4	0.0		
LnGrp Delay(d),s/veh	13.7	0.0	21.1	4.3	9.3	0.0		
LnGrp LOS	B		C	A	A			
Approach Vol, veh/h	494			615	595			
Approach Delay, s/veh	13.7			7.1	9.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		24.8		12.5	7.3	17.6		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		
Max Q Clear Time (g_c+I1), s		4.8		6.7	4.1	6.8		
Green Ext Time (p_c), s		7.6		1.8	0.1	6.8		
Intersection Summary								
HCM 2010 Ctrl Delay			9.8					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
15: Canyon Rd & Redding Rancheria Rd












Opening Year (2025) plus Project (F) Conditions
Friday PM Peak

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	350	235	11	222	229	15		
Future Volume (veh/h)	350	235	11	222	229	15		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	380	0	0	249	260	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	523	467	275	468	531	279		
Arrive On Green	0.29	0.00	0.00	0.15	0.15	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	380	0	0	249	260	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	5.7	0.0	0.0	2.1	2.0	0.0		
Cycle Q Clear(g_c), s	5.7	0.0	0.0	2.1	2.0	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	523	467	275	468	531	279		
V/C Ratio(X)	0.73	0.00	0.00	0.53	0.49	0.00		
Avail Cap(c_a), veh/h	1254	1119	1177	2002	2243	1177		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.3	0.0	0.0	11.6	11.5	0.0		
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.9	0.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.0	1.0	0.0		
LnGrp Delay(d),s/veh	11.3	0.0	0.0	12.5	12.2	0.0		
LnGrp LOS	B			B	B			
Approach Vol, veh/h	380		249		260			
Approach Delay, s/veh	11.3		12.5		12.2			
Approach LOS	B		B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.3				8.4		12.7
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		18.6				18.6		20.8
Max Q Clear Time (g_c+I1), s		4.1				4.0		7.7
Green Ext Time (p_c), s		0.8				0.8		1.0
Intersection Summary								
HCM 2010 Ctrl Delay			11.9					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
16: SR-273 & Happy Valley Rd

























Opening Year (2025) plus Project (F) Conditions
Friday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	65	79	77	382	479	72		
Future Volume (veh/h)	65	79	77	382	479	72		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	71	86	84	415	521	78		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	95	115	149	2135	1359	608		
Arrive On Green	0.13	0.13	0.08	0.60	0.38	0.38		
Sat Flow, veh/h	748	906	1774	3632	3632	1583		
Grp Volume(v), veh/h	158	0	84	415	521	78		
Grp Sat Flow(s),veh/h/ln	665	0	1774	1770	1770	1583		
Q Serve(g_s), s	2.7	0.0	1.3	1.6	3.1	0.9		
Cycle Q Clear(g_c), s	2.7	0.0	1.3	1.6	3.1	0.9		
Prop In Lane	0.45	0.54	1.00			1.00		
Lane Grp Cap(c), veh/h	211	0	149	2135	1359	608		
V/C Ratio(X)	0.75	0.00	0.56	0.19	0.38	0.13		
Avail Cap(c_a), veh/h	1687	0	419	5617	4302	1925		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.5	0.0	13.0	2.6	6.6	5.9		
Incr Delay (d2), s/veh	5.3	0.0	3.3	0.0	0.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.8	0.8	1.6	0.4		
LnGrp Delay(d),s/veh	17.7	0.0	16.3	2.7	6.8	6.0		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	158			499	599			
Approach Delay, s/veh	17.7			5.0	6.7			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		5	6		
Phs Duration (G+Y+Rc), s	21.9		7.7		6.5	15.4		
Change Period (Y+Rc), s	4.0		4.0		4.0	4.0		
Max Green Setting (Gmax), s	47.0		30.0		7.0	36.0		
Max Q Clear Time (g_c+I1), s	3.6		4.7		3.3	5.1		
Green Ext Time (p_c), s	6.5		0.4		0.0	6.2		
Intersection Summary								
HCM 2010 Ctrl Delay			7.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

























Opening Year (2025) plus Project (F) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	373	57	144	35	349	271	238	406	5
Future Volume (veh/h)	0	46	54	373	57	144	35	349	271	238	406	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	405	133	110	38	379	295	259	441	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	359	161	638	677	575	326	955	427	418	735	329
Arrive On Green	0.00	0.10	0.10	0.18	0.36	0.36	0.18	0.27	0.27	0.12	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	405	133	110	38	379	295	259	441	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.7	5.2	2.4	1.3	0.9	4.3	8.2	3.5	5.5	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.7	5.2	2.4	1.3	0.9	4.3	8.2	3.5	5.5	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	359	161	638	677	575	326	955	427	418	735	329
V/C Ratio(X)	0.00	0.14	0.37	0.63	0.20	0.19	0.12	0.40	0.69	0.62	0.60	0.02
Avail Cap(c_a), veh/h	200	2934	1313	1090	1907	1621	326	2282	1021	1198	3115	1394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.0	20.5	18.5	10.7	3.2	16.6	14.6	16.0	20.4	17.5	12.4
Incr Delay (d2), s/veh	0.0	0.2	1.4	1.1	0.1	0.2	0.2	0.3	2.0	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.8	2.6	1.2	0.9	0.4	2.1	3.7	1.7	2.8	0.1
LnGrp Delay(d),s/veh	0.0	20.2	21.9	19.6	10.8	3.4	16.8	14.9	18.0	21.9	18.3	12.4
LnGrp LOS		C	C	B	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			648			712			705	
Approach Delay, s/veh		21.1			15.0			16.3			19.6	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	17.2	12.8	9.0	13.0	14.1	0.0	21.7				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	5.5	10.2	7.2	3.7	2.9	7.5	0.0	4.4				
Green Ext Time (p_c), s	0.6	3.0	1.7	0.4	0.3	2.6	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			17.2									
HCM 2010 LOS			B									
Notes												













User approved volume balancing among the lanes for turning movement.













Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (F) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9999	9999	9999	9999	9999	9999	9999	9999	9999	9999	9999	9999
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS												
Approach Vol, veh/h	0				0				0			
Approach Delay, s/veh	0.0				0.0				0.0			
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	0.0											
HCM 2010 LOS	A											
Notes												











User approved volume balancing among the lanes for turning movement.

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	207	177	130	392	531	257		
Future Volume (veh/h)	207	177	130	392	531	257		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	225	192	141	426	577	279		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	682	314	189	2031	1252	560		
Arrive On Green	0.20	0.20	0.11	0.57	0.35	0.35		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	225	192	141	426	577	279		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	2.0	3.9	2.7	2.0	4.4	4.9		
Cycle Q Clear(g_c), s	2.0	3.9	2.7	2.0	4.4	4.9		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	682	314	189	2031	1252	560		
V/C Ratio(X)	0.33	0.61	0.75	0.21	0.46	0.50		
Avail Cap(c_a), veh/h	1764	811	505	3426	2015	902		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.1	12.8	15.2	3.6	8.8	8.9		
Incr Delay (d2), s/veh	0.3	1.9	5.8	0.1	0.3	0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	3.5	1.6	1.0	2.2	2.2		
LnGrp Delay(d),s/veh	12.4	14.8	21.0	3.7	9.0	9.6		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	417			567	856			
Approach Delay, s/veh	13.5			8.0	9.2			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		24.2		11.0	7.7	16.4		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		34.0		18.0	10.0	20.0		
Max Q Clear Time (g_c+I1), s		4.0		5.9	4.7	6.9		
Green Ext Time (p_c), s		7.7		1.2	0.1	5.6		
Intersection Summary								
HCM 2010 Ctrl Delay			9.8					
HCM 2010 LOS			A					

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	73	19	23	451	648	56		
Future Volume (veh/h)	73	19	23	451	648	56		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	79	21	25	490	704	61		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	175	157	56	2102	1446	647		
Arrive On Green	0.10	0.10	0.03	0.59	0.41	0.41		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	79	21	25	490	704	61		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	1.1	0.3	0.4	1.7	3.8	0.6		
Cycle Q Clear(g_c), s	1.1	0.3	0.4	1.7	3.8	0.6		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	175	157	56	2102	1446	647		
V/C Ratio(X)	0.45	0.13	0.44	0.23	0.49	0.09		
Avail Cap(c_a), veh/h	2520	2249	341	8154	6931	3101		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.1	10.7	12.4	2.5	5.7	4.7		
Incr Delay (d2), s/veh	1.8	0.4	5.4	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.3	0.8	1.9	0.3		
LnGrp Delay(d),s/veh	12.9	11.1	17.8	2.5	5.9	4.8		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	100			515	765			
Approach Delay, s/veh	12.5			3.3	5.8			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		19.5		6.6	4.8	14.6		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+I1), s		3.7		3.1	2.4	5.8		
Green Ext Time (p_c), s		3.1		0.3	0.7	4.8		
Intersection Summary								
HCM 2010 Ctrl Delay			5.4					
HCM 2010 LOS			A					













Redding Rancheria
13: SR-273 & Westside Rd/Girvan Rd

Opening Year (2025) plus Project (F) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	12	40	103	6	51	31	416	101	69	561	29
Future Volume (veh/h)	15	12	40	103	6	51	31	416	101	69	561	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	16	13	43	112	7	55	34	452	110	75	610	32
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	27	22	73	212	22	171	72	851	381	161	1028	460
Arrive On Green	0.07	0.07	0.07	0.12	0.12	0.12	0.04	0.24	0.24	0.09	0.29	0.29
Sat Flow, veh/h	371	301	996	1774	182	1429	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	72	0	0	112	0	62	34	452	110	75	610	32
Grp Sat Flow(s),veh/h/ln	1668	0	0	1774	0	1611	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	1.4	0.0	0.0	2.0	0.0	1.2	0.6	3.7	1.9	1.3	5.0	0.5
Cycle Q Clear(g_c), s	1.4	0.0	0.0	2.0	0.0	1.2	0.6	3.7	1.9	1.3	5.0	0.5
Prop In Lane	0.22		0.60	1.00		0.89	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	0	0	212	0	193	72	851	381	161	1028	460
V/C Ratio(X)	0.59	0.00	0.00	0.53	0.00	0.32	0.47	0.53	0.29	0.47	0.59	0.07
Avail Cap(c_a), veh/h	1839	0	0	978	0	888	264	1951	873	264	1951	873
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.1	0.0	0.0	13.9	0.0	13.5	15.8	11.1	10.4	14.5	10.2	8.6
Incr Delay (d2), s/veh	4.5	0.0	0.0	2.0	0.0	1.0	4.8	0.5	0.4	2.1	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	0.0	0.0	1.1	0.0	0.6	0.4	1.9	0.9	0.7	2.5	0.2
LnGrp Delay(d),s/veh	19.6	0.0	0.0	15.9	0.0	14.5	20.5	11.6	10.8	16.6	10.8	8.7
LnGrp LOS	B			B		B	C	B	B	B	B	A
Approach Vol, veh/h	72				174		596				717	
Approach Delay, s/veh	19.6				15.4		12.0				11.3	
Approach LOS	B				B		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	7.0	12.1			6.4	5.4	13.7	8.0				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.5				37.0	5.0	18.5	18.5				
Max Q Clear Time (g_c+I_T), s	5.7				3.4	2.6	7.0	4.0				
Green Ext Time (p_c), s	0.0	2.3			0.4	0.0	2.8	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			12.4									
HCM 2010 LOS			B									

Redding Rancheria
14: SR-273 & Canyon Rd













Opening Year (2025) plus Project (F) Conditions
Saturday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	312	57	88	277	306	402		
Future Volume (veh/h)	312	57	88	277	306	402		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	397	0	96	301	333	0		
Adj No. of Lanes	2	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	750	341	166	1796	968	762		
Arrive On Green	0.21	0.00	0.09	0.51	0.27	0.00		
Sat Flow, veh/h	3548	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	397	0	96	301	333	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	2.8	0.0	1.5	1.3	2.1	0.0		
Cycle Q Clear(g_c), s	2.8	0.0	1.5	1.3	2.1	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	750	341	166	1796	968	762		
V/C Ratio(X)	0.53	0.00	0.58	0.17	0.34	0.00		
Avail Cap(c_a), veh/h	3741	1703	499	5225	3732	2939		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	10.0	0.0	12.4	3.8	8.3	0.0		
Incr Delay (d2), s/veh	0.6	0.0	3.2	0.0	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.9	0.6	1.0	0.0		
LnGrp Delay(d),s/veh	10.5	0.0	15.5	3.8	8.5	0.0		
LnGrp LOS	B		B	A	A			
Approach Vol, veh/h	397			397	333			
Approach Delay, s/veh	10.5			6.6	8.5			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		18.4		10.0	6.7	11.8		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		
Max Q Clear Time (g_c+I1), s		3.3		4.8	3.5	4.1		
Green Ext Time (p_c), s		3.8		1.5	0.1	3.6		
Intersection Summary								
HCM 2010 Ctrl Delay			8.6					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
15: Canyon Rd & Redding Rancheria Rd












Opening Year (2025) plus Project (F) Conditions
Saturday PM Peak

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	196	272	12	213	185	10		
Future Volume (veh/h)	196	272	12	213	185	10		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	213	0	0	241	209	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	370	330	301	512	541	284		
Arrive On Green	0.21	0.00	0.00	0.16	0.15	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	213	0	0	241	209	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	2.7	0.0	0.0	1.7	1.3	0.0		
Cycle Q Clear(g_c), s	2.7	0.0	0.0	1.7	1.3	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	370	330	301	512	541	284		
V/C Ratio(X)	0.58	0.00	0.00	0.47	0.39	0.00		
Avail Cap(c_a), veh/h	1466	1309	1377	2341	2622	1377		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.0	0.0	0.0	9.6	9.6	0.0		
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.7	0.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4	0.0	0.0	0.8	0.7	0.0		
LnGrp Delay(d),s/veh	10.4	0.0	0.0	10.2	10.1	0.0		
LnGrp LOS	B			B	B			
Approach Vol, veh/h	213		241		209			
Approach Delay, s/veh	10.4		10.2		10.1			
Approach LOS	B		B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.1				7.8		9.3
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		18.6				18.6		20.8
Max Q Clear Time (g_c+I1), s		3.7				3.3		4.7
Green Ext Time (p_c), s		0.8				0.6		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			10.2					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
16: SR-273 & Happy Valley Rd

Opening Year (2025) plus Project (F) Conditions
Saturday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	41	56	58	278	274	47		
Future Volume (veh/h)	41	56	58	278	274	47		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	45	61	63	302	298	51		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	75	101	127	1948	1088	487		
Arrive On Green	0.11	0.11	0.07	0.55	0.31	0.31		
Sat Flow, veh/h	698	947	1774	3632	3632	1583		
Grp Volume(v), veh/h	107	0	63	302	298	51		
Grp Sat Flow(s),veh/h/ln	661	0	1774	1770	1770	1583		
Q Serve(g_s), s	1.4	0.0	0.8	1.0	1.5	0.5		
Cycle Q Clear(g_c), s	1.4	0.0	0.8	1.0	1.5	0.5		
Prop In Lane	0.42	0.57	1.00			1.00		
Lane Grp Cap(c), veh/h	178	0	127	1948	1088	487		
V/C Ratio(X)	0.60	0.00	0.49	0.15	0.27	0.10		
Avail Cap(c_a), veh/h	2132	0	531	7118	5452	2439		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.0	0.0	10.4	2.6	6.1	5.8		
Incr Delay (d2), s/veh	3.2	0.0	2.9	0.0	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.5	0.5	0.7	0.2		
LnGrp Delay(d),s/veh	13.2	0.0	13.4	2.6	6.3	5.9		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	107			365	349			
Approach Delay, s/veh	13.2			4.5	6.2			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		16.9		6.5	5.7	11.2		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+I1), s		3.0		3.4	2.8	3.5		
Green Ext Time (p_c), s		3.8		0.3	0.0	3.7		
Intersection Summary								
HCM 2010 Ctrl Delay			6.3					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 539 veh/h
Opposing direction volume, Vo 751 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	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	588 pc/h	819 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 1.4 mi/h
Average travel speed, ATSD 42.7 mi/h
Percent Free Flow Speed, PFFS 77.7 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	586 pc/h	816 pc/h
Base percent time-spent-following, (note-4) BPTSFD	59.7 %	
Adjustment for no-passing zones, fnp	27.5	
Percent time-spent-following, PTSFD	71.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	29	veh-mi
Peak-hour vehicle-miles of travel, VMT60	108	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	42.7	mi/h
Percent time-spent-following, PTSFD (from above)	71.2	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	585.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.84
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 751 veh/h
Opposing direction volume, Vo 539 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	819 pc/h	588 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.0 mi/h
Average travel speed, ATSD 42.1 mi/h
Percent Free Flow Speed, PFFS 76.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	816 pc/h	586 pc/h
Base percent time-spent-following, (note-4) BPTSFd	67.4 %	
Adjustment for no-passing zones, fnp	27.5	
Percent time-spent-following, PTSFd	83.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.48	
Peak 15-min vehicle-miles of travel, VMT15	41	veh-mi
Peak-hour vehicle-miles of travel, VMT60	150	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	42.1	mi/h
Percent time-spent-following, PTSFd (from above)	83.4	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	816.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.01
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 736 veh/h
Opposing direction volume, Vo 616 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	802 pc/h	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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.8 mi/h
Average travel speed, ATSD 45.5 mi/h
Percent Free Flow Speed, PFFS 77.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	800 pc/h	670 pc/h
Base percent time-spent-following, (note-4) BPTSFd	68.0 %	
Adjustment for no-passing zones, fnp	26.9	
Percent time-spent-following, PTSFd	82.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	40	veh-mi
Peak-hour vehicle-miles of travel, VMT60	147	veh-mi
Peak 15-min total travel time, TT15	0.9	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	45.5	mi/h
Percent time-spent-following, PTSFd (from above)	82.6	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	800.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.00
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (WB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 616 veh/h
Opposing direction volume, Vo 736 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	672 pc/h	802 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.4 mi/h
Average travel speed, ATSD 45.9 mi/h
Percent Free Flow Speed, PFFS 78.2 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	670 pc/h	800 pc/h
Base percent time-spent-following, (note-4) BPTSFD	63.8 %	
Adjustment for no-passing zones, fnp	26.9	
Percent time-spent-following, PTSFD	76.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.40	
Peak 15-min vehicle-miles of travel, VMT15	33	veh-mi
Peak-hour vehicle-miles of travel, VMT60	123	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	45.9	mi/h
Percent time-spent-following, PTSFD (from above)	76.1	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	669.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.91
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (EB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 19 veh/h
Opposing direction volume, Vo 39 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	21 pc/h	44 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.5 mi/h

Free-flow speed, FFSd 57.5 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 56.4 mi/h
Percent Free Flow Speed, PFFS 98.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	21 pc/h	43 pc/h
Base percent time-spent-following, (note-4) BPTSFd	2.7 %	
Adjustment for no-passing zones, fnp	10.2	
Percent time-spent-following, PTSFd	6.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.01	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	11	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
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)	56.4	mi/h
Percent time-spent-following, PTSFd (from above)	6.0	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	20.7
Effective width of outside lane, We	40.29
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-4.08
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 39 veh/h
Opposing direction volume, Vo 19 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	44 pc/h	21 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.5 mi/h

Free-flow speed, FFSd 57.5 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 56.4 mi/h
Percent Free Flow Speed, PFFS 98.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	43 pc/h	21 pc/h
Base percent time-spent-following, (note-4) BPTSFD	5.3 %	
Adjustment for no-passing zones, fnp	10.2	
Percent time-spent-following, PTSFD	12.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	6	veh-mi
Peak-hour vehicle-miles of travel, VMT60	23	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
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)	56.4	mi/h
Percent time-spent-following, PTSFD (from above)	12.2	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	42.4
Effective width of outside lane, We	38.49
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.02
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 541 veh/h
Opposing direction volume, Vo 914 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	0.997	1.000
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	590 pc/h	993 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 1.1 mi/h
Average travel speed, ATSD 41.6 mi/h
Percent Free Flow Speed, PFFS 75.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	588 pc/h	993 pc/h
Base percent time-spent-following, (note-4) BPTSFD	62.0 %	
Adjustment for no-passing zones, fnp	23.1	
Percent time-spent-following, PTSFD	70.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	29	veh-mi
Peak-hour vehicle-miles of travel, VMT60	108	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	41.6	mi/h
Percent time-spent-following, PTSFD (from above)	70.6	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	588.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.84
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 914 veh/h
Opposing direction volume, Vo 541 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	1.000	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	993 pc/h	590 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 1.9 mi/h
Average travel speed, ATSD 40.8 mi/h
Percent Free Flow Speed, PFFS 74.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	993 pc/h	588 pc/h
Base percent time-spent-following, (note-4) BPTSFD	73.4 %	
Adjustment for no-passing zones, fnp	23.1	
Percent time-spent-following, PTSFD	87.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.58	
Peak 15-min vehicle-miles of travel, VMT15	50	veh-mi
Peak-hour vehicle-miles of travel, VMT60	183	veh-mi
Peak 15-min total travel time, TT15	1.2	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	40.8	mi/h
Percent time-spent-following, PTSFD (from above)	87.9	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	993.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.11
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 416 veh/h
Opposing direction volume, Vo 444 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	455 pc/h	486 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.9 mi/h
Average travel speed, ATSD 48.5 mi/h
Percent Free Flow Speed, PFFS 82.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	452 pc/h	483 pc/h
Base percent time-spent-following, (note-4) BPTSFD	48.6 %	
Adjustment for no-passing zones, fnp	41.8	
Percent time-spent-following, PTSFD	68.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	23	veh-mi
Peak-hour vehicle-miles of travel, VMT60	83	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	48.5	mi/h
Percent time-spent-following, PTSFD (from above)	68.8	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	452.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.71
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (WB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (0A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 444 veh/h
Opposing direction volume, Vo 416 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	486 pc/h	455 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 3.2 mi/h
Average travel speed, ATSD 48.3 mi/h
Percent Free Flow Speed, PFFS 82.2 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	483 pc/h	452 pc/h
Base percent time-spent-following, (note-4) BPTSFD	49.7 %	
Adjustment for no-passing zones, fnp	41.8	
Percent time-spent-following, PTSFD	71.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.29	
Peak 15-min vehicle-miles of travel, VMT15	24	veh-mi
Peak-hour vehicle-miles of travel, VMT60	89	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	48.3	mi/h
Percent time-spent-following, PTSFD (from above)	71.3	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	482.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.74
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Smith Road (EB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 19 veh/h
Opposing direction volume, Vo 23 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	21 pc/h	26 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.9 mi/h
Average travel speed, ATSD 55.5 mi/h
Percent Free Flow Speed, PFFS 94.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	21 pc/h	25 pc/h
Base percent time-spent-following, (note-4) BPTSFd	2.7 %	
Adjustment for no-passing zones, fnp	53.0	
Percent time-spent-following, PTSFd	26.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.01	
Peak 15-min vehicle-miles of travel, VMT15	1	veh-mi
Peak-hour vehicle-miles of travel, VMT60	4	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	55.5	mi/h
Percent time-spent-following, PTSFd (from above)	26.9	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	20.7
Effective width of outside lane, We	40.29
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-4.08
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 23 veh/h
Opposing direction volume, Vo 19 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	26 pc/h	21 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.9 mi/h
Average travel speed, ATSD 55.5 mi/h
Percent Free Flow Speed, PFFS 94.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	25 pc/h	21 pc/h
Base percent time-spent-following, (note-4) BPTSFd	3.2 %	
Adjustment for no-passing zones, fnp	53.0	
Percent time-spent-following, PTSFd	32.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	1	veh-mi
Peak-hour vehicle-miles of travel, VMT60	5	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	55.5	mi/h
Percent time-spent-following, PTSFd (from above)	32.0	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	25.0
Effective width of outside lane, We	39.93
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.85
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2020_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (1A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1530	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	17.3	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1367	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Fami liar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1367	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	765	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	765	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	17.3	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 16:49:22

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2020_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (1A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	2038	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	23.1	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1821	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1821	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	1019	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	1019	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	23.1	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/23/2018 16:50:16

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2020_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (1A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	937	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	10.6	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	837	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	837	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	468	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	468	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	10.6	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 16:51:01

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2020_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (1A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1717	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	19.5	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1534	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1534	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	858	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	858	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	19.5	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/23/2018 16:51:14

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 411 veh/h
Opposing direction volume, Vo 562 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.991	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	451 pc/h	613 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 1.9 mi/h
Average travel speed, ATSD 44.9 mi/h
Percent Free Flow Speed, PFFS 81.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	447 pc/h	611 pc/h
Base percent time-spent-following, (note-4) BPTSFD	49.3 %	
Adjustment for no-passing zones, fnp	36.1	
Percent time-spent-following, PTSFD	64.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	22	veh-mi
Peak-hour vehicle-miles of travel, VMT60	82	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	44.9	mi/h
Percent time-spent-following, PTSFD (from above)	64.6	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	446.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.70
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 562 veh/h
Opposing direction volume, Vo 411 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.997	0.991
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	613 pc/h	451 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.6 mi/h
Average travel speed, ATSD 44.2 mi/h
Percent Free Flow Speed, PFFS 80.3 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	611 pc/h	447 pc/h
Base percent time-spent-following, (note-4) BPTSFD	57.8 %	
Adjustment for no-passing zones, fnp	36.1	
Percent time-spent-following, PTSFD	78.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.36	
Peak 15-min vehicle-miles of travel, VMT15	31	veh-mi
Peak-hour vehicle-miles of travel, VMT60	112	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1685	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	44.2	mi/h
Percent time-spent-following, PTSFD (from above)	78.6	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	610.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.86
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 736 veh/h
Opposing direction volume, Vo 616 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	802 pc/h	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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.8 mi/h
Average travel speed, ATSD 45.5 mi/h
Percent Free Flow Speed, PFFS 77.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	800 pc/h	670 pc/h
Base percent time-spent-following, (note-4) BPTSFd	68.0 %	
Adjustment for no-passing zones, fnp	26.9	
Percent time-spent-following, PTSFd	82.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	40	veh-mi
Peak-hour vehicle-miles of travel, VMT60	147	veh-mi
Peak 15-min total travel time, TT15	0.9	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	45.5	mi/h
Percent time-spent-following, PTSFd (from above)	82.6	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	800.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.00
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (WB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 616 veh/h
Opposing direction volume, Vo 736 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	672 pc/h	802 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.4 mi/h
Average travel speed, ATSD 45.9 mi/h
Percent Free Flow Speed, PFFS 78.2 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	670 pc/h	800 pc/h
Base percent time-spent-following, (note-4) BPTSFD	63.8 %	
Adjustment for no-passing zones, fnp	26.9	
Percent time-spent-following, PTSFD	76.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.40	
Peak 15-min vehicle-miles of travel, VMT15	33	veh-mi
Peak-hour vehicle-miles of travel, VMT60	123	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	45.9	mi/h
Percent time-spent-following, PTSFD (from above)	76.1	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	669.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.91
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (EB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 147 veh/h
Opposing direction volume, Vo 288 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.7	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.979	0.988
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	163 pc/h	317 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.5 mi/h

Free-flow speed, FFSd 57.5 mi/h

Adjustment for no-passing zones, fnp 1.5 mi/h
Average travel speed, ATSD 52.3 mi/h
Percent Free Flow Speed, PFFS 90.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	160 pc/h	314 pc/h
Base percent time-spent-following, (note-4) BPTSFd	20.5 %	
Adjustment for no-passing zones, fnp	12.2	
Percent time-spent-following, PTSFd	24.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	B
Volume to capacity ratio, v/c	0.10
Peak 15-min vehicle-miles of travel, VMT15	24 veh-mi
Peak-hour vehicle-miles of travel, VMT60	88 veh-mi
Peak 15-min total travel time, TT15	0.5 veh-h
Capacity from ATS, CdATS	1680 veh/h
Capacity from PTSF, CdPTSF	1695 veh/h
Directional Capacity	1680 veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.6 mi
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)	52.3 mi/h
Percent time-spent-following, PTSFd (from above)	24.6
Level of service, LOSd (from above)	B

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	- mi
Length 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	-
Average travel speed including passing lane, ATSpl	-
Percent free flow speed including passing lane, PFFSpl	0.0 %

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	- mi
Length 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

Level of service including passing lane, LOSpl	E
Peak 15-min total travel time, TT15	- veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	159.8
Effective width of outside lane, We	28.77
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	0.92
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 228 veh/h
Opposing direction volume, Vo 147 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.7
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.985	0.979
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	252 pc/h	163 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 2.5 mi/h

Free-flow speed, FFSd 57.5 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATSD 53.0 mi/h
Percent Free Flow Speed, PFFS 92.2 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	249 pc/h	160 pc/h
Base percent time-spent-following, (note-4) BPTSFd	25.9 %	
Adjustment for no-passing zones, fnp	14.3	
Percent time-spent-following, PTSFd	34.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	37	veh-mi
Peak-hour vehicle-miles of travel, VMT60	137	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1664	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1664	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
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)	53.0	mi/h
Percent time-spent-following, PTSFd (from above)	34.6	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	247.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.40
Bicycle LOS	B

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 404 veh/h
Opposing direction volume, Vo 674 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.991	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	443 pc/h	735 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 1.6 mi/h
Average travel speed, ATSD 44.3 mi/h
Percent Free Flow Speed, PFFS 80.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	439 pc/h	733 pc/h
Base percent time-spent-following, (note-4) BPTSFD	50.4 %	
Adjustment for no-passing zones, fnp	31.3	
Percent time-spent-following, PTSFD	62.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.26	
Peak 15-min vehicle-miles of travel, VMT15	22	veh-mi
Peak-hour vehicle-miles of travel, VMT60	81	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	44.3	mi/h
Percent time-spent-following, PTSFD (from above)	62.1	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	439.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.69
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 674 veh/h
Opposing direction volume, Vo 404 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.997	0.991
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	735 pc/h	443 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.6 mi/h
Average travel speed, ATSD 43.3 mi/h
Percent Free Flow Speed, PFFS 78.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	733 pc/h	439 pc/h
Base percent time-spent-following, (note-4) BPTSFd	62.9 %	
Adjustment for no-passing zones, fnp	31.3	
Percent time-spent-following, PTSFd	82.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.43	
Peak 15-min vehicle-miles of travel, VMT15	37	veh-mi
Peak-hour vehicle-miles of travel, VMT60	135	veh-mi
Peak 15-min total travel time, TT15	0.9	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1685	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	43.3	mi/h
Percent time-spent-following, PTSFd (from above)	82.5	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	732.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.95
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 416 veh/h
Opposing direction volume, Vo 444 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	455 pc/h	486 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.9 mi/h
Average travel speed, ATSD 48.5 mi/h
Percent Free Flow Speed, PFFS 82.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	452 pc/h	483 pc/h
Base percent time-spent-following, (note-4) BPTSFd	48.6 %	
Adjustment for no-passing zones, fnp	41.8	
Percent time-spent-following, PTSFd	68.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	23	veh-mi
Peak-hour vehicle-miles of travel, VMT60	83	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	48.5	mi/h
Percent time-spent-following, PTSFd (from above)	68.8	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	452.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.71
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (WB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 444 veh/h
Opposing direction volume, Vo 416 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	486 pc/h	455 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 3.2 mi/h
Average travel speed, ATSD 48.3 mi/h
Percent Free Flow Speed, PFFS 82.2 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	483 pc/h	452 pc/h
Base percent time-spent-following, (note-4) BPTSFD	49.7 %	
Adjustment for no-passing zones, fnp	41.8	
Percent time-spent-following, PTSFD	71.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.29	
Peak 15-min vehicle-miles of travel, VMT15	24	veh-mi
Peak-hour vehicle-miles of travel, VMT60	89	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	48.3	mi/h
Percent time-spent-following, PTSFD (from above)	71.3	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	482.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.74
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Smith Road (EB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 156 veh/h
Opposing direction volume, Vo 263 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.6	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.982	0.988
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	173 pc/h	289 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 3.9 mi/h
Average travel speed, ATSD 51.2 mi/h
Percent Free Flow Speed, PFFS 87.2 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	170 pc/h	287 pc/h
Base percent time-spent-following, (note-4) BPTSFd	20.1 %	
Adjustment for no-passing zones, fnp	53.7	
Percent time-spent-following, PTSFd	40.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.10	
Peak 15-min vehicle-miles of travel, VMT15	8	veh-mi
Peak-hour vehicle-miles of travel, VMT60	31	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.2	mi/h
Percent time-spent-following, PTSFd (from above)	40.1	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	169.6
Effective width of outside lane, We	27.96
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	1.18
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 263 veh/h
Opposing direction volume, Vo 156 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.6
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.988	0.982
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	289 pc/h	173 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 3.8 mi/h
Average travel speed, ATSD 51.3 mi/h
Percent Free Flow Speed, PFFS 87.4 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	287 pc/h	170 pc/h
Base percent time-spent-following, (note-4) BPTSFd	29.2 %	
Adjustment for no-passing zones, fnp	53.7	
Percent time-spent-following, PTSFd	62.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.17	
Peak 15-min vehicle-miles of travel, VMT15	14	veh-mi
Peak-hour vehicle-miles of travel, VMT60	53	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1669	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1669	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.3	mi/h
Percent time-spent-following, PTSFd (from above)	62.9	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	285.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.48
Bicycle LOS	B

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (2A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1530	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	17.3	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1367	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1367	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	765	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	765	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	17.3	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 16:51:56

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (2A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1827	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	20.7	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1632	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, f _{SAF}	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1632	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	914	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	914	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	20.7	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/23/2018 16:52:42

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (2A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	937	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	10.6	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	837	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	837	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	468	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	468	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	10.6	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 16:53:16

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (2A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1449	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	16.4	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1294	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1294	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	724	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	724	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	16.4	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 16:53:30

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 74 veh/h
Opposing direction volume, Vo 67 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	83 pc/h	75 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.7 mi/h
Average travel speed, ATSD 51.1 mi/h
Percent Free Flow Speed, PFFS 92.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	81 pc/h	73 pc/h
Base percent time-spent-following, (note-4) BPTSFd	9.6 %	
Adjustment for no-passing zones, fnp	52.8	
Percent time-spent-following, PTSFd	37.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	15	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.1	mi/h
Percent time-spent-following, PTSFd (from above)	37.4	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	80.4
Effective width of outside lane, We	35.34
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.53
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 67 veh/h
Opposing direction volume, Vo veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	75 pc/h	76 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.7 mi/h
Average travel speed, ATSD 51.1 mi/h
Percent Free Flow Speed, PFFS 93.0 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	73 pc/h	74 pc/h
Base percent time-spent-following, (note-4) BPTSFd	8.7 %	
Adjustment for no-passing zones, fnp	52.6	
Percent time-spent-following, PTSFd	34.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	13	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.1	mi/h
Percent time-spent-following, PTSFd (from above)	34.8	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	72.8
Effective width of outside lane, We	35.97
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.80
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 684 veh/h
Opposing direction volume, Vo 546 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	746 pc/h	595 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.0 mi/h
Average travel speed, ATSD 46.3 mi/h
Percent Free Flow Speed, PFFS 78.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	743 pc/h	593 pc/h
Base percent time-spent-following, (note-4) BPTSFD	65.1 %	
Adjustment for no-passing zones, fnp	29.6	
Percent time-spent-following, PTSFD	81.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.44	
Peak 15-min vehicle-miles of travel, VMT15	37	veh-mi
Peak-hour vehicle-miles of travel, VMT60	137	veh-mi
Peak 15-min total travel time, TT15	0.8	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	46.3	mi/h
Percent time-spent-following, PTSFD (from above)	81.6	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	743.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.96
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (WB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 546 veh/h
Opposing direction volume, Vo 684 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	595 pc/h	746 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.6 mi/h
Average travel speed, ATSD 46.8 mi/h
Percent Free Flow Speed, PFFS 79.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	593 pc/h	743 pc/h
Base percent time-spent-following, (note-4) BPTSFD	60.1 %	
Adjustment for no-passing zones, fnp	29.6	
Percent time-spent-following, PTSFD	73.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	30	veh-mi
Peak-hour vehicle-miles of travel, VMT60	109	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	46.8	mi/h
Percent time-spent-following, PTSFD (from above)	73.2	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	593.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.85
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (EB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 31 veh/h
Opposing direction volume, Vo 61 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	35 pc/h	68 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.5 mi/h

Free-flow speed, FFSd 57.5 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 56.1 mi/h
Percent Free Flow Speed, PFFS 97.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	34 pc/h	67 pc/h
Base percent time-spent-following, (note-4) BPTSFD	4.2 %	
Adjustment for no-passing zones, fnp	10.3	
Percent time-spent-following, PTSFD	7.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	5	veh-mi
Peak-hour vehicle-miles of travel, VMT60	19	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
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)	56.1	mi/h
Percent time-spent-following, PTSFD (from above)	7.7	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	33.7
Effective width of outside lane, We	39.21
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.41
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 61 veh/h
Opposing direction volume, Vo 31 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	68 pc/h	35 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.5 mi/h

Free-flow speed, FFSd 57.5 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 56.1 mi/h
Percent Free Flow Speed, PFFS 97.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	67 pc/h	34 pc/h
Base percent time-spent-following, (note-4) BPTSFd	8.0 %	
Adjustment for no-passing zones, fnp	10.3	
Percent time-spent-following, PTSFd	14.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	10	veh-mi
Peak-hour vehicle-miles of travel, VMT60	37	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
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)	56.1	mi/h
Percent time-spent-following, PTSFd (from above)	14.8	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	66.3
Effective width of outside lane, We	36.51
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.05
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 39 veh/h
Opposing direction volume, Vo 39 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	44 pc/h	44 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.7 mi/h
Average travel speed, ATSD 51.6 mi/h
Percent Free Flow Speed, PFFS 93.8 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	43 pc/h	43 pc/h
Base percent time-spent-following, (note-4) BPTSFd	5.3 %	
Adjustment for no-passing zones, fnp	52.6	
Percent time-spent-following, PTSFd	31.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	8	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.6	mi/h
Percent time-spent-following, PTSFd (from above)	31.6	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	42.4
Effective width of outside lane, We	38.49
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.02
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 39 veh/h
Opposing direction volume, Vo 39 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	44 pc/h	44 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.7 mi/h
Average travel speed, ATSD 51.6 mi/h
Percent Free Flow Speed, PFFS 93.8 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	43 pc/h	43 pc/h
Base percent time-spent-following,(note-4) BPTSFD	5.3 %	
Adjustment for no-passing zones, fnp	52.6	
Percent time-spent-following, PTSFD	31.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	8	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.6	mi/h
Percent time-spent-following, PTSFD (from above)	31.6	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	42.4
Effective width of outside lane, We	38.49
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.02
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 379 veh/h
Opposing direction volume, Vo 380 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.991	0.991
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	416 pc/h	417 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 3.5 mi/h
Average travel speed, ATSD 48.8 mi/h
Percent Free Flow Speed, PFFS 83.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	412 pc/h	413 pc/h
Base percent time-spent-following, (note-4) BPTSFD	44.3 %	
Adjustment for no-passing zones, fnp	45.8	
Percent time-spent-following, PTSFD	67.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.24	
Peak 15-min vehicle-miles of travel, VMT15	21	veh-mi
Peak-hour vehicle-miles of travel, VMT60	76	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1685	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	48.8	mi/h
Percent time-spent-following, PTSFD (from above)	67.2	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	412.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.66
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (WB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 380 veh/h
Opposing direction volume, Vo 379 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.991	0.991
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	417 pc/h	416 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 3.5 mi/h
Average travel speed, ATSD 48.8 mi/h
Percent Free Flow Speed, PFFS 83.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	413 pc/h	412 pc/h
Base percent time-spent-following, (note-4) BPTSFD	44.4 %	
Adjustment for no-passing zones, fnp	45.8	
Percent time-spent-following, PTSFD	67.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.25	
Peak 15-min vehicle-miles of travel, VMT15	21	veh-mi
Peak-hour vehicle-miles of travel, VMT60	76	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1685	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	48.8	mi/h
Percent time-spent-following, PTSFD (from above)	67.3	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	413.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.66
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Smith Road (EB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 50 veh/h
Opposing direction volume, Vo 46 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	56 pc/h	51 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.9 mi/h
Average travel speed, ATSD 55.1 mi/h
Percent Free Flow Speed, PFFS 93.7 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	55 pc/h	50 pc/h
Base percent time-spent-following, (note-4) BPTSFd	6.7 %	
Adjustment for no-passing zones, fnp	52.8	
Percent time-spent-following, PTSFd	34.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	10	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	55.1	mi/h
Percent time-spent-following, PTSFd (from above)	34.4	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	54.3
Effective width of outside lane, We	37.50
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.52
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 46 veh/h
Opposing direction volume, Vo 50 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	51 pc/h	56 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.9 mi/h
Average travel speed, ATSD 55.1 mi/h
Percent Free Flow Speed, PFFS 93.7 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	50 pc/h	55 pc/h
Base percent time-spent-following, (note-4) BPTSFd	6.1 %	
Adjustment for no-passing zones, fnp	52.8	
Percent time-spent-following, PTSFd	31.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	9	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	55.1	mi/h
Percent time-spent-following, PTSFd (from above)	31.2	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	50.0
Effective width of outside lane, We	37.86
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.69
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (3A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1572	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	17.8	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1404	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1404	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	786	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	786	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	17.8	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 16:54:04

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (3A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1642	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	18.6	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1467	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1467	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	821	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	821	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	18.6	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/23/2018 16:54:31

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (3A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1021	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	11.6	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	912	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Fami liar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	912	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	510	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	510	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	11.6	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 16:54:59

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (3A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1149	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	13.0	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1026	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1026	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	574	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	574	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	13.0	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 16:55:13

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Friday PM Peak-Hour
Highway North Road, e/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 820 veh/h
Opposing direction volume, Vo 669 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	891 pc/h	729 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.5 mi/h
Average travel speed, ATSD 37.0 mi/h
Percent Free Flow Speed, PFFS 73.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	891 pc/h	727 pc/h
Base percent time-spent-following, (note-4) BPTSFd	72.5 %	
Adjustment for no-passing zones, fnp	11.3	
Percent time-spent-following, PTSFd	78.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.52	
Peak 15-min vehicle-miles of travel, VMT15	45	veh-mi
Peak-hour vehicle-miles of travel, VMT60	164	veh-mi
Peak 15-min total travel time, TT15	1.2	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	37.0	mi/h
Percent time-spent-following, PTSFd (from above)	78.7	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	891.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.05
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Friday PM Peak-Hour
Highway North Road, e/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 669 veh/h
Opposing direction volume, Vo 820 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	0.997	1.000
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	729 pc/h	891 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.4 mi/h
Average travel speed, ATSD 37.0 mi/h
Percent Free Flow Speed, PFFS 74.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	727 pc/h	891 pc/h
Base percent time-spent-following, (note-4) BPTSFD	67.4 %	
Adjustment for no-passing zones, fnp	11.3	
Percent time-spent-following, PTSFD	72.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.43	
Peak 15-min vehicle-miles of travel, VMT15	36	veh-mi
Peak-hour vehicle-miles of travel, VMT60	134	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	37.0	mi/h
Percent time-spent-following, PTSFD (from above)	72.5	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	727.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.95
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, e/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 694 veh/h
Opposing direction volume, Vo 542 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	757 pc/h	591 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 38.9 mi/h
Percent Free Flow Speed, PFFS 77.8 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	754 pc/h	589 pc/h
Base percent time-spent-following, (note-4) BPTSFD	64.7 %	
Adjustment for no-passing zones, fnp	12.4	
Percent time-spent-following, PTSFD	71.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.45	
Peak 15-min vehicle-miles of travel, VMT15	38	veh-mi
Peak-hour vehicle-miles of travel, VMT60	139	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	38.9	mi/h
Percent time-spent-following, PTSFD (from above)	71.7	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	754.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.97
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, e/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 542 veh/h
Opposing direction volume, Vo 694 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	591 pc/h	757 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.4 mi/h
Average travel speed, ATSD 39.1 mi/h
Percent Free Flow Speed, PFFS 78.2 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	589 pc/h	754 pc/h
Base percent time-spent-following, (note-4) BPTSFd	59.5 %	
Adjustment for no-passing zones, fnp	12.4	
Percent time-spent-following, PTSFd	64.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	29	veh-mi
Peak-hour vehicle-miles of travel, VMT60	108	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	39.1	mi/h
Percent time-spent-following, PTSFd (from above)	64.9	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	589.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.84
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Friday PM Peak-Hour
Highway North Road, w/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 524 veh/h
Opposing direction volume, Vo 546 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	571 pc/h	595 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 40.3 mi/h
Percent Free Flow Speed, PFFS 80.7 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	570 pc/h	593 pc/h
Base percent time-spent-following, (note-4) BPTSFD	56.6 %	
Adjustment for no-passing zones, fnp	13.8	
Percent time-spent-following, PTSFD	63.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.34	
Peak 15-min vehicle-miles of travel, VMT15	28	veh-mi
Peak-hour vehicle-miles of travel, VMT60	105	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	40.3	mi/h
Percent time-spent-following, PTSFD (from above)	63.4	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	569.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.83
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Friday PM Peak-Hour
Highway North Road, w/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 546 veh/h
Opposing direction volume, Vo 524 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	595 pc/h	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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.7 mi/h
Average travel speed, ATSD 40.3 mi/h
Percent Free Flow Speed, PFFS 80.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	593 pc/h	570 pc/h
Base percent time-spent-following, (note-4) BPTSFd	57.0 %	
Adjustment for no-passing zones, fnp	13.8	
Percent time-spent-following, PTSFd	64.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	30	veh-mi
Peak-hour vehicle-miles of travel, VMT60	109	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	40.3	mi/h
Percent time-spent-following, PTSFd (from above)	64.0	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	593.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.85
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, w/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 430 veh/h
Opposing direction volume, Vo 348 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.991
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	470 pc/h	382 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 1.1 mi/h
Average travel speed, ATSD 42.3 mi/h
Percent Free Flow Speed, PFFS 84.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	467 pc/h	379 pc/h
Base percent time-spent-following, (note-4) BPTSFd	46.7 %	
Adjustment for no-passing zones, fnp	14.5	
Percent time-spent-following, PTSFd	54.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.28	
Peak 15-min vehicle-miles of travel, VMT15	23	veh-mi
Peak-hour vehicle-miles of travel, VMT60	86	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1685	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	42.3	mi/h
Percent time-spent-following, PTSFd (from above)	54.7	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	467.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.73
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, w/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 348 veh/h
Opposing direction volume, Vo 430 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.991	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	382 pc/h	470 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.9 mi/h
Average travel speed, ATSD 42.5 mi/h
Percent Free Flow Speed, PFFS 84.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	379 pc/h	467 pc/h
Base percent time-spent-following, (note-4) BPTSFD	42.9 %	
Adjustment for no-passing zones, fnp	14.5	
Percent time-spent-following, PTSFD	49.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	B
Volume to capacity ratio, v/c	0.22
Peak 15-min vehicle-miles of travel, VMT15	19 veh-mi
Peak-hour vehicle-miles of travel, VMT60	70 veh-mi
Peak 15-min total travel time, TT15	0.4 veh-h
Capacity from ATS, CdATS	1690 veh/h
Capacity from PTSF, CdPTSF	1700 veh/h
Directional Capacity	1690 veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2 mi
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)	42.5 mi/h
Percent time-spent-following, PTSFD (from above)	49.4
Level of service, LOSd (from above)	B

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	- mi
Length 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	-
Average travel speed including passing lane, ATSpl	-
Percent free flow speed including passing lane, PFFSpl	0.0 %

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	- mi
Length 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

Level of service including passing lane, LOSpl	E
Peak 15-min total travel time, TT15	- veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	378.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.62
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, n/o North St (NB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 731 veh/h
Opposing direction volume, Vo 515 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	797 pc/h	561 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.7 mi/h
Average travel speed, ATSD 38.8 mi/h
Percent Free Flow Speed, PFFS 77.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	795 pc/h	560 pc/h
Base percent time-spent-following, (note-4) BPTSFD	67.2 %	
Adjustment for no-passing zones, fnp	12.1	
Percent time-spent-following, PTSFD	74.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	40	veh-mi
Peak-hour vehicle-miles of travel, VMT60	146	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	38.8	mi/h
Percent time-spent-following, PTSFD (from above)	74.3	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	794.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.00
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, n/o North St (SB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 515 veh/h
Opposing direction volume, Vo 731 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	561 pc/h	797 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.4 mi/h
Average travel speed, ATSD 39.1 mi/h
Percent Free Flow Speed, PFFS 78.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	560 pc/h	795 pc/h
Base percent time-spent-following, (note-4) BPTSFd	58.6 %	
Adjustment for no-passing zones, fnp	12.1	
Percent time-spent-following, PTSFd	63.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.33	
Peak 15-min vehicle-miles of travel, VMT15	28	veh-mi
Peak-hour vehicle-miles of travel, VMT60	103	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	39.1	mi/h
Percent time-spent-following, PTSFd (from above)	63.6	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	559.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.82
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, n/o North St (NB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 886 veh/h
Opposing direction volume, Vo 549 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	1.000	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	963 pc/h	599 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 37.3 mi/h
Percent Free Flow Speed, PFFS 74.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	963 pc/h	597 pc/h
Base percent time-spent-following, (note-4) BPTSFd	73.0 %	
Adjustment for no-passing zones, fnp	10.5	
Percent time-spent-following, PTSFd	79.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.57	
Peak 15-min vehicle-miles of travel, VMT15	48	veh-mi
Peak-hour vehicle-miles of travel, VMT60	177	veh-mi
Peak 15-min total travel time, TT15	1.3	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	37.3	mi/h
Percent time-spent-following, PTSFd (from above)	79.5	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	963.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.09
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, n/o North St (SB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 549 veh/h
Opposing direction volume, Vo 886 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	0.997	1.000
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	599 pc/h	963 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.4 mi/h
Average travel speed, ATSD 37.5 mi/h
Percent Free Flow Speed, PFFS 75.0 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	597 pc/h	963 pc/h
Base percent time-spent-following, (note-4) BPTSFD	62.0 %	
Adjustment for no-passing zones, fnp	10.5	
Percent time-spent-following, PTSFD	66.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	30	veh-mi
Peak-hour vehicle-miles of travel, VMT60	110	veh-mi
Peak 15-min total travel time, TT15	0.8	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	37.5	mi/h
Percent time-spent-following, PTSFD (from above)	66.0	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	596.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.85
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, s/o North St (NB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 195 veh/h
Opposing direction volume, Vo 143 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.7
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.985	0.979
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	215 pc/h	159 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.0 mi/h

Free-flow speed, FFSd 58.0 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATSD 53.8 mi/h
Percent Free Flow Speed, PFFS 92.8 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	213 pc/h	156 pc/h
Base percent time-spent-following, (note-4) BPTSFd	22.7 %	
Adjustment for no-passing zones, fnp	36.2	
Percent time-spent-following, PTSFd	43.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.13	
Peak 15-min vehicle-miles of travel, VMT15	16	veh-mi
Peak-hour vehicle-miles of travel, VMT60	59	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1664	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1664	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
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)	53.8	mi/h
Percent time-spent-following, PTSFd (from above)	43.6	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	212.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.33
Bicycle LOS	B

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, s/o North St (SB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 143 veh/h
Opposing direction volume, Vo 195 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.7	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.979	0.985
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	159 pc/h	215 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.0 mi/h

Free-flow speed, FFSd 58.0 mi/h

Adjustment for no-passing zones, fnp 1.7 mi/h
Average travel speed, ATSD 53.4 mi/h
Percent Free Flow Speed, PFFS 92.0 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	156 pc/h	213 pc/h
Base percent time-spent-following, (note-4) BPTSFd	18.2 %	
Adjustment for no-passing zones, fnp	36.2	
Percent time-spent-following, PTSFd	33.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.09	
Peak 15-min vehicle-miles of travel, VMT15	12	veh-mi
Peak-hour vehicle-miles of travel, VMT60	43	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1675	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1675	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
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)	53.4	mi/h
Percent time-spent-following, PTSFd (from above)	33.5	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	155.4
Effective width of outside lane, We	29.13
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	0.80
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, s/o North St (NB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 236 veh/h
Opposing direction volume, Vo 134 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.7
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.988	0.979
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	260 pc/h	149 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 2.0 mi/h

Free-flow speed, FFSd 58.0 mi/h

Adjustment for no-passing zones, fnp 1.2 mi/h
Average travel speed, ATSD 53.7 mi/h
Percent Free Flow Speed, PFFS 92.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	257 pc/h	146 pc/h
Base percent time-spent-following, (note-4) BPTSFD	26.6 %	
Adjustment for no-passing zones, fnp	33.9	
Percent time-spent-following, PTSFD	48.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	19	veh-mi
Peak-hour vehicle-miles of travel, VMT60	71	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1664	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1664	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
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)	53.7	mi/h
Percent time-spent-following, PTSFD (from above)	48.2	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	256.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.42
Bicycle LOS	B

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, s/o North St (SB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 134 veh/h
Opposing direction volume, Vo 236 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.7	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.979	0.988
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	149 pc/h	260 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 2.0 mi/h

Free-flow speed, FFSd 58.0 mi/h

Adjustment for no-passing zones, fnp 1.6 mi/h
Average travel speed, ATSD 53.2 mi/h
Percent Free Flow Speed, PFFS 91.7 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	146 pc/h	257 pc/h
Base percent time-spent-following, (note-4) BPTSFd	17.3 %	
Adjustment for no-passing zones, fnp	33.9	
Percent time-spent-following, PTSFd	29.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.09	
Peak 15-min vehicle-miles of travel, VMT15	11	veh-mi
Peak-hour vehicle-miles of travel, VMT60	40	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
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)	53.2	mi/h
Percent time-spent-following, PTSFd (from above)	29.6	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	145.7
Effective width of outside lane, We	29.94
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	0.53
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Friday PM Peak-Hour
Highway Canyon Road (NB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (F)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 233 veh/h
Opposing direction volume, Vo 365 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.977	0.982
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	259 pc/h	404 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 0.0 mi/h

Free-flow speed, FFSd 60.0 mi/h

Adjustment for no-passing zones, fnp 3.9 mi/h
Average travel speed, ATSD 51.0 mi/h
Percent Free Flow Speed, PFFS 85.0 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	255 pc/h	399 pc/h
Base percent time-spent-following, (note-4) BPTSFd	30.7 %	
Adjustment for no-passing zones, fnp	50.3	
Percent time-spent-following, PTSFd	50.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	47	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1669	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1669	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.0	mi/h
Percent time-spent-following, PTSFd (from above)	50.3	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	253.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.29
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Friday PM Peak-Hour
Highway Canyon Road (SB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (F)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 365 veh/h
Opposing direction volume, Vo 233 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.982	0.977
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	404 pc/h	259 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 0.0 mi/h

Free-flow speed, FFSd 60.0 mi/h

Adjustment for no-passing zones, fnp 4.1 mi/h
Average travel speed, ATSD 50.7 mi/h
Percent Free Flow Speed, PFFS 84.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	399 pc/h	255 pc/h
Base percent time-spent-following, (note-4) BPTSFd	39.3 %	
Adjustment for no-passing zones, fnp	50.3	
Percent time-spent-following, PTSFd	70.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.24	
Peak 15-min vehicle-miles of travel, VMT15	20	veh-mi
Peak-hour vehicle-miles of travel, VMT60	73	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1661	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1661	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	50.7	mi/h
Percent time-spent-following, PTSFd (from above)	70.0	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	396.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.52
Bicycle LOS	D

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Saturday PM Peak-Hour
Highway Canyon Road (NB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (F)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 225 veh/h
Opposing direction volume, Vo 206 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.971	0.971
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	252 pc/h	231 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 0.0 mi/h

Free-flow speed, FFSd 60.0 mi/h

Adjustment for no-passing zones, fnp 4.2 mi/h
Average travel speed, ATSD 52.1 mi/h
Percent Free Flow Speed, PFFS 86.8 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	246 pc/h	225 pc/h
Base percent time-spent-following, (note-4) BPTSFd	26.5 %	
Adjustment for no-passing zones, fnp	61.1	
Percent time-spent-following, PTSFd	58.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	12	veh-mi
Peak-hour vehicle-miles of travel, VMT60	45	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1651	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1651	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	52.1	mi/h
Percent time-spent-following, PTSFd (from above)	58.4	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	244.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.27
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Saturday PM Peak-Hour
Highway Canyon Road (SB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (F)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 206 veh/h
Opposing direction volume, Vo 225 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.971	0.971
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	231 pc/h	252 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 0.0 mi/h

Free-flow speed, FFSd 60.0 mi/h

Adjustment for no-passing zones, fnp 4.1 mi/h
Average travel speed, ATSD 52.1 mi/h
Percent Free Flow Speed, PFFS 86.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	225 pc/h	246 pc/h
Base percent time-spent-following, (note-4) BPTSFd	25.3 %	
Adjustment for no-passing zones, fnp	61.1	
Percent time-spent-following, PTSFd	54.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.14	
Peak 15-min vehicle-miles of travel, VMT15	11	veh-mi
Peak-hour vehicle-miles of travel, VMT60	41	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1651	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1651	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	52.1	mi/h
Percent time-spent-following, PTSFd (from above)	54.5	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	223.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.23
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025+F_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (F)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	903	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	7.5	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	849	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, f _{SAF}	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Fami liar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	849	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	452	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	452	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	7.5	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:46:18

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025+F_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (F)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	1110	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	9.2	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1043	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, f _{AF}	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1043	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	555	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	555	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	9.2	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:47:10

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025+F_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (F)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	627	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.2	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	589	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	589	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	314	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	314	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	5.2	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:47:54

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025+F_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (F)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	753	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	6.3	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	708	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	708	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	376	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	376	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	6.3	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:48:16

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025+F_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (F)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	602	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.0	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	566	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Fami liar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	566	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	301	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	301	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	5.0	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:48:50

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025+F_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (F)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	670	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.6	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	630	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, f _{SAF}	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	630	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	335	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	335	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	5.6	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:49:04

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025+F_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (F)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	388	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	3.2	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	365	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Fami liar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	365	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	194	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	194	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	3.2	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:49:45

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025+F_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (F)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	386	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	3.2	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	363	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, f _{SAF}	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	363	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	193	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	193	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	3.2	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:50:06

Segment Inputs				2025														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
		Number of Lanes	Interchange Density	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
Southbound Northbound	Smith Rd to Bonnyview Rd	2400	2	0.33	2,487	1,954	1392.18	74.12	75	73.2974	18.994	C	1093.815	74.12	75	74.9026	14.6	B
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	1,680	1,296	626.957	74.12	75	73.4595	8.5347	A	483.6522	74.12	75	72.0486	6.7129	A
	Bonnyview Rd to Cypress Ave	7000	3	0.33	2,785	2,113	1039.33	74.12	75	74.9829	13.861	B	788.5471	74.12	75	74.505	10.584	A
	Cypress Ave to Bonnyview Rd	7000	3	0.33	3,477	2,711	1297.58	74.12	75	74.0197	17.53	B	1011.714	74.12	75	74.9985	13.49	B
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,341	1,805	873.634	74.12	75	74.8232	11.676	B	673.6051	74.12	75	73.8207	9.1249	A
	Bonnyview Rd to Smith Rd	2600	2	0.33	3,357	2,424	1879.19	74.12	75	66.4432	28.283	D	1356.913	74.12	75	73.5898	18.439	C
	Universal Inputs: PHF 0.92 (P _a) 6% FHV 0.970873786																	

Segment Inputs				2025																																
				Friday PM Flow Inputs						AM LOS Performance Measures										Saturday PM Flow Inputs						PM LOS Performance Measures										
	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L _a)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₀	V ₁ /S ₀	P _T M	V ₁₂	V/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₀	V ₁ /S ₀	P _T M	V ₁₂	V/c	D	LOS									
	(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)		(pc/mi/h)				(pc/mi/h)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)		(pc/mi/h)				(pc/mi/h)								
30	Bonnyview Rd On Ramp	3	1	430	3890	2785	1105	4355	3118	1237	89	0.5895	1838.2	7200	640	1379	1838	0.6049	26.197	C	2930	2113	817	3280	2366	915	68	0.5895	1394.6	7200	486	1046	1395	0.4556	20.371	C
30	Bonnyview Rd On Ramp	3	1	380	4373	3357	1016	4896	3758	1137	107	0.5881	2210.5	7200	774	1658	2210	0.68	28.683	D	3043	2424	619	3407	2714	693	78	0.5881	1596.1	7200	559	1197	1596	0.4732	20.629	C
Vertical inputs:																																				
Length	1500		(ft)																																	
L _a	70		(m/s)																																	
S ₀	35		(m/s)																																	
P _T M	0.52																																			
P ₀	6%																																			
S ₀	0.970873786																																			

Segment Inputs					2025																													
					AM Flow Inputs													PM Flow Inputs			PM LOS Performance Measures													
	Number of Lanes	Number of Ramp Lanes	L_{adj} (ft)	Length of Deceleration Lane (L_d) (ft)	Downstream Volume (veh/h)	Upstream Volume (veh/h)	Ramp Volume (veh/h)	V_0 (pc/h/ln)	V_1 (pc/h/ln)	V_2 (pc/h/ln)	$P_{T/D}$	V_{12} (pc/h/ln)	Capacity	V_3	V_{12a}	w/c	D	LOS	Downstream Volume (D) (veh/h)	Upstream Volume (F) (veh/h)	Ramp Volume (R) (veh/h)	V_0 (pc/h/ln)	V_1 (pc/h/ln)	V_2 (pc/h/ln)	$P_{T/D}$	V_{12} (pc/h/ln)	Capacity	V_3	V_{12a}	w/c	D	LOS		
B Bonnyview Rd Off	3	1	1341	180	873	1680	807	1271.83	1880.9	903.49	0.436	1329.6	7200	276	997	1330	0.2612	14.067	B	638	1296	658	1014.33	1451	736.67	0.436	1048.1	7200	201	786	1048	0.2015	11.646	B
B Bonnyview Rd Off	3	1	-	180	1205	2341	1136	-	2620.9	1271.8	0.636	2129.8	7200	491	1597	2130	0.364	20.948	C	899	1805	906	-	2020.8	1014.3	0.6628	1681.4	7200	339	1261	1681	0.2807	17.092	B
Design Speed:																																		
B 70 (mi/h)																																		
C 35 (mi/h)																																		
PF 0.92																																		
PFD 0.9																																		
C 0.9108733786																																		

Segment Inputs				2025														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
		Number of Lanes	Interchange Density	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
Southbound Northbound	Smith Rd to Bonnyview Rd	2400	2	0.33	2,299	1,713	1286.94	74.12	75	74.0886	17.37	B	958.9076	74.12	75	74.9813	12.8	B
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	1,680	1,296	626.957	74.12	75	73.4595	8.5347	A	483.6522	74.12	75	72.0486	6.7129	A
	Bonnyview Rd to Cypress Ave	7000	3	0.33	2,785	2,113	1039.33	74.12	75	74.9829	13.861	B	788.5471	74.12	75	74.505	10.584	A
	Cypress Ave to Bonnyview Rd	7000	3	0.33	3,477	2,711	1297.58	74.12	75	74.0197	17.53	B	1011.714	74.12	75	74.9985	13.49	B
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,341	1,805	873.634	74.12	75	74.8232	11.676	B	673.6051	74.12	75	73.8207	9.1249	A
	Bonnyview Rd to Smith Rd	2600	2	0.33	3,229	2,288	1807.54	74.12	75	67.7811	26.667	D	1280.783	74.12	75	74.1273	17.278	B
	Universal Inputs: PHF 0.92 (P _a) 6% FHV 0.970873786																	

Segment Inputs				2025																																
				Friday PM Flow Inputs			AM LOS Performance Measures										Saturday PM Flow Inputs			PM LOS Performance Measures																
	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L _a)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	V ₃ /S ₁₀	P _T M	V ₁₂	V/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	V ₃ /S ₁₀	P _T M	V ₁₂	V/c	D	LOS									
				(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)		(pc/mi/h)				(pc/mi/h)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)		(pc/mi/h)				(pc/mi/h)								
30	Bonnyview Rd On Ramp	3	1	430	3890	2785	1105	4355	3118	1237	89	0.5895	1838.2	7200	640	1379	1838	0.6049	26.197	C	2930	2113	817	3280	2366	915	48	0.5895	1394.6	7200	486	1046	1395	0.4556	20.371	C
30	Bonnyview Rd On Ramp	3	1	380	4117	3229	888	4609	3615	994	103	0.5881	2126.2	7200	744	1595	2126	0.6402	26.974	C	2771	2288	483	3102	2562	541	73	0.5881	1506.6	7200	528	1130	1507	0.4309	18.813	B
Segment inputs:																																				
Length	1500		(ft)																																	
L _a	70		(m/s)																																	
S ₁₀	35		(m/s)																																	
P _T M	0.52																																			
P ₁	0.5																																			
S ₁₀	0.710873786																																			

Segment Inputs				2025																														
				AM Flow Inputs										PM Flow Inputs			PM LOS Performance Measures																	
	Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L _d)	Downstream Volume	Upstream Volume	Ramp Volume	V ₀	V ₁	V ₂	P _{TD}	V ₁₂	Capacity	V ₃	V _{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	P _{TD}	V ₁₂	Capacity	V ₃	V _{12a}	w/c	D	LOS			
				(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)
B Bonnyview Rd Off	3	1	1216	180	1061	1680	619	1271.83	1880.9	693.01	0.436	1210.9	7200	335	908	1211	0.2612	13.046	B	879	1296	417	1014.33	1451	466.86	0.436	895.93	7200	278	672	896	0.2015	10.337	B
B Bonnyview Rd Off	3	1	-	180	1205	2341	1136	-	2620.9	1271.8	0.636	2129.8	7200	491	1597	2130	0.364	20.948	C	899	1805	906	-	2020.8	1014.3	0.6628	1681.4	7200	339	1261	1681	0.2807	17.092	B
Intersecting Road:																																		
Length 1500																																		
w = 70																																		
L _d = 35																																		
P/F = 0.92																																		
P/D = 4%																																		
L _d = 0.970873786																																		

Segment Inputs				2025														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
		Number of Lanes	Interchange Density	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
	(ft)	(N)	(l/mi)															
Southbound Northbound	Smith Rd to Bonnyview Rd	2400	2	0.33	2,706	2,821	1514.77	74.12	75	72.0666	21.019	C	1579.147	74.12	75	71.287	22.2	C
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	1,988	2,312	741.899	74.12	75	74.2626	9.9902	A	862.8116	74.12	75	74.7917	11.536	B
	Bonnyview Rd to Cypress Ave	7000	3	0.33	2,895	2,916	1080.38	74.12	75	74.9285	14.419	B	1088.217	74.12	75	74.9138	14.526	B
	Cypress Ave to Bonnyview Rd	7000	3	0.33	3,641	3,764	1358.78	74.12	75	73.575	18.468	C	1404.681	74.12	75	73.1871	19.193	C
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,764	3,198	1031.49	74.12	75	74.989	13.755	B	1193.457	74.12	75	74.5857	16.001	B
	Bonnyview Rd to Smith Rd	2600	2	0.33	3,797	3,866	2125.49	74.12	75	60.9772	34.857	D	2164.12	74.12	75	59.9982	36.07	E
Universal Inputs:																		
PHF		0.92																
(P _a)		6%																
FHV		0.970873786																

Segment Inputs				2025																																
				Friday PM Flow Inputs			AM LOS Performance Measures										Saturday PM Flow Inputs			PM LOS Performance Measures																
	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L _a)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₉₅	V _t	V _h	V _h /S _h	P _{FM}	V _{12A}	Capacity	V ₃	V _{12A}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₉₅	V _t	V _h	V _h /S _h	P _{FM}	V _{12A}	Capacity	V ₃	V _{12A}	v/c	D	LOS			
	(ft)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h/mi)	(pc/h/mi)	(pc/h/mi)	(pc/h/mi)			(pc/h/mi)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h/mi)	(pc/h/mi)	(pc/h/mi)	(pc/h/mi)	(pc/h/mi)	(pc/h/mi)								
30	Bonnyview Rd On Ramp	3	1	430	3802	2895	907	4257	3241	1015	93	0.5895	1910.8	7200	665	1433	1911	0.5912	25.136	C	3520	2916	604	3941	3265	676	93	0.5895	1924.6	7200	670	1443	1925	0.5473	22.755	C
30	Bonnyview Rd On Ramp	3	1	380	4830	3797	1033	5408	4251	1157	121	0.5881	2500.2	7200	875	1875	2500	0.751	31.083	D	4534	3866	668	5076	4328	748	124	0.5881	2545.6	7200	891	1909	2546	0.705	28.438	D
Geometric inputs:																																				
Length	1500		(ft)																																	
b ₁	70		(m/s ²)																																	
b ₂	35		(m/s ²)																																	
P _{FF}	0.52																																			
P _h	6%																																			
b _h	0.970873786																																			

Segment Inputs				2025																														
				AM Flow Inputs										PM Flow Inputs			PM LOS Performance Measures																	
	Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L _d)	Downstream Volume	Upstream Volume	Ramp Volume	V ₀	V ₁	V ₂	P _{T0}	V ₁₂	Capacity	V ₃	V _{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (U)	Ramp Volume (R)	V ₀	V ₁	V ₂	P _{T0}	V ₁₂	Capacity	V ₃	V _{12a}	w/c	D	LOS			
	(ft)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/s)	(pc/h/s)	(pc/h/s)	(pc/h/s)	(pc/h/s)	(veh/h)	(veh/h)	(veh/h)	(pc/h/s)				(veh/h)	(veh/h)	(veh/h)	(pc/h/s)	(pc/h/s)	(pc/h/s)	(pc/h/s)	(pc/h/s)	(veh/h)	(veh/h)	(veh/h)	(pc/h/s)				
B Bonnyview Rd Off	3	1	1297	180	1270	1988	718	981.859	2225.7	803.85	0.436	1423.8	7200	401	1068	1424	0.3091	14.876	B	879	1296	417	1014.33	1451	466.86	0.436	895.93	7200	278	672	896	0.2015	10.337	B
B Bonnyview Rd Off	3	1	-	180	1887	2764	877	-	3094.5	981.86	0.6375	2328.6	7200	766	1746	2329	0.4298	22.658	C	899	1805	906	-	2020.8	1014.3	0.6628	1681.4	7200	339	1261	1681	0.2807	17.092	B
Intersecting Road:																																		
Ring 1500																																		
B 712 (mi/h)																																		
C 35 (mi/h)																																		
P/F 0.92																																		
P/D 4h																																		
C 0.970873786																																		

Segment Inputs				2025														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
		Number of Lanes	Interchange Density	AM Peak	PM Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
		(ft)	(N)	(I/mi)	(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)		(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)			
Northbound	Knighton Rd to Bonnyview Rd	1800	2	0.33	2,610	2,768	1461.03	74.12	75	72.6471	20.111	C	1549.478	74.12	75	71.6577	21.6	C
	Smith Rd Off to Smith Rd On	2000	2	0.33	2,396	2,490	1341.24	74.12	75	73.711	18.196	C	1393.859	74.12	75	73.2828	19.02	C
	Smith Rd to Bonnyview Rd	2400	2	0.33	2,706	2,821	1514.77	74.12	75	72.0666	21.019	C	1579.147	74.12	75	71.287	22.2	C
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	1,988	2,312	741.899	74.12	75	74.2626	9.9902	A	862.8116	74.12	75	74.7917	11.536	B
	Bonnyview Rd to Cypress Ave	7000	3	0.33	2,895	2,916	1080.38	74.12	75	74.9285	14.419	B	1088.217	74.12	75	74.9138	14.526	B
Southbound	Cypress Ave to Bonnyview Rd	7000	3	0.33	3,641	3,764	1358.78	74.12	75	73.575	18.468	C	1404.681	74.12	75	73.1871	19.193	C
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,764	3,198	1031.49	74.12	75	74.989	13.755	B	1193.457	74.12	75	74.5857	16.001	B
	Bonnyview Rd to Smith Rd	2600	2	0.33	3,797	3,866	2125.49	74.12	75	60.9772	34.857	D	2164.12	74.12	75	59.9982	36.07	E
	Smith Rd Off to Smith Rd On	2000	2	0.33	3,350	3,290	1875.27	74.12	75	66.5193	28.191	D	1841.685	74.12	75	67.1576	27.423	D
	Smith Rd to Knighton Rd	1400	2	0.33	3,503	3,453	1960.92	74.12	75	64.7784	30.271	D	1932.929	74.12	75	65.3651	29.571	D
Universal Inputs:																		
PHF		0.92																
(P ₁)		6%																
F _{HV}		0.970873786																

























Segment Inputs				2025																																
				AM Flow Inputs						AM LOS Performance Measures										PM Flow Inputs						PM LOS Performance Measures										
	Number of Lanes	Number of Ramp Lanes	Length of Segment (L _s)	Downstream Volume (D)	Upstream Volume (F)	Ramp Acceleration (R)	V ₀	V ₁	V ₂	V ₃	V ₄ /S _B	P _{AM}	V ₁₂	Capacity	V ₅	V _{12a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Acceleration (R)	V ₀	V ₁	V ₂	V ₃	V ₄ /S _B	P _{AM}	V ₁₂	Capacity	V ₅	V _{12a}	v/c	D	LOS	
	(ft)		(mi/hr)	(mi/hr)	(mi/hr)		(mi/hr)	(mi/hr)	(mi/hr)	(mi/hr)	(mi/hr)		(mi/hr)	(mi/hr)	(mi/hr)		(mi/hr)				(mi/hr)	(mi/hr)	(mi/hr)	(mi/hr)	(mi/hr)	(mi/hr)	(mi/hr)		(mi/hr)	(mi/hr)	(mi/hr)		(mi/hr)			
NB	Smith Rd On Ramp	2	1	430	2920	2610	310	3269	2922	347	83	1	2922.1	4800	0	2192	2922	0.6811	28.118	D	0	0	0	0	0	1	0	4800	0	0	0	0	2.7789	A		
	Bonnyview Rd On Ramp	3	1	430	3613	2706	907	4045	3030	1015	87	0.5895	1786	7200	622	1340	1786	0.5618	24.163	C	3520	2916	604	3941	3265	676	93	0.5895	1924.6	7200	670	1443	1925	0.5473	22.755	C
	Bonnyview Rd On Ramp	3	1	380	4674	3641	1033	5233	4076	1157	116	0.5881	2397.5	7200	839	1798	2397	0.7268	30.281	D	4534	3866	668	5076	4328	748	124	0.5881	2545.6	7200	891	1909	2546	0.705	28.438	D
SB	Smith Rd On Ramp	2	1	380	3950	3797	153	4422	4251	171	121	1	4251	4800	0	3188	4251	0.9213	37.507	E	0	0	0	0	0	1	0	4800	0	0	0	0	3.0924	A		
General inputs:																																				
Length: 1500																																				
S ₀ : 70				(mi/hr)																																
S ₁ : 35				(mi/hr)																																
P _{AF} : 0.42																																				
P ₁ : 6%																																				
S ₀ : 0.970873786																																				

Segment Inputs						2025																														
						AM Flow Inputs										PM Flow Inputs			PM LOS Performance Measures																	
		Number of Lanes	Number of Ramp Lanes	L _{TD}	Length of Deceleration Lane (L _D)	Downstream Volume	Upstream Volume	Ramp Volume	V ₀	V ₁	V ₂	P _{T0}	V _{12a}	Capacity	V ₃	V _{12a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (U)	Ramp Volume (R)	V ₀	V ₁	V ₂	P _{T0}	V _{12a}	Capacity	V ₃	V _{12a}	v/c	D	LOS			
		(N)		(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(gc/h/mi)	(gc/h/mi)	(gc/h/mi)		(gc/h/mi)								(veh/h)	(veh/h)	(veh/h)	(gc/h/mi)	(gc/h/mi)	(gc/h/mi)		(gc/h/mi)						(gc/h/mi)		
SMB	Smith Off	2	1	614	140	2300	2610	310	803.848	2922.1	347.07	1	2922.1	4800	0	2192	2922	0.6088	28.122	D	2437	2768	331	569.859	3099	370.58	1	3099	4800	0	2324	3099	0.6456	29.643	D	
	Bonnyslew Rd Off	2	1	810	140	1270	1988	718	981.859	2225.7	803.85	0.436	1423.8	7200	401	1068	1424	0.3091	15.236	B	1803	2312	509	633.674	2588.4	569.86	0.436	1450	7200	569	1087	1450	0.3595	15.462	B	
	SMB Bonnyslew Rd Off	3	1	-	140	1887	2764	877	-	3094.5	981.86	0.6375	2328.6	7200	766	1746	2329	0.4298	23.018	C	2632	3198	566	-	3580.4	633.67	0.6413	2523.5	7200	1057	1893	2524	0.4973	24.694	C	
	SMB Smith Rd Off	2	1	-	140	3350	3797	447	-	4251	500.45	1	4251	4800	0	3188	4251	0.8856	39.951	E	3290	3866	576	-	4328.2	644.87	1	4328.2	4800	0	3246	4328	0.9017	40.215	E	
General inputs:		(ft)																																		
Range 1500		(ft)																																		
K _t : T10		(m/k)																																		
K _t : T5		(m/k)																																		
P _g : 0.92																																				
P _g : 0.95																																				
K _d : 0.970873786																																				

CUMULATIVE (2040) PLUS PROJECT ANALYSIS

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) plus Project (1A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	527	88	313	55	527	402	472	772	20
Future Volume (veh/h)	20	98	80	527	88	313	55	527	402	472	772	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	573	279	218	60	573	437	513	839	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	322	144	675	478	407	349	1154	516	626	1100	492
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.20	0.33	0.33	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	573	279	218	60	573	437	513	839	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.9	2.2	4.0	11.8	9.9	5.5	2.1	9.9	19.5	10.9	16.3	0.6
Cycle Q Clear(g_c), s	0.9	2.2	4.0	11.8	9.9	5.5	2.1	9.9	19.5	10.9	16.3	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	322	144	675	478	407	349	1154	516	626	1100	492
V/C Ratio(X)	0.51	0.33	0.60	0.85	0.58	0.54	0.17	0.50	0.85	0.82	0.76	0.04
Avail Cap(c_a), veh/h	129	1888	845	701	1227	1043	349	1408	630	830	2005	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	32.3	33.2	29.7	24.7	9.1	25.3	20.6	23.8	29.9	23.6	12.0
Incr Delay (d2), s/veh	8.9	0.6	4.0	9.4	1.1	1.1	0.2	0.3	8.8	5.0	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	1.9	6.7	5.3	3.5	1.1	4.8	9.8	5.6	8.1	0.3
LnGrp Delay(d),s/veh	45.4	32.9	37.2	39.0	25.8	10.2	25.6	20.9	32.7	34.8	24.7	12.1
LnGrp LOS	D	C	D	D	C	B	C	C	C	C	C	B
Approach Vol, veh/h		216			1070			1070			1374	
Approach Delay, s/veh		35.9			29.7			26.0			28.3	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.8	28.8	18.4	10.9	19.0	27.6	5.9	23.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	12.9	21.5	13.8	6.0	4.1	18.3	2.9	11.9				
Green Ext Time (p_c), s	0.9	3.3	0.6	0.9	0.3	5.3	0.0	4.8				
Intersection Summary												
HCM 2010 Ctrl Delay			28.5									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (1A) Conditions
Friday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1174	10	15	1215	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1174	10	15	1215	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1276	11	16	1321	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1579	14	34	1453	650	228	306	198	562	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3596	31	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	628	659	16	1321	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	23.2	23.2	0.7	26.4	8.8	0.0	0.0	0.0	22.4	0.0	0.0
Cycle Q Clear(g_c), s	2.5	23.2	23.2	0.7	26.4	8.8	1.5	0.0	0.0	23.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	777	816	34	1453	650	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.81	0.81	0.48	0.91	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	777	816	118	1505	673	990	0	0	856	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.3	18.3	18.4	36.6	20.9	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.2	6.3	6.1	10.2	8.3	0.4	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	12.7	13.3	0.4	14.5	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.6	24.7	24.4	46.7	29.2	16.1	14.8	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h	1347			1599			54			480		
Approach Delay, s/veh	25.5			27.2			14.8			24.3		
Approach LOS	C			C			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.8	5.4	37.1		32.8	7.6	34.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.5	2.7	25.2		25.8	4.5	28.4				
Green Ext Time (p_c), s		3.8	0.0	6.3		3.0	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay	26.0											
HCM 2010 LOS	C											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (1A) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 94.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	213	573	504	90	105	222
Future Vol, veh/h	213	573	504	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	623	548	98	114	241

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	646	0	0 1683 597
Stage 1	-	-	- 597 -
Stage 2	-	-	- 1086 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	939	-	- ~ 104 503
Stage 1	-	-	- 550 -
Stage 2	-	-	- 324 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	939	-	- ~ 78 503
Mov Cap-2 Maneuver	-	-	- ~ 78 -
Stage 1	-	-	- 550 -
Stage 2	-	-	- 244 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	\$ 486
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	939	-	-	-	183
HCM Lane V/C Ratio	0.247	-	-	-	1.942
HCM Control Delay (s)	10.1	-	-	-	\$ 486
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	1	-	-	-	26.6





Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (1A) Conditions

Friday PM Peak




Intersection						
Int Delay, s/veh	32.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	485	213	173	50	40	401
Future Vol, veh/h	485	213	173	50	40	401
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	527	232	188	54	43	436
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	242	0	-	0	1501	215
Stage 1	-	-	-	-	215	-
Stage 2	-	-	-	-	1286	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1324	-	-	-	134	825
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	259	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1324	-	-	-	81	825
Mov Cap-2 Maneuver	-	-	-	-	81	-
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	156	-
Approach	EB	WB		SB		
HCM Control Delay, s	6.6	0		91.3		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1324	-	-	-	450	
HCM Lane V/C Ratio	0.398	-	-	-	1.065	
HCM Control Delay (s)	9.5	-	-	-	91.3	
HCM Lane LOS	A	-	-	-	F	
HCM 95th %tile Q(veh)	1.9	-	-	-	15.4	

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (1A) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	5	13	136	168	40
Future Vol, veh/h	21	5	13	136	168	40
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	5	14	148	183	43

























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	380	204	226
Stage 1	204	-	-
Stage 2	176	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	622	837	1342
Stage 1	830	-	-
Stage 2	855	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	615	837	1342
Mov Cap-2 Maneuver	615	-	-
Stage 1	830	-	-
Stage 2	846	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	648	-	-
HCM Lane V/C Ratio	0.011	-	0.044	-	-
HCM Control Delay (s)	7.7	-	10.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) plus Project (1A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	339	63	228	35	438	306	386	423	10
Future Volume (veh/h)	0	54	63	339	63	228	35	438	306	386	423	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	368	203	158	38	476	333	420	460	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	316	142	588	609	517	451	1023	458	583	723	323
Arrive On Green	0.00	0.09	0.09	0.17	0.33	0.33	0.25	0.29	0.29	0.17	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	368	203	158	38	476	333	420	460	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.9	2.3	5.4	4.6	2.2	0.9	6.2	10.6	6.5	6.6	0.3
Cycle Q Clear(g_c), s	0.0	0.9	2.3	5.4	4.6	2.2	0.9	6.2	10.6	6.5	6.6	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	316	142	588	609	517	451	1023	458	583	723	323
V/C Ratio(X)	0.00	0.19	0.48	0.63	0.33	0.31	0.08	0.47	0.73	0.72	0.64	0.03
Avail Cap(c_a), veh/h	175	2565	1147	952	1666	1416	451	1912	856	1127	2723	1218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	23.6	24.2	21.7	14.2	4.0	15.9	16.3	17.9	22.0	20.3	14.8
Incr Delay (d2), s/veh	0.0	0.3	2.5	1.1	0.3	0.3	0.1	0.3	2.2	1.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.1	2.7	2.4	1.6	0.5	3.0	4.9	3.2	3.3	0.1
LnGrp Delay(d),s/veh	0.0	23.8	26.7	22.8	14.5	4.4	16.0	16.6	20.1	23.7	21.3	14.8
LnGrp LOS		C	C	C	B	A	B	B	C	C	C	B
Approach Vol, veh/h		127			729			847			891	
Approach Delay, s/veh		25.4			16.5			18.0			22.3	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	20.2	13.3	9.0	18.2	15.4	0.0	22.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.5	12.6	7.4	4.3	2.9	8.6	0.0	6.6				
Green Ext Time (p_c), s	1.0	3.6	1.9	0.5	0.4	2.8	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			19.4									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (1A) Conditions
Saturday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	870	10	15	833	132	15	20	15	137	0	29
Future Volume (veh/h)	23	870	10	15	833	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	946	11	16	905	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1890	22	36	1832	820	155	169	92	356	9	46
Arrive On Green	0.03	0.53	0.53	0.02	0.52	0.52	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3583	42	1774	3539	1583	274	938	510	1149	49	257
Grp Volume(v), veh/h	25	467	490	16	905	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1722	0	0	1455	0	0
Q Serve(g_s), s	0.6	7.5	7.5	0.4	7.3	2.1	0.0	0.0	0.0	3.9	0.0	0.0
Cycle Q Clear(g_c), s	0.6	7.5	7.5	0.4	7.3	2.1	1.1	0.0	0.0	5.0	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	933	979	36	1832	820	416	0	0	411	0	0
V/C Ratio(X)	0.47	0.50	0.50	0.45	0.49	0.17	0.13	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	201	1285	1347	201	2570	1150	1622	0	0	1460	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.0	6.7	6.7	21.3	6.9	5.6	15.3	0.0	0.0	16.8	0.0	0.0
Incr Delay (d2), s/veh	6.4	0.4	0.4	8.5	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.7	3.9	0.3	3.6	0.9	0.6	0.0	0.0	2.1	0.0	0.0
LnGrp Delay(d),s/veh	27.4	7.1	7.1	29.8	7.1	5.7	15.4	0.0	0.0	17.5	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	982			1064			54			181		
Approach Delay, s/veh	7.6			7.3			15.4			17.5		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.9	4.9	27.2		11.9	5.3	26.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.1	2.4	9.5		7.0	2.6	9.3				
Green Ext Time (p_c), s		1.4	0.0	13.5		1.4	0.0	13.5				
Intersection Summary												
HCM 2010 Ctrl Delay	8.4											
HCM 2010 LOS	A											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (1A) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 10.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	133	301	383	39	73	231
Future Vol, veh/h	133	301	383	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	327	416	42	79	251

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	459	0	0 1054 438
Stage 1	-	-	- 438 -
Stage 2	-	-	- 616 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1102	-	- 250 619
Stage 1	-	-	- 651 -
Stage 2	-	-	- 539 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1102	-	- 217 619
Mov Cap-2 Maneuver	-	-	- 217 -
Stage 1	-	-	- 651 -
Stage 2	-	-	- 468 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	36.6
HCM LOS			E





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1102	-	-	-	428
HCM Lane V/C Ratio	0.131	-	-	-	0.772
HCM Control Delay (s)	8.8	-	-	-	36.6
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.5	-	-	-	6.6

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (1A) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 7.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	281	107	116	30	22	284
Future Vol, veh/h	281	107	116	30	22	284
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	305	116	126	33	24	309

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	159	0	0 869 142
Stage 1	-	-	- 142 -
Stage 2	-	-	- 727 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1420	-	- 322 906
Stage 1	-	-	- 885 -
Stage 2	-	-	- 478 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1420	-	- 253 906
Mov Cap-2 Maneuver	-	-	- 253 -
Stage 1	-	-	- 885 -
Stage 2	-	-	- 375 -

Approach	EB	WB	SB
HCM Control Delay, s	6	0	13.3
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	764
HCM Lane V/C Ratio	0.215	-	-	-	0.435
HCM Control Delay (s)	8.2	-	-	-	13.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	2.2

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (1A) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	12	6	80	101	26
Future Vol, veh/h	15	12	6	80	101	26
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	13	7	87	110	28

























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	224	124	138
Stage 1	124	-	-
Stage 2	100	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	764	927	1446
Stage 1	902	-	-
Stage 2	924	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	760	927	1446
Mov Cap-2 Maneuver	760	-	-
Stage 1	902	-	-
Stage 2	919	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	826	-	-
HCM Lane V/C Ratio	0.005	-	0.036	-	-
HCM Control Delay (s)	7.5	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) plus Project (1B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	519	88	296	55	527	395	457	772	20
Future Volume (veh/h)	20	98	80	519	88	296	55	527	395	457	772	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	564	266	209	60	573	429	497	839	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	325	145	677	480	408	336	1147	513	614	1107	495
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.19	0.32	0.32	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	564	266	209	60	573	429	497	839	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.9	2.1	3.9	11.4	9.2	5.2	2.1	9.7	18.7	10.3	15.9	0.6
Cycle Q Clear(g_c), s	0.9	2.1	3.9	11.4	9.2	5.2	2.1	9.7	18.7	10.3	15.9	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	44	325	145	677	480	408	336	1147	513	614	1107	495
V/C Ratio(X)	0.51	0.33	0.60	0.83	0.55	0.51	0.18	0.50	0.84	0.81	0.76	0.04
Avail Cap(c_a), veh/h	131	1928	862	716	1253	1065	336	1438	643	847	2047	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	31.6	32.5	28.9	23.9	8.9	25.3	20.3	23.3	29.3	23.0	11.6
Incr Delay (d2), s/veh	8.8	0.6	3.9	8.0	1.0	1.0	0.3	0.3	7.7	4.2	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	1.9	6.3	4.9	3.2	1.1	4.7	9.2	5.3	7.9	0.3
LnGrp Delay(d),s/veh	44.6	32.2	36.4	37.0	24.9	9.9	25.5	20.6	31.0	33.5	24.1	11.7
LnGrp LOS	D	C	D	D	C	A	C	C	C	C	C	B
Approach Vol, veh/h		216			1039			1062			1358	
Approach Delay, s/veh		35.1			28.4			25.1			27.4	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.3	28.1	18.2	10.8	18.1	27.2	5.8	23.2				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	12.3	20.7	13.4	5.9	4.1	17.9	2.9	11.2				
Green Ext Time (p_c), s	0.9	3.4	0.8	0.9	0.3	5.4	0.0	4.7				
Intersection Summary												
HCM 2010 Ctrl Delay			27.5									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.






Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (1B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1152	10	15	1190	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1152	10	15	1190	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1252	11	16	1293	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1578	14	34	1452	650	228	306	198	563	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3595	32	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	616	647	16	1293	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	22.5	22.5	0.7	25.5	8.8	0.0	0.0	0.0	22.3	0.0	0.0
Cycle Q Clear(g_c), s	2.5	22.5	22.5	0.7	25.5	8.8	1.5	0.0	0.0	23.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	777	815	34	1452	650	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.79	0.79	0.48	0.89	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	777	815	118	1506	674	991	0	0	857	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.3	18.2	18.2	36.5	20.6	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.2	5.7	5.4	10.2	6.9	0.4	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	12.2	12.7	0.4	13.8	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.5	23.8	23.6	46.7	27.5	16.1	14.8	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h	1323			1571			54			480		
Approach Delay, s/veh	24.7			25.8			14.8			24.3		
Approach LOS	C			C			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.8	5.4	37.0		32.8	7.6	34.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.5	2.7	24.5		25.8	4.5	27.5				
Green Ext Time (p_c), s		3.8	0.0	6.8		3.0	0.0	3.3				
Intersection Summary												
HCM 2010 Ctrl Delay	25.0											
HCM 2010 LOS	C											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (1B) Conditions
Friday PM Peak





Intersection						
Int Delay, s/veh	92.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	213	569	500	90	105	222
Future Vol, veh/h	213	569	500	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	618	543	98	114	241
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	641	0	-	0	1674	592
Stage 1	-	-	-	-	592	-
Stage 2	-	-	-	-	1082	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	943	-	-	-	~ 105	506
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	325	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	943	-	-	-	~ 79	506
Mov Cap-2 Maneuver	-	-	-	-	~ 79	-
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	245	-
Approach	EB	WB	SB			
HCM Control Delay, s	2.7	0	\$ 476.3			
HCM LOS			F			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	943	-	-	-	185	
HCM Lane V/C Ratio	0.246	-	-	-	1.921	
HCM Control Delay (s)	10.1	-	-	-	\$ 476.3	
HCM Lane LOS	B	-	-	-	F	
HCM 95th %tile Q(veh)	1	-	-	-	26.4	
Notes						
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (1B) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 31.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	481	213	173	50	40	397
Future Vol, veh/h	481	213	173	50	40	397
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	523	232	188	54	43	432

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	242	0	0 1492 215
Stage 1	-	-	- 215 -
Stage 2	-	-	- 1277 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1324	-	- 136 825
Stage 1	-	-	- 821 -
Stage 2	-	-	- 262 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1324	-	- 82 825
Mov Cap-2 Maneuver	-	-	- 82 -
Stage 1	-	-	- 821 -
Stage 2	-	-	- 159 -

Approach	EB	WB	SB
HCM Control Delay, s	6.6	0	87.6
HCM LOS			F




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1324	-	-	-	451
HCM Lane V/C Ratio	0.395	-	-	-	1.053
HCM Control Delay (s)	9.5	-	-	-	87.6
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	14.9

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (1B) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	5	13	136	168	40
Future Vol, veh/h	21	5	13	136	168	40
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	5	14	148	183	43

























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	380	204	226
Stage 1	204	-	-
Stage 2	176	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	622	837	1342
Stage 1	830	-	-
Stage 2	855	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	615	837	1342
Mov Cap-2 Maneuver	615	-	-
Stage 1	830	-	-
Stage 2	846	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	648	-	-
HCM Lane V/C Ratio	0.011	-	0.044	-	-
HCM Control Delay (s)	7.7	-	10.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) plus Project (1B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	323	63	195	35	438	290	352	423	10
Future Volume (veh/h)	0	54	63	323	63	195	35	438	290	352	423	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	351	176	140	38	476	315	383	460	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	332	149	575	617	524	417	1001	448	552	736	329
Arrive On Green	0.00	0.09	0.09	0.16	0.33	0.33	0.24	0.28	0.28	0.16	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	351	176	140	38	476	315	383	460	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.8	2.2	4.9	3.7	1.8	0.9	5.9	9.5	5.6	6.3	0.3
Cycle Q Clear(g_c), s	0.0	0.8	2.2	4.9	3.7	1.8	0.9	5.9	9.5	5.6	6.3	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	332	149	575	617	524	417	1001	448	552	736	329
V/C Ratio(X)	0.00	0.18	0.46	0.61	0.29	0.27	0.09	0.48	0.70	0.69	0.62	0.03
Avail Cap(c_a), veh/h	183	2695	1206	1001	1751	1488	417	2010	899	1184	2861	1280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	22.2	22.8	20.7	13.1	3.7	15.9	15.8	17.1	21.1	19.2	13.8
Incr Delay (d2), s/veh	0.0	0.3	2.2	1.1	0.3	0.3	0.1	0.4	2.0	1.6	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.0	2.5	1.9	1.4	0.4	2.9	4.4	2.8	3.2	0.1
LnGrp Delay(d),s/veh	0.0	22.5	25.0	21.8	13.4	4.0	16.0	16.2	19.1	22.7	20.0	13.8
LnGrp LOS		C	C	C	B	A	B	B	B	C	C	B
Approach Vol, veh/h		127			667			829			854	
Approach Delay, s/veh		23.8			15.8			17.3			21.2	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	19.0	12.6	9.0	16.5	15.1	0.0	21.6				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.6	11.5	6.9	4.2	2.9	8.3	0.0	5.7				
Green Ext Time (p_c), s	1.0	3.6	1.8	0.5	0.4	2.8	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			18.6									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (1B) Conditions
Saturday PM Peak






												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	820	10	15	785	132	15	20	15	137	0	29
Future Volume (veh/h)	23	820	10	15	785	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	891	11	16	853	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1849	23	36	1793	802	159	171	92	362	9	47
Arrive On Green	0.03	0.52	0.52	0.02	0.51	0.51	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3580	44	1774	3539	1583	270	940	510	1147	50	257
Grp Volume(v), veh/h	25	440	462	16	853	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1720	0	0	1454	0	0
Q Serve(g_s), s	0.6	6.8	6.8	0.4	6.7	2.1	0.0	0.0	0.0	3.7	0.0	0.0
Cycle Q Clear(g_c), s	0.6	6.8	6.8	0.4	6.7	2.1	1.1	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	914	958	36	1793	802	422	0	0	418	0	0
V/C Ratio(X)	0.47	0.48	0.48	0.45	0.48	0.18	0.13	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	208	1330	1395	208	2661	1190	1679	0	0	1511	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.3	6.6	6.6	20.6	6.8	5.7	14.7	0.0	0.0	16.1	0.0	0.0
Incr Delay (d2), s/veh	6.3	0.4	0.4	8.4	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.4	3.6	0.3	3.2	0.9	0.5	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	26.6	7.0	7.0	29.0	7.0	5.8	14.8	0.0	0.0	16.8	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	927			1012			54			181		
Approach Delay, s/veh	7.5			7.2			14.8			16.8		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.7	4.9	26.0		11.7	5.3	25.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.1	2.4	8.8		6.8	2.6	8.7				
Green Ext Time (p_c), s		1.4	0.0	12.8		1.4	0.0	12.9				
Intersection Summary												
HCM 2010 Ctrl Delay	8.3											
HCM 2010 LOS	A											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (1B) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 10.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	133	292	374	39	73	231
Future Vol, veh/h	133	292	374	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	317	407	42	79	251

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	449	0	0 1035 428
Stage 1	-	-	- 428 -
Stage 2	-	-	- 607 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1111	-	- 257 627
Stage 1	-	-	- 657 -
Stage 2	-	-	- 544 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1111	-	- 223 627
Mov Cap-2 Maneuver	-	-	- 223 -
Stage 1	-	-	- 657 -
Stage 2	-	-	- 473 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	34.6
HCM LOS			D






Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1111	-	-	-	437
HCM Lane V/C Ratio	0.13	-	-	-	0.756
HCM Control Delay (s)	8.7	-	-	-	34.6
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	6.3

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (1B) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 7.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	272	107	116	30	22	275
Future Vol, veh/h	272	107	116	30	22	275
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	296	116	126	33	24	299

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	159	0	0 850 142
Stage 1	-	-	- 142 -
Stage 2	-	-	- 708 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1420	-	- 331 906
Stage 1	-	-	- 885 -
Stage 2	-	-	- 488 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1420	-	- 262 906
Mov Cap-2 Maneuver	-	-	- 262 -
Stage 1	-	-	- 885 -
Stage 2	-	-	- 386 -

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	13.1
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	766
HCM Lane V/C Ratio	0.208	-	-	-	0.421
HCM Control Delay (s)	8.2	-	-	-	13.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	2.1

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (1B) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	12	6	80	101	26
Future Vol, veh/h	15	12	6	80	101	26
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	13	7	87	110	28

























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	224	124	138
Stage 1	124	-	-
Stage 2	100	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	764	927	1446
Stage 1	902	-	-
Stage 2	924	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	760	927	1446
Mov Cap-2 Maneuver	760	-	-
Stage 1	902	-	-
Stage 2	919	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	826	-	-
HCM Lane V/C Ratio	0.005	-	0.036	-	-
HCM Control Delay (s)	7.5	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) plus Project (1C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	522	88	303	55	527	397	462	772	20
Future Volume (veh/h)	20	98	80	522	88	303	55	527	397	462	772	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	567	271	212	60	573	432	502	839	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	324	145	676	480	408	341	1150	514	617	1104	494
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.19	0.32	0.32	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	567	271	212	60	573	432	502	839	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.9	2.1	4.0	11.5	9.5	5.3	2.1	9.8	19.0	10.5	16.0	0.6
Cycle Q Clear(g_c), s	0.9	2.1	4.0	11.5	9.5	5.3	2.1	9.8	19.0	10.5	16.0	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	324	145	676	480	408	341	1150	514	617	1104	494
V/C Ratio(X)	0.51	0.33	0.60	0.84	0.56	0.52	0.18	0.50	0.84	0.81	0.76	0.04
Avail Cap(c_a), veh/h	130	1914	856	711	1244	1057	341	1427	639	841	2032	909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	31.9	32.7	29.2	24.2	9.0	25.3	20.4	23.5	29.5	23.2	11.8
Incr Delay (d2), s/veh	8.8	0.6	4.0	8.5	1.0	1.0	0.2	0.3	8.1	4.4	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	1.9	6.5	5.0	3.3	1.1	4.8	9.4	5.3	8.0	0.3
LnGrp Delay(d),s/veh	44.9	32.5	36.7	37.6	25.2	10.0	25.5	20.7	31.6	33.9	24.3	11.8
LnGrp LOS	D	C	D	D	C	B	C	C	C	C	C	B
Approach Vol, veh/h		216			1050			1065			1363	
Approach Delay, s/veh		35.4			28.9			25.4			27.7	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	28.3	18.3	10.8	18.4	27.4	5.8	23.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	12.5	21.0	13.5	6.0	4.1	18.0	2.9	11.5				
Green Ext Time (p_c), s	0.9	3.4	0.7	0.9	0.3	5.4	0.0	4.7				
Intersection Summary												
HCM 2010 Ctrl Delay			27.8									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.






Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (1C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1159	10	15	1200	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1159	10	15	1200	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1260	11	16	1304	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1578	14	34	1453	650	228	306	198	563	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3595	31	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	620	651	16	1304	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	22.8	22.8	0.7	25.9	8.8	0.0	0.0	0.0	22.3	0.0	0.0
Cycle Q Clear(g_c), s	2.5	22.8	22.8	0.7	25.9	8.8	1.5	0.0	0.0	23.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	777	815	34	1453	650	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.80	0.80	0.48	0.90	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	777	815	118	1505	673	991	0	0	856	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.3	18.2	18.2	36.5	20.7	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.2	5.9	5.6	10.2	7.4	0.4	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	12.3	12.8	0.4	14.0	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.5	24.1	23.9	46.7	28.1	16.1	14.8	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h	1331			1582			54			480		
Approach Delay, s/veh	25.0			26.3			14.8			24.3		
Approach LOS	C			C			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.8	5.4	37.0		32.8	7.6	34.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.5	2.7	24.8		25.8	4.5	27.9				
Green Ext Time (p_c), s		3.8	0.0	6.6		3.0	0.0	3.0				
Intersection Summary												
HCM 2010 Ctrl Delay	25.3											
HCM 2010 LOS	C											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (1C) Conditions
Friday PM Peak






Intersection						
Int Delay, s/veh	92.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	213	570	501	90	105	222
Future Vol, veh/h	213	570	501	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	620	545	98	114	241
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	642	0	-	0	1676	593
Stage 1	-	-	-	-	593	-
Stage 2	-	-	-	-	1083	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	943	-	-	-	~ 105	506
Stage 1	-	-	-	-	552	-
Stage 2	-	-	-	-	325	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	943	-	-	-	~ 79	506
Mov Cap-2 Maneuver	-	-	-	-	~ 79	-
Stage 1	-	-	-	-	552	-
Stage 2	-	-	-	-	245	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.7	0		\$ 476.3		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	943	-	-	-	185	
HCM Lane V/C Ratio	0.246	-	-	-	1.921	
HCM Control Delay (s)	10.1	-	-	-	\$ 476.3	
HCM Lane LOS	B	-	-	-	F	
HCM 95th %tile Q(veh)	1	-	-	-	26.4	
Notes						
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (1C) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 31.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	482	213	173	50	40	398
Future Vol, veh/h	482	213	173	50	40	398
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	524	232	188	54	43	433

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	242	0	0 1494 215
Stage 1	-	-	- 215 -
Stage 2	-	-	- 1279 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1324	-	- 136 825
Stage 1	-	-	- 821 -
Stage 2	-	-	- 261 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1324	-	- 82 825
Mov Cap-2 Maneuver	-	-	- 82 -
Stage 1	-	-	- 821 -
Stage 2	-	-	- 158 -

Approach	EB	WB	SB
HCM Control Delay, s	6.6	0	88.3
HCM LOS			F




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1324	-	-	-	451
HCM Lane V/C Ratio	0.396	-	-	-	1.056
HCM Control Delay (s)	9.5	-	-	-	88.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	15

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (1C) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	5	13	136	168	40
Future Vol, veh/h	21	5	13	136	168	40
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	5	14	148	183	43

























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	380	204	226
Stage 1	204	-	-
Stage 2	176	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	622	837	1342
Stage 1	830	-	-
Stage 2	855	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	615	837	1342
Mov Cap-2 Maneuver	615	-	-
Stage 1	830	-	-
Stage 2	846	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	648	-	-
HCM Lane V/C Ratio	0.011	-	0.044	-	-
HCM Control Delay (s)	7.7	-	10.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) plus Project (1C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	336	63	221	35	438	301	374	423	10
Future Volume (veh/h)	0	54	63	336	63	221	35	438	301	374	423	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	365	197	154	38	476	327	407	460	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	321	144	587	613	521	439	1015	454	572	727	325
Arrive On Green	0.00	0.09	0.09	0.17	0.33	0.33	0.25	0.29	0.29	0.17	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	365	197	154	38	476	327	407	460	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.8	2.2	5.3	4.4	2.1	0.9	6.1	10.2	6.2	6.5	0.3
Cycle Q Clear(g_c), s	0.0	0.8	2.2	5.3	4.4	2.1	0.9	6.1	10.2	6.2	6.5	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	321	144	587	613	521	439	1015	454	572	727	325
V/C Ratio(X)	0.00	0.18	0.47	0.62	0.32	0.30	0.09	0.47	0.72	0.71	0.63	0.03
Avail Cap(c_a), veh/h	177	2604	1165	967	1692	1438	439	1942	869	1144	2765	1237
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	23.1	23.8	21.4	13.9	3.9	15.9	16.2	17.6	21.7	20.0	14.5
Incr Delay (d2), s/veh	0.0	0.3	2.4	1.1	0.3	0.3	0.1	0.3	2.2	1.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.1	2.7	2.3	1.5	0.5	3.0	4.7	3.1	3.3	0.1
LnGrp Delay(d),s/veh	0.0	23.4	26.2	22.4	14.2	4.3	16.0	16.5	19.8	23.4	20.9	14.5
LnGrp LOS		C	C	C	B	A	B	B	B	C	C	B
Approach Vol, veh/h		127			716			841			878	
Approach Delay, s/veh		24.9			16.3			17.8			22.0	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.1	19.8	13.1	9.0	17.6	15.3	0.0	22.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.2	12.2	7.3	4.2	2.9	8.5	0.0	6.4				
Green Ext Time (p_c), s	1.0	3.6	1.9	0.5	0.4	2.8	0.0	3.0				
Intersection Summary												
HCM 2010 Ctrl Delay			19.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (1C) Conditions
Saturday PM Peak






												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	853	10	15	823	132	15	20	15	137	0	29
Future Volume (veh/h)	23	853	10	15	823	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	927	11	16	895	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1880	22	36	1823	816	156	169	92	357	9	46
Arrive On Green	0.03	0.52	0.52	0.02	0.52	0.52	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3582	43	1774	3539	1583	273	938	510	1148	49	257
Grp Volume(v), veh/h	25	458	480	16	895	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1722	0	0	1455	0	0
Q Serve(g_s), s	0.6	7.2	7.2	0.4	7.2	2.1	0.0	0.0	0.0	3.8	0.0	0.0
Cycle Q Clear(g_c), s	0.6	7.2	7.2	0.4	7.2	2.1	1.1	0.0	0.0	5.0	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	929	974	36	1823	816	417	0	0	413	0	0
V/C Ratio(X)	0.47	0.49	0.49	0.45	0.49	0.18	0.13	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	203	1296	1358	203	2591	1159	1636	0	0	1472	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.9	6.7	6.7	21.2	6.9	5.6	15.1	0.0	0.0	16.6	0.0	0.0
Incr Delay (d2), s/veh	6.3	0.4	0.4	8.5	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.5	3.7	0.3	3.5	0.9	0.6	0.0	0.0	2.1	0.0	0.0
LnGrp Delay(d),s/veh	27.2	7.1	7.0	29.6	7.1	5.7	15.3	0.0	0.0	17.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	963			1054				54			181	
Approach Delay, s/veh	7.6			7.2				15.3			17.3	
Approach LOS	A			A				B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.9	4.9	26.9		11.9	5.3	26.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.1	2.4	9.2		7.0	2.6	9.2				
Green Ext Time (p_c), s		1.4	0.0	13.3		1.4	0.0	13.3				
Intersection Summary												
HCM 2010 Ctrl Delay	8.4											
HCM 2010 LOS	A											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (1C) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 10.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	133	299	380	39	73	231
Future Vol, veh/h	133	299	380	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	325	413	42	79	251

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	455	0	0 1048 434
Stage 1	-	-	- 434 -
Stage 2	-	-	- 614 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1106	-	- 252 622
Stage 1	-	-	- 653 -
Stage 2	-	-	- 540 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1106	-	- 219 622
Mov Cap-2 Maneuver	-	-	- 219 -
Stage 1	-	-	- 653 -
Stage 2	-	-	- 469 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	35.9
HCM LOS			E






Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1106	-	-	-	431
HCM Lane V/C Ratio	0.131	-	-	-	0.767
HCM Control Delay (s)	8.7	-	-	-	35.9
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.4	-	-	-	6.5

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (1C) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 7.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	279	107	116	30	22	281
Future Vol, veh/h	279	107	116	30	22	281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	303	116	126	33	24	305

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	159	0	0 865 142
Stage 1	-	-	- 142 -
Stage 2	-	-	- 723 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1420	-	- 324 906
Stage 1	-	-	- 885 -
Stage 2	-	-	- 481 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1420	-	- 255 906
Mov Cap-2 Maneuver	-	-	- 255 -
Stage 1	-	-	- 885 -
Stage 2	-	-	- 378 -

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	13.2
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	764
HCM Lane V/C Ratio	0.214	-	-	-	0.431
HCM Control Delay (s)	8.2	-	-	-	13.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	2.2

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (1C) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	12	6	80	101	26
Future Vol, veh/h	15	12	6	80	101	26
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	13	7	87	110	28

























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	224	124	138
Stage 1	124	-	-
Stage 2	100	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	764	927	1446
Stage 1	902	-	-
Stage 2	924	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	760	927	1446
Mov Cap-2 Maneuver	760	-	-
Stage 1	902	-	-
Stage 2	919	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	826	-	-
HCM Lane V/C Ratio	0.005	-	0.036	-	-
HCM Control Delay (s)	7.5	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) plus Project (1D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	507	88	271	55	527	369	401	772	20
Future Volume (veh/h)	20	98	80	507	88	271	55	527	369	401	772	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	551	245	196	60	573	401	436	839	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	334	150	691	492	418	285	1118	500	564	1129	505
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.16	0.32	0.32	0.16	0.32	0.32
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	551	245	196	60	573	401	436	839	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.8	2.0	3.6	10.2	7.7	4.5	2.0	9.1	16.1	8.4	14.6	0.5
Cycle Q Clear(g_c), s	0.8	2.0	3.6	10.2	7.7	4.5	2.0	9.1	16.1	8.4	14.6	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	44	334	150	691	492	418	285	1118	500	564	1129	505
V/C Ratio(X)	0.50	0.32	0.58	0.80	0.50	0.47	0.21	0.51	0.80	0.77	0.74	0.04
Avail Cap(c_a), veh/h	141	2071	926	769	1345	1144	285	1544	691	910	2198	984
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	29.3	30.0	26.6	21.6	8.2	25.2	19.3	21.7	27.7	21.0	10.3
Incr Delay (d2), s/veh	8.4	0.5	3.5	5.4	0.8	0.8	0.4	0.4	4.7	2.3	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.0	1.7	5.5	4.1	2.8	1.0	4.5	7.6	4.2	7.3	0.3
LnGrp Delay(d),s/veh	41.7	29.8	33.6	32.0	22.4	9.0	25.6	19.7	26.4	30.0	22.0	10.3
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		216			992			1034			1297	
Approach Delay, s/veh		32.5			25.1			22.7			24.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	25.9	17.5	10.5	15.1	26.1	5.7	22.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	10.4	18.1	12.2	5.6	4.0	16.6	2.8	9.7				
Green Ext Time (p_c), s	1.0	3.8	1.2	0.9	0.3	5.4	0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay			24.6									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (1D) Conditions
Friday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1070	10	15	1154	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1070	10	15	1154	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1163	11	16	1254	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1575	15	34	1451	649	228	306	199	563	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3592	34	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	573	601	16	1254	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	20.2	20.2	0.7	24.3	8.8	0.0	0.0	0.0	22.3	0.0	0.0
Cycle Q Clear(g_c), s	2.5	20.2	20.2	0.7	24.3	8.8	1.5	0.0	0.0	23.7	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	776	814	34	1451	649	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.74	0.74	0.48	0.86	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	776	814	118	1509	675	993	0	0	858	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.2	17.5	17.5	36.5	20.2	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.1	3.7	3.6	10.2	5.4	0.4	0.0	0.0	0.0	2.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	10.5	11.0	0.4	12.9	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.3	21.2	21.1	46.6	25.6	16.1	14.8	0.0	0.0	24.2	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h	1234			1532			54			480		
Approach Delay, s/veh	22.4			24.2			14.8			24.2		
Approach LOS	C			C			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.7	5.4	36.9		32.7	7.6	34.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.5	2.7	22.2		25.7	4.5	26.3				
Green Ext Time (p_c), s		3.8	0.0	8.6		3.0	0.0	4.5				
Intersection Summary												
HCM 2010 Ctrl Delay	23.4											
HCM 2010 LOS	C											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (1D) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 87

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	213	562	485	90	105	222
Future Vol, veh/h	213	562	485	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	611	527	98	114	241

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	625	0	0 1650 576
Stage 1	-	-	- 576 -
Stage 2	-	-	- 1074 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	956	-	- ~ 109 517
Stage 1	-	-	- 562 -
Stage 2	-	-	- 328 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	956	-	- ~ 83 517
Mov Cap-2 Maneuver	-	-	- ~ 83 -
Stage 1	-	-	- 562 -
Stage 2	-	-	- 248 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	\$ 439.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	956	-	-	-	193
HCM Lane V/C Ratio	0.242	-	-	-	1.842
HCM Control Delay (s)	10	-	-	-	\$ 439.6
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.9	-	-	-	25.5

Notes





~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (1D) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 27.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	474	213	173	50	40	382
Future Vol, veh/h	474	213	173	50	40	382
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	515	232	188	54	43	415

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	242	0	0 1477 215
Stage 1	-	-	- 215 -
Stage 2	-	-	- 1262 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1324	-	- 139 825
Stage 1	-	-	- 821 -
Stage 2	-	-	- 266 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1324	-	- 85 825
Mov Cap-2 Maneuver	-	-	- 85 -
Stage 1	-	-	- 821 -
Stage 2	-	-	- 163 -

Approach	EB	WB	SB
HCM Control Delay, s	6.5	0	76.7
HCM LOS			F




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1324	-	-	-	452
HCM Lane V/C Ratio	0.389	-	-	-	1.015
HCM Control Delay (s)	9.4	-	-	-	76.7
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	13.5

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (1D) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	5	13	136	168	40
Future Vol, veh/h	21	5	13	136	168	40
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	5	14	148	183	43

























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	380	204	226
Stage 1	204	-	-
Stage 2	176	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	622	837	1342
Stage 1	830	-	-
Stage 2	855	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	615	837	1342
Mov Cap-2 Maneuver	615	-	-
Stage 1	830	-	-
Stage 2	846	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	648	-	-
HCM Lane V/C Ratio	0.011	-	0.044	-	-
HCM Control Delay (s)	7.7	-	10.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) plus Project (1D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	325	63	198	35	438	269	308	423	10
Future Volume (veh/h)	0	54	63	325	63	198	35	438	269	308	423	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	353	178	142	38	476	292	335	460	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	348	156	590	640	544	370	968	433	505	749	335
Arrive On Green	0.00	0.10	0.10	0.17	0.34	0.34	0.21	0.27	0.27	0.15	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	353	178	142	38	476	292	335	460	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.8	2.1	4.7	3.5	1.8	0.9	5.7	8.3	4.7	6.0	0.3
Cycle Q Clear(g_c), s	0.0	0.8	2.1	4.7	3.5	1.8	0.9	5.7	8.3	4.7	6.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	348	156	590	640	544	370	968	433	505	749	335
V/C Ratio(X)	0.00	0.17	0.44	0.60	0.28	0.26	0.10	0.49	0.67	0.66	0.61	0.03
Avail Cap(c_a), veh/h	192	2823	1263	1048	1834	1559	370	2105	942	1240	2997	1341
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.0	21.6	19.6	12.1	3.5	16.3	15.5	16.4	20.5	18.1	12.9
Incr Delay (d2), s/veh	0.0	0.2	1.9	1.0	0.2	0.3	0.1	0.4	1.8	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.0	2.3	1.8	1.3	0.4	2.8	3.9	2.3	3.0	0.1
LnGrp Delay(d),s/veh	0.0	21.2	23.5	20.6	12.3	3.7	16.4	15.9	18.3	22.0	19.0	12.9
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		127			673			806			806	
Approach Delay, s/veh		22.4			14.8			16.8			20.1	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	17.9	12.4	9.0	14.6	14.7	0.0	21.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.7	10.3	6.7	4.1	2.9	8.0	0.0	5.5				
Green Ext Time (p_c), s	0.8	3.5	1.8	0.5	0.3	2.8	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			17.6									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (1D) Conditions
Saturday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	755	10	15	789	132	15	20	15	137	0	29
Future Volume (veh/h)	23	755	10	15	789	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	821	11	16	858	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1831	25	36	1777	795	160	171	93	365	9	47
Arrive On Green	0.03	0.51	0.51	0.02	0.50	0.50	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3576	48	1774	3539	1583	269	942	510	1146	51	257
Grp Volume(v), veh/h	25	406	426	16	858	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1583	1720	0	0	1454	0	0
Q Serve(g_s), s	0.6	6.1	6.1	0.4	6.7	2.1	0.0	0.0	0.0	3.7	0.0	0.0
Cycle Q Clear(g_c), s	0.6	6.1	6.1	0.4	6.7	2.1	1.1	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		0.03	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	906	949	36	1777	795	424	0	0	421	0	0
V/C Ratio(X)	0.47	0.45	0.45	0.44	0.48	0.18	0.13	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	211	1349	1414	211	2698	1207	1702	0	0	1533	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.0	6.5	6.5	20.3	6.9	5.7	14.5	0.0	0.0	15.9	0.0	0.0
Incr Delay (d2), s/veh	6.2	0.3	0.3	8.4	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.0	3.2	0.3	3.3	0.9	0.5	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	26.3	6.8	6.8	28.7	7.1	5.8	14.6	0.0	0.0	16.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	857			1017			54			181		
Approach Delay, s/veh	7.4			7.2			14.6			16.6		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.6	4.9	25.5		11.6	5.3	25.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.1	2.4	8.1		6.8	2.6	8.7				
Green Ext Time (p_c), s		1.4	0.0	12.6		1.4	0.0	12.4				
Intersection Summary												
HCM 2010 Ctrl Delay	8.3											
HCM 2010 LOS	A											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (1D) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 9.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	133	293	362	39	73	231
Future Vol, veh/h	133	293	362	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	318	393	42	79	251

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	436	0	1023
Stage 1	-	-	415
Stage 2	-	-	608
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1124	-	261
Stage 1	-	-	666
Stage 2	-	-	543
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1124	-	227
Mov Cap-2 Maneuver	-	-	227
Stage 1	-	-	666
Stage 2	-	-	473

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	33.2
HCM LOS			D






Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1124	-	-	-	444
HCM Lane V/C Ratio	0.129	-	-	-	0.744
HCM Control Delay (s)	8.7	-	-	-	33.2
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	6.1

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (1D) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 7.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	273	107	116	30	22	263
Future Vol, veh/h	273	107	116	30	22	263
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	297	116	126	33	24	286

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	159	0	852
Stage 1	-	-	142
Stage 2	-	-	710
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1420	-	330
Stage 1	-	-	885
Stage 2	-	-	487
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1420	-	261
Mov Cap-2 Maneuver	-	-	261
Stage 1	-	-	885
Stage 2	-	-	385

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	12.9
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	761
HCM Lane V/C Ratio	0.209	-	-	-	0.407
HCM Control Delay (s)	8.2	-	-	-	12.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	2

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (1D) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	12	6	80	101	26
Future Vol, veh/h	15	12	6	80	101	26
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	13	7	87	110	28

























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	224	124	138
Stage 1	124	-	-
Stage 2	100	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	764	927	1446
Stage 1	902	-	-
Stage 2	924	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	760	927	1446
Mov Cap-2 Maneuver	760	-	-
Stage 1	902	-	-
Stage 2	919	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	826	-	-
HCM Lane V/C Ratio	0.005	-	0.036	-	-
HCM Control Delay (s)	7.5	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) plus Project (2A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	527	88	313	55	527	402	472	772	20
Future Volume (veh/h)	20	98	80	527	88	313	55	527	402	472	772	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	573	279	218	60	573	437	513	839	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	322	144	675	478	407	349	1154	516	626	1100	492
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.20	0.33	0.33	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	573	279	218	60	573	437	513	839	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.9	2.2	4.0	11.8	9.9	5.5	2.1	9.9	19.5	10.9	16.3	0.6
Cycle Q Clear(g_c), s	0.9	2.2	4.0	11.8	9.9	5.5	2.1	9.9	19.5	10.9	16.3	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	322	144	675	478	407	349	1154	516	626	1100	492
V/C Ratio(X)	0.51	0.33	0.60	0.85	0.58	0.54	0.17	0.50	0.85	0.82	0.76	0.04
Avail Cap(c_a), veh/h	129	1888	845	701	1227	1043	349	1408	630	830	2005	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	32.3	33.2	29.7	24.7	9.1	25.3	20.6	23.8	29.9	23.6	12.0
Incr Delay (d2), s/veh	8.9	0.6	4.0	9.4	1.1	1.1	0.2	0.3	8.8	5.0	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	1.9	6.7	5.3	3.5	1.1	4.8	9.8	5.6	8.1	0.3
LnGrp Delay(d),s/veh	45.4	32.9	37.2	39.0	25.8	10.2	25.6	20.9	32.7	34.8	24.7	12.1
LnGrp LOS	D	C	D	D	C	B	C	C	C	C	C	B
Approach Vol, veh/h		216			1070			1070			1374	
Approach Delay, s/veh		35.9			29.7			26.0			28.3	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.8	28.8	18.4	10.9	19.0	27.6	5.9	23.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	12.9	21.5	13.8	6.0	4.1	18.3	2.9	11.9				
Green Ext Time (p_c), s	0.9	3.3	0.6	0.9	0.3	5.3	0.0	4.8				
Intersection Summary												
HCM 2010 Ctrl Delay			28.5									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd






Cumulative (2040) plus Project (2A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1174	10	15	1215	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1174	10	15	1215	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1276	11	16	1321	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1579	14	34	1453	650	228	306	198	562	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3596	31	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	628	659	16	1321	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	23.2	23.2	0.7	26.4	8.8	0.0	0.0	0.0	22.4	0.0	0.0
Cycle Q Clear(g_c), s	2.5	23.2	23.2	0.7	26.4	8.8	1.5	0.0	0.0	23.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	777	816	34	1453	650	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.81	0.81	0.48	0.91	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	777	816	118	1505	673	990	0	0	856	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.3	18.3	18.4	36.6	20.9	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.2	6.3	6.1	10.2	8.3	0.4	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	12.7	13.3	0.4	14.5	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.6	24.7	24.4	46.7	29.2	16.1	14.8	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h	1347			1599			54			480		
Approach Delay, s/veh	25.5			27.2			14.8			24.3		
Approach LOS	C			C			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.8	5.4	37.1		32.8	7.6	34.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.5	2.7	25.2		25.8	4.5	28.4				
Green Ext Time (p_c), s		3.8	0.0	6.3		3.0	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay	26.0											
HCM 2010 LOS	C											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (2A) Conditions

Friday PM Peak





Intersection						
Int Delay, s/veh	94.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	213	573	504	90	105	222
Future Vol, veh/h	213	573	504	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	623	548	98	114	241
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	646	0	-	0	1683	597
Stage 1	-	-	-	-	597	-
Stage 2	-	-	-	-	1086	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	939	-	-	-	~ 104	503
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	324	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	939	-	-	-	~ 78	503
Mov Cap-2 Maneuver	-	-	-	-	~ 78	-
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	244	-
Approach	EB	WB	SB			
HCM Control Delay, s	2.7	0	\$ 486			
HCM LOS			F			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	939	-	-	-	183	
HCM Lane V/C Ratio	0.247	-	-	-	1.942	
HCM Control Delay (s)	10.1	-	-	-	\$ 486	
HCM Lane LOS	B	-	-	-	F	
HCM 95th %tile Q(veh)	1	-	-	-	26.6	
Notes						
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (2A) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 32.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	485	213	173	50	40	401
Future Vol, veh/h	485	213	173	50	40	401
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	527	232	188	54	43	436

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	242	0	0 1501 215
Stage 1	-	-	- 215 -
Stage 2	-	-	- 1286 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1324	-	- 134 825
Stage 1	-	-	- 821 -
Stage 2	-	-	- 259 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1324	-	- 81 825
Mov Cap-2 Maneuver	-	-	- 81 -
Stage 1	-	-	- 821 -
Stage 2	-	-	- 156 -

Approach	EB	WB	SB
HCM Control Delay, s	6.6	0	91.3
HCM LOS			F




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1324	-	-	-	450
HCM Lane V/C Ratio	0.398	-	-	-	1.065
HCM Control Delay (s)	9.5	-	-	-	91.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	15.4

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (2A) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 5.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	133	202	136	168	40
Future Vol, veh/h	21	133	202	136	168	40
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	145	220	148	183	43

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	791	204	226
Stage 1	204	-	-
Stage 2	587	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	358	837	1342
Stage 1	830	-	-
Stage 2	556	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	294	837	1342
Mov Cap-2 Maneuver	294	-	-
Stage 1	830	-	-
Stage 2	456	-	-




Approach	EB	NB	SB
HCM Control Delay, s	12.2	4.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	669	-	-
HCM Lane V/C Ratio	0.164	-	0.25	-	-
HCM Control Delay (s)	8.2	-	12.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.6	-	1	-	-

Redding Rancheria
24: Smith Rd & Casino Dwy

























Cumulative (2040) plus Project (2A) Conditions

Friday PM Peak

Intersection						
Int Delay, s/veh	3.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	32	189	128	0
Future Vol, veh/h	0	16	32	189	128	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	35	205	139	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	240	0	-	0	155	138
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1327	-	-	-	836	910
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1327	-	-	-	836	910
Mov Cap-2 Maneuver	-	-	-	-	836	-
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	1006	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		10.2		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1327	-	-	-	836	
HCM Lane V/C Ratio	-	-	-	-	0.166	
HCM Control Delay (s)	0	-	-	-	10.2	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.6	

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) plus Project (2A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	339	63	228	35	438	306	386	423	10
Future Volume (veh/h)	0	54	63	339	63	228	35	438	306	386	423	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	368	203	158	38	476	333	420	460	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	316	142	588	609	517	451	1023	458	583	723	323
Arrive On Green	0.00	0.09	0.09	0.17	0.33	0.33	0.25	0.29	0.29	0.17	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	368	203	158	38	476	333	420	460	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.9	2.3	5.4	4.6	2.2	0.9	6.2	10.6	6.5	6.6	0.3
Cycle Q Clear(g_c), s	0.0	0.9	2.3	5.4	4.6	2.2	0.9	6.2	10.6	6.5	6.6	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	316	142	588	609	517	451	1023	458	583	723	323
V/C Ratio(X)	0.00	0.19	0.48	0.63	0.33	0.31	0.08	0.47	0.73	0.72	0.64	0.03
Avail Cap(c_a), veh/h	175	2565	1147	952	1666	1416	451	1912	856	1127	2723	1218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	23.6	24.2	21.7	14.2	4.0	15.9	16.3	17.9	22.0	20.3	14.8
Incr Delay (d2), s/veh	0.0	0.3	2.5	1.1	0.3	0.3	0.1	0.3	2.2	1.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.1	2.7	2.4	1.6	0.5	3.0	4.9	3.2	3.3	0.1
LnGrp Delay(d),s/veh	0.0	23.8	26.7	22.8	14.5	4.4	16.0	16.6	20.1	23.7	21.3	14.8
LnGrp LOS		C	C	C	B	A	B	B	C	C	C	B
Approach Vol, veh/h		127			729			847			891	
Approach Delay, s/veh		25.4			16.5			18.0			22.3	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	20.2	13.3	9.0	18.2	15.4	0.0	22.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.5	12.6	7.4	4.3	2.9	8.6	0.0	6.6				
Green Ext Time (p_c), s	1.0	3.6	1.9	0.5	0.4	2.8	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			19.4									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (2A) Conditions
Saturday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	870	10	15	833	132	15	20	15	137	0	29
Future Volume (veh/h)	23	870	10	15	833	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	946	11	16	905	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1890	22	36	1832	820	155	169	92	356	9	46
Arrive On Green	0.03	0.53	0.53	0.02	0.52	0.52	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3583	42	1774	3539	1583	274	938	510	1149	49	257
Grp Volume(v), veh/h	25	467	490	16	905	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1722	0	0	1455	0	0
Q Serve(g_s), s	0.6	7.5	7.5	0.4	7.3	2.1	0.0	0.0	0.0	3.9	0.0	0.0
Cycle Q Clear(g_c), s	0.6	7.5	7.5	0.4	7.3	2.1	1.1	0.0	0.0	5.0	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	933	979	36	1832	820	416	0	0	411	0	0
V/C Ratio(X)	0.47	0.50	0.50	0.45	0.49	0.17	0.13	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	201	1285	1347	201	2570	1150	1622	0	0	1460	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.0	6.7	6.7	21.3	6.9	5.6	15.3	0.0	0.0	16.8	0.0	0.0
Incr Delay (d2), s/veh	6.4	0.4	0.4	8.5	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.7	3.9	0.3	3.6	0.9	0.6	0.0	0.0	2.1	0.0	0.0
LnGrp Delay(d),s/veh	27.4	7.1	7.1	29.8	7.1	5.7	15.4	0.0	0.0	17.5	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	982			1064			54			181		
Approach Delay, s/veh	7.6			7.3			15.4			17.5		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.9	4.9	27.2		11.9	5.3	26.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.1	2.4	9.5		7.0	2.6	9.3				
Green Ext Time (p_c), s		1.4	0.0	13.5		1.4	0.0	13.5				
Intersection Summary												
HCM 2010 Ctrl Delay	8.4											
HCM 2010 LOS	A											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (2A) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 10.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	133	301	383	39	73	231
Future Vol, veh/h	133	301	383	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	327	416	42	79	251

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	459	0	0 1054 438
Stage 1	-	-	- 438 -
Stage 2	-	-	- 616 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1102	-	- 250 619
Stage 1	-	-	- 651 -
Stage 2	-	-	- 539 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1102	-	- 217 619
Mov Cap-2 Maneuver	-	-	- 217 -
Stage 1	-	-	- 651 -
Stage 2	-	-	- 468 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	36.6
HCM LOS			E






Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1102	-	-	-	428
HCM Lane V/C Ratio	0.131	-	-	-	0.772
HCM Control Delay (s)	8.8	-	-	-	36.6
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.5	-	-	-	6.6

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (2A) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 7.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	281	107	116	30	22	284
Future Vol, veh/h	281	107	116	30	22	284
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	305	116	126	33	24	309

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	159	0	0 869 142
Stage 1	-	-	- 142 -
Stage 2	-	-	- 727 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1420	-	- 322 906
Stage 1	-	-	- 885 -
Stage 2	-	-	- 478 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1420	-	- 253 906
Mov Cap-2 Maneuver	-	-	- 253 -
Stage 1	-	-	- 885 -
Stage 2	-	-	- 375 -

Approach	EB	WB	SB
HCM Control Delay, s	6	0	13.3
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	764
HCM Lane V/C Ratio	0.215	-	-	-	0.435
HCM Control Delay (s)	8.2	-	-	-	13.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	2.2

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (2A) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 6.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	149	246	80	101	26
Future Vol, veh/h	15	149	246	80	101	26
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	162	267	87	110	28




Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	746	124	138
Stage 1	124	-	-
Stage 2	622	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	381	927	1446
Stage 1	902	-	-
Stage 2	535	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	307	927	1446
Mov Cap-2 Maneuver	307	-	-
Stage 1	902	-	-
Stage 2	431	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	6.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	782	-	-
HCM Lane V/C Ratio	0.185	-	0.228	-	-
HCM Control Delay (s)	8.1	-	11	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.7	-	0.9	-	-

Intersection

Int Delay, s/veh 3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	19	22	240	137	0
Future Vol, veh/h	0	19	22	240	137	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	24	261	149	0

























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	285	0	0 175 154
Stage 1	-	-	- 154 -
Stage 2	-	-	- 21 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1277	-	- 815 892
Stage 1	-	-	- 874 -
Stage 2	-	-	- 1002 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1277	-	- 815 892
Mov Cap-2 Maneuver	-	-	- 815 -
Stage 1	-	-	- 874 -
Stage 2	-	-	- 1002 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1277	-	-	-	815
HCM Lane V/C Ratio	-	-	-	-	0.183
HCM Control Delay (s)	0	-	-	-	10.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) plus Project (2B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	519	88	296	55	527	395	457	772	20
Future Volume (veh/h)	20	98	80	519	88	296	55	527	395	457	772	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	564	266	209	60	573	429	497	839	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	325	145	677	480	408	336	1147	513	614	1107	495
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.19	0.32	0.32	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	564	266	209	60	573	429	497	839	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.9	2.1	3.9	11.4	9.2	5.2	2.1	9.7	18.7	10.3	15.9	0.6
Cycle Q Clear(g_c), s	0.9	2.1	3.9	11.4	9.2	5.2	2.1	9.7	18.7	10.3	15.9	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	44	325	145	677	480	408	336	1147	513	614	1107	495
V/C Ratio(X)	0.51	0.33	0.60	0.83	0.55	0.51	0.18	0.50	0.84	0.81	0.76	0.04
Avail Cap(c_a), veh/h	131	1928	862	716	1253	1065	336	1438	643	847	2047	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	31.6	32.5	28.9	23.9	8.9	25.3	20.3	23.3	29.3	23.0	11.6
Incr Delay (d2), s/veh	8.8	0.6	3.9	8.0	1.0	1.0	0.3	0.3	7.7	4.2	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	1.9	6.3	4.9	3.2	1.1	4.7	9.2	5.3	7.9	0.3
LnGrp Delay(d),s/veh	44.6	32.2	36.4	37.0	24.9	9.9	25.5	20.6	31.0	33.5	24.1	11.7
LnGrp LOS	D	C	D	D	C	A	C	C	C	C	C	B
Approach Vol, veh/h		216			1039			1062			1358	
Approach Delay, s/veh		35.1			28.4			25.1			27.4	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.3	28.1	18.2	10.8	18.1	27.2	5.8	23.2				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	12.3	20.7	13.4	5.9	4.1	17.9	2.9	11.2				
Green Ext Time (p_c), s	0.9	3.4	0.8	0.9	0.3	5.4	0.0	4.7				
Intersection Summary												
HCM 2010 Ctrl Delay			27.5									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.






Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (2B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1152	10	15	1190	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1152	10	15	1190	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1252	11	16	1293	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1578	14	34	1452	650	228	306	198	563	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3595	32	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	616	647	16	1293	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	22.5	22.5	0.7	25.5	8.8	0.0	0.0	0.0	22.3	0.0	0.0
Cycle Q Clear(g_c), s	2.5	22.5	22.5	0.7	25.5	8.8	1.5	0.0	0.0	23.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	777	815	34	1452	650	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.79	0.79	0.48	0.89	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	777	815	118	1506	674	991	0	0	857	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.3	18.2	18.2	36.5	20.6	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.2	5.7	5.4	10.2	6.9	0.4	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	12.2	12.7	0.4	13.8	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.5	23.8	23.6	46.7	27.5	16.1	14.8	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h	1323			1571			54			480		
Approach Delay, s/veh	24.7			25.8			14.8			24.3		
Approach LOS	C			C			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.8	5.4	37.0		32.8	7.6	34.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.5	2.7	24.5		25.8	4.5	27.5				
Green Ext Time (p_c), s		3.8	0.0	6.8		3.0	0.0	3.3				
Intersection Summary												
HCM 2010 Ctrl Delay	25.0											
HCM 2010 LOS	C											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (2B) Conditions
Friday PM Peak






Intersection						
Int Delay, s/veh	92.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	213	569	500	90	105	222
Future Vol, veh/h	213	569	500	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	618	543	98	114	241
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	641	0	-	0	1674	592
Stage 1	-	-	-	-	592	-
Stage 2	-	-	-	-	1082	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	943	-	-	-	~ 105	506
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	325	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	943	-	-	-	~ 79	506
Mov Cap-2 Maneuver	-	-	-	-	~ 79	-
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	245	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.7	0		\$ 476.3		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	943	-	-	-	185	
HCM Lane V/C Ratio	0.246	-	-	-	1.921	
HCM Control Delay (s)	10.1	-	-	-	\$ 476.3	
HCM Lane LOS	B	-	-	-	F	
HCM 95th %tile Q(veh)	1	-	-	-	26.4	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (2B) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 31.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	481	213	173	50	40	397
Future Vol, veh/h	481	213	173	50	40	397
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	523	232	188	54	43	432

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	242	0	0 1492 215
Stage 1	-	-	- 215 -
Stage 2	-	-	- 1277 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1324	-	- 136 825
Stage 1	-	-	- 821 -
Stage 2	-	-	- 262 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1324	-	- 82 825
Mov Cap-2 Maneuver	-	-	- 82 -
Stage 1	-	-	- 821 -
Stage 2	-	-	- 159 -

Approach	EB	WB	SB
HCM Control Delay, s	6.6	0	87.6
HCM LOS			F




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1324	-	-	-	451
HCM Lane V/C Ratio	0.395	-	-	-	1.053
HCM Control Delay (s)	9.5	-	-	-	87.6
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	14.9

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (2B) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	99	171	136	168	40
Future Vol, veh/h	21	99	171	136	168	40
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	108	186	148	183	43




Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	724	204	226
Stage 1	204	-	-
Stage 2	520	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	393	837	1342
Stage 1	830	-	-
Stage 2	597	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	334	837	1342
Mov Cap-2 Maneuver	334	-	-
Stage 1	830	-	-
Stage 2	507	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	4.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	662	-	-
HCM Lane V/C Ratio	0.139	-	0.197	-	-
HCM Control Delay (s)	8.1	-	11.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.7	-	-

























Redding Rancheria
24: Smith Rd & Casino Dwy

Cumulative (2040) plus Project (2B) Conditions
Friday PM Peak

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	32	158	94	0
Future Vol, veh/h	0	16	32	158	94	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	35	172	102	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	207	0	-	0	138	121
Stage 1	-	-	-	-	121	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1364	-	-	-	855	930
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1364	-	-	-	855	930
Mov Cap-2 Maneuver	-	-	-	-	855	-
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	1006	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9.8		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1364	-	-	-	855	
HCM Lane V/C Ratio	-	-	-	-	0.12	
HCM Control Delay (s)	0	-	-	-	9.8	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.4	

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) plus Project (2B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	323	63	195	35	438	290	352	423	10
Future Volume (veh/h)	0	54	63	323	63	195	35	438	290	352	423	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	351	176	140	38	476	315	383	460	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	332	149	575	617	524	417	1001	448	552	736	329
Arrive On Green	0.00	0.09	0.09	0.16	0.33	0.33	0.24	0.28	0.28	0.16	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	351	176	140	38	476	315	383	460	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.8	2.2	4.9	3.7	1.8	0.9	5.9	9.5	5.6	6.3	0.3
Cycle Q Clear(g_c), s	0.0	0.8	2.2	4.9	3.7	1.8	0.9	5.9	9.5	5.6	6.3	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	332	149	575	617	524	417	1001	448	552	736	329
V/C Ratio(X)	0.00	0.18	0.46	0.61	0.29	0.27	0.09	0.48	0.70	0.69	0.62	0.03
Avail Cap(c_a), veh/h	183	2695	1206	1001	1751	1488	417	2010	899	1184	2861	1280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	22.2	22.8	20.7	13.1	3.7	15.9	15.8	17.1	21.1	19.2	13.8
Incr Delay (d2), s/veh	0.0	0.3	2.2	1.1	0.3	0.3	0.1	0.4	2.0	1.6	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.0	2.5	1.9	1.4	0.4	2.9	4.4	2.8	3.2	0.1
LnGrp Delay(d),s/veh	0.0	22.5	25.0	21.8	13.4	4.0	16.0	16.2	19.1	22.7	20.0	13.8
LnGrp LOS		C	C	C	B	A	B	B	B	C	C	B
Approach Vol, veh/h		127			667			829			854	
Approach Delay, s/veh		23.8			15.8			17.3			21.2	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	19.0	12.6	9.0	16.5	15.1	0.0	21.6				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.6	11.5	6.9	4.2	2.9	8.3	0.0	5.7				
Green Ext Time (p_c), s	1.0	3.6	1.8	0.5	0.4	2.8	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			18.6									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (2B) Conditions
Saturday PM Peak






												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	820	10	15	785	132	15	20	15	137	0	29
Future Volume (veh/h)	23	820	10	15	785	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	891	11	16	853	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1849	23	36	1793	802	159	171	92	362	9	47
Arrive On Green	0.03	0.52	0.52	0.02	0.51	0.51	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3580	44	1774	3539	1583	270	940	510	1147	50	257
Grp Volume(v), veh/h	25	440	462	16	853	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1720	0	0	1454	0	0
Q Serve(g_s), s	0.6	6.8	6.8	0.4	6.7	2.1	0.0	0.0	0.0	3.7	0.0	0.0
Cycle Q Clear(g_c), s	0.6	6.8	6.8	0.4	6.7	2.1	1.1	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	914	958	36	1793	802	422	0	0	418	0	0
V/C Ratio(X)	0.47	0.48	0.48	0.45	0.48	0.18	0.13	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	208	1330	1395	208	2661	1190	1679	0	0	1511	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.3	6.6	6.6	20.6	6.8	5.7	14.7	0.0	0.0	16.1	0.0	0.0
Incr Delay (d2), s/veh	6.3	0.4	0.4	8.4	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.4	3.6	0.3	3.2	0.9	0.5	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	26.6	7.0	7.0	29.0	7.0	5.8	14.8	0.0	0.0	16.8	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	927			1012			54			181		
Approach Delay, s/veh	7.5			7.2			14.8			16.8		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.7	4.9	26.0		11.7	5.3	25.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.1	2.4	8.8		6.8	2.6	8.7				
Green Ext Time (p_c), s		1.4	0.0	12.8		1.4	0.0	12.9				
Intersection Summary												
HCM 2010 Ctrl Delay	8.3											
HCM 2010 LOS	A											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (2B) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 10.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	133	292	374	39	73	231
Future Vol, veh/h	133	292	374	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	317	407	42	79	251

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	449	0	0 1035 428
Stage 1	-	-	- 428 -
Stage 2	-	-	- 607 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1111	-	- 257 627
Stage 1	-	-	- 657 -
Stage 2	-	-	- 544 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1111	-	- 223 627
Mov Cap-2 Maneuver	-	-	- 223 -
Stage 1	-	-	- 657 -
Stage 2	-	-	- 473 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	34.6
HCM LOS			D





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1111	-	-	-	437
HCM Lane V/C Ratio	0.13	-	-	-	0.756
HCM Control Delay (s)	8.7	-	-	-	34.6
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	6.3

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (2B) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 7.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	272	107	116	30	22	275
Future Vol, veh/h	272	107	116	30	22	275
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	296	116	126	33	24	299

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	159	0	0 850 142
Stage 1	-	-	- 142 -
Stage 2	-	-	- 708 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1420	-	- 331 906
Stage 1	-	-	- 885 -
Stage 2	-	-	- 488 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1420	-	- 262 906
Mov Cap-2 Maneuver	-	-	- 262 -
Stage 1	-	-	- 885 -
Stage 2	-	-	- 386 -

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	13.1
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	766
HCM Lane V/C Ratio	0.208	-	-	-	0.421
HCM Control Delay (s)	8.2	-	-	-	13.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	2.1

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (2B) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	83	178	80	101	26
Future Vol, veh/h	15	83	178	80	101	26
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	90	193	87	110	28

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	598	124	138
Stage 1	124	-	-
Stage 2	474	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	465	927	1446
Stage 1	902	-	-
Stage 2	626	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	400	927	1446
Mov Cap-2 Maneuver	400	-	-
Stage 1	902	-	-
Stage 2	538	-	-




Approach	EB	NB	SB
HCM Control Delay, s	10.4	5.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	771	-	-
HCM Lane V/C Ratio	0.134	-	0.138	-	-
HCM Control Delay (s)	7.9	-	10.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.5	-	-

Redding Rancheria
24: Smith Rd & Casino Dwy

























Cumulative (2040) plus Project (2B) Conditions

Saturday PM Peak

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	19	22	172	71	0
Future Vol, veh/h	0	19	22	172	71	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	24	187	77	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	211	0	-	0	138	117
Stage 1	-	-	-	-	117	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1360	-	-	-	855	935
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	1002	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1360	-	-	-	855	935
Mov Cap-2 Maneuver	-	-	-	-	855	-
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	1002	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9.6		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1360	-	-	-	855	
HCM Lane V/C Ratio	-	-	-	-	0.09	
HCM Control Delay (s)	0	-	-	-	9.6	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.3	

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) plus Project (2C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	522	88	303	55	527	397	462	772	20
Future Volume (veh/h)	20	98	80	522	88	303	55	527	397	462	772	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	567	271	212	60	573	432	502	839	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	324	145	676	480	408	341	1150	514	617	1104	494
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.19	0.32	0.32	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	567	271	212	60	573	432	502	839	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.9	2.1	4.0	11.5	9.5	5.3	2.1	9.8	19.0	10.5	16.0	0.6
Cycle Q Clear(g_c), s	0.9	2.1	4.0	11.5	9.5	5.3	2.1	9.8	19.0	10.5	16.0	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	324	145	676	480	408	341	1150	514	617	1104	494
V/C Ratio(X)	0.51	0.33	0.60	0.84	0.56	0.52	0.18	0.50	0.84	0.81	0.76	0.04
Avail Cap(c_a), veh/h	130	1914	856	711	1244	1057	341	1427	639	841	2032	909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	31.9	32.7	29.2	24.2	9.0	25.3	20.4	23.5	29.5	23.2	11.8
Incr Delay (d2), s/veh	8.8	0.6	4.0	8.5	1.0	1.0	0.2	0.3	8.1	4.4	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	1.9	6.5	5.0	3.3	1.1	4.8	9.4	5.3	8.0	0.3
LnGrp Delay(d),s/veh	44.9	32.5	36.7	37.6	25.2	10.0	25.5	20.7	31.6	33.9	24.3	11.8
LnGrp LOS	D	C	D	D	C	B	C	C	C	C	C	B
Approach Vol, veh/h		216			1050			1065			1363	
Approach Delay, s/veh		35.4			28.9			25.4			27.7	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	28.3	18.3	10.8	18.4	27.4	5.8	23.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	12.5	21.0	13.5	6.0	4.1	18.0	2.9	11.5				
Green Ext Time (p_c), s	0.9	3.4	0.7	0.9	0.3	5.4	0.0	4.7				
Intersection Summary												
HCM 2010 Ctrl Delay			27.8									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.






Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (2C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1159	10	15	1200	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1159	10	15	1200	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1260	11	16	1304	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1578	14	34	1453	650	228	306	198	563	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3595	31	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	620	651	16	1304	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	22.8	22.8	0.7	25.9	8.8	0.0	0.0	0.0	22.3	0.0	0.0
Cycle Q Clear(g_c), s	2.5	22.8	22.8	0.7	25.9	8.8	1.5	0.0	0.0	23.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	777	815	34	1453	650	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.80	0.80	0.48	0.90	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	777	815	118	1505	673	991	0	0	856	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.3	18.2	18.2	36.5	20.7	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.2	5.9	5.6	10.2	7.4	0.4	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	12.3	12.8	0.4	14.0	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.5	24.1	23.9	46.7	28.1	16.1	14.8	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h	1331			1582			54			480		
Approach Delay, s/veh	25.0			26.3			14.8			24.3		
Approach LOS	C			C			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.8	5.4	37.0		32.8	7.6	34.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.5	2.7	24.8		25.8	4.5	27.9				
Green Ext Time (p_c), s		3.8	0.0	6.6		3.0	0.0	3.0				
Intersection Summary												
HCM 2010 Ctrl Delay	25.3											
HCM 2010 LOS	C											






Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (2C) Conditions
Friday PM Peak

Intersection						
Int Delay, s/veh	92.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	213	570	501	90	105	222
Future Vol, veh/h	213	570	501	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	620	545	98	114	241
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	642	0	-	0	1676	593
Stage 1	-	-	-	-	593	-
Stage 2	-	-	-	-	1083	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	943	-	-	-	~ 105	506
Stage 1	-	-	-	-	552	-
Stage 2	-	-	-	-	325	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	943	-	-	-	~ 79	506
Mov Cap-2 Maneuver	-	-	-	-	~ 79	-
Stage 1	-	-	-	-	552	-
Stage 2	-	-	-	-	245	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.7	0		\$ 476.3		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	943	-	-	-	185	
HCM Lane V/C Ratio	0.246	-	-	-	1.921	
HCM Control Delay (s)	10.1	-	-	-	\$ 476.3	
HCM Lane LOS	B	-	-	-	F	
HCM 95th %tile Q(veh)	1	-	-	-	26.4	
Notes						
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (2C) Conditions
Friday PM Peak




Intersection						
Int Delay, s/veh	31.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	482	213	173	50	40	398
Future Vol, veh/h	482	213	173	50	40	398
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	524	232	188	54	43	433
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	242	0	-	0	1494	215
Stage 1	-	-	-	-	215	-
Stage 2	-	-	-	-	1279	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1324	-	-	-	136	825
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	261	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1324	-	-	-	82	825
Mov Cap-2 Maneuver	-	-	-	-	82	-
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	158	-
Approach	EB	WB		SB		
HCM Control Delay, s	6.6	0		88.3		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1324	-	-	-	451	
HCM Lane V/C Ratio	0.396	-	-	-	1.056	
HCM Control Delay (s)	9.5	-	-	-	88.3	
HCM Lane LOS	A	-	-	-	F	
HCM 95th %tile Q(veh)	1.9	-	-	-	15	

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (2C) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 4.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	112	181	136	168	40
Future Vol, veh/h	21	112	181	136	168	40
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	122	197	148	183	43

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	745	204	226
Stage 1	204	-	-
Stage 2	541	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	382	837	1342
Stage 1	830	-	-
Stage 2	583	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	321	837	1342
Mov Cap-2 Maneuver	321	-	-
Stage 1	830	-	-
Stage 2	490	-	-




Approach	EB	NB	SB
HCM Control Delay, s	11.9	4.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	668	-	-
HCM Lane V/C Ratio	0.147	-	0.216	-	-
HCM Control Delay (s)	8.1	-	11.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.8	-	-

Redding Rancheria
24: Smith Rd & Casino Dwy

























Cumulative (2040) plus Project (2C) Conditions

Friday PM Peak

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	32	168	107	0
Future Vol, veh/h	0	16	32	168	107	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	35	183	116	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	217	0	-	0	143	126
Stage 1	-	-	-	-	126	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1353	-	-	-	850	924
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1353	-	-	-	850	924
Mov Cap-2 Maneuver	-	-	-	-	850	-
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	1006	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9.9		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1353	-	-	-	850	
HCM Lane V/C Ratio	-	-	-	-	0.137	
HCM Control Delay (s)	0	-	-	-	9.9	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.5	

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) plus Project (2C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	336	63	221	35	438	301	374	423	10
Future Volume (veh/h)	0	54	63	336	63	221	35	438	301	374	423	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	365	197	154	38	476	327	407	460	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	321	144	587	613	521	439	1015	454	572	727	325
Arrive On Green	0.00	0.09	0.09	0.17	0.33	0.33	0.25	0.29	0.29	0.17	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	365	197	154	38	476	327	407	460	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.8	2.2	5.3	4.4	2.1	0.9	6.1	10.2	6.2	6.5	0.3
Cycle Q Clear(g_c), s	0.0	0.8	2.2	5.3	4.4	2.1	0.9	6.1	10.2	6.2	6.5	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	321	144	587	613	521	439	1015	454	572	727	325
V/C Ratio(X)	0.00	0.18	0.47	0.62	0.32	0.30	0.09	0.47	0.72	0.71	0.63	0.03
Avail Cap(c_a), veh/h	177	2604	1165	967	1692	1438	439	1942	869	1144	2765	1237
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	23.1	23.8	21.4	13.9	3.9	15.9	16.2	17.6	21.7	20.0	14.5
Incr Delay (d2), s/veh	0.0	0.3	2.4	1.1	0.3	0.3	0.1	0.3	2.2	1.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.1	2.7	2.3	1.5	0.5	3.0	4.7	3.1	3.3	0.1
LnGrp Delay(d),s/veh	0.0	23.4	26.2	22.4	14.2	4.3	16.0	16.5	19.8	23.4	20.9	14.5
LnGrp LOS		C	C	C	B	A	B	B	B	C	C	B
Approach Vol, veh/h		127			716			841			878	
Approach Delay, s/veh		24.9			16.3			17.8			22.0	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.1	19.8	13.1	9.0	17.6	15.3	0.0	22.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.2	12.2	7.3	4.2	2.9	8.5	0.0	6.4				
Green Ext Time (p_c), s	1.0	3.6	1.9	0.5	0.4	2.8	0.0	3.0				
Intersection Summary												
HCM 2010 Ctrl Delay			19.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (2C) Conditions
Saturday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	853	10	15	823	132	15	20	15	137	0	29
Future Volume (veh/h)	23	853	10	15	823	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	927	11	16	895	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1880	22	36	1823	816	156	169	92	357	9	46
Arrive On Green	0.03	0.52	0.52	0.02	0.52	0.52	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3582	43	1774	3539	1583	273	938	510	1148	49	257
Grp Volume(v), veh/h	25	458	480	16	895	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1722	0	0	1455	0	0
Q Serve(g_s), s	0.6	7.2	7.2	0.4	7.2	2.1	0.0	0.0	0.0	3.8	0.0	0.0
Cycle Q Clear(g_c), s	0.6	7.2	7.2	0.4	7.2	2.1	1.1	0.0	0.0	5.0	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	929	974	36	1823	816	417	0	0	413	0	0
V/C Ratio(X)	0.47	0.49	0.49	0.45	0.49	0.18	0.13	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	203	1296	1358	203	2591	1159	1636	0	0	1472	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.9	6.7	6.7	21.2	6.9	5.6	15.1	0.0	0.0	16.6	0.0	0.0
Incr Delay (d2), s/veh	6.3	0.4	0.4	8.5	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.5	3.7	0.3	3.5	0.9	0.6	0.0	0.0	2.1	0.0	0.0
LnGrp Delay(d),s/veh	27.2	7.1	7.0	29.6	7.1	5.7	15.3	0.0	0.0	17.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	963			1054			54			181		
Approach Delay, s/veh	7.6			7.2			15.3			17.3		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.9	4.9	26.9		11.9	5.3	26.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.1	2.4	9.2		7.0	2.6	9.2				
Green Ext Time (p_c), s		1.4	0.0	13.3		1.4	0.0	13.3				
Intersection Summary												
HCM 2010 Ctrl Delay	8.4											
HCM 2010 LOS	A											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (2C) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 10.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	133	299	380	39	73	231
Future Vol, veh/h	133	299	380	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	325	413	42	79	251

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	455	0	0 1048 434
Stage 1	-	-	- 434 -
Stage 2	-	-	- 614 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1106	-	- 252 622
Stage 1	-	-	- 653 -
Stage 2	-	-	- 540 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1106	-	- 219 622
Mov Cap-2 Maneuver	-	-	- 219 -
Stage 1	-	-	- 653 -
Stage 2	-	-	- 469 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	35.9
HCM LOS			E





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1106	-	-	-	431
HCM Lane V/C Ratio	0.131	-	-	-	0.767
HCM Control Delay (s)	8.7	-	-	-	35.9
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.4	-	-	-	6.5

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (2C) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 7.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	279	107	116	30	22	281
Future Vol, veh/h	279	107	116	30	22	281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	303	116	126	33	24	305

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	159	0	0 865 142
Stage 1	-	-	- 142 -
Stage 2	-	-	- 723 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1420	-	- 324 906
Stage 1	-	-	- 885 -
Stage 2	-	-	- 481 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1420	-	- 255 906
Mov Cap-2 Maneuver	-	-	- 255 -
Stage 1	-	-	- 885 -
Stage 2	-	-	- 378 -

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	13.2
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	764
HCM Lane V/C Ratio	0.214	-	-	-	0.431
HCM Control Delay (s)	8.2	-	-	-	13.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	2.2

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (2C) Conditions
Saturday PM Peak

Intersection




Int Delay, s/veh 5.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	134	223	80	101	26
Future Vol, veh/h	15	134	223	80	101	26
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	146	242	87	110	28

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	696	124	138
Stage 1	124	-	-
Stage 2	572	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	408	927	1446
Stage 1	902	-	-
Stage 2	565	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	336	927	1446
Mov Cap-2 Maneuver	336	-	-
Stage 1	902	-	-
Stage 2	466	-	-

























Approach	EB	NB	SB
HCM Control Delay, s	10.7	5.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	788	-	-
HCM Lane V/C Ratio	0.168	-	0.206	-	-
HCM Control Delay (s)	8	-	10.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0.8	-	-

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	19	22	217	122	0
Future Vol, veh/h	0	19	22	217	122	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	24	236	133	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	260	0	-	0	163	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1304	-	-	-	828	906
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	1002	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1304	-	-	-	828	906
Mov Cap-2 Maneuver	-	-	-	-	828	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	1002	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		10.2		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1304	-	-	-	828	
HCM Lane V/C Ratio	-	-	-	-	0.16	
HCM Control Delay (s)	0	-	-	-	10.2	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.6	

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd









Cumulative (2040) plus Project (2D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	507	88	271	55	527	369	401	772	20
Future Volume (veh/h)	20	98	80	507	88	271	55	527	369	401	772	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	551	245	196	60	573	401	436	839	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	334	150	691	492	418	285	1118	500	564	1129	505
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.16	0.32	0.32	0.16	0.32	0.32
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	551	245	196	60	573	401	436	839	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.8	2.0	3.6	10.2	7.7	4.5	2.0	9.1	16.1	8.4	14.6	0.5
Cycle Q Clear(g_c), s	0.8	2.0	3.6	10.2	7.7	4.5	2.0	9.1	16.1	8.4	14.6	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	44	334	150	691	492	418	285	1118	500	564	1129	505
V/C Ratio(X)	0.50	0.32	0.58	0.80	0.50	0.47	0.21	0.51	0.80	0.77	0.74	0.04
Avail Cap(c_a), veh/h	141	2071	926	769	1345	1144	285	1544	691	910	2198	984
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	29.3	30.0	26.6	21.6	8.2	25.2	19.3	21.7	27.7	21.0	10.3
Incr Delay (d2), s/veh	8.4	0.5	3.5	5.4	0.8	0.8	0.4	0.4	4.7	2.3	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.0	1.7	5.5	4.1	2.8	1.0	4.5	7.6	4.2	7.3	0.3
LnGrp Delay(d),s/veh	41.7	29.8	33.6	32.0	22.4	9.0	25.6	19.7	26.4	30.0	22.0	10.3
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		216			992			1034			1297	
Approach Delay, s/veh		32.5			25.1			22.7			24.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	25.9	17.5	10.5	15.1	26.1	5.7	22.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	10.4	18.1	12.2	5.6	4.0	16.6	2.8	9.7				
Green Ext Time (p_c), s	1.0	3.8	1.2	0.9	0.3	5.4	0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay			24.6									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (2D) Conditions
Friday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1070	10	15	1154	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1070	10	15	1154	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1163	11	16	1254	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1575	15	34	1451	649	228	306	199	563	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3592	34	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	573	601	16	1254	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	20.2	20.2	0.7	24.3	8.8	0.0	0.0	0.0	22.3	0.0	0.0
Cycle Q Clear(g_c), s	2.5	20.2	20.2	0.7	24.3	8.8	1.5	0.0	0.0	23.7	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	776	814	34	1451	649	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.74	0.74	0.48	0.86	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	776	814	118	1509	675	993	0	0	858	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.2	17.5	17.5	36.5	20.2	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.1	3.7	3.6	10.2	5.4	0.4	0.0	0.0	0.0	2.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	10.5	11.0	0.4	12.9	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.3	21.2	21.1	46.6	25.6	16.1	14.8	0.0	0.0	24.2	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h	1234			1532			54			480		
Approach Delay, s/veh	22.4			24.2			14.8			24.2		
Approach LOS	C			C			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.7	5.4	36.9		32.7	7.6	34.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.5	2.7	22.2		25.7	4.5	26.3				
Green Ext Time (p_c), s		3.8	0.0	8.6		3.0	0.0	4.5				
Intersection Summary												
HCM 2010 Ctrl Delay	23.4											
HCM 2010 LOS	C											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (2D) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 87

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	213	562	485	90	105	222
Future Vol, veh/h	213	562	485	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	611	527	98	114	241

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	625	0	0 1650 576
Stage 1	-	-	- 576 -
Stage 2	-	-	- 1074 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	956	-	- ~ 109 517
Stage 1	-	-	- 562 -
Stage 2	-	-	- 328 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	956	-	- ~ 83 517
Mov Cap-2 Maneuver	-	-	- ~ 83 -
Stage 1	-	-	- 562 -
Stage 2	-	-	- 248 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	\$ 439.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	956	-	-	-	193
HCM Lane V/C Ratio	0.242	-	-	-	1.842
HCM Control Delay (s)	10	-	-	-	\$ 439.6
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.9	-	-	-	25.5

Notes






~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (2D) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 27.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	474	213	173	50	40	382
Future Vol, veh/h	474	213	173	50	40	382
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	515	232	188	54	43	415

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	242	0	0 1477 215
Stage 1	-	-	- 215 -
Stage 2	-	-	- 1262 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1324	-	- 139 825
Stage 1	-	-	- 821 -
Stage 2	-	-	- 266 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1324	-	- 85 825
Mov Cap-2 Maneuver	-	-	- 85 -
Stage 1	-	-	- 821 -
Stage 2	-	-	- 163 -

Approach	EB	WB	SB
HCM Control Delay, s	6.5	0	76.7
HCM LOS			F




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1324	-	-	-	452
HCM Lane V/C Ratio	0.389	-	-	-	1.015
HCM Control Delay (s)	9.4	-	-	-	76.7
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	13.5

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (2D) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	50	59	136	168	40
Future Vol, veh/h	21	50	59	136	168	40
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	54	64	148	183	43

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	480	204	226
Stage 1	204	-	-
Stage 2	276	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	545	837	1342
Stage 1	830	-	-
Stage 2	771	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	517	837	1342
Mov Cap-2 Maneuver	517	-	-
Stage 1	830	-	-
Stage 2	731	-	-




Approach	EB	NB	SB
HCM Control Delay, s	10.7	2.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	707	-	-
HCM Lane V/C Ratio	0.048	-	0.109	-	-
HCM Control Delay (s)	7.8	-	10.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Redding Rancheria
24: Smith Rd & Casino Dwy

Cumulative (2040) plus Project (2D) Conditions

























Friday PM Peak

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	32	46	45	0
Future Vol, veh/h	0	16	32	46	45	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	35	50	49	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	85	0	-	0	77	60
Stage 1	-	-	-	-	60	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1512	-	-	-	926	1005
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1512	-	-	-	926	1005
Mov Cap-2 Maneuver	-	-	-	-	926	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	1006	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9.1		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1512	-	-	-	926	
HCM Lane V/C Ratio	-	-	-	-	0.053	
HCM Control Delay (s)	0	-	-	-	9.1	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (2D) Conditions









Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	325	63	198	35	438	269	308	423	10
Future Volume (veh/h)	0	54	63	325	63	198	35	438	269	308	423	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	353	178	142	38	476	292	335	460	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	348	156	590	640	544	370	968	433	505	749	335
Arrive On Green	0.00	0.10	0.10	0.17	0.34	0.34	0.21	0.27	0.27	0.15	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	353	178	142	38	476	292	335	460	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.8	2.1	4.7	3.5	1.8	0.9	5.7	8.3	4.7	6.0	0.3
Cycle Q Clear(g_c), s	0.0	0.8	2.1	4.7	3.5	1.8	0.9	5.7	8.3	4.7	6.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	348	156	590	640	544	370	968	433	505	749	335
V/C Ratio(X)	0.00	0.17	0.44	0.60	0.28	0.26	0.10	0.49	0.67	0.66	0.61	0.03
Avail Cap(c_a), veh/h	192	2823	1263	1048	1834	1559	370	2105	942	1240	2997	1341
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.0	21.6	19.6	12.1	3.5	16.3	15.5	16.4	20.5	18.1	12.9
Incr Delay (d2), s/veh	0.0	0.2	1.9	1.0	0.2	0.3	0.1	0.4	1.8	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.0	2.3	1.8	1.3	0.4	2.8	3.9	2.3	3.0	0.1
LnGrp Delay(d),s/veh	0.0	21.2	23.5	20.6	12.3	3.7	16.4	15.9	18.3	22.0	19.0	12.9
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		127			673			806			806	
Approach Delay, s/veh		22.4			14.8			16.8			20.1	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	17.9	12.4	9.0	14.6	14.7	0.0	21.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.7	10.3	6.7	4.1	2.9	8.0	0.0	5.5				
Green Ext Time (p_c), s	0.8	3.5	1.8	0.5	0.3	2.8	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			17.6									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (2D) Conditions
Saturday PM Peak






												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	755	10	15	789	132	15	20	15	137	0	29
Future Volume (veh/h)	23	755	10	15	789	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	821	11	16	858	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1831	25	36	1777	795	160	171	93	365	9	47
Arrive On Green	0.03	0.51	0.51	0.02	0.50	0.50	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3576	48	1774	3539	1583	269	942	510	1146	51	257
Grp Volume(v), veh/h	25	406	426	16	858	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1583	1720	0	0	1454	0	0
Q Serve(g_s), s	0.6	6.1	6.1	0.4	6.7	2.1	0.0	0.0	0.0	3.7	0.0	0.0
Cycle Q Clear(g_c), s	0.6	6.1	6.1	0.4	6.7	2.1	1.1	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		0.03	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	906	949	36	1777	795	424	0	0	421	0	0
V/C Ratio(X)	0.47	0.45	0.45	0.44	0.48	0.18	0.13	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	211	1349	1414	211	2698	1207	1702	0	0	1533	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.0	6.5	6.5	20.3	6.9	5.7	14.5	0.0	0.0	15.9	0.0	0.0
Incr Delay (d2), s/veh	6.2	0.3	0.3	8.4	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.0	3.2	0.3	3.3	0.9	0.5	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	26.3	6.8	6.8	28.7	7.1	5.8	14.6	0.0	0.0	16.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	857			1017			54			181		
Approach Delay, s/veh	7.4			7.2			14.6			16.6		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.6	4.9	25.5		11.6	5.3	25.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.1	2.4	8.1		6.8	2.6	8.7				
Green Ext Time (p_c), s		1.4	0.0	12.6		1.4	0.0	12.4				
Intersection Summary												
HCM 2010 Ctrl Delay	8.3											
HCM 2010 LOS	A											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (2D) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 9.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	133	293	362	39	73	231
Future Vol, veh/h	133	293	362	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	318	393	42	79	251

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	436	0	0 1023 415
Stage 1	-	-	- 415 -
Stage 2	-	-	- 608 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1124	-	- 261 637
Stage 1	-	-	- 666 -
Stage 2	-	-	- 543 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1124	-	- 227 637
Mov Cap-2 Maneuver	-	-	- 227 -
Stage 1	-	-	- 666 -
Stage 2	-	-	- 473 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	33.2
HCM LOS			D





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1124	-	-	-	444
HCM Lane V/C Ratio	0.129	-	-	-	0.744
HCM Control Delay (s)	8.7	-	-	-	33.2
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	6.1

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (2D) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 7.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	273	107	116	30	22	263
Future Vol, veh/h	273	107	116	30	22	263
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	297	116	126	33	24	286

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	159	0	852
Stage 1	-	-	142
Stage 2	-	-	710
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1420	-	330
Stage 1	-	-	885
Stage 2	-	-	487
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1420	-	261
Mov Cap-2 Maneuver	-	-	261
Stage 1	-	-	885
Stage 2	-	-	385

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	12.9
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	761
HCM Lane V/C Ratio	0.209	-	-	-	0.407
HCM Control Delay (s)	8.2	-	-	-	12.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	2

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (2D) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	88	89	80	101	26
Future Vol, veh/h	15	88	89	80	101	26
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	96	97	87	110	28




Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	404	124	138
Stage 1	124	-	-
Stage 2	280	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	603	927	1446
Stage 1	902	-	-
Stage 2	767	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	561	927	1446
Mov Cap-2 Maneuver	561	-	-
Stage 1	902	-	-
Stage 2	713	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	847	-	-
HCM Lane V/C Ratio	0.067	-	0.132	-	-
HCM Control Delay (s)	7.7	-	9.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-

Intersection

Int Delay, s/veh 3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	19	22	83	76	0
Future Vol, veh/h	0	19	22	83	76	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	24	90	83	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	114	0	90
Stage 1	-	-	69
Stage 2	-	-	21
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1475	-	910
Stage 1	-	-	954
Stage 2	-	-	1002
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1475	-	910
Mov Cap-2 Maneuver	-	-	910
Stage 1	-	-	954
Stage 2	-	-	1002

























Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1475	-	-	-	910
HCM Lane V/C Ratio	-	-	-	-	0.091
HCM Control Delay (s)	0	-	-	-	9.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (3A) Conditions









Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	104	70	519	80	349	61	506	429	479	770	19
Future Volume (veh/h)	16	104	70	519	80	349	61	506	429	479	770	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	17	113	76	564	0	437	66	550	466	521	837	21
Adj No. of Lanes	1	2	1	2	0	2	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	296	133	662	0	793	379	1206	539	625	1093	489
Arrive On Green	0.02	0.08	0.08	0.19	0.00	0.25	0.21	0.34	0.34	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	0	3167	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	17	113	76	564	0	437	66	550	466	521	837	21
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	0	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.7	2.3	3.6	11.9	0.0	5.7	2.3	9.4	21.2	11.3	16.5	0.6
Cycle Q Clear(g_c), s	0.7	2.3	3.6	11.9	0.0	5.7	2.3	9.4	21.2	11.3	16.5	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	35	296	133	662	0	793	379	1206	539	625	1093	489
V/C Ratio(X)	0.48	0.38	0.57	0.85	0.00	0.55	0.17	0.46	0.86	0.83	0.77	0.04
Avail Cap(c_a), veh/h	126	1857	831	689	0	2051	379	1430	640	771	1971	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	33.5	34.0	30.4	0.0	9.6	24.8	19.9	23.8	30.5	24.2	12.6
Incr Delay (d2), s/veh	10.0	0.8	3.9	9.7	0.0	0.6	0.2	0.3	10.4	6.5	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.2	1.7	6.7	0.0	3.5	1.2	4.6	10.7	5.9	8.2	0.3
LnGrp Delay(d),s/veh	47.4	34.3	37.9	40.1	0.0	10.2	25.0	20.1	34.2	37.0	25.3	12.6
LnGrp LOS	D	C	D	D		B	C	C	C	D	C	B
Approach Vol, veh/h		206			1001			1082			1379	
Approach Delay, s/veh		36.7			27.1			26.5			29.5	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	30.3	18.4	10.5	20.5	27.8	5.5	23.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.3	31.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	13.3	23.2	13.9	5.6	4.3	18.5	2.7	7.7				
Green Ext Time (p_c), s	0.8	3.1	0.5	0.9	0.3	5.3	0.0	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			28.4									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (3A) Conditions
Friday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	1204	10	13	1225	248	15	20	19	354	7	48
Future Volume (veh/h)	53	1204	10	13	1225	248	15	20	19	354	7	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	58	1309	11	14	1332	270	16	22	21	385	8	52
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1642	14	30	1507	674	199	269	224	534	9	60
Arrive On Green	0.05	0.46	0.46	0.02	0.43	0.43	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1774	3597	30	1774	3539	1583	377	746	621	1222	25	165
Grp Volume(v), veh/h	58	644	676	14	1332	270	59	0	0	445	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1743	0	0	1412	0	0
Q Serve(g_s), s	2.3	22.5	22.5	0.6	25.1	8.5	0.0	0.0	0.0	19.5	0.0	0.0
Cycle Q Clear(g_c), s	2.3	22.5	22.5	0.6	25.1	8.5	1.6	0.0	0.0	21.2	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.27		0.36	0.87		0.12
Lane Grp Cap(c), veh/h	84	808	848	30	1507	674	692	0	0	602	0	0
V/C Ratio(X)	0.69	0.80	0.80	0.47	0.88	0.40	0.09	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	123	808	848	123	1565	700	1020	0	0	888	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.9	16.8	16.8	35.2	19.1	14.4	15.3	0.0	0.0	21.3	0.0	0.0
Incr Delay (d2), s/veh	9.5	5.6	5.4	10.8	6.2	0.4	0.1	0.0	0.0	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	12.2	12.7	0.4	13.5	3.7	0.8	0.0	0.0	8.6	0.0	0.0
LnGrp Delay(d),s/veh	43.4	22.4	22.2	46.0	25.4	14.8	15.3	0.0	0.0	23.2	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h	1378			1616			59			445		
Approach Delay, s/veh	23.2			23.8			15.3			23.2		
Approach LOS	C			C			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.1	5.2	37.0		30.1	7.4	34.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.6	2.6	24.5		23.2	4.3	27.1				
Green Ext Time (p_c), s		3.5	0.0	6.9		3.0	0.0	3.7				
Intersection Summary												
HCM 2010 Ctrl Delay	23.3											
HCM 2010 LOS	C											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (3A) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 52.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	194	522	440	95	102	193
Future Vol, veh/h	194	522	440	95	102	193
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	211	567	478	103	111	210

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	582	0	0 1519 530
Stage 1	-	-	- 530 -
Stage 2	-	-	- 989 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	992	-	- 131 549
Stage 1	-	-	- 590 -
Stage 2	-	-	- 360 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	992	-	- ~ 103 549
Mov Cap-2 Maneuver	-	-	- ~ 103 -
Stage 1	-	-	- 590 -
Stage 2	-	-	- 283 -

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	270.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	992	-	-	-	220
HCM Lane V/C Ratio	0.213	-	-	-	1.458
HCM Control Delay (s)	9.6	-	-	-	270.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	18.9

Notes





~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (3A) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 36.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	462	171	147	63	55	370
Future Vol, veh/h	462	171	147	63	55	370
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	502	186	160	68	60	402

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	228	0	0 1384 194
Stage 1	-	-	- 194 -
Stage 2	-	-	- 1190 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1340	-	- 158 847
Stage 1	-	-	- 839 -
Stage 2	-	-	- 289 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1340	-	- 99 847
Mov Cap-2 Maneuver	-	-	- 99 -
Stage 1	-	-	- 839 -
Stage 2	-	-	- 181 -

Approach	EB	WB	SB
HCM Control Delay, s	6.8	0	97.6
HCM LOS			F




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1340	-	-	-	428
HCM Lane V/C Ratio	0.375	-	-	-	1.079
HCM Control Delay (s)	9.3	-	-	-	97.6
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.8	-	-	-	15.5

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (3A) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	23	55	129	139	27
Future Vol, veh/h	17	23	55	129	139	27
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	25	60	140	151	29





Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	426	166	180
Stage 1	166	-	-
Stage 2	260	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	585	878	1396
Stage 1	863	-	-
Stage 2	783	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	558	878	1396
Mov Cap-2 Maneuver	558	-	-
Stage 1	863	-	-
Stage 2	746	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1396	-	706	-	-
HCM Lane V/C Ratio	0.043	-	0.062	-	-
HCM Control Delay (s)	7.7	-	10.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-












Redding Rancheria
24: Smith Rd & Casino Dwy

Cumulative (2040) plus Project (3A) Conditions
Friday PM Peak

Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	35	670	468	0
Future Vol, veh/h	0	18	35	670	468	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	38	728	509	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	38	0	-	0	58	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1572	-	-	-	949	1034
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1572	-	-	-	949	1034
Mov Cap-2 Maneuver	-	-	-	-	949	-
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	1003	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		13.1		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1572	-	-	-	949	
HCM Lane V/C Ratio	-	-	-	-	0.536	
HCM Control Delay (s)	0	-	-	-	13.1	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	3.3	

Redding Rancheria
25: Smith Rd & I-5 SB

Cumulative (2040) plus Project (3A) Conditions
Friday PM Peak

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	151	335	264	2	5	442		
Future Volume (veh/h)	151	335	264	2	5	442		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	164	364	287	2	5	480		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	208	863	466	3	620	553		
Arrive On Green	0.12	0.46	0.25	0.25	0.35	0.35		
Sat Flow, veh/h	1774	1863	1848	13	1774	1583		
Grp Volume(v), veh/h	164	364	0	289	5	480		
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1860	1774	1583		
Q Serve(g_s), s	3.8	5.6	0.0	5.9	0.1	12.1		
Cycle Q Clear(g_c), s	3.8	5.6	0.0	5.9	0.1	12.1		
Prop In Lane	1.00			0.01	1.00	1.00		
Lane Grp Cap(c), veh/h	208	863	0	469	620	553		
V/C Ratio(X)	0.79	0.42	0.00	0.62	0.01	0.87		
Avail Cap(c_a), veh/h	249	1222	0	785	790	705		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.3	7.6	0.0	14.1	9.1	13.0		
Incr Delay (d2), s/veh	13.1	0.3	0.0	1.3	0.0	9.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.6	2.9	0.0	3.1	0.0	10.7		
LnGrp Delay(d),s/veh	31.4	8.0	0.0	15.5	9.1	22.2		
LnGrp LOS	C	A		B	A	C		
Approach Vol, veh/h		528	289		485			
Approach Delay, s/veh		15.2	15.5		22.0			
Approach LOS		B	B		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				23.8		18.9	9.0	14.8
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s				7.6		14.1	5.8	7.9
Green Ext Time (p_c), s				4.0		0.8	0.0	2.9
Intersection Summary								
HCM 2010 Ctrl Delay			17.8					
HCM 2010 LOS			B					

Redding Rancheria
26: I-5 NB & Smith Rd

Cumulative (2040) plus Project (3A) Conditions

Friday PM Peak

Intersection

Intersection Delay, s/veh11.5

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	306	34	0	0	53	4	212	0	2	0	0	0
Future Vol, veh/h	306	34	0	0	53	4	212	0	2	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	333	37	0	0	58	4	230	0	2	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

























Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	12.5	8.5	10.8
HCM LOS	B	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	99%	90%	0%
Vol Thru, %	0%	10%	93%
Vol Right, %	1%	0%	7%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	214	340	57
LT Vol	212	306	0
Through Vol	0	34	53
RT Vol	2	0	4
Lane Flow Rate	233	370	62
Geometry Grp	1	1	1
Degree of Util (X)	0.334	0.494	0.085
Departure Headway (Hd)	5.175	4.811	4.965
Convergence, Y/N	Yes	Yes	Yes
Cap	691	747	716
Service Time	3.231	2.857	3.032
HCM Lane V/C Ratio	0.337	0.495	0.087
HCM Control Delay	10.8	12.5	8.5
HCM Lane LOS	B	B	A
HCM 95th-tile Q	1.5	2.8	0.3

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (3A) Conditions

Saturday PM Peak









												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	57	55	333	58	251	39	420	325	391	422	9
Future Volume (veh/h)	0	57	55	333	58	251	39	420	325	391	422	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	62	60	362	0	315	42	457	353	425	459	10
Adj No. of Lanes	1	2	1	2	0	2	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	313	140	567	0	1010	472	1059	474	583	718	321
Arrive On Green	0.00	0.09	0.09	0.16	0.00	0.32	0.27	0.30	0.30	0.17	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3548	0	3167	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	62	60	362	0	315	42	457	353	425	459	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	0	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.9	2.0	5.4	0.0	4.3	1.0	5.9	11.4	6.6	6.7	0.3
Cycle Q Clear(g_c), s	0.0	0.9	2.0	5.4	0.0	4.3	1.0	5.9	11.4	6.6	6.7	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	313	140	567	0	1010	472	1059	474	583	718	321
V/C Ratio(X)	0.00	0.20	0.43	0.64	0.00	0.31	0.09	0.43	0.74	0.73	0.64	0.03
Avail Cap(c_a), veh/h	173	2536	1134	942	0	2801	472	1953	874	1053	2692	1204
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	23.9	24.4	22.2	0.0	14.6	15.6	15.9	17.9	22.2	20.6	18.1
Incr Delay (d2), s/veh	0.0	0.3	2.1	1.2	0.0	0.2	0.1	0.3	2.3	1.8	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	1.0	2.7	0.0	1.9	0.5	2.9	5.2	3.3	3.3	0.1
LnGrp Delay(d),s/veh	0.0	24.2	26.5	23.4	0.0	14.7	15.7	16.2	20.2	24.0	21.6	18.1
LnGrp LOS		C	C	C		B	B	B	C	C	C	B
Approach Vol, veh/h		122			677			852			894	
Approach Delay, s/veh		25.3			19.4			17.8			22.7	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	20.9	13.0	9.0	19.0	15.5	0.0	22.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.3	31.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.6	13.4	7.4	4.0	3.0	8.7	0.0	6.3				
Green Ext Time (p_c), s	1.0	3.6	1.7	0.5	0.4	2.8	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			20.3									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (3A) Conditions





Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	890	10	13	840	136	15	20	19	126	0	31
Future Volume (veh/h)	22	890	10	13	840	136	15	20	19	126	0	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	24	967	11	14	913	148	16	22	21	137	0	34
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	1922	22	32	1859	832	146	148	105	340	10	50
Arrive On Green	0.03	0.54	0.54	0.02	0.53	0.53	0.17	0.17	0.17	0.17	0.00	0.17
Sat Flow, veh/h	1774	3584	41	1774	3539	1583	240	861	608	1115	58	291
Grp Volume(v), veh/h	24	477	501	14	913	148	59	0	0	171	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1856	1774	1770	1583	1709	0	0	1464	0	0
Q Serve(g_s), s	0.6	7.5	7.5	0.3	7.2	2.1	0.0	0.0	0.0	3.4	0.0	0.0
Cycle Q Clear(g_c), s	0.6	7.5	7.5	0.3	7.2	2.1	1.3	0.0	0.0	4.7	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.27		0.36	0.80		0.20
Lane Grp Cap(c), veh/h	51	949	995	32	1859	832	398	0	0	400	0	0
V/C Ratio(X)	0.47	0.50	0.50	0.44	0.49	0.18	0.15	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	202	1292	1355	202	2584	1156	1624	0	0	1467	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.9	6.5	6.5	21.3	6.7	5.4	15.5	0.0	0.0	16.8	0.0	0.0
Incr Delay (d2), s/veh	6.5	0.4	0.4	9.3	0.2	0.1	0.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.7	3.9	0.2	3.5	0.9	0.6	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	27.4	6.9	6.9	30.6	6.9	5.6	15.7	0.0	0.0	17.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	1002			1075			59			171		
Approach Delay, s/veh	7.4			7.0			15.7			17.6		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.5	4.8	27.5		11.5	5.3	27.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.3	2.3	9.5		6.7	2.6	9.2				
Green Ext Time (p_c), s		1.4	0.0	13.7		1.4	0.0	13.8				
Intersection Summary												
HCM 2010 Ctrl Delay	8.2											
HCM 2010 LOS	A											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (3A) Conditions

Saturday PM Peak





Intersection						
Int Delay, s/veh	7.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	121	265	322	41	71	201
Future Vol, veh/h	121	265	322	41	71	201
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	288	350	45	77	218
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	395	0	-	0	923	372
Stage 1	-	-	-	-	372	-
Stage 2	-	-	-	-	551	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1164	-	-	-	299	674
Stage 1	-	-	-	-	697	-
Stage 2	-	-	-	-	577	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1164	-	-	-	265	674
Mov Cap-2 Maneuver	-	-	-	-	265	-
Stage 1	-	-	-	-	697	-
Stage 2	-	-	-	-	512	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.7	0		23.8		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1164	-	-	-	480	
HCM Lane V/C Ratio	0.113	-	-	-	0.616	
HCM Control Delay (s)	8.5	-	-	-	23.8	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0.4	-	-	-	4.1	

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (3A) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 8.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	260	86	98	46	49	248
Future Vol, veh/h	260	86	98	46	49	248
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	283	93	107	50	53	270

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	157	0	0 791 132
Stage 1	-	-	- 132 -
Stage 2	-	-	- 659 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1423	-	- 358 917
Stage 1	-	-	- 894 -
Stage 2	-	-	- 515 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1423	-	- 287 917
Mov Cap-2 Maneuver	-	-	- 287 -
Stage 1	-	-	- 894 -
Stage 2	-	-	- 413 -

Approach	EB	WB	SB
HCM Control Delay, s	6.1	0	15.2
HCM LOS			C




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1423	-	-	-	673
HCM Lane V/C Ratio	0.199	-	-	-	0.48
HCM Control Delay (s)	8.2	-	-	-	15.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.7	-	-	-	2.6

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (3A) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	54	25	76	83	33
Future Vol, veh/h	18	54	25	76	83	33
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	59	27	83	90	36

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	245	108	126
Stage 1	108	-	-
Stage 2	137	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	743	946	1460
Stage 1	916	-	-
Stage 2	890	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	729	946	1460
Mov Cap-2 Maneuver	729	-	-
Stage 1	916	-	-
Stage 2	873	-	-





Approach	EB	NB	SB
HCM Control Delay, s	9.5	1.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1460	-	880	-	-
HCM Lane V/C Ratio	0.019	-	0.089	-	-
HCM Control Delay (s)	7.5	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Redding Rancheria
24: Smith Rd & Casino Dwy

Cumulative (2040) plus Project (3A) Conditions












Saturday PM Peak

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	22	862	501	0
Future Vol, veh/h	0	18	22	862	501	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	937	545	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	24	0	-	0	44	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1591	-	-	-	967	1052
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1591	-	-	-	967	1052
Mov Cap-2 Maneuver	-	-	-	-	967	-
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1003	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		13.4		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1591	-	-	-	967	
HCM Lane V/C Ratio	-	-	-	-	0.563	
HCM Control Delay (s)	0	-	-	-	13.4	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	3.6	

Redding Rancheria
25: Smith Rd & I-5 SB

Cumulative (2040) plus Project (3A) Conditions

Saturday PM Peak

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	161	358	319	2	11	565		
Future Volume (veh/h)	161	358	319	2	11	565		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	175	389	347	2	12	614		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	212	862	488	3	671	599		
Arrive On Green	0.12	0.46	0.26	0.26	0.38	0.38		
Sat Flow, veh/h	1774	1863	1850	11	1774	1583		
Grp Volume(v), veh/h	175	389	0	349	12	614		
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1861	1774	1583		
Q Serve(g_s), s	4.8	7.1	0.0	8.5	0.2	19.0		
Cycle Q Clear(g_c), s	4.8	7.1	0.0	8.5	0.2	19.0		
Prop In Lane	1.00			0.01	1.00	1.00		
Lane Grp Cap(c), veh/h	212	862	0	491	671	599		
V/C Ratio(X)	0.83	0.45	0.00	0.71	0.02	1.03		
Avail Cap(c_a), veh/h	212	1038	0	667	671	599		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	21.6	9.2	0.0	16.8	9.8	15.6		
Incr Delay (d2), s/veh	22.8	0.4	0.0	2.2	0.0	43.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.7	3.7	0.0	4.7	0.1	20.7		
LnGrp Delay(d),s/veh	44.4	9.5	0.0	19.0	9.8	59.1		
LnGrp LOS	D	A		B	A	F		
Approach Vol, veh/h		564	349		626			
Approach Delay, s/veh		20.3	19.0		58.1			
Approach LOS		C	B		E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				27.2		23.0	10.0	17.2
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s				9.1		21.0	6.8	10.5
Green Ext Time (p_c), s				4.5		0.0	0.0	2.7
Intersection Summary								
HCM 2010 Ctrl Delay			35.4					
HCM 2010 LOS			D					

Intersection

Intersection Delay, s/veh13.1

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	327	40	0	0	47	4	274	0	4	0	0	0
Future Vol, veh/h	327	40	0	0	47	4	274	0	4	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	355	43	0	0	51	4	298	0	4	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

























Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	14.2	8.8	12.5
HCM LOS	B	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	99%	89%	0%
Vol Thru, %	0%	11%	92%
Vol Right, %	1%	0%	8%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	278	367	51
LT Vol	274	327	0
Through Vol	0	40	47
RT Vol	4	0	4
Lane Flow Rate	302	399	55
Geometry Grp	1	1	1
Degree of Util (X)	0.441	0.554	0.082
Departure Headway (Hd)	5.257	4.998	5.322
Convergence, Y/N	Yes	Yes	Yes
Cap	680	718	677
Service Time	3.336	3.068	3.322
HCM Lane V/C Ratio	0.444	0.556	0.081
HCM Control Delay	12.5	14.2	8.8
HCM Lane LOS	B	B	A
HCM 95th-tile Q	2.3	3.4	0.3

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (3B) Conditions

Friday PM Peak









												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	104	70	511	80	332	61	506	422	464	770	19
Future Volume (veh/h)	16	104	70	511	80	332	61	506	422	464	770	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	17	113	76	555	292	224	66	550	459	504	837	21
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	299	134	666	470	399	367	1199	537	613	1098	491
Arrive On Green	0.02	0.08	0.08	0.19	0.25	0.25	0.21	0.34	0.34	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	17	113	76	555	292	224	66	550	459	504	837	21
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.7	2.3	3.5	11.4	10.5	5.8	2.3	9.2	20.5	10.7	16.2	0.6
Cycle Q Clear(g_c), s	0.7	2.3	3.5	11.4	10.5	5.8	2.3	9.2	20.5	10.7	16.2	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	35	299	134	666	470	399	367	1199	537	613	1098	491
V/C Ratio(X)	0.48	0.38	0.57	0.83	0.62	0.56	0.18	0.46	0.86	0.82	0.76	0.04
Avail Cap(c_a), veh/h	129	1890	846	702	1228	1044	367	1456	651	785	2007	898
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	32.8	33.4	29.7	25.1	9.5	24.8	19.6	23.3	30.0	23.6	12.2
Incr Delay (d2), s/veh	9.9	0.8	3.8	8.2	1.3	1.2	0.2	0.3	9.3	5.6	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.1	1.7	6.3	5.6	3.6	1.2	4.6	10.3	5.5	8.1	0.3
LnGrp Delay(d),s/veh	46.7	33.6	37.2	37.8	26.5	10.8	25.0	19.9	32.6	35.6	24.7	12.3
LnGrp LOS	D	C	D	D	C	B	C	B	C	D	C	B
Approach Vol, veh/h		206			1071			1075			1362	
Approach Delay, s/veh		36.0			29.1			25.7			28.6	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.5	29.7	18.2	10.4	19.7	27.5	5.5	23.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.3	31.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	12.7	22.5	13.4	5.5	4.3	18.2	2.7	12.5				
Green Ext Time (p_c), s	0.8	3.2	0.8	0.9	0.3	5.3	0.0	4.9				
Intersection Summary												
HCM 2010 Ctrl Delay			28.3									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (3B) Conditions

Friday PM Peak






												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	1182	10	13	1200	248	15	20	19	354	7	48
Future Volume (veh/h)	53	1182	10	13	1200	248	15	20	19	354	7	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	58	1285	11	14	1304	270	16	22	21	385	8	52
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1640	14	30	1506	674	199	269	224	534	9	60
Arrive On Green	0.05	0.46	0.46	0.02	0.43	0.43	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1774	3596	31	1774	3539	1583	376	746	620	1222	25	165
Grp Volume(v), veh/h	58	632	664	14	1304	270	59	0	0	445	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1743	0	0	1412	0	0
Q Serve(g_s), s	2.3	21.9	21.9	0.6	24.2	8.5	0.0	0.0	0.0	19.5	0.0	0.0
Cycle Q Clear(g_c), s	2.3	21.9	21.9	0.6	24.2	8.5	1.6	0.0	0.0	21.1	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.27		0.36	0.87		0.12
Lane Grp Cap(c), veh/h	84	807	847	30	1506	674	692	0	0	603	0	0
V/C Ratio(X)	0.69	0.78	0.78	0.47	0.87	0.40	0.09	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	123	807	847	123	1567	701	1021	0	0	889	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.9	16.6	16.6	35.2	18.9	14.4	15.3	0.0	0.0	21.3	0.0	0.0
Incr Delay (d2), s/veh	9.5	5.1	4.8	10.8	5.2	0.4	0.1	0.0	0.0	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	11.7	12.2	0.4	12.9	3.7	0.8	0.0	0.0	8.5	0.0	0.0
LnGrp Delay(d),s/veh	43.4	21.7	21.5	46.0	24.1	14.8	15.3	0.0	0.0	23.1	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h	1354			1588			59			445		
Approach Delay, s/veh	22.5			22.7			15.3			23.1		
Approach LOS	C			C			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.1	5.2	37.0		30.1	7.4	34.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.6	2.6	23.9		23.1	4.3	26.2				
Green Ext Time (p_c), s		3.5	0.0	7.4		3.0	0.0	4.5				
Intersection Summary												
HCM 2010 Ctrl Delay	22.6											
HCM 2010 LOS	C											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (3B) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 52.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	194	522	440	95	102	193
Future Vol, veh/h	194	522	440	95	102	193
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	211	567	478	103	111	210

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	582	0	0 1519 530
Stage 1	-	-	- 530 -
Stage 2	-	-	- 989 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	992	-	- 131 549
Stage 1	-	-	- 590 -
Stage 2	-	-	- 360 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	992	-	- ~ 103 549
Mov Cap-2 Maneuver	-	-	- ~ 103 -
Stage 1	-	-	- 590 -
Stage 2	-	-	- 283 -

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	270.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	992	-	-	-	220
HCM Lane V/C Ratio	0.213	-	-	-	1.458
HCM Control Delay (s)	9.6	-	-	-	270.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	18.9

Notes






~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (3B) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 30.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	462	171	147	59	51	370
Future Vol, veh/h	462	171	147	59	51	370
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	502	186	160	64	55	402

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	224	0	0 1382 192
Stage 1	-	-	- 192 -
Stage 2	-	-	- 1190 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1345	-	- 159 850
Stage 1	-	-	- 841 -
Stage 2	-	-	- 289 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1345	-	- 100 850
Mov Cap-2 Maneuver	-	-	- 100 -
Stage 1	-	-	- 841 -
Stage 2	-	-	- 181 -

Approach	EB	WB	SB
HCM Control Delay, s	6.8	0	81
HCM LOS			F




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1345	-	-	-	445
HCM Lane V/C Ratio	0.373	-	-	-	1.028
HCM Control Delay (s)	9.3	-	-	-	81
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.8	-	-	-	13.9

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (3B) Conditions
Friday PM Peak

Intersection





Int Delay, s/veh 2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	23	55	129	139	23
Future Vol, veh/h	13	23	55	129	139	23
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	25	60	140	151	25

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	424	164	176	0	-	0
Stage 1	164	-	-	-	-	-
Stage 2	260	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	587	881	1400	-	-	-
Stage 1	865	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	560	881	1400	-	-	-
Mov Cap-2 Maneuver	560	-	-	-	-	-
Stage 1	865	-	-	-	-	-
Stage 2	747	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	2.3	0
HCM LOS	B		












Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1400	-	730	-	-
HCM Lane V/C Ratio	0.043	-	0.054	-	-
HCM Control Delay (s)	7.7	-	10.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	35	556	344	0
Future Vol, veh/h	0	18	35	556	344	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	38	604	374	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	38	0	-	0	58	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1572	-	-	-	949	1034
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1572	-	-	-	949	1034
Mov Cap-2 Maneuver	-	-	-	-	949	-
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	1003	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		11.2		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1572	-	-	-	949	
HCM Lane V/C Ratio	-	-	-	-	0.394	
HCM Control Delay (s)	0	-	-	-	11.2	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	1.9	

Redding Rancheria
25: Smith Rd & I-5 SB

Cumulative (2040) plus Project (3B) Conditions

Friday PM Peak

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	111	251	223	2	5	368		
Future Volume (veh/h)	111	251	223	2	5	368		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	121	273	242	2	5	400		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	176	846	443	4	561	501		
Arrive On Green	0.10	0.45	0.24	0.24	0.32	0.32		
Sat Flow, veh/h	1774	1863	1845	15	1774	1583		
Grp Volume(v), veh/h	121	273	0	244	5	400		
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1860	1774	1583		
Q Serve(g_s), s	2.3	3.3	0.0	4.0	0.1	8.1		
Cycle Q Clear(g_c), s	2.3	3.3	0.0	4.0	0.1	8.1		
Prop In Lane	1.00			0.01	1.00	1.00		
Lane Grp Cap(c), veh/h	176	846	0	447	561	501		
V/C Ratio(X)	0.69	0.32	0.00	0.55	0.01	0.80		
Avail Cap(c_a), veh/h	306	1497	0	961	968	864		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.2	6.1	0.0	11.6	8.2	10.9		
Incr Delay (d2), s/veh	4.7	0.2	0.0	1.0	0.0	3.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	1.7	0.0	2.2	0.0	6.8		
LnGrp Delay(d),s/veh	19.9	6.3	0.0	12.6	8.2	13.9		
LnGrp LOS	B	A		B	A	B		
Approach Vol, veh/h		394	244		405			
Approach Delay, s/veh		10.5	12.6		13.8			
Approach LOS		B	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				19.8		15.0	7.4	12.4
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s				5.3		10.1	4.3	6.0
Green Ext Time (p_c), s				3.1		1.0	0.0	2.4
Intersection Summary								
HCM 2010 Ctrl Delay			12.3					
HCM 2010 LOS			B					

Redding Rancheria
26: I-5 NB & Smith Rd




Cumulative (2040) plus Project (3B) Conditions

Friday PM Peak

Intersection

Intersection Delay, s/veh 9.9

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	226	30	0	0	49	4	176	0	2	0	0	0
Future Vol, veh/h	226	30	0	0	49	4	176	0	2	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	246	33	0	0	53	4	191	0	2	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

























Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	10.4	8.1	9.7
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	99%	88%	0%
Vol Thru, %	0%	12%	92%
Vol Right, %	1%	0%	8%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	178	256	53
LT Vol	176	226	0
Through Vol	0	30	49
RT Vol	2	0	4
Lane Flow Rate	193	278	58
Geometry Grp	1	1	1
Degree of Util (X)	0.265	0.362	0.075
Departure Headway (Hd)	4.928	4.677	4.715
Convergence, Y/N	Yes	Yes	Yes
Cap	727	768	758
Service Time	2.962	2.705	2.754
HCM Lane V/C Ratio	0.265	0.362	0.077
HCM Control Delay	9.7	10.4	8.1
HCM Lane LOS	A	B	A
HCM 95th-tile Q	1.1	1.7	0.2

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (3B) Conditions

Saturday PM Peak




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	57	55	317	58	218	39	420	309	357	422	9
Future Volume (veh/h)	0	57	55	317	58	218	39	420	309	357	422	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	62	60	345	194	150	42	457	336	388	459	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	326	146	570	608	517	438	1036	463	551	729	326
Arrive On Green	0.00	0.09	0.09	0.16	0.33	0.33	0.25	0.29	0.29	0.16	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	62	60	345	194	150	42	457	336	388	459	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.9	1.9	4.9	4.3	2.1	1.0	5.7	10.3	5.8	6.4	0.2
Cycle Q Clear(g_c), s	0.0	0.9	1.9	4.9	4.3	2.1	1.0	5.7	10.3	5.8	6.4	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	326	146	570	608	517	438	1036	463	551	729	326
V/C Ratio(X)	0.00	0.19	0.41	0.61	0.32	0.29	0.10	0.44	0.73	0.70	0.63	0.03
Avail Cap(c_a), veh/h	180	2640	1181	980	1715	1458	438	2034	910	1097	2803	1254
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	22.8	23.3	21.2	13.8	4.0	15.8	15.6	17.2	21.6	19.7	14.2
Incr Delay (d2), s/veh	0.0	0.3	1.9	1.0	0.3	0.3	0.1	0.3	2.2	1.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	0.9	2.5	2.2	1.5	0.5	2.8	4.8	2.9	3.2	0.1
LnGrp Delay(d),s/veh	0.0	23.1	25.1	22.2	14.1	4.3	15.9	15.9	19.4	23.2	20.6	14.2
LnGrp LOS		C	C	C	B	A	B	B	B	C	C	B
Approach Vol, veh/h		122			689			835			857	
Approach Delay, s/veh		24.1			16.0			17.3			21.7	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.7	19.9	12.7	9.0	17.4	15.2	0.0	21.7				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.3	31.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.8	12.3	6.9	3.9	3.0	8.4	0.0	6.3				
Green Ext Time (p_c), s	0.9	3.5	1.9	0.5	0.4	2.8	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			18.8									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (3B) Conditions

Saturday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	840	10	13	792	136	15	20	19	126	0	31
Future Volume (veh/h)	22	840	10	13	792	136	15	20	19	126	0	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	24	913	11	14	861	148	16	22	21	137	0	34
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	1882	23	32	1820	814	150	149	105	346	10	50
Arrive On Green	0.03	0.53	0.53	0.02	0.51	0.51	0.17	0.17	0.17	0.17	0.00	0.17
Sat Flow, veh/h	1774	3582	43	1774	3539	1583	241	859	608	1114	59	291
Grp Volume(v), veh/h	24	451	473	14	861	148	59	0	0	171	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1707	0	0	1463	0	0
Q Serve(g_s), s	0.6	6.9	6.9	0.3	6.6	2.1	0.0	0.0	0.0	3.3	0.0	0.0
Cycle Q Clear(g_c), s	0.6	6.9	6.9	0.3	6.6	2.1	1.2	0.0	0.0	4.5	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.27		0.36	0.80		0.20
Lane Grp Cap(c), veh/h	52	930	975	32	1820	814	404	0	0	407	0	0
V/C Ratio(X)	0.47	0.49	0.49	0.44	0.47	0.18	0.15	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	209	1337	1401	209	2674	1196	1679	0	0	1517	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.2	6.4	6.4	20.6	6.6	5.5	15.0	0.0	0.0	16.2	0.0	0.0
Incr Delay (d2), s/veh	6.4	0.4	0.4	9.3	0.2	0.1	0.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.4	3.5	0.2	3.2	0.9	0.6	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	26.7	6.8	6.8	29.9	6.8	5.6	15.1	0.0	0.0	16.9	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		948			1023			59			171	
Approach Delay, s/veh		7.3			6.9			15.1			16.9	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.3	4.8	26.3		11.3	5.2	25.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.2	2.3	8.9		6.5	2.6	8.6				
Green Ext Time (p_c), s		1.4	0.0	13.1		1.4	0.0	13.2				
Intersection Summary												
HCM 2010 Ctrl Delay			8.1									
HCM 2010 LOS			A									

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (3B) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 7.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	121	265	322	41	71	201
Future Vol, veh/h	121	265	322	41	71	201
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	288	350	45	77	218

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	395	0	0 923 372
Stage 1	-	-	- 372 -
Stage 2	-	-	- 551 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1164	-	- 299 674
Stage 1	-	-	- 697 -
Stage 2	-	-	- 577 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1164	-	- 265 674
Mov Cap-2 Maneuver	-	-	- 265 -
Stage 1	-	-	- 697 -
Stage 2	-	-	- 512 -






Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	23.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1164	-	-	-	480
HCM Lane V/C Ratio	0.113	-	-	-	0.616
HCM Control Delay (s)	8.5	-	-	-	23.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	4.1

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (3B) Conditions

Saturday PM Peak




Intersection						
Int Delay, s/veh	8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	260	86	98	37	40	248
Future Vol, veh/h	260	86	98	37	40	248
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	283	93	107	40	43	270
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	147	0	-	0	786	127
Stage 1	-	-	-	-	127	-
Stage 2	-	-	-	-	659	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1435	-	-	-	361	923
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	515	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1435	-	-	-	290	923
Mov Cap-2 Maneuver	-	-	-	-	290	-
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	413	-
Approach	EB	WB		SB		
HCM Control Delay, s	6.1	0		14.1		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1435	-	-	-	708	
HCM Lane V/C Ratio	0.197	-	-	-	0.442	
HCM Control Delay (s)	8.1	-	-	-	14.1	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.7	-	-	-	2.3	

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (3B) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	54	25	76	83	24
Future Vol, veh/h	9	54	25	76	83	24
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	59	27	83	90	26





Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	240	103	116
Stage 1	103	-	-
Stage 2	137	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	748	952	1473
Stage 1	921	-	-
Stage 2	890	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	734	952	1473
Mov Cap-2 Maneuver	734	-	-
Stage 1	921	-	-
Stage 2	873	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	1.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1473	-	913	-	-
HCM Lane V/C Ratio	0.018	-	0.075	-	-
HCM Control Delay (s)	7.5	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection

Int Delay, s/veh 2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	22	607	256	0
Future Vol, veh/h	0	18	22	607	256	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	660	278	0












Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	24	0	44
Stage 1	-	-	24
Stage 2	-	-	20
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1591	-	967
Stage 1	-	-	999
Stage 2	-	-	1003
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1591	-	967
Mov Cap-2 Maneuver	-	-	967
Stage 1	-	-	999
Stage 2	-	-	1003

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1591	-	-	-	967
HCM Lane V/C Ratio	-	-	-	-	0.288
HCM Control Delay (s)	0	-	-	-	10.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1.2

Redding Rancheria
25: Smith Rd & I-5 SB

Cumulative (2040) plus Project (3B) Conditions
Saturday PM Peak

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	83	191	228	2	11	401		
Future Volume (veh/h)	83	191	228	2	11	401		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	90	208	248	2	12	436		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	148	805	431	3	601	536		
Arrive On Green	0.08	0.43	0.23	0.23	0.34	0.34		
Sat Flow, veh/h	1774	1863	1845	15	1774	1583		
Grp Volume(v), veh/h	90	208	0	250	12	436		
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1860	1774	1583		
Q Serve(g_s), s	1.7	2.5	0.0	4.1	0.2	8.8		
Cycle Q Clear(g_c), s	1.7	2.5	0.0	4.1	0.2	8.8		
Prop In Lane	1.00			0.01	1.00	1.00		
Lane Grp Cap(c), veh/h	148	805	0	435	601	536		
V/C Ratio(X)	0.61	0.26	0.00	0.57	0.02	0.81		
Avail Cap(c_a), veh/h	305	1496	0	960	967	863		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.4	6.3	0.0	11.8	7.7	10.5		
Incr Delay (d2), s/veh	4.0	0.2	0.0	1.2	0.0	3.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	1.3	0.0	2.2	0.1	7.4		
LnGrp Delay(d),s/veh	19.4	6.5	0.0	13.0	7.7	13.7		
LnGrp LOS	B	A		B	A	B		
Approach Vol, veh/h		298	250		448			
Approach Delay, s/veh		10.4	13.0		13.5			
Approach LOS		B	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				19.1		15.8	6.9	12.2
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s				4.5		10.8	3.7	6.1
Green Ext Time (p_c), s				2.7		1.0	0.0	2.1
Intersection Summary								
HCM 2010 Ctrl Delay			12.5					
HCM 2010 LOS			B					

Redding Rancheria
26: I-5 NB & Smith Rd

Cumulative (2040) plus Project (3B) Conditions

Saturday PM Peak

Intersection

Intersection Delay, s/veh 9.4

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	170	31	0	0	38	4	192	0	4	0	0	0
Future Vol, veh/h	170	31	0	0	38	4	192	0	4	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	185	34	0	0	41	4	209	0	4	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

























Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.6	8	9.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	98%	85%	0%
Vol Thru, %	0%	15%	90%
Vol Right, %	2%	0%	10%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	196	201	42
LT Vol	192	170	0
Through Vol	0	31	38
RT Vol	4	0	4
Lane Flow Rate	213	218	46
Geometry Grp	1	1	1
Degree of Util (X)	0.281	0.285	0.059
Departure Headway (Hd)	4.753	4.692	4.671
Convergence, Y/N	Yes	Yes	Yes
Cap	756	767	767
Service Time	2.779	2.715	2.702
HCM Lane V/C Ratio	0.282	0.284	0.06
HCM Control Delay	9.6	9.6	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.2	1.2	0.2

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (3C) Conditions

Friday PM Peak









												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	104	70	514	80	339	61	506	424	469	770	19
Future Volume (veh/h)	16	104	70	514	80	339	61	506	424	469	770	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	17	113	76	559	298	228	66	550	461	510	837	21
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	298	133	666	469	399	370	1201	537	617	1096	490
Arrive On Green	0.02	0.08	0.08	0.19	0.25	0.25	0.21	0.34	0.34	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	17	113	76	559	298	228	66	550	461	510	837	21
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.7	2.3	3.5	11.6	10.9	6.0	2.3	9.3	20.7	10.9	16.3	0.6
Cycle Q Clear(g_c), s	0.7	2.3	3.5	11.6	10.9	6.0	2.3	9.3	20.7	10.9	16.3	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	35	298	133	666	469	399	370	1201	537	617	1096	490
V/C Ratio(X)	0.48	0.38	0.57	0.84	0.63	0.57	0.18	0.46	0.86	0.83	0.76	0.04
Avail Cap(c_a), veh/h	128	1877	840	697	1220	1037	370	1446	647	780	1993	892
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	33.1	33.6	29.9	25.4	9.6	24.8	19.7	23.5	30.2	23.8	12.4
Incr Delay (d2), s/veh	9.9	0.8	3.8	8.7	1.4	1.3	0.2	0.3	9.7	5.9	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.2	1.7	6.5	5.7	3.6	1.2	4.6	10.5	5.7	8.1	0.3
LnGrp Delay(d),s/veh	47.0	33.9	37.4	38.6	26.9	10.9	25.0	20.0	33.2	36.1	25.0	12.4
LnGrp LOS	D	C	D	D	C	B	C	C	C	D	C	B
Approach Vol, veh/h		206			1085			1077			1368	
Approach Delay, s/veh		36.3			29.5			26.0			28.9	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.7	29.9	18.3	10.4	19.9	27.6	5.5	23.2				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.3	31.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	12.9	22.7	13.6	5.5	4.3	18.3	2.7	12.9				
Green Ext Time (p_c), s	0.8	3.2	0.7	0.9	0.3	5.3	0.0	5.0				
Intersection Summary												
HCM 2010 Ctrl Delay			28.6									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (3C) Conditions

Friday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	1189	10	13	1210	248	15	20	19	354	7	48
Future Volume (veh/h)	53	1189	10	13	1210	248	15	20	19	354	7	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	58	1292	11	14	1315	270	16	22	21	385	8	52
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1641	14	30	1506	674	199	269	224	534	9	60
Arrive On Green	0.05	0.46	0.46	0.02	0.43	0.43	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1774	3596	31	1774	3539	1583	376	746	621	1222	25	165
Grp Volume(v), veh/h	58	636	667	14	1315	270	59	0	0	445	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1743	0	0	1412	0	0
Q Serve(g_s), s	2.3	22.0	22.1	0.6	24.6	8.5	0.0	0.0	0.0	19.5	0.0	0.0
Cycle Q Clear(g_c), s	2.3	22.0	22.1	0.6	24.6	8.5	1.6	0.0	0.0	21.1	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.27		0.36	0.87		0.12
Lane Grp Cap(c), veh/h	84	807	847	30	1506	674	692	0	0	603	0	0
V/C Ratio(X)	0.69	0.79	0.79	0.47	0.87	0.40	0.09	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	123	807	847	123	1566	701	1021	0	0	888	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.9	16.7	16.7	35.2	19.0	14.4	15.3	0.0	0.0	21.3	0.0	0.0
Incr Delay (d2), s/veh	9.5	5.2	5.0	10.8	5.6	0.4	0.1	0.0	0.0	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	11.8	12.3	0.4	13.0	3.7	0.8	0.0	0.0	8.6	0.0	0.0
LnGrp Delay(d),s/veh	43.4	21.9	21.7	46.0	24.6	14.8	15.3	0.0	0.0	23.1	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h	1361			1599			59			445		
Approach Delay, s/veh	22.7			23.1			15.3			23.1		
Approach LOS	C			C			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.1	5.2	37.0		30.1	7.4	34.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.6	2.6	24.1		23.1	4.3	26.6				
Green Ext Time (p_c), s		3.5	0.0	7.3		3.0	0.0	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay	22.8											
HCM 2010 LOS	C											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (3C) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 52.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	194	522	440	95	102	193
Future Vol, veh/h	194	522	440	95	102	193
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	211	567	478	103	111	210

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	582	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	992	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	992	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	270.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	992	-	-	-	220
HCM Lane V/C Ratio	0.213	-	-	-	1.458
HCM Control Delay (s)	9.6	-	-	-	270.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	18.9

Notes






~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (3C) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 31.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	462	171	147	60	52	370
Future Vol, veh/h	462	171	147	60	52	370
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	502	186	160	65	57	402

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	225	0	0 1382 192
Stage 1	-	-	- 192 -
Stage 2	-	-	- 1190 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1344	-	- 159 850
Stage 1	-	-	- 841 -
Stage 2	-	-	- 289 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1344	-	- 100 850
Mov Cap-2 Maneuver	-	-	- 100 -
Stage 1	-	-	- 841 -
Stage 2	-	-	- 181 -

Approach	EB	WB	SB
HCM Control Delay, s	6.8	0	83.9
HCM LOS			F




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1344	-	-	-	442
HCM Lane V/C Ratio	0.374	-	-	-	1.038
HCM Control Delay (s)	9.3	-	-	-	83.9
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.8	-	-	-	14.2

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (3C) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	23	55	129	139	24
Future Vol, veh/h	14	23	55	129	139	24
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	25	60	140	151	26

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	424	164	177
Stage 1	164	-	-
Stage 2	260	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	587	881	1399
Stage 1	865	-	-
Stage 2	783	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	559	881	1399
Mov Cap-2 Maneuver	559	-	-
Stage 1	865	-	-
Stage 2	746	-	-





Approach	EB	NB	SB
HCM Control Delay, s	10.3	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1399	-	723	-	-
HCM Lane V/C Ratio	0.043	-	0.056	-	-
HCM Control Delay (s)	7.7	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Redding Rancheria
24: Smith Rd & Casino Dwy

Cumulative (2040) plus Project (3C) Conditions












Friday PM Peak

Intersection						
Int Delay, s/veh	4.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	35	595	393	0
Future Vol, veh/h	0	18	35	595	393	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	38	647	427	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	38	0	-	0	58	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1572	-	-	-	949	1034
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1572	-	-	-	949	1034
Mov Cap-2 Maneuver	-	-	-	-	949	-
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	1003	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		11.9		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1572	-	-	-	949	
HCM Lane V/C Ratio	-	-	-	-	0.45	
HCM Control Delay (s)	0	-	-	-	11.9	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	2.4	

Redding Rancheria
25: Smith Rd & I-5 SB

Cumulative (2040) plus Project (3C) Conditions

Friday PM Peak

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	127	284	237	2	5	393		
Future Volume (veh/h)	127	284	237	2	5	393		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	138	309	258	2	5	427		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	181	851	456	4	582	519		
Arrive On Green	0.10	0.46	0.25	0.25	0.33	0.33		
Sat Flow, veh/h	1774	1863	1846	14	1774	1583		
Grp Volume(v), veh/h	138	309	0	260	5	427		
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1860	1774	1583		
Q Serve(g_s), s	2.8	4.0	0.0	4.5	0.1	9.2		
Cycle Q Clear(g_c), s	2.8	4.0	0.0	4.5	0.1	9.2		
Prop In Lane	1.00			0.01	1.00	1.00		
Lane Grp Cap(c), veh/h	181	851	0	459	582	519		
V/C Ratio(X)	0.76	0.36	0.00	0.57	0.01	0.82		
Avail Cap(c_a), veh/h	286	1404	0	901	907	810		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	16.2	6.6	0.0	12.3	8.4	11.5		
Incr Delay (d2), s/veh	6.5	0.3	0.0	1.1	0.0	4.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	2.1	0.0	2.5	0.0	7.9		
LnGrp Delay(d),s/veh	22.7	6.8	0.0	13.4	8.4	15.4		
LnGrp LOS	C	A		B	A	B		
Approach Vol, veh/h		447	260		432			
Approach Delay, s/veh		11.7	13.4		15.4			
Approach LOS		B	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				21.0		16.2	7.8	13.2
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s				6.0		11.2	4.8	6.5
Green Ext Time (p_c), s				3.5		1.0	0.0	2.6
Intersection Summary								
HCM 2010 Ctrl Delay			13.5					
HCM 2010 LOS			B					

Redding Rancheria
26: I-5 NB & Smith Rd

Cumulative (2040) plus Project (3C) Conditions

Friday PM Peak

Intersection

Intersection Delay, s/veh10.4

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	258	31	0	0	50	4	188	0	2	0	0	0
Future Vol, veh/h	258	31	0	0	50	4	188	0	2	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	280	34	0	0	54	4	204	0	2	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

























Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11	8.3	10.1
HCM LOS	B	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	99%	89%	0%
Vol Thru, %	0%	11%	93%
Vol Right, %	1%	0%	7%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	190	289	54
LT Vol	188	258	0
Through Vol	0	31	50
RT Vol	2	0	4
Lane Flow Rate	207	314	59
Geometry Grp	1	1	1
Degree of Util (X)	0.288	0.412	0.078
Departure Headway (Hd)	5.022	4.722	4.803
Convergence, Y/N	Yes	Yes	Yes
Cap	715	760	743
Service Time	3.062	2.756	2.851
HCM Lane V/C Ratio	0.29	0.413	0.079
HCM Control Delay	10.1	11	8.3
HCM Lane LOS	B	B	A
HCM 95th-tile Q	1.2	2	0.3

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (3C) Conditions

Saturday PM Peak




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	57	55	330	58	244	39	420	320	379	422	9
Future Volume (veh/h)	0	57	55	330	58	244	39	420	320	379	422	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	62	60	359	214	164	42	457	348	412	459	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	315	141	581	603	513	460	1050	470	571	720	322
Arrive On Green	0.00	0.09	0.09	0.16	0.32	0.32	0.26	0.30	0.30	0.17	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	62	60	359	214	164	42	457	348	412	459	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.9	2.0	5.3	4.9	2.4	1.0	5.9	11.1	6.4	6.7	0.3
Cycle Q Clear(g_c), s	0.0	0.9	2.0	5.3	4.9	2.4	1.0	5.9	11.1	6.4	6.7	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	315	141	581	603	513	460	1050	470	571	720	322
V/C Ratio(X)	0.00	0.20	0.43	0.62	0.35	0.32	0.09	0.44	0.74	0.72	0.64	0.03
Avail Cap(c_a), veh/h	174	2550	1141	947	1657	1409	460	1965	879	1059	2708	1211
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	23.7	24.2	21.9	14.5	4.2	15.8	16.0	17.8	22.2	20.5	14.9
Incr Delay (d2), s/veh	0.0	0.3	2.0	1.1	0.4	0.4	0.1	0.3	2.3	1.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.9	2.7	2.6	1.7	0.5	2.9	5.1	3.2	3.3	0.1
LnGrp Delay(d),s/veh	0.0	24.0	26.3	22.9	14.9	4.6	15.9	16.2	20.1	24.0	21.4	14.9
LnGrp LOS		C	C	C	B	A	B	B	C	C	C	B
Approach Vol, veh/h		122			737			847			881	
Approach Delay, s/veh		25.1			16.5			17.8			22.5	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	20.7	13.2	9.0	18.6	15.4	0.0	22.2				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.3	31.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.4	13.1	7.3	4.0	3.0	8.7	0.0	6.9				
Green Ext Time (p_c), s	1.0	3.5	1.9	0.5	0.4	2.8	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			19.4									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (3C) Conditions





Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	873	10	13	830	136	15	20	19	126	0	31
Future Volume (veh/h)	22	873	10	13	830	136	15	20	19	126	0	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	24	949	11	14	902	148	16	22	21	137	0	34
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	1912	22	32	1849	827	147	148	105	341	10	50
Arrive On Green	0.03	0.53	0.53	0.02	0.52	0.52	0.17	0.17	0.17	0.17	0.00	0.17
Sat Flow, veh/h	1774	3583	42	1774	3539	1583	240	860	608	1114	58	291
Grp Volume(v), veh/h	24	469	491	14	902	148	59	0	0	171	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1708	0	0	1464	0	0
Q Serve(g_s), s	0.6	7.3	7.3	0.3	7.1	2.1	0.0	0.0	0.0	3.4	0.0	0.0
Cycle Q Clear(g_c), s	0.6	7.3	7.3	0.3	7.1	2.1	1.3	0.0	0.0	4.6	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.27		0.36	0.80		0.20
Lane Grp Cap(c), veh/h	51	944	990	32	1849	827	400	0	0	402	0	0
V/C Ratio(X)	0.47	0.50	0.50	0.44	0.49	0.18	0.15	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	204	1303	1366	204	2606	1166	1637	0	0	1479	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.8	6.4	6.4	21.1	6.6	5.5	15.4	0.0	0.0	16.7	0.0	0.0
Incr Delay (d2), s/veh	6.5	0.4	0.4	9.3	0.2	0.1	0.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.6	3.8	0.2	3.4	0.9	0.6	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	27.2	6.8	6.8	30.5	6.8	5.6	15.6	0.0	0.0	17.4	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	984				1064		59				171	
Approach Delay, s/veh	7.3				7.0		15.6				17.4	
Approach LOS	A				A		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.5	4.8	27.2		11.5	5.3	26.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.3	2.3	9.3		6.6	2.6	9.1				
Green Ext Time (p_c), s		1.4	0.0	13.5		1.4	0.0	13.6				
Intersection Summary												
HCM 2010 Ctrl Delay			8.1									
HCM 2010 LOS			A									

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (3C) Conditions

Saturday PM Peak





Intersection						
Int Delay, s/veh	7.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	121	265	322	41	71	201
Future Vol, veh/h	121	265	322	41	71	201
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	288	350	45	77	218
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	395	0	-	0	923	372
Stage 1	-	-	-	-	372	-
Stage 2	-	-	-	-	551	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1164	-	-	-	299	674
Stage 1	-	-	-	-	697	-
Stage 2	-	-	-	-	577	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1164	-	-	-	265	674
Mov Cap-2 Maneuver	-	-	-	-	265	-
Stage 1	-	-	-	-	697	-
Stage 2	-	-	-	-	512	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.7	0		23.8		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1164	-	-	-	480	
HCM Lane V/C Ratio	0.113	-	-	-	0.616	
HCM Control Delay (s)	8.5	-	-	-	23.8	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0.4	-	-	-	4.1	

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (3C) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 8.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	260	86	98	44	46	248
Future Vol, veh/h	260	86	98	44	46	248
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	283	93	107	48	50	270

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	154	0	0 789 130
Stage 1	-	-	- 130 -
Stage 2	-	-	- 659 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1426	-	- 359 920
Stage 1	-	-	- 896 -
Stage 2	-	-	- 515 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1426	-	- 288 920
Mov Cap-2 Maneuver	-	-	- 288 -
Stage 1	-	-	- 896 -
Stage 2	-	-	- 413 -

Approach	EB	WB	SB
HCM Control Delay, s	6.1	0	14.8
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1426	-	-	-	685
HCM Lane V/C Ratio	0.198	-	-	-	0.467
HCM Control Delay (s)	8.1	-	-	-	14.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.7	-	-	-	2.5

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (3C) Conditions
Saturday PM Peak

Intersection





Int Delay, s/veh 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	54	25	76	83	30
Future Vol, veh/h	16	54	25	76	83	30
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	59	27	83	90	33

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	244	107	123
Stage 1	107	-	-
Stage 2	137	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	744	947	1464
Stage 1	917	-	-
Stage 2	890	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	730	947	1464
Mov Cap-2 Maneuver	730	-	-
Stage 1	917	-	-
Stage 2	873	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	1.9	0
HCM LOS	A		












Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1464	-	887	-	-
HCM Lane V/C Ratio	0.019	-	0.086	-	-
HCM Control Delay (s)	7.5	-	9.4	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection						
Int Delay, s/veh	4.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	22	775	448	0
Future Vol, veh/h	0	18	22	775	448	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	842	487	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	24	0	-	0	44	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1591	-	-	-	967	1052
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1591	-	-	-	967	1052
Mov Cap-2 Maneuver	-	-	-	-	967	-
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1003	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		12.4		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1591	-	-	-	967	
HCM Lane V/C Ratio	-	-	-	-	0.504	
HCM Control Delay (s)	0	-	-	-	12.4	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	2.9	

Redding Rancheria
25: Smith Rd & I-5 SB

Cumulative (2040) plus Project (3C) Conditions

Saturday PM Peak

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	144	321	288	2	11	509		
Future Volume (veh/h)	144	321	288	2	11	509		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	157	349	313	2	12	553		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	199	836	466	3	677	604		
Arrive On Green	0.11	0.45	0.25	0.25	0.38	0.38		
Sat Flow, veh/h	1774	1863	1849	12	1774	1583		
Grp Volume(v), veh/h	157	349	0	315	12	553		
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1861	1774	1583		
Q Serve(g_s), s	4.1	6.0	0.0	7.2	0.2	15.7		
Cycle Q Clear(g_c), s	4.1	6.0	0.0	7.2	0.2	15.7		
Prop In Lane	1.00			0.01	1.00	1.00		
Lane Grp Cap(c), veh/h	199	836	0	469	677	604		
V/C Ratio(X)	0.79	0.42	0.00	0.67	0.02	0.92		
Avail Cap(c_a), veh/h	226	1105	0	710	714	638		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	20.4	8.8	0.0	15.9	9.1	13.9		
Incr Delay (d2), s/veh	15.3	0.3	0.0	1.7	0.0	17.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.8	3.1	0.0	3.9	0.1	14.6		
LnGrp Delay(d),s/veh	35.7	9.2	0.0	17.6	9.1	31.4		
LnGrp LOS	D	A		B	A	C		
Approach Vol, veh/h		506	315		565			
Approach Delay, s/veh		17.4	17.6		30.9			
Approach LOS		B	B		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				25.2		22.0	9.3	15.9
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s				8.0		17.7	6.1	9.2
Green Ext Time (p_c), s				4.0		0.3	0.0	2.7
Intersection Summary								
HCM 2010 Ctrl Delay	22.9							
HCM 2010 LOS	C							

Intersection

Intersection Delay, s/veh 11.8

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	293	38	0	0	44	4	246	0	4	0	0	0
Future Vol, veh/h	293	38	0	0	44	4	246	0	4	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	318	41	0	0	48	4	267	0	4	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

























Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	12.6	8.5	11.5
HCM LOS	B	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	98%	89%	0%
Vol Thru, %	0%	11%	92%
Vol Right, %	2%	0%	8%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	250	331	48
LT Vol	246	293	0
Through Vol	0	38	44
RT Vol	4	0	4
Lane Flow Rate	272	360	52
Geometry Grp	1	1	1
Degree of Util (X)	0.388	0.49	0.073
Departure Headway (Hd)	5.139	4.898	5.059
Convergence, Y/N	Yes	Yes	Yes
Cap	696	734	701
Service Time	3.198	2.951	3.138
HCM Lane V/C Ratio	0.391	0.49	0.074
HCM Control Delay	11.5	12.6	8.5
HCM Lane LOS	B	B	A
HCM 95th-tile Q	1.8	2.7	0.2

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (3D) Conditions




















Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	104	70	499	80	307	61	506	396	408	770	19
Future Volume (veh/h)	16	104	70	499	80	307	61	506	396	408	770	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	17	113	76	542	272	210	66	550	430	443	837	21
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	308	138	681	482	410	316	1169	523	565	1120	501
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.18	0.33	0.33	0.16	0.32	0.32
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	17	113	76	542	272	210	66	550	430	443	837	21
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.7	2.1	3.2	10.3	8.9	5.0	2.2	8.7	17.6	8.7	14.9	0.5
Cycle Q Clear(g_c), s	0.7	2.1	3.2	10.3	8.9	5.0	2.2	8.7	17.6	8.7	14.9	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	36	308	138	681	482	410	316	1169	523	565	1120	501
V/C Ratio(X)	0.48	0.37	0.55	0.80	0.56	0.51	0.21	0.47	0.82	0.78	0.75	0.04
Avail Cap(c_a), veh/h	138	2030	908	754	1319	1121	316	1564	700	843	2156	964
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	30.4	30.9	27.2	22.7	8.7	24.8	18.7	21.7	28.3	21.6	10.8
Incr Delay (d2), s/veh	9.6	0.7	3.4	5.5	1.0	1.0	0.3	0.3	5.9	2.9	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.1	1.6	5.6	4.7	3.1	1.1	4.2	8.5	4.3	7.4	0.3
LnGrp Delay(d),s/veh	43.8	31.1	34.3	32.7	23.7	9.7	25.1	19.0	27.6	31.2	22.6	10.9
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		206			1024			1046			1301	
Approach Delay, s/veh		33.3			25.6			22.9			25.3	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.6	27.3	17.5	10.1	16.6	26.3	5.4	22.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.3	31.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	10.7	19.6	12.3	5.2	4.2	16.9	2.7	10.9				
Green Ext Time (p_c), s	0.9	3.7	1.3	0.9	0.3	5.4	0.0	4.6				
Intersection Summary												
HCM 2010 Ctrl Delay			25.2									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.






Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (3D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	1100	10	13	1164	248	15	20	19	354	7	48
Future Volume (veh/h)	53	1100	10	13	1164	248	15	20	19	354	7	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	58	1196	11	14	1265	270	16	22	21	385	8	52
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	1637	15	30	1504	673	199	270	224	534	9	60
Arrive On Green	0.05	0.46	0.46	0.02	0.42	0.42	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1774	3593	33	1774	3539	1583	376	747	620	1222	25	165
Grp Volume(v), veh/h	58	589	618	14	1265	270	59	0	0	445	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1743	0	0	1412	0	0
Q Serve(g_s), s	2.3	19.6	19.6	0.6	23.1	8.5	0.0	0.0	0.0	19.5	0.0	0.0
Cycle Q Clear(g_c), s	2.3	19.6	19.6	0.6	23.1	8.5	1.6	0.0	0.0	21.1	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.27		0.36	0.87		0.12
Lane Grp Cap(c), veh/h	85	806	846	30	1504	673	693	0	0	603	0	0
V/C Ratio(X)	0.69	0.73	0.73	0.47	0.84	0.40	0.09	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	123	806	846	123	1570	702	1023	0	0	891	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.8	16.0	16.0	35.1	18.6	14.4	15.2	0.0	0.0	21.3	0.0	0.0
Incr Delay (d2), s/veh	9.4	3.4	3.2	10.8	4.2	0.4	0.1	0.0	0.0	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	10.2	10.7	0.4	12.1	3.7	0.8	0.0	0.0	8.5	0.0	0.0
LnGrp Delay(d),s/veh	43.3	19.4	19.3	45.9	22.7	14.8	15.3	0.0	0.0	23.1	0.0	0.0
LnGrp LOS	D	B	B	D	C	B	B			C		
Approach Vol, veh/h	1265				1549		59				445	
Approach Delay, s/veh	20.4				21.5		15.3				23.1	
Approach LOS	C				C		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.0	5.2	36.9		30.0	7.4	34.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.6	2.6	21.6		23.1	4.3	25.1				
Green Ext Time (p_c), s		3.5	0.0	9.2		3.0	0.0	5.6				
Intersection Summary												
HCM 2010 Ctrl Delay			21.2									
HCM 2010 LOS			C									

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (3D) Conditions
Friday PM Peak






Intersection						
Int Delay, s/veh	52.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	194	522	440	95	102	193
Future Vol, veh/h	194	522	440	95	102	193
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	211	567	478	103	111	210
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	582	0	-	0	1519	530
Stage 1	-	-	-	-	530	-
Stage 2	-	-	-	-	989	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	992	-	-	-	131	549
Stage 1	-	-	-	-	590	-
Stage 2	-	-	-	-	360	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	992	-	-	-	~ 103	549
Mov Cap-2 Maneuver	-	-	-	-	~ 103	-
Stage 1	-	-	-	-	590	-
Stage 2	-	-	-	-	283	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.6	0		270.3		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	992	-	-	-	220	
HCM Lane V/C Ratio	0.213	-	-	-	1.458	
HCM Control Delay (s)	9.6	-	-	-	270.3	
HCM Lane LOS	A	-	-	-	F	
HCM 95th %tile Q(veh)	0.8	-	-	-	18.9	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (3D) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 16.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	462	171	147	52	36	370
Future Vol, veh/h	462	171	147	52	36	370
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	502	186	160	57	39	402

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	216	0	0 1378 188
Stage 1	-	-	- 188 -
Stage 2	-	-	- 1190 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1354	-	- 160 854
Stage 1	-	-	- 844 -
Stage 2	-	-	- 289 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1354	-	- 101 854
Mov Cap-2 Maneuver	-	-	- 101 -
Stage 1	-	-	- 844 -
Stage 2	-	-	- 182 -

Approach	EB	WB	SB
HCM Control Delay, s	6.7	0	41.2
HCM LOS			E




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1354	-	-	-	514
HCM Lane V/C Ratio	0.371	-	-	-	0.859
HCM Control Delay (s)	9.2	-	-	-	41.2
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	1.7	-	-	-	9.1

Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (3D) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	23	55	129	139	8
Future Vol, veh/h	6	23	55	129	139	8
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	25	60	140	151	9

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	415	155	160
Stage 1	155	-	-
Stage 2	260	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	594	891	1419
Stage 1	873	-	-
Stage 2	783	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	567	891	1419
Mov Cap-2 Maneuver	567	-	-
Stage 1	873	-	-
Stage 2	747	-	-





Approach	EB	NB	SB
HCM Control Delay, s	9.7	2.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1419	-	797	-	-
HCM Lane V/C Ratio	0.042	-	0.04	-	-
HCM Control Delay (s)	7.6	-	9.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Redding Rancheria
24: Smith Rd & Casino Dwy












Cumulative (2040) plus Project (3D) Conditions

Friday PM Peak

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	35	180	176	0
Future Vol, veh/h	0	18	35	180	176	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	38	196	191	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	38	0	-	0	58	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1572	-	-	-	949	1034
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1572	-	-	-	949	1034
Mov Cap-2 Maneuver	-	-	-	-	949	-
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	1003	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9.7		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1572	-	-	-	949	
HCM Lane V/C Ratio	-	-	-	-	0.202	
HCM Control Delay (s)	0	-	-	-	9.7	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.8	

Redding Rancheria
25: Smith Rd & I-5 SB

Cumulative (2040) plus Project (3D) Conditions
Friday PM Peak

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	60	134	94	2	5	120		
Future Volume (veh/h)	60	134	94	2	5	120		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	65	146	102	2	5	130		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	131	793	319	6	392	350		
Arrive On Green	0.07	0.43	0.18	0.18	0.22	0.22		
Sat Flow, veh/h	1774	1863	1821	36	1774	1583		
Grp Volume(v), veh/h	65	146	0	104	5	130		
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1856	1774	1583		
Q Serve(g_s), s	0.8	1.1	0.0	1.1	0.0	1.6		
Cycle Q Clear(g_c), s	0.8	1.1	0.0	1.1	0.0	1.6		
Prop In Lane	1.00			0.02	1.00	1.00		
Lane Grp Cap(c), veh/h	131	793	0	325	392	350		
V/C Ratio(X)	0.49	0.18	0.00	0.32	0.01	0.37		
Avail Cap(c_a), veh/h	470	2304	0	1476	1489	1329		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.1	4.0	0.0	8.2	6.9	7.5		
Incr Delay (d2), s/veh	2.9	0.1	0.0	0.6	0.0	0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.5	0.6	0.0	0.6	0.0	1.5		
LnGrp Delay(d),s/veh	12.9	4.2	0.0	8.7	6.9	8.1		
LnGrp LOS	B	A		A	A	A		
Approach Vol, veh/h		211	104		135			
Approach Delay, s/veh		6.9	8.7		8.1			
Approach LOS		A	A		A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				13.6		9.0	5.7	8.0
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s				3.1		3.6	2.8	3.1
Green Ext Time (p_c), s				1.4		0.3	0.0	1.1
Intersection Summary								
HCM 2010 Ctrl Delay			7.7					
HCM 2010 LOS			A					

Redding Rancheria
26: I-5 NB & Smith Rd

Cumulative (2040) plus Project (3D) Conditions

Friday PM Peak

Intersection

Intersection Delay, s/veh 8.1

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	116	23	0	0	34	4	62	0	2	0	0	0
Future Vol, veh/h	116	23	0	0	34	4	62	0	2	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	126	25	0	0	37	4	67	0	2	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

























Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	7.4	8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	97%	83%	0%
Vol Thru, %	0%	17%	89%
Vol Right, %	3%	0%	11%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	64	139	38
LT Vol	62	116	0
Through Vol	0	23	34
RT Vol	2	0	4
Lane Flow Rate	70	151	41
Geometry Grp	1	1	1
Degree of Util (X)	0.088	0.179	0.047
Departure Headway (Hd)	4.545	4.255	4.108
Convergence, Y/N	Yes	Yes	Yes
Cap	793	837	858
Service Time	2.545	2.316	2.2
HCM Lane V/C Ratio	0.088	0.18	0.048
HCM Control Delay	8	8.3	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.6	0.1

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (3D) Conditions

Saturday PM Peak









												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	57	55	319	58	221	39	420	288	313	422	9
Future Volume (veh/h)	0	57	55	319	58	221	39	420	288	313	422	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	62	60	347	196	152	42	457	313	340	459	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	341	153	585	630	536	391	1002	448	506	742	332
Arrive On Green	0.00	0.10	0.10	0.16	0.34	0.34	0.22	0.28	0.28	0.15	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	62	60	347	196	152	42	457	313	340	459	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.8	1.8	4.7	4.0	2.0	1.0	5.5	9.2	4.8	6.1	0.2
Cycle Q Clear(g_c), s	0.0	0.8	1.8	4.7	4.0	2.0	1.0	5.5	9.2	4.8	6.1	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	341	153	585	630	536	391	1002	448	506	742	332
V/C Ratio(X)	0.00	0.18	0.39	0.59	0.31	0.28	0.11	0.46	0.70	0.67	0.62	0.03
Avail Cap(c_a), veh/h	188	2767	1238	1027	1798	1528	391	2132	954	1149	2938	1314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.5	22.0	20.0	12.7	3.7	16.1	15.3	16.6	20.9	18.6	13.3
Incr Delay (d2), s/veh	0.0	0.3	1.6	1.0	0.3	0.3	0.1	0.3	2.0	1.6	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	0.9	2.3	2.1	1.4	0.5	2.7	4.2	2.4	3.0	0.1
LnGrp Delay(d),s/veh	0.0	21.8	23.6	21.0	13.0	4.0	16.2	15.6	18.6	22.5	19.4	13.3
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		122			695			812			809	
Approach Delay, s/veh		22.7			15.0			16.8			20.6	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	18.7	12.5	9.0	15.4	14.9	0.0	21.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.3	31.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.8	11.2	6.7	3.8	3.0	8.1	0.0	6.0				
Green Ext Time (p_c), s	0.8	3.5	1.9	0.5	0.3	2.8	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			17.9									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (3D) Conditions

Saturday PM Peak





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	775	10	13	796	136	15	20	19	126	0	31
Future Volume (veh/h)	22	775	10	13	796	136	15	20	19	126	0	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	24	842	11	14	865	148	16	22	21	137	0	34
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	1863	24	32	1803	807	152	149	106	349	10	51
Arrive On Green	0.03	0.52	0.52	0.02	0.51	0.51	0.17	0.17	0.17	0.17	0.00	0.17
Sat Flow, veh/h	1774	3577	47	1774	3539	1583	241	858	608	1113	59	291
Grp Volume(v), veh/h	24	416	437	14	865	148	59	0	0	171	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1583	1707	0	0	1463	0	0
Q Serve(g_s), s	0.6	6.2	6.2	0.3	6.6	2.1	0.0	0.0	0.0	3.2	0.0	0.0
Cycle Q Clear(g_c), s	0.6	6.2	6.2	0.3	6.6	2.1	1.2	0.0	0.0	4.4	0.0	0.0
Prop In Lane	1.00		0.03	1.00		1.00	0.27		0.36	0.80		0.20
Lane Grp Cap(c), veh/h	52	921	966	32	1803	807	406	0	0	410	0	0
V/C Ratio(X)	0.46	0.45	0.45	0.44	0.48	0.18	0.15	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	212	1356	1422	212	2713	1214	1704	0	0	1539	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.9	6.3	6.3	20.3	6.6	5.5	14.7	0.0	0.0	16.0	0.0	0.0
Incr Delay (d2), s/veh	6.4	0.3	0.3	9.2	0.2	0.1	0.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.0	3.1	0.2	3.2	0.9	0.6	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	26.3	6.6	6.6	29.5	6.8	5.6	14.9	0.0	0.0	16.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h	877			1027			59			171		
Approach Delay, s/veh	7.2			7.0			14.9			16.6		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.3	4.7	25.7		11.3	5.2	25.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.2	2.3	8.2		6.4	2.6	8.6				
Green Ext Time (p_c), s		1.4	0.0	12.8		1.4	0.0	12.6				
Intersection Summary												
HCM 2010 Ctrl Delay	8.0											
HCM 2010 LOS	A											

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Cumulative (2040) plus Project (3D) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 7.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	121	265	322	41	71	201
Future Vol, veh/h	121	265	322	41	71	201
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	288	350	45	77	218

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	395	0	0 923 372
Stage 1	-	-	- 372 -
Stage 2	-	-	- 551 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1164	-	- 299 674
Stage 1	-	-	- 697 -
Stage 2	-	-	- 577 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1164	-	- 265 674
Mov Cap-2 Maneuver	-	-	- 265 -
Stage 1	-	-	- 697 -
Stage 2	-	-	- 512 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	23.8
HCM LOS			C





Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1164	-	-	-	480
HCM Lane V/C Ratio	0.113	-	-	-	0.616
HCM Control Delay (s)	8.5	-	-	-	23.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	4.1

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (3D) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 7.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	260	86	98	38	28	248
Future Vol, veh/h	260	86	98	38	28	248
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	283	93	107	41	30	270

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	148	0	786
Stage 1	-	-	127
Stage 2	-	-	659
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1434	-	361
Stage 1	-	-	899
Stage 2	-	-	515
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1434	-	290
Mov Cap-2 Maneuver	-	-	290
Stage 1	-	-	899
Stage 2	-	-	413

Approach	EB	WB	SB
HCM Control Delay, s	6.1	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1434	-	-	-	756
HCM Lane V/C Ratio	0.197	-	-	-	0.397
HCM Control Delay (s)	8.1	-	-	-	12.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.7	-	-	-	1.9




Redding Rancheria
10: S Bonnyview Rd & Smith Rd

Cumulative (2040) plus Project (3D) Conditions

Saturday PM Peak

Intersection





Int Delay, s/veh 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	54	25	76	83	12
Future Vol, veh/h	10	54	25	76	83	12
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	59	27	83	90	13

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	234	97	103
Stage 1	97	-	-
Stage 2	137	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	754	959	1489
Stage 1	927	-	-
Stage 2	890	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	740	959	1489
Mov Cap-2 Maneuver	740	-	-
Stage 1	927	-	-
Stage 2	873	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	1.8	0
HCM LOS	A		












Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1489	-	917	-	-
HCM Lane V/C Ratio	0.018	-	0.076	-	-
HCM Control Delay (s)	7.5	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	22	327	300	0
Future Vol, veh/h	0	18	22	327	300	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	355	326	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	24	0	-	0	44	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1591	-	-	-	967	1052
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1591	-	-	-	967	1052
Mov Cap-2 Maneuver	-	-	-	-	967	-
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1003	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		10.6		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1591	-	-	-	967	
HCM Lane V/C Ratio	-	-	-	-	0.337	
HCM Control Delay (s)	0	-	-	-	10.6	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	1.5	

Redding Rancheria
25: Smith Rd & I-5 SB

Cumulative (2040) plus Project (3D) Conditions




Saturday PM Peak

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	101	217	135	2	11	214		
Future Volume (veh/h)	101	217	135	2	11	214		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	110	236	147	2	12	233		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	187	861	374	5	412	368		
Arrive On Green	0.11	0.46	0.20	0.20	0.23	0.23		
Sat Flow, veh/h	1774	1863	1833	25	1774	1583		
Grp Volume(v), veh/h	110	236	0	149	12	233		
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1858	1774	1583		
Q Serve(g_s), s	1.5	2.0	0.0	1.8	0.1	3.5		
Cycle Q Clear(g_c), s	1.5	2.0	0.0	1.8	0.1	3.5		
Prop In Lane	1.00			0.01	1.00	1.00		
Lane Grp Cap(c), veh/h	187	861	0	380	412	368		
V/C Ratio(X)	0.59	0.27	0.00	0.39	0.03	0.63		
Avail Cap(c_a), veh/h	406	1992	0	1277	1287	1149		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.2	4.3	0.0	9.0	7.8	9.0		
Incr Delay (d2), s/veh	2.9	0.2	0.0	0.7	0.0	1.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.9	1.1	0.0	1.0	0.1	3.2		
LnGrp Delay(d),s/veh	14.1	4.5	0.0	9.7	7.8	10.9		
LnGrp LOS	B	A		A	A	B		
Approach Vol, veh/h		346	149		245			
Approach Delay, s/veh		7.6	9.7		10.7			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				16.1		10.1	6.8	9.3
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s				4.0		5.5	3.5	3.8
Green Ext Time (p_c), s				2.3		0.6	0.1	1.9
Intersection Summary								
HCM 2010 Ctrl Delay			9.0					
HCM 2010 LOS			A					

Intersection

Intersection Delay, s/veh 9

Intersection LOS A
























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	195	32	0	0	26	4	111	0	4	0	0	0
Future Vol, veh/h	195	32	0	0	26	4	111	0	4	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	212	35	0	0	28	4	121	0	4	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.4	7.6	8.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	97%	86%	0%
Vol Thru, %	0%	14%	87%
Vol Right, %	3%	0%	13%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	115	227	30
LT Vol	111	195	0
Through Vol	0	32	26
RT Vol	4	0	4
Lane Flow Rate	125	247	33
Geometry Grp	1	1	1
Degree of Util (X)	0.165	0.305	0.04
Departure Headway (Hd)	4.758	4.455	4.436
Convergence, Y/N	Yes	Yes	Yes
Cap	756	809	809
Service Time	2.773	2.468	2.454
HCM Lane V/C Ratio	0.165	0.305	0.041
HCM Control Delay	8.7	9.4	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.6	1.3	0.1







Redding Rancheria
17: SR-273 & North St

Cumulative (2040) plus Project (E) Conditions
Friday PM Peak

	<div></div>											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	126	68	256	117	175	66	250	253	224	404	18
Future Volume (veh/h)	15	126	68	256	117	175	66	250	253	224	404	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	16	137	74	278	127	190	72	272	275	243	439	20
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	296	190	103	367	385	327	105	873	390	184	1030	461
Arrive On Green	0.17	0.17	0.17	0.21	0.21	0.21	0.06	0.25	0.25	0.10	0.29	0.29
Sat Flow, veh/h	1774	1139	615	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	16	0	211	278	127	190	72	272	275	243	439	20
Grp Sat Flow(s),veh/h/ln	1774	0	1754	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.4	0.0	6.6	8.5	3.4	6.3	2.3	3.6	9.2	6.0	5.8	0.5
Cycle Q Clear(g_c), s	0.4	0.0	6.6	8.5	3.4	6.3	2.3	3.6	9.2	6.0	5.8	0.5
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	296	0	293	367	385	327	105	873	390	184	1030	461
V/C Ratio(X)	0.05	0.00	0.72	0.76	0.33	0.58	0.69	0.31	0.70	1.32	0.43	0.04
Avail Cap(c_a), veh/h	1103	0	1090	551	579	492	184	1161	519	184	1161	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	22.9	21.6	19.6	20.7	26.7	17.8	19.9	26.0	16.6	14.7
Incr Delay (d2), s/veh	0.1	0.0	3.4	3.3	0.5	1.6	7.6	0.2	2.8	177.8	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	3.4	4.5	1.8	2.9	1.3	1.8	4.3	12.0	2.8	0.2
LnGrp Delay(d),s/veh	20.4	0.0	26.2	24.9	20.0	22.3	34.4	18.0	22.7	203.7	16.9	14.8
LnGrp LOS	C		C	C	C	C	C	B	C	F	B	B
Approach Vol, veh/h	227		595				619			702		
Approach Delay, s/veh	25.8		23.1				22.0			81.5		
Approach LOS	C		C				C			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	18.3		13.7	7.4	20.9		16.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	19.0			36.0	6.0	19.0		18.0				
Max Q Clear Time (g_c+I), s	11.2			8.6	4.3	7.8		10.5				
Green Ext Time (p_c), s	0.0	3.1		1.3	0.0	3.8		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			42.2									
HCM 2010 LOS			D									

Redding Rancheria
18: Oak St & North St

Cumulative (2040) plus Project (E) Conditions
Friday PM Peak

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	177	407	4	13	505	380	4	176	16	276	128	114
Future Vol, veh/h	177	407	4	13	505	380	4	176	16	276	128	114
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	192	442	4	14	549	413	4	191	17	300	139	124

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	962	0	0	447	0	0	1201	1819	445	1718	1616	481
Stage 1	-	-	-	-	-	-	829	829	-	784	784	-
Stage 2	-	-	-	-	-	-	372	990	-	934	832	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	713	-	-	1111	-	-	151	~ 77	612	~ 64	~ 103	532
Stage 1	-	-	-	-	-	-	364	384	-	353	403	-
Stage 2	-	-	-	-	-	-	621	323	-	318	383	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	713	-	-	1111	-	-	-	~ 56	612	-	~ 74	532
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 56	-	-	~ 74	-
Stage 1	-	-	-	-	-	-	266	281	-	~ 258	398	-
Stage 2	-	-	-	-	-	-	306	319	-	~ 72	280	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.6	0.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	713	-	-	1111	-	-	-
HCM Lane V/C Ratio	-	0.27	-	-	0.013	-	-	-
HCM Control Delay (s)	-	11.9	-	-	8.3	-	-	-
HCM Lane LOS	-	B	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	1.1	-	-	0	-	-	-

Notes												
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Intersection

Intersection Delay, s/veh	52.3
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↓	↓
Traffic Vol, veh/h	0	742	374	0	227	568
Future Vol, veh/h	0	742	374	0	227	568
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	807	407	0	247	617
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	30.1	15.6	90.3
HCM LOS	D	C	F

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	371	371	187	187	227	568
LT Vol	0	0	0	0	227	0
Through Vol	371	371	187	187	0	0
RT Vol	0	0	0	0	0	568
Lane Flow Rate	403	403	203	203	247	617
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.845	0.648	0.455	0.357	0.551	1.168
Departure Headway (Hd)	7.923	6.133	8.506	6.705	8.038	6.813
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	460	593	427	541	449	537
Service Time	5.623	3.833	6.206	4.405	5.782	4.556
HCM Lane V/C Ratio	0.876	0.68	0.475	0.375	0.55	1.149
HCM Control Delay	40.8	19.4	18.1	13.1	20.3	118.3
HCM Lane LOS	E	C	C	B	C	F
HCM 95th-tile Q	8.4	4.7	2.3	1.6	3.3	21.6







Redding Rancheria
20: McMurray Dr/I-5 NB On Ramp & North St

Cumulative (2040) plus Project (E) Conditions
Friday PM Peak

Intersection

Intersection Delay, s/veh95.7

Intersection LOS F







Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	351	249	317	214	279	44	93	241	262	0	0	0
Future Vol, veh/h	351	249	317	214	279	44	93	241	262	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	382	271	345	233	303	48	101	262	285	0	0	0
Number of Lanes	1	2	0	1	2	0	1	0	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	63.1	26.5	208.2
HCM LOS	F	D	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	48%	0%	100%	21%	0%	100%	68%
Vol Right, %	0%	52%	0%	0%	79%	0%	0%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	93	503	351	166	400	214	186	137
LT Vol	93	0	351	0	0	214	0	0
Through Vol	0	241	0	166	83	0	186	93
RT Vol	0	262	0	0	317	0	0	44
Lane Flow Rate	101	547	382	180	435	233	202	149
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.293	1.453	0.972	0.435	0.981	0.645	0.533	0.383
Departure Headway (Hd)	10.446	9.567	10.29	9.762	9.177	11.245	10.717	10.479
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	344	383	355	372	400	323	340	345
Service Time	8.216	7.337	7.99	7.462	6.877	8.945	8.417	8.179
HCM Lane V/C Ratio	0.294	1.428	1.076	0.484	1.087	0.721	0.594	0.432
HCM Control Delay	17.5	243.5	74.1	19.8	71.4	32.3	25	19.5
HCM Lane LOS	C	F	F	C	F	D	C	C
HCM 95th-tile Q	1.2	28.3	10.7	2.1	11.6	4.2	3	1.7

Redding Rancheria
21: Oak St & Balls Ferry Rd




















Cumulative (2040) plus Project (E) Conditions
Friday PM Peak

Intersection												
Int Delay, s/veh	6.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	400	12	23	392	171	16	4	56	149	0	0
Future Vol, veh/h	3	400	12	23	392	171	16	4	56	149	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	435	13	25	426	186	17	4	61	162	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	612	0	0	448	0	0	711	1110	224	795	-	-
Stage 1	-	-	-	-	-	-	448	448	-	569	-	-
Stage 2	-	-	-	-	-	-	263	662	-	226	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	-
Pot Cap-1 Maneuver	963	-	-	1109	-	-	320	208	779	278	0	0
Stage 1	-	-	-	-	-	-	560	571	-	474	0	0
Stage 2	-	-	-	-	-	-	719	457	-	756	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	963	-	-	1109	-	-	314	203	779	247	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	314	203	-	247	-	-
Stage 1	-	-	-	-	-	-	558	569	-	473	-	-
Stage 2	-	-	-	-	-	-	703	447	-	689	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.3			13			43.6		
HCM LOS							B			E		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	533	963	-	-	1109	-	-	247
HCM Lane V/C Ratio	0.155	0.003	-	-	0.023	-	-	0.656
HCM Control Delay (s)	13	8.8	-	-	8.3	-	-	43.6
HCM Lane LOS	B	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	4.1

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	439	168	513	570	27	0	0	0	24	83	9
Future Volume (veh/h)	4	439	168	513	570	27	0	0	0	24	83	9
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	4	477	183	558	620	29				26	90	10
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	9	502	191	1071	2825	1264				136	126	14
Arrive On Green	0.01	0.20	0.20	0.60	0.80	0.80				0.08	0.08	0.08
Sat Flow, veh/h	1774	2508	956	1774	3539	1583				1774	1647	183
Grp Volume(v), veh/h	4	336	324	558	620	29				26	0	100
Grp Sat Flow(s),veh/h/ln	1774	1770	1694	1774	1770	1583				1774	0	1830
Q Serve(g_s), s	0.2	18.7	18.9	18.2	4.3	0.4				1.4	0.0	5.3
Cycle Q Clear(g_c), s	0.2	18.7	18.9	18.2	4.3	0.4				1.4	0.0	5.3
Prop In Lane	1.00		0.56	1.00		1.00				1.00		0.10
Lane Grp Cap(c), veh/h	9	354	339	1071	2825	1264				136	0	140
V/C Ratio(X)	0.43	0.95	0.96	0.52	0.22	0.02				0.19	0.00	0.71
Avail Cap(c_a), veh/h	89	354	339	1071	2825	1264				550	0	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.65	0.65	0.65				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.6	39.5	39.6	11.5	2.5	2.1				43.3	0.0	45.1
Incr Delay (d2), s/veh	28.2	36.4	39.2	0.3	0.1	0.0				0.7	0.0	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	12.7	12.5	8.9	2.1	0.2				0.7	0.0	3.0
LnGrp Delay(d),s/veh	77.8	75.9	78.8	11.8	2.6	2.1				44.0	0.0	51.7
LnGrp LOS	E	E	E	B	A	A				D		D
Approach Vol, veh/h		664			1207						126	
Approach Delay, s/veh		77.3			6.8						50.1	
Approach LOS		E			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			64.4	24.0		11.6	4.5	83.8				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			37.0	20.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			20.2	20.9		7.3	2.2	6.3				
Green Ext Time (p_c), s			5.7	0.0		0.5	0.0	7.2				
Intersection Summary												
HCM 2010 Ctrl Delay			33.0									
HCM 2010 LOS			C									
























Redding Rancheria
23: I-5 NB Off Ramp/McMurray Dr & Balls Ferry Rd

Cumulative (2040) plus Project (E) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	341	0	0	631	197	279	177	256	232	0	272
Future Volume (veh/h)	115	341	0	0	631	197	279	177	256	232	0	272
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	125	371	0	0	686	214	303	192	278	252	0	296
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	704	2502	0	0	717	224	378	397	338	0	0	0
Arrive On Green	0.79	1.00	0.00	0.00	0.27	0.27	0.21	0.21	0.21	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2751	829	1774	1863	1583		0	
Grp Volume(v), veh/h	125	371	0	0	457	443	303	192	278		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1716	1774	1863	1583			
Q Serve(g_s), s	1.7	0.0	0.0	0.0	25.4	25.4	16.2	9.0	16.8			
Cycle Q Clear(g_c), s	1.7	0.0	0.0	0.0	25.4	25.4	16.2	9.0	16.8			
Prop In Lane	1.00		0.00	0.00		0.48	1.00		1.00			
Lane Grp Cap(c), veh/h	704	2502	0	0	478	463	378	397	338			
V/C Ratio(X)	0.18	0.15	0.00	0.00	0.96	0.96	0.80	0.48	0.82			
Avail Cap(c_a), veh/h	704	2502	0	0	478	463	603	633	538			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.90	0.90	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	6.4	0.0	0.0	0.0	35.9	35.9	37.3	34.5	37.5			
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	31.6	32.2	4.0	0.9	5.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	0.0	16.6	16.2	8.3	4.7	7.9			
LnGrp Delay(d),s/veh	6.5	0.1	0.0	0.0	67.5	68.2	41.4	35.4	43.2			
LnGrp LOS	A	A			E	E	D	D	D			
Approach Vol, veh/h		496			900			773				
Approach Delay, s/veh		1.7			67.8			40.5				
Approach LOS		A			E			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		25.3		74.7			43.7	31.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+l1), s		18.8		2.0			3.7	27.4				
Green Ext Time (p_c), s		2.6		2.9			0.4	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			43.0									
HCM 2010 LOS			D									







Redding Rancheria
17: SR-273 & North St

Cumulative (2040) plus Project (E) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	95	22	155	69	166	33	190	182	232	252	9
Future Volume (veh/h)	5	95	22	155	69	166	33	190	182	232	252	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	5	103	24	168	75	180	36	207	198	252	274	10
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	152	35	314	330	281	72	771	345	242	1111	497
Arrive On Green	0.10	0.10	0.10	0.18	0.18	0.18	0.04	0.22	0.22	0.14	0.31	0.31
Sat Flow, veh/h	1774	1462	341	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	5	0	127	168	75	180	36	207	198	252	274	10
Grp Sat Flow(s),veh/h/ln	1774	0	1803	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.1	0.0	3.0	3.8	1.5	4.6	0.9	2.1	4.9	6.0	2.5	0.2
Cycle Q Clear(g_c), s	0.1	0.0	3.0	3.8	1.5	4.6	0.9	2.1	4.9	6.0	2.5	0.2
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	184	0	187	314	330	281	72	771	345	242	1111	497
V/C Ratio(X)	0.03	0.00	0.68	0.53	0.23	0.64	0.50	0.27	0.57	1.04	0.25	0.02
Avail Cap(c_a), veh/h	1454	0	1478	727	764	649	242	1531	685	242	1531	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.7	0.0	19.0	16.4	15.5	16.8	20.6	14.3	15.4	19.0	11.2	10.4
Incr Delay (d2), s/veh	0.1	0.0	4.2	1.4	0.3	2.4	5.3	0.2	1.5	68.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.7	1.9	0.8	2.2	0.5	1.1	2.3	7.5	1.2	0.1
LnGrp Delay(d),s/veh	17.7	0.0	23.2	17.8	15.8	19.2	26.0	14.5	16.9	87.5	11.3	10.4
LnGrp LOS	B		C	B	B	B	C	B	B	F	B	B
Approach Vol, veh/h	132				423		441				536	
Approach Delay, s/veh	23.0				18.1		16.5				47.1	
Approach LOS	C				B		B				D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	10.0	13.6			8.6	5.8	17.8	11.8				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	19.0				36.0	6.0	19.0	18.0				
Max Q Clear Time (g_c+I), s	6.9				5.0	2.9	4.5	6.6				
Green Ext Time (p_c), s	0.0	2.7			0.7	0.0	2.9	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			28.2									
HCM 2010 LOS			C									

Redding Rancheria
18: Oak St & North St

Cumulative (2040) plus Project (E) Conditions
Saturday PM Peak

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	208	261	2	10	266	460	4	220	13	296	139	119
Future Vol, veh/h	208	261	2	10	266	460	4	220	13	296	139	119
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	226	284	2	11	289	500	4	239	14	322	151	129

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	789	0	0	286	0	0	979	1548	285	1425	1299	395
Stage 1	-	-	-	-	-	-	737	737	-	561	561	-
Stage 2	-	-	-	-	-	-	242	811	-	864	738	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	829	-	-	1275	-	-	217	~ 114	753	~ 104	161	605
Stage 1	-	-	-	-	-	-	409	424	-	480	509	-
Stage 2	-	-	-	-	-	-	741	392	-	348	423	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	829	-	-	1275	-	-	-	~ 82	753	-	~ 116	605
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 82	-	-	~ 116	-
Stage 1	-	-	-	-	-	-	297	308	-	349	505	-
Stage 2	-	-	-	-	-	-	405	389	-	~ 56	308	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.8	0.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	829	-	-	1275	-	-	-
HCM Lane V/C Ratio	-	0.273	-	-	0.009	-	-	-
HCM Control Delay (s)	-	11	-	-	7.8	-	-	-
HCM Lane LOS	-	B	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	1.1	-	-	0	-	-	-

Notes												
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Intersection

Intersection Delay, s/veh 35.7
Intersection LOS E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	0	592	227	0	136	560
Future Vol, veh/h	0	592	227	0	136	560
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	643	247	0	148	609
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	17.7	11.9	58.7
HCM LOS	C	B	F

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	296	296	114	114	136	560
LT Vol	0	0	0	0	136	0
Through Vol	296	296	114	114	0	0
RT Vol	0	0	0	0	0	560
Lane Flow Rate	322	322	123	123	148	609
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.642	0.483	0.265	0.204	0.3	1.031
Departure Headway (Hd)	7.29	5.51	7.866	6.073	7.311	6.095
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	499	660	459	595	489	590
Service Time	4.99	3.21	5.566	3.773	5.094	3.877
HCM Lane V/C Ratio	0.645	0.488	0.268	0.207	0.303	1.032
HCM Control Delay	22.1	13.2	13.4	10.3	13.2	69.8
HCM Lane LOS	C	B	B	B	B	F
HCM 95th-tile Q	4.5	2.6	1.1	0.8	1.2	16.2







Redding Rancheria
20: McMurray Dr/I-5 NB On Ramp & North St

Cumulative (2040) plus Project (E) Conditions
Saturday PM Peak

Intersection

Intersection Delay, s/veh26.5

Intersection LOS D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	305	178	212	161	168	48	62	146	218	0	0	0
Future Vol, veh/h	305	178	212	161	168	48	62	146	218	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	332	193	230	175	183	52	67	159	237	0	0	0
Number of Lanes	1	2	0	1	2	0	1	0	1	0	0	0







Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	25	16.1	38.2
HCM LOS	C	C	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	40%	0%	100%	22%	0%	100%	54%
Vol Right, %	0%	60%	0%	0%	78%	0%	0%	46%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	364	305	119	271	161	112	104
LT Vol	62	0	305	0	0	161	0	0
Through Vol	0	146	0	119	59	0	112	56
RT Vol	0	218	0	0	212	0	0	48
Lane Flow Rate	67	396	332	129	295	175	122	113
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.164	0.858	0.766	0.28	0.593	0.438	0.287	0.256
Departure Headway (Hd)	8.737	7.809	8.322	7.806	7.241	9.002	8.484	8.149
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	410	463	434	459	495	399	422	439
Service Time	6.514	5.586	6.098	5.582	5.016	6.788	6.269	5.934
HCM Lane V/C Ratio	0.163	0.855	0.765	0.281	0.596	0.439	0.289	0.257
HCM Control Delay	13.2	42.4	33.7	13.6	20.1	18.7	14.7	13.7
HCM Lane LOS	B	E	D	B	C	C	B	B
HCM 95th-tile Q	0.6	8.7	6.5	1.1	3.8	2.2	1.2	1

Redding Rancheria
21: Oak St & Balls Ferry Rd

Cumulative (2040) plus Project (E) Conditions




















Saturday PM Peak






















Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	227	4	39	308	208	13	5	35	137	0	0
Future Vol, veh/h	3	227	4	39	308	208	13	5	35	137	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	247	4	42	335	226	14	5	38	149	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	561	0	0	251	0	0	507	901	126	666	-	-
Stage 1	-	-	-	-	-	-	255	255	-	533	-	-
Stage 2	-	-	-	-	-	-	252	646	-	133	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	-
Pot Cap-1 Maneuver	1006	-	-	1311	-	-	449	276	901	345	0	0
Stage 1	-	-	-	-	-	-	727	695	-	498	0	0
Stage 2	-	-	-	-	-	-	730	465	-	857	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1006	-	-	1311	-	-	437	266	901	317	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	437	266	-	317	-	-
Stage 1	-	-	-	-	-	-	725	693	-	497	-	-
Stage 2	-	-	-	-	-	-	707	450	-	812	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.6			11.6			26		
HCM LOS							B			D		

























Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	606	1006	-	-	1311	-	-	317
HCM Lane V/C Ratio	0.095	0.003	-	-	0.032	-	-	0.47
HCM Control Delay (s)	11.6	8.6	-	-	7.8	-	-	26
HCM Lane LOS	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	2.4

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	243	157	430	537	21	0	0	0	15	52	27
Future Volume (veh/h)	3	243	157	430	537	21	0	0	0	15	52	27
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	3	264	171	467	584	23				16	57	29
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	7	331	207	1160	2859	1279				121	79	40
Arrive On Green	0.00	0.16	0.16	0.65	0.81	0.81				0.07	0.07	0.07
Sat Flow, veh/h	1774	2091	1311	1774	3539	1583				1774	1165	593
Grp Volume(v), veh/h	3	222	213	467	584	23				16	0	86
Grp Sat Flow(s),veh/h/ln	1774	1770	1631	1774	1770	1583				1774	0	1758
Q Serve(g_s), s	0.2	12.1	12.6	12.4	3.8	0.3				0.8	0.0	4.8
Cycle Q Clear(g_c), s	0.2	12.1	12.6	12.4	3.8	0.3				0.8	0.0	4.8
Prop In Lane	1.00		0.80	1.00		1.00				1.00		0.34
Lane Grp Cap(c), veh/h	7	280	258	1160	2859	1279				121	0	120
V/C Ratio(X)	0.42	0.79	0.83	0.40	0.20	0.02				0.13	0.00	0.72
Avail Cap(c_a), veh/h	89	354	326	1160	2859	1279				550	0	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.80				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.7	40.5	40.8	8.1	2.2	1.9				43.8	0.0	45.6
Incr Delay (d2), s/veh	35.4	20.3	25.0	0.2	0.1	0.0				0.5	0.0	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	7.5	7.5	6.0	1.8	0.1				0.4	0.0	2.6
LnGrp Delay(d),s/veh	85.1	60.8	65.7	8.3	2.3	1.9				44.3	0.0	53.4
LnGrp LOS	F	E	E	A	A	A				D		D
Approach Vol, veh/h		438			1074						102	
Approach Delay, s/veh		63.4			4.9						52.0	
Approach LOS		E			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			69.4	19.8		10.8	4.4	84.8				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			37.0	20.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			14.4	14.6		6.8	2.2	5.8				
Green Ext Time (p_c), s			5.6	1.2		0.5	0.0	6.3				
Intersection Summary												
HCM 2010 Ctrl Delay			23.8									
HCM 2010 LOS			C									













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	186	0	0	512	137	276	132	148	162	0	233
Future Volume (veh/h)	61	186	0	0	512	137	276	132	148	162	0	233
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	66	202	0	0	557	149	300	143	161	176	0	253
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	787	2542	0	0	649	173	358	376	319	0	0	0
Arrive On Green	0.89	1.00	0.00	0.00	0.23	0.23	0.20	0.20	0.20	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2858	737	1774	1863	1583		0	
Grp Volume(v), veh/h	66	202	0	0	356	350	300	143	161		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1733	1774	1863	1583			
Q Serve(g_s), s	0.5	0.0	0.0	0.0	19.3	19.4	16.2	6.6	9.0			
Cycle Q Clear(g_c), s	0.5	0.0	0.0	0.0	19.3	19.4	16.2	6.6	9.0			
Prop In Lane	1.00		0.00	0.00		0.43	1.00		1.00			
Lane Grp Cap(c), veh/h	787	2542	0	0	415	406	358	376	319			
V/C Ratio(X)	0.08	0.08	0.00	0.00	0.86	0.86	0.84	0.38	0.50			
Avail Cap(c_a), veh/h	787	2542	0	0	478	468	603	633	538			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.97	0.97	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	3.2	0.0	0.0	0.0	36.7	36.7	38.4	34.5	35.5			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	19.9	20.7	5.3	0.6	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.0	11.7	11.6	8.4	3.5	4.0			
LnGrp Delay(d),s/veh	3.2	0.1	0.0	0.0	56.5	57.4	43.6	35.1	36.7			
LnGrp LOS	A	A			E	E	D	D	D			
Approach Vol, veh/h		268			706			604				
Approach Delay, s/veh		0.8			57.0			39.8				
Approach LOS		A			E			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		24.2		75.8			48.4	27.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+l1), s		18.2		2.0			2.5	21.4				
Green Ext Time (p_c), s		1.9		1.5			0.3	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay			40.8									
HCM 2010 LOS			D									













Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (F) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	609	88	249	55	565	458	378	815	20
Future Volume (veh/h)	20	98	80	609	88	249	55	565	458	378	815	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	662	227	184	60	614	498	411	886	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	320	143	691	486	413	324	1257	562	524	1149	514
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.18	0.36	0.36	0.15	0.32	0.32
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	662	227	184	60	614	498	411	886	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.9	2.2	4.1	14.2	7.9	4.9	2.2	10.4	22.8	8.9	17.4	0.6
Cycle Q Clear(g_c), s	0.9	2.2	4.1	14.2	7.9	4.9	2.2	10.4	22.8	8.9	17.4	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	320	143	691	486	413	324	1257	562	524	1149	514
V/C Ratio(X)	0.51	0.33	0.61	0.96	0.47	0.45	0.19	0.49	0.89	0.79	0.77	0.04
Avail Cap(c_a), veh/h	127	1860	832	691	1209	1027	324	1387	621	817	1975	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.1	32.9	33.7	30.7	24.0	10.2	26.6	19.4	23.4	31.5	23.4	11.7
Incr Delay (d2), s/veh	9.0	0.6	4.1	24.4	0.7	0.8	0.3	0.3	13.5	2.7	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	2.0	9.3	4.1	2.9	1.1	5.1	12.0	4.4	8.7	0.3
LnGrp Delay(d),s/veh	46.1	33.5	37.8	55.1	24.7	10.9	26.9	19.7	36.9	34.1	24.6	11.7
LnGrp LOS	D	C	D	E	C	B	C	B	D	C	C	B
Approach Vol, veh/h		216			1073			1172			1319	
Approach Delay, s/veh		36.5			41.1			27.4			27.3	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	31.4	19.0	11.0	18.1	29.0	5.9	24.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	10.9	24.8	16.2	6.1	4.2	19.4	2.9	9.9				
Green Ext Time (p_c), s	0.9	2.6	0.0	0.9	0.2	5.6	0.0	4.8				
Intersection Summary												
HCM 2010 Ctrl Delay			31.8									
HCM 2010 LOS			C									
Notes												


User approved volume balancing among the lanes for turning movement.

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	291	252	164	613	805	441		
Future Volume (veh/h)	291	252	164	613	805	441		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	316	274	178	666	875	479		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	801	369	228	2129	1381	618		
Arrive On Green	0.23	0.23	0.13	0.60	0.39	0.39		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	316	274	178	666	875	479		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	3.7	7.7	4.7	4.5	9.7	12.8		
Cycle Q Clear(g_c), s	3.7	7.7	4.7	4.5	9.7	12.8		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	801	369	228	2129	1381	618		
V/C Ratio(X)	0.39	0.74	0.78	0.31	0.63	0.78		
Avail Cap(c_a), veh/h	1283	590	368	2493	1466	656		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.6	17.2	20.4	4.7	11.9	12.9		
Incr Delay (d2), s/veh	0.3	3.0	5.8	0.1	0.8	5.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	6.8	2.6	2.2	4.8	6.4		
LnGrp Delay(d),s/veh	16.0	20.2	26.2	4.8	12.7	18.4		
LnGrp LOS	B	C	C	A	B	B		
Approach Vol, veh/h	590			844	1354			
Approach Delay, s/veh	17.9			9.3	14.7			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		33.0		15.2	10.2	22.8		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		34.0		18.0	10.0	20.0		
Max Q Clear Time (g_c+I1), s		6.5		9.7	6.7	14.8		
Green Ext Time (p_c), s		13.4		1.5	0.1	4.1		
Intersection Summary								
HCM 2010 Ctrl Delay			13.8					
HCM 2010 LOS			B					

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	147	43	26	645	965	85		
Future Volume (veh/h)	147	43	26	645	965	85		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	160	47	28	701	1049	92		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	243	217	60	2268	1755	785		
Arrive On Green	0.14	0.14	0.03	0.64	0.50	0.50		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	160	47	28	701	1049	92		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	3.1	1.0	0.6	3.2	7.7	1.1		
Cycle Q Clear(g_c), s	3.1	1.0	0.6	3.2	7.7	1.1		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	243	217	60	2268	1755	785		
V/C Ratio(X)	0.66	0.22	0.47	0.31	0.60	0.12		
Avail Cap(c_a), veh/h	1822	1626	246	5895	5011	2242		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	14.7	13.8	17.1	2.9	6.5	4.9		
Incr Delay (d2), s/veh	3.0	0.5	5.5	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.4	1.5	3.7	0.5		
LnGrp Delay(d),s/veh	17.7	14.3	22.6	3.0	6.8	4.9		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	207			729	1141			
Approach Delay, s/veh	17.0			3.7	6.7			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		27.1		8.9	5.2	21.9		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+I1), s		5.2		5.1	2.6	9.7		
Green Ext Time (p_c), s		4.7		0.6	1.0	8.2		
Intersection Summary								
HCM 2010 Ctrl Delay			6.7					
HCM 2010 LOS			A					













Redding Rancheria
13: SR-273 & Westside Rd/Girvan Rd

Cumulative (2040) plus Project (F) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕	↕	↕	↕	↕
Traffic Volume (veh/h)	13	28	80	165	26	62	53	599	152	96	838	43
Future Volume (veh/h)	13	28	80	165	26	62	53	599	152	96	838	43
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	14	30	87	179	28	67	58	651	165	104	911	47
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	42	122	261	72	172	133	1267	567	133	1267	567
Arrive On Green	0.11	0.11	0.11	0.15	0.15	0.15	0.08	0.36	0.36	0.08	0.36	0.36
Sat Flow, veh/h	177	380	1102	1774	488	1168	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	131	0	0	179	0	95	58	651	165	104	911	47
Grp Sat Flow(s),veh/h/ln	1659	0	0	1774	0	1657	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	3.9	0.0	0.0	4.9	0.0	2.7	1.6	7.5	3.9	3.0	11.5	1.0
Cycle Q Clear(g_c), s	3.9	0.0	0.0	4.9	0.0	2.7	1.6	7.5	3.9	3.0	11.5	1.0
Prop In Lane	0.11		0.66	1.00		0.71	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	0	0	261	0	243	133	1267	567	133	1267	567
V/C Ratio(X)	0.72	0.00	0.00	0.69	0.00	0.39	0.44	0.51	0.29	0.78	0.72	0.08
Avail Cap(c_a), veh/h	1188	0	0	635	0	593	172	1267	567	172	1267	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	0.0	20.9	0.0	19.9	22.8	13.0	11.9	23.5	14.3	11.0
Incr Delay (d2), s/veh	5.2	0.0	0.0	3.2	0.0	1.0	2.2	1.5	1.3	15.9	3.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	2.6	0.0	1.3	0.9	3.9	1.9	2.0	6.2	0.5
LnGrp Delay(d),s/veh	27.4	0.0	0.0	24.1	0.0	21.0	25.1	14.5	13.2	39.4	17.9	11.3
LnGrp LOS	C			C		C	C	B	B	D	B	B
Approach Vol, veh/h	131			274			874			1062		
Approach Delay, s/veh	27.4			23.0			15.0			19.7		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	22.5		9.7	7.9	22.5		11.6				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.5			37.0	5.0	18.5		18.5				
Max Q Clear Time (g_c+I_b), s	9.5			5.9	3.6	13.5		6.9				
Green Ext Time (p_c), s	0.0	2.9		0.8	0.1	2.4		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay	18.7											
HCM 2010 LOS	B											

Redding Rancheria
14: SR-273 & Canyon Rd













Cumulative (2040) plus Project (F) Conditions
Friday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	378	99	118	555	644	497		
Future Volume (veh/h)	378	99	118	555	644	497		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	260	270	128	603	700	0		
Adj No. of Lanes	1	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	425	387	165	2027	1366	1075		
Arrive On Green	0.24	0.24	0.09	0.57	0.39	0.00		
Sat Flow, veh/h	1774	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	260	270	128	603	700	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	5.6	6.5	3.0	3.7	6.5	0.0		
Cycle Q Clear(g_c), s	5.6	6.5	3.0	3.7	6.5	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	425	387	165	2027	1366	1075		
V/C Ratio(X)	0.61	0.70	0.78	0.30	0.51	0.00		
Avail Cap(c_a), veh/h	1248	1136	333	3485	2489	1960		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	14.4	14.8	18.9	4.7	10.0	0.0		
Incr Delay (d2), s/veh	1.4	2.3	7.6	0.1	0.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.8	5.8	1.8	1.8	3.2	0.0		
LnGrp Delay(d),s/veh	15.9	17.1	26.5	4.8	10.3	0.0		
LnGrp LOS	B	B	C	A	B			
Approach Vol, veh/h	530			731	700			
Approach Delay, s/veh	16.5			8.6	10.3			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		28.4		14.2	8.0	20.5		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		
Max Q Clear Time (g_c+I1), s		5.7		8.5	5.0	8.5		
Green Ext Time (p_c), s		9.4		1.7	0.1	8.0		
Intersection Summary								
HCM 2010 Ctrl Delay			11.3					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
15: Canyon Rd & Redding Rancheria Rd












Cumulative (2040) plus Project (F) Conditions
Friday PM Peak

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	351	235	14	226	230	17		
Future Volume (veh/h)	351	235	14	226	230	17		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	382	0	0	256	263	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	524	468	279	474	530	278		
Arrive On Green	0.30	0.00	0.00	0.15	0.15	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	382	0	0	256	263	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	5.7	0.0	0.0	2.2	2.0	0.0		
Cycle Q Clear(g_c), s	5.7	0.0	0.0	2.2	2.0	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	524	468	279	474	530	278		
V/C Ratio(X)	0.73	0.00	0.00	0.54	0.50	0.00		
Avail Cap(c_a), veh/h	1246	1112	1170	1989	2229	1170		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.4	0.0	0.0	11.6	11.6	0.0		
Incr Delay (d2), s/veh	2.0	0.0	0.0	1.0	0.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.0	1.0	0.0		
LnGrp Delay(d),s/veh	11.3	0.0	0.0	12.6	12.3	0.0		
LnGrp LOS	B			B	B			
Approach Vol, veh/h	382		256		263			
Approach Delay, s/veh	11.3		12.6		12.3			
Approach LOS	B		B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.4				8.4		12.8
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		18.6				18.6		20.8
Max Q Clear Time (g_c+I1), s		4.2				4.0		7.7
Green Ext Time (p_c), s		0.8				0.8		1.0
Intersection Summary								
HCM 2010 Ctrl Delay			12.0					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
16: SR-273 & Happy Valley Rd

























Cumulative (2040) plus Project (F) Conditions
Friday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	69	86	83	452	568	78		
Future Volume (veh/h)	69	86	83	452	568	78		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	75	93	90	491	617	85		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	100	125	151	2200	1469	657		
Arrive On Green	0.14	0.14	0.09	0.62	0.42	0.42		
Sat Flow, veh/h	739	916	1774	3632	3632	1583		
Grp Volume(v), veh/h	169	0	90	491	617	85		
Grp Sat Flow(s),veh/h/ln	1664	0	1774	1770	1770	1583		
Q Serve(g_s), s	3.2	0.0	1.6	2.0	4.1	1.1		
Cycle Q Clear(g_c), s	3.2	0.0	1.6	2.0	4.1	1.1		
Prop In Lane	0.44	0.55	1.00			1.00		
Lane Grp Cap(c), veh/h	226	0	151	2200	1469	657		
V/C Ratio(X)	0.75	0.00	0.60	0.22	0.42	0.13		
Avail Cap(c_a), veh/h	1513	0	376	5041	3861	1727		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.7	0.0	14.5	2.7	6.8	6.0		
Incr Delay (d2), s/veh	4.8	0.0	3.7	0.1	0.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.9	1.0	2.0	0.5		
LnGrp Delay(d),s/veh	18.6	0.0	18.3	2.8	7.0	6.1		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	169			581	702			
Approach Delay, s/veh	18.6			5.2	6.9			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		24.5		8.5	6.8	17.7		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+I1), s		4.0		5.2	3.6	6.1		
Green Ext Time (p_c), s		8.1		0.5	0.0	7.6		
Intersection Summary								
HCM 2010 Ctrl Delay			7.6					
HCM 2010 LOS			A					
Notes								













User approved volume balancing among the lanes for turning movement.













Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (F) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	448	63	160	35	469	329	266	479	10
Future Volume (veh/h)	0	54	63	448	63	160	35	469	329	266	479	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	487	148	121	38	510	358	289	521	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	315	141	684	657	559	368	1084	485	437	799	358
Arrive On Green	0.00	0.09	0.09	0.19	0.35	0.35	0.21	0.31	0.31	0.13	0.23	0.23
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	487	148	121	38	510	358	289	521	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.9	2.3	7.2	3.1	1.8	1.0	6.6	11.4	4.5	7.5	0.3
Cycle Q Clear(g_c), s	0.0	0.9	2.3	7.2	3.1	1.8	1.0	6.6	11.4	4.5	7.5	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	315	141	684	657	559	368	1084	485	437	799	358
V/C Ratio(X)	0.00	0.19	0.48	0.71	0.23	0.22	0.10	0.47	0.74	0.66	0.65	0.03
Avail Cap(c_a), veh/h	174	2553	1142	948	1659	1410	368	1904	852	1122	2711	1213
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	23.7	24.3	21.2	12.8	4.3	18.0	15.8	17.5	23.4	19.7	14.0
Incr Delay (d2), s/veh	0.0	0.3	2.6	1.5	0.2	0.2	0.1	0.3	2.2	1.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.1	3.7	1.6	1.2	0.5	3.2	5.3	2.2	3.7	0.1
LnGrp Delay(d),s/veh	0.0	24.0	26.9	22.7	12.9	4.5	18.1	16.1	19.7	25.1	20.6	14.0
LnGrp LOS		C	C	C	B	A	B	B	B	C	C	B
Approach Vol, veh/h		127			756			906			821	
Approach Delay, s/veh		25.5			17.9			17.6			22.1	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.1	21.2	14.8	9.0	15.6	16.7	0.0	23.8				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.5	13.4	9.2	4.3	3.0	9.5	0.0	5.1				
Green Ext Time (p_c), s	0.7	3.8	1.6	0.5	0.3	3.2	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			19.5									
HCM 2010 LOS			B									
Notes												






















User approved volume balancing among the lanes for turning movement.

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	217	189	140	406	549	270		
Future Volume (veh/h)	217	189	140	406	549	270		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	236	205	152	441	597	293		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	706	325	198	2040	1258	563		
Arrive On Green	0.21	0.21	0.11	0.58	0.36	0.36		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	236	205	152	441	597	293		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	2.1	4.3	3.0	2.2	4.8	5.4		
Cycle Q Clear(g_c), s	2.1	4.3	3.0	2.2	4.8	5.4		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	706	325	198	2040	1258	563		
V/C Ratio(X)	0.33	0.63	0.77	0.22	0.47	0.52		
Avail Cap(c_a), veh/h	1693	779	485	3288	1934	865		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.4	13.3	15.8	3.8	9.1	9.3		
Incr Delay (d2), s/veh	0.3	2.0	6.1	0.1	0.3	0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	3.9	1.8	1.1	2.4	2.4		
LnGrp Delay(d),s/veh	12.7	15.3	21.9	3.8	9.4	10.1		
LnGrp LOS	B	B	C	A	A	B		
Approach Vol, veh/h	441			593	890			
Approach Delay, s/veh	13.9			8.4	9.6			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		25.1		11.5	8.1	17.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		34.0		18.0	10.0	20.0		
Max Q Clear Time (g_c+I1), s		4.2		6.3	5.0	7.4		
Green Ext Time (p_c), s		8.0		1.3	0.1	5.7		
Intersection Summary								
HCM 2010 Ctrl Delay			10.3					
HCM 2010 LOS			B					

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	82	22	29	464	671	61		
Future Volume (veh/h)	82	22	29	464	671	61		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	89	24	32	504	729	66		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	187	167	70	2121	1459	653		
Arrive On Green	0.11	0.11	0.04	0.60	0.41	0.41		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	89	24	32	504	729	66		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	1.3	0.4	0.5	1.8	4.1	0.7		
Cycle Q Clear(g_c), s	1.3	0.4	0.5	1.8	4.1	0.7		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	187	167	70	2121	1459	653		
V/C Ratio(X)	0.47	0.14	0.46	0.24	0.50	0.10		
Avail Cap(c_a), veh/h	2421	2161	327	7832	6657	2978		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.4	11.0	12.7	2.5	5.9	4.9		
Incr Delay (d2), s/veh	1.9	0.4	4.6	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.7	0.4	0.3	0.9	2.0	0.3		
LnGrp Delay(d),s/veh	13.3	11.4	17.3	2.6	6.2	5.0		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	113			536	795			
Approach Delay, s/veh	12.9			3.5	6.1			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		20.2		6.9	5.1	15.2		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+I1), s		3.8		3.3	2.5	6.1		
Green Ext Time (p_c), s		3.2		0.3	0.7	5.0		
Intersection Summary								
HCM 2010 Ctrl Delay			5.6					
HCM 2010 LOS			A					













Redding Rancheria
13: SR-273 & Westside Rd/Girvan Rd

Cumulative (2040) plus Project (F) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	17	56	106	9	52	47	430	104	70	577	40
Future Volume (veh/h)	24	17	56	106	9	52	47	430	104	70	577	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	26	18	61	115	10	57	51	467	113	76	627	43
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	25	84	187	25	145	119	1405	629	119	1405	629
Arrive On Green	0.09	0.09	0.09	0.11	0.11	0.11	0.07	0.40	0.40	0.07	0.40	0.40
Sat Flow, veh/h	414	286	971	1774	242	1378	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	105	0	0	115	0	67	51	467	113	76	627	43
Grp Sat Flow(s),veh/h/ln	1671	0	0	1774	0	1620	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	2.9	0.0	0.0	2.9	0.0	1.8	1.3	4.3	2.2	1.9	6.0	0.8
Cycle Q Clear(g_c), s	2.9	0.0	0.0	2.9	0.0	1.8	1.3	4.3	2.2	1.9	6.0	0.8
Prop In Lane	0.25		0.58	1.00		0.85	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	0	0	187	0	171	119	1405	629	119	1405	629
V/C Ratio(X)	0.72	0.00	0.00	0.62	0.00	0.39	0.43	0.33	0.18	0.64	0.45	0.07
Avail Cap(c_a), veh/h	1327	0	0	704	0	643	190	1405	629	190	1405	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.7	0.0	0.0	19.9	0.0	19.5	20.9	9.8	9.1	21.2	10.3	8.7
Incr Delay (d2), s/veh	6.6	0.0	0.0	3.3	0.0	1.5	2.4	0.6	0.6	5.6	1.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	1.6	0.0	0.9	0.7	2.2	1.1	1.1	3.1	0.4
LnGrp Delay(d),s/veh	27.3	0.0	0.0	23.2	0.0	20.9	23.3	10.4	9.7	26.7	11.3	8.9
LnGrp LOS	C			C		C	C	B	A	C	B	A
Approach Vol, veh/h	105				182		631				746	
Approach Delay, s/veh	27.3				22.4		11.3				12.8	
Approach LOS	C				C		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	7.1	22.5			8.1	7.1	22.5	8.9				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.5				37.0	5.0	18.5	18.5				
Max Q Clear Time (g_c+I_T), s	6.3				4.9	3.3	8.0	4.9				
Green Ext Time (p_c), s	0.0	2.4			0.6	0.0	2.8	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			14.2									
HCM 2010 LOS			B									

Redding Rancheria
14: SR-273 & Canyon Rd













Cumulative (2040) plus Project (F) Conditions
Saturday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	312	67	110	326	360	403		
Future Volume (veh/h)	312	67	110	326	360	403		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	407	0	120	354	391	0		
Adj No. of Lanes	2	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	744	339	185	1874	1043	821		
Arrive On Green	0.21	0.00	0.10	0.53	0.29	0.00		
Sat Flow, veh/h	3548	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	407	0	120	354	391	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	3.1	0.0	2.0	1.6	2.7	0.0		
Cycle Q Clear(g_c), s	3.1	0.0	2.0	1.6	2.7	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	744	339	185	1874	1043	821		
V/C Ratio(X)	0.55	0.00	0.65	0.19	0.38	0.00		
Avail Cap(c_a), veh/h	3471	1580	463	4848	3463	2726		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	10.8	0.0	13.2	3.8	8.6	0.0		
Incr Delay (d2), s/veh	0.6	0.0	3.8	0.0	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.2	0.8	1.3	0.0		
LnGrp Delay(d),s/veh	11.4	0.0	17.0	3.8	8.8	0.0		
LnGrp LOS	B		B	A	A			
Approach Vol, veh/h	407			474	391			
Approach Delay, s/veh	11.4			7.1	8.8			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		20.2		10.4	7.2	13.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		
Max Q Clear Time (g_c+I1), s		3.6		5.1	4.0	4.7		
Green Ext Time (p_c), s		4.6		1.5	0.1	4.3		
Intersection Summary								
HCM 2010 Ctrl Delay			9.0					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
15: Canyon Rd & Redding Rancheria Rd












Cumulative (2040) plus Project (F) Conditions
Saturday PM Peak

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	196	272	16	217	186	11		
Future Volume (veh/h)	196	272	16	217	186	11		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	213	0	0	247	211	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	370	330	304	516	543	285		
Arrive On Green	0.21	0.00	0.00	0.16	0.15	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	213	0	0	247	211	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	2.7	0.0	0.0	1.8	1.4	0.0		
Cycle Q Clear(g_c), s	2.7	0.0	0.0	1.8	1.4	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	370	330	304	516	543	285		
V/C Ratio(X)	0.58	0.00	0.00	0.48	0.39	0.00		
Avail Cap(c_a), veh/h	1462	1305	1373	2334	2615	1373		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.0	0.0	0.0	9.6	9.6	0.0		
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.7	0.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.8	0.7	0.0		
LnGrp Delay(d),s/veh	10.4	0.0	0.0	10.3	10.1	0.0		
LnGrp LOS	B			B	B			
Approach Vol, veh/h	213		247			211		
Approach Delay, s/veh	10.4		10.3			10.1		
Approach LOS	B		B			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.1				7.9		9.3
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		18.6				18.6		20.8
Max Q Clear Time (g_c+I1), s		3.8				3.4		4.7
Green Ext Time (p_c), s		0.8				0.6		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			10.3					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
16: SR-273 & Happy Valley Rd

Cumulative (2040) plus Project (F) Conditions
Saturday PM Peak

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	44	61	63	328	324	51		
Future Volume (veh/h)	44	61	63	328	324	51		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	48	66	68	357	352	55		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	76	105	134	2013	1178	527		
Arrive On Green	0.11	0.11	0.08	0.57	0.33	0.33		
Sat Flow, veh/h	693	953	1774	3632	3632	1583		
Grp Volume(v), veh/h	115	0	68	357	352	55		
Grp Sat Flow(s),veh/h/ln	660	0	1774	1770	1770	1583		
Q Serve(g_s), s	1.7	0.0	0.9	1.2	1.8	0.6		
Cycle Q Clear(g_c), s	1.7	0.0	0.9	1.2	1.8	0.6		
Prop In Lane	0.42	0.57	1.00			1.00		
Lane Grp Cap(c), veh/h	183	0	134	2013	1178	527		
V/C Ratio(X)	0.63	0.00	0.51	0.18	0.30	0.10		
Avail Cap(c_a), veh/h	1999	0	498	6676	5113	2288		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.6	0.0	11.1	2.6	6.2	5.7		
Incr Delay (d2), s/veh	3.5	0.0	3.0	0.0	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.9	0.0	0.5	0.6	0.9	0.3		
LnGrp Delay(d),s/veh	14.1	0.0	14.1	2.6	6.3	5.8		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	115			425	407			
Approach Delay, s/veh	14.1			4.4	6.2			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		18.2		6.7	5.9	12.3		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+I1), s		3.2		3.7	2.9	3.8		
Green Ext Time (p_c), s		4.6		0.3	0.0	4.5		
Intersection Summary								
HCM 2010 Ctrl Delay			6.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Friday Peak Hour		
Intersection	BASE	
	Delay	LOS
Bonnyview Rd & Bechelli Ln	116.9	F
Bonnyview Rd & I-5 SB Exit	46.1	D
Bonnyview Rd & I-5 NB Exit	32.3	C
Bonnyview Rd & Churn Creek Rd	39.4	D
Bonnyview Rd & Alrose Rd	10.8	B

Saturday Peak Hour		
Intersection	BASE	
	Delay	LOS
Bonnyview Rd & Bechelli Ln	89.2	F
Bonnyview Rd & I-5 SB Exit	38.1	D
Bonnyview Rd & I-5 NB Exit	19.7	B
Bonnyview Rd & Churn Creek Rd	20.5	C
Bonnyview Rd & Alrose Rd	1.6	A

Friday Peak Hour								
Intersection	1A		1B		1C		1D	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Bonnyview Rd & Bechelli Ln	301.7	F	281.3	F	297.2	F	206.9	F
Bonnyview Rd & I-5 SB Exit	194.9	F	167.6	F	189.7	F	119.8	F
Bonnyview Rd & I-5 NB Exit	167.2	F	144.6	F	153.8	F	68.3	E
Bonnyview Rd & Churn Creek Rd	221.0	F	202.4	F	213.1	F	82.4	F
Bonnyview Rd & Alrose Rd	234.3	F	222.3	F	257.1	F	77.6	F

Saturday Peak Hour								
Intersection	1A		1B		1C		1D	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Bonnyview Rd & Bechelli Ln	536.5	F	435.9	F	440.5	F	343.4	F
Bonnyview Rd & I-5 SB Exit	338.4	F	308.7	F	252.1	F	223.0	F
Bonnyview Rd & I-5 NB Exit	291.5	F	253.9	F	232.6	F	133.3	F
Bonnyview Rd & Churn Creek Rd	361.8	F	313.8	F	357.2	F	109.9	F
Bonnyview Rd & Alrose Rd	456.0	F	420.3	F	430.1	F	98.5	F

Friday Peak Hour								
Intersection	2A		2B		2C		2D	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Bonnyview Rd & Bechelli Ln	291.5	F	256.8	F	244.9	F	185.3	F
Bonnyview Rd & I-5 SB Exit	181.9	F	148.7	F	155.6	F	104.9	F
Bonnyview Rd & I-5 NB Exit	130.8	F	99.7	F	117.6	F	56.5	E
Bonnyview Rd & Churn Creek Rd	178.4	F	125.0	F	147.4	F	72.6	E
Bonnyview Rd & Alrose Rd	201.1	F	127.9	F	171.2	F	64.2	F

Saturday Peak Hour								
Intersection	2A		2B		2C		2D	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Bonnyview Rd & Bechelli Ln	405.8	F	285.9	F	373.2	F	250.6	F
Bonnyview Rd & I-5 SB Exit	325.7	F	240.8	F	298.5	F	181.7	F
Bonnyview Rd & I-5 NB Exit	229.8	F	149.4	F	193.6	F	97.4	F
Bonnyview Rd & Churn Creek Rd	273.6	F	147.4	F	188.7	F	97.7	F
Bonnyview Rd & Alrose Rd	281.3	F	133.9	F	181.7	F	88.6	F

Friday Peak Hour								
Intersection	3A		3B		3C		3D	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Bonnyview Rd & Bechelli Ln	114.2	F	120.6	F	116.4	F	119.4	F
Bonnyview Rd & I-5 SB Exit	45.9	D	47.3	D	46.3	D	46.9	D
Bonnyview Rd & I-5 NB Exit	33.6	C	33.6	C	33.7	C	33.2	C
Bonnyview Rd & Churn Creek Rd	35.9	D	37.3	D	37.1	D	36.6	D
Bonnyview Rd & Alrose Rd	7.6	A	7.3	A	8.2	A	7.6	A

Saturday Peak Hour								
Intersection	3A		3B		3C		3D	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Bonnyview Rd & Bechelli Ln	94.5	F	87.8	F	94.7	F	88.4	F
Bonnyview Rd & I-5 SB Exit	38.3	D	37.2	D	38.3	D	37.8	D
Bonnyview Rd & I-5 NB Exit	22.3	C	21.1	C	22.3	C	21.0	C
Bonnyview Rd & Churn Creek Rd	19.6	B	20.1	C	19.3	B	20.2	C
Bonnyview Rd & Alrose Rd	1.5	A	1.5	A	1.5	A	1.6	A

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 564 veh/h
Opposing direction volume, Vo 766 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	615 pc/h	835 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATSD 42.4 mi/h
Percent Free Flow Speed, PFFS 77.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	613 pc/h	833 pc/h
Base percent time-spent-following, (note-4) BPTSFD	61.7 %	
Adjustment for no-passing zones, fnp	26.8	
Percent time-spent-following, PTSFD	73.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.36	
Peak 15-min vehicle-miles of travel, VMT15	31	veh-mi
Peak-hour vehicle-miles of travel, VMT60	113	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	42.4	mi/h
Percent time-spent-following, PTSFD (from above)	73.1	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	613.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.86
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 766 veh/h
Opposing direction volume, Vo 564 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	835 pc/h	615 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 1.9 mi/h
Average travel speed, ATSD 41.9 mi/h
Percent Free Flow Speed, PFFS 76.2 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	833 pc/h	613 pc/h
Base percent time-spent-following, (note-4) BPTSFD	68.8 %	
Adjustment for no-passing zones, fnp	26.8	
Percent time-spent-following, PTSFD	84.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.49	
Peak 15-min vehicle-miles of travel, VMT15	42	veh-mi
Peak-hour vehicle-miles of travel, VMT60	153	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	41.9	mi/h
Percent time-spent-following, PTSFD (from above)	84.2	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	832.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.02
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (1A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1827	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	20.7	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1632	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1632	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	914	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	914	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	20.7	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/30/2018 10:26:32

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (1A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	2313	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	26.2	pc/mi/ln
Level of Service, LOS	D	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	2066	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	2066	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	1156	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	1156	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	26.2	pc/mi /l n
Level of service, LOS	D	

This Multilane Highway Segment text report was created on 5/30/2018 10:27:20

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 891 veh/h
Opposing direction volume, Vo 801 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	1.000	1.000
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	968 pc/h	871 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATSD 43.2 mi/h
Percent Free Flow Speed, PFFS 73.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	968 pc/h	871 pc/h
Base percent time-spent-following, (note-4) BPTSFd	75.4 %	
Adjustment for no-passing zones, fnp	21.0	
Percent time-spent-following, PTSFd	86.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.57	
Peak 15-min vehicle-miles of travel, VMT15	48	veh-mi
Peak-hour vehicle-miles of travel, VMT60	178	veh-mi
Peak 15-min total travel time, TT15	1.1	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	43.2	mi/h
Percent time-spent-following, PTSFd (from above)	86.5	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	968.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.10
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (WB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 801 veh/h
Opposing direction volume, Vo 891 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	1.000	1.000
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	871 pc/h	968 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.2 mi/h
Average travel speed, ATSD 43.3 mi/h
Percent Free Flow Speed, PFFS 73.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	871 pc/h	968 pc/h
Base percent time-spent-following, (note-4) BPTSFd	73.4 %	
Adjustment for no-passing zones, fnp	21.0	
Percent time-spent-following, PTSFd	83.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.51	
Peak 15-min vehicle-miles of travel, VMT15	44	veh-mi
Peak-hour vehicle-miles of travel, VMT60	160	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	43.3	mi/h
Percent time-spent-following, PTSFd (from above)	83.3	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	870.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.04
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (EB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 26 veh/h
Opposing direction volume, Vo 53 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	29 pc/h	59 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.5 mi/h

Free-flow speed, FFSd 57.5 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 56.2 mi/h
Percent Free Flow Speed, PFFS 97.8 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	28 pc/h	58 pc/h
Base percent time-spent-following, (note-4) BPTSFd	3.5 %	
Adjustment for no-passing zones, fnp	10.2	
Percent time-spent-following, PTSFd	6.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	16	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
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)	56.2	mi/h
Percent time-spent-following, PTSFd (from above)	6.8	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	28.3
Effective width of outside lane, We	39.66
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.69
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 53 veh/h
Opposing direction volume, Vo 26 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	59 pc/h	29 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.5 mi/h

Free-flow speed, FFSd 57.5 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 56.2 mi/h
Percent Free Flow Speed, PFFS 97.8 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	58 pc/h	28 pc/h
Base percent time-spent-following, (note-4) BPTSFD	7.0 %	
Adjustment for no-passing zones, fnp	10.2	
Percent time-spent-following, PTSFD	13.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	9	veh-mi
Peak-hour vehicle-miles of travel, VMT60	32	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
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)	56.2	mi/h
Percent time-spent-following, PTSFD (from above)	13.9	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	57.6
Effective width of outside lane, We	37.23
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.38
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 553 veh/h
Opposing direction volume, Vo 921 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	0.997	1.000
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	603 pc/h	1001 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 1.1 mi/h
Average travel speed, ATSD 41.5 mi/h
Percent Free Flow Speed, PFFS 75.4 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	601 pc/h	1001 pc/h
Base percent time-spent-following, (note-4) BPTSFD	62.7 %	
Adjustment for no-passing zones, fnp	22.9	
Percent time-spent-following, PTSFD	71.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	30	veh-mi
Peak-hour vehicle-miles of travel, VMT60	111	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	41.5	mi/h
Percent time-spent-following, PTSFD (from above)	71.3	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	601.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.85
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 921 veh/h
Opposing direction volume, Vo 553 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	1.000	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	1001 pc/h	603 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 1.9 mi/h
Average travel speed, ATSD 40.7 mi/h
Percent Free Flow Speed, PFFS 73.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	1001 pc/h	601 pc/h
Base percent time-spent-following, (note-4) BPTSFD	74.0 %	
Adjustment for no-passing zones, fnp	22.9	
Percent time-spent-following, PTSFD	88.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.59	
Peak 15-min vehicle-miles of travel, VMT15	50	veh-mi
Peak-hour vehicle-miles of travel, VMT60	184	veh-mi
Peak 15-min total travel time, TT15	1.2	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	40.7	mi/h
Percent time-spent-following, PTSFD (from above)	88.3	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1001.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.11
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (1A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1106	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	12.5	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	988	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	988	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	553	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	553	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	12.5	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/30/2018 10:28:07

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (1A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1894	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	21.5	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1692	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1692	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	947	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	947	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	21.5	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/30/2018 10:28:27

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 503 veh/h
Opposing direction volume, Vo 572 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	550 pc/h	624 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.9 mi/h
Average travel speed, ATSD 47.7 mi/h
Percent Free Flow Speed, PFFS 81.2 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	547 pc/h	622 pc/h
Base percent time-spent-following, (note-4) BPTSFD	55.0 %	
Adjustment for no-passing zones, fnp	34.6	
Percent time-spent-following, PTSFD	71.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.32	
Peak 15-min vehicle-miles of travel, VMT15	27	veh-mi
Peak-hour vehicle-miles of travel, VMT60	101	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	47.7	mi/h
Percent time-spent-following, PTSFD (from above)	71.2	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	546.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.81
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (WB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 572 veh/h
Opposing direction volume, Vo 503 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.997	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	624 pc/h	550 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.4 mi/h
Average travel speed, ATSD 47.3 mi/h
Percent Free Flow Speed, PFFS 80.4 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	622 pc/h	547 pc/h
Base percent time-spent-following, (note-4) BPTSFD	58.7 %	
Adjustment for no-passing zones, fnp	34.6	
Percent time-spent-following, PTSFD	77.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.37	
Peak 15-min vehicle-miles of travel, VMT15	31	veh-mi
Peak-hour vehicle-miles of travel, VMT60	114	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	47.3	mi/h
Percent time-spent-following, PTSFD (from above)	77.1	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	621.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.87
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Smith Road (EB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 27 veh/h
Opposing direction volume, Vo 32 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	30 pc/h	36 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.9 mi/h
Average travel speed, ATSD 55.4 mi/h
Percent Free Flow Speed, PFFS 94.3 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	29 pc/h	35 pc/h
Base percent time-spent-following, (note-4) BPTSFd	3.6 %	
Adjustment for no-passing zones, fnp	53.0	
Percent time-spent-following, PTSFd	27.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	1	veh-mi
Peak-hour vehicle-miles of travel, VMT60	5	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	55.4	mi/h
Percent time-spent-following, PTSFd (from above)	27.6	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	29.3
Effective width of outside lane, We	39.57
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.63
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 32 veh/h
Opposing direction volume, Vo 27 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	36 pc/h	30 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.9 mi/h
Average travel speed, ATSD 55.4 mi/h
Percent Free Flow Speed, PFFS 94.3 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	35 pc/h	29 pc/h
Base percent time-spent-following, (note-4) BPTSFd	4.4 %	
Adjustment for no-passing zones, fnp	53.0	
Percent time-spent-following, PTSFd	33.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	6	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	55.4	mi/h
Percent time-spent-following, PTSFd (from above)	33.4	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	34.8
Effective width of outside lane, We	39.12
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.36
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 436 veh/h
Opposing direction volume, Vo 577 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	477 pc/h	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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 1.8 mi/h
Average travel speed, ATSD 44.6 mi/h
Percent Free Flow Speed, PFFS 81.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	474 pc/h	627 pc/h
Base percent time-spent-following, (note-4) BPTSFD	51.4 %	
Adjustment for no-passing zones, fnp	35.3	
Percent time-spent-following, PTSFD	66.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.28	
Peak 15-min vehicle-miles of travel, VMT15	24	veh-mi
Peak-hour vehicle-miles of travel, VMT60	87	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	44.6	mi/h
Percent time-spent-following, PTSFD (from above)	66.6	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	473.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.73
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 577 veh/h
Opposing direction volume, Vo 436 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.997	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	629 pc/h	477 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.5 mi/h
Average travel speed, ATSD 44.0 mi/h
Percent Free Flow Speed, PFFS 79.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	627 pc/h	474 pc/h
Base percent time-spent-following, (note-4) BPTSFD	58.2 %	
Adjustment for no-passing zones, fnp	35.3	
Percent time-spent-following, PTSFD	78.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.37	
Peak 15-min vehicle-miles of travel, VMT15	31	veh-mi
Peak-hour vehicle-miles of travel, VMT60	115	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	44.0	mi/h
Percent time-spent-following, PTSFD (from above)	78.3	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	627.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.88
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (2A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1827	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	20.7	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1632	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1632	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	914	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	914	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	20.7	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/30/2018 10:29:09

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (2A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	2101	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	23.8	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1877	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1877	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	1050	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	1050	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	23.8	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/30/2018 10:29:43

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 891 veh/h
Opposing direction volume, Vo 801 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	1.000	1.000
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	968 pc/h	871 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATSD 43.2 mi/h
Percent Free Flow Speed, PFFS 73.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	968 pc/h	871 pc/h
Base percent time-spent-following, (note-4) BPTSFD	75.4 %	
Adjustment for no-passing zones, fnp	21.0	
Percent time-spent-following, PTSFD	86.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.57	
Peak 15-min vehicle-miles of travel, VMT15	48	veh-mi
Peak-hour vehicle-miles of travel, VMT60	178	veh-mi
Peak 15-min total travel time, TT15	1.1	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	43.2	mi/h
Percent time-spent-following, PTSFD (from above)	86.5	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	968.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.10
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (WB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 801 veh/h
Opposing direction volume, Vo 891 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	1.000	1.000
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	871 pc/h	968 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.2 mi/h
Average travel speed, ATSD 43.3 mi/h
Percent Free Flow Speed, PFFS 73.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	871 pc/h	968 pc/h
Base percent time-spent-following, (note-4) BPTSFd	73.4 %	
Adjustment for no-passing zones, fnp	21.0	
Percent time-spent-following, PTSFd	83.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.51	
Peak 15-min vehicle-miles of travel, VMT15	44	veh-mi
Peak-hour vehicle-miles of travel, VMT60	160	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	43.3	mi/h
Percent time-spent-following, PTSFd (from above)	83.3	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	870.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.04
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (EB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 154 veh/h
Opposing direction volume, Vo 242 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.6	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.982	0.988
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	170 pc/h	266 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.5 mi/h

Free-flow speed, FFSd 57.5 mi/h

Adjustment for no-passing zones, fnp 1.6 mi/h
Average travel speed, ATSD 52.5 mi/h
Percent Free Flow Speed, PFFS 91.4 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	168 pc/h	264 pc/h
Base percent time-spent-following, (note-4) BPTSFd	20.5 %	
Adjustment for no-passing zones, fnp	14.2	
Percent time-spent-following, PTSFd	26.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.10	
Peak 15-min vehicle-miles of travel, VMT15	25	veh-mi
Peak-hour vehicle-miles of travel, VMT60	92	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
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)	52.5	mi/h
Percent time-spent-following, PTSFd (from above)	26.0	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	167.4
Effective width of outside lane, We	28.14
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	1.13
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 242 veh/h
Opposing direction volume, Vo 154 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.6
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.988	0.982
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	266 pc/h	170 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.5 mi/h

Free-flow speed, FFSd 57.5 mi/h

Adjustment for no-passing zones, fnp 1.4 mi/h
Average travel speed, ATSD 52.7 mi/h
Percent Free Flow Speed, PFFS 91.7 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	264 pc/h	168 pc/h
Base percent time-spent-following, (note-4) BPTSFD	27.2 %	
Adjustment for no-passing zones, fnp	14.2	
Percent time-spent-following, PTSFD	35.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.16	
Peak 15-min vehicle-miles of travel, VMT15	39	veh-mi
Peak-hour vehicle-miles of travel, VMT60	145	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1669	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1669	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
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)	52.7	mi/h
Percent time-spent-following, PTSFD (from above)	35.9	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	263.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.43
Bicycle LOS	B

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 416 veh/h
Opposing direction volume, Vo 681 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	455 pc/h	742 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 1.5 mi/h
Average travel speed, ATSD 44.2 mi/h
Percent Free Flow Speed, PFFS 80.3 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	452 pc/h	740 pc/h
Base percent time-spent-following, (note-4) BPTSFD	51.0 %	
Adjustment for no-passing zones, fnp	31.1	
Percent time-spent-following, PTSFD	62.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	23	veh-mi
Peak-hour vehicle-miles of travel, VMT60	83	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	44.2	mi/h
Percent time-spent-following, PTSFD (from above)	62.8	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	452.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.71
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 681 veh/h
Opposing direction volume, Vo 416 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.997	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	742 pc/h	455 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.6 mi/h
Average travel speed, ATSD 43.2 mi/h
Percent Free Flow Speed, PFFS 78.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	740 pc/h	452 pc/h
Base percent time-spent-following, (note-4) BPTSFd	63.7 %	
Adjustment for no-passing zones, fnp	31.1	
Percent time-spent-following, PTSFd	83.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.44	
Peak 15-min vehicle-miles of travel, VMT15	37	veh-mi
Peak-hour vehicle-miles of travel, VMT60	136	veh-mi
Peak 15-min total travel time, TT15	0.9	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	43.2	mi/h
Percent time-spent-following, PTSFd (from above)	83.0	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	740.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.96
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (2A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1106	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	12.5	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	988	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Fami liar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	988	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	553	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	553	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	12.5	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/30/2018 10:30:25

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (2A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1625	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	18.4	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1452	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1452	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	812	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	812	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	18.4	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/30/2018 10:30:48

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 503 veh/h
Opposing direction volume, Vo 572 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	550 pc/h	624 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.9 mi/h
Average travel speed, ATSD 47.7 mi/h
Percent Free Flow Speed, PFFS 81.2 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	547 pc/h	622 pc/h
Base percent time-spent-following, (note-4) BPTSFD	55.0 %	
Adjustment for no-passing zones, fnp	34.6	
Percent time-spent-following, PTSFD	71.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.32	
Peak 15-min vehicle-miles of travel, VMT15	27	veh-mi
Peak-hour vehicle-miles of travel, VMT60	101	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	47.7	mi/h
Percent time-spent-following, PTSFD (from above)	71.2	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	546.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.81
Bicycle LOS	C

- 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 downgrade segments are treated as level terrain.
 2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (WB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 572 veh/h
Opposing direction volume, Vo 503 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.997	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	624 pc/h	550 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.4 mi/h
Average travel speed, ATSD 47.3 mi/h
Percent Free Flow Speed, PFFS 80.4 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	622 pc/h	547 pc/h
Base percent time-spent-following, (note-4) BPTSFD	58.7 %	
Adjustment for no-passing zones, fnp	34.6	
Percent time-spent-following, PTSFD	77.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.37	
Peak 15-min vehicle-miles of travel, VMT15	31	veh-mi
Peak-hour vehicle-miles of travel, VMT60	114	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	47.3	mi/h
Percent time-spent-following, PTSFD (from above)	77.1	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	621.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.87
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Smith Road (EB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 164 veh/h
Opposing direction volume, Vo 272 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.6	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.982	0.988
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	182 pc/h	299 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 3.9 mi/h
Average travel speed, ATSD 51.1 mi/h
Percent Free Flow Speed, PFFS 87.0 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	179 pc/h	297 pc/h
Base percent time-spent-following, (note-4) BPTSFd	21.9 %	
Adjustment for no-passing zones, fnp	53.9	
Percent time-spent-following, PTSFd	42.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.11	
Peak 15-min vehicle-miles of travel, VMT15	9	veh-mi
Peak-hour vehicle-miles of travel, VMT60	33	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.1	mi/h
Percent time-spent-following, PTSFd (from above)	42.2	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	178.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.24
Bicycle LOS	B

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/258/18
Analysis Time Period Saturday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 272 veh/h
Opposing direction volume, Vo 164 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.6
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.988	0.982
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	299 pc/h	182 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 3.9 mi/h
Average travel speed, ATSD 51.1 mi/h
Percent Free Flow Speed, PFFS 86.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	297 pc/h	179 pc/h
Base percent time-spent-following, (note-4) BPTSFd	30.0 %	
Adjustment for no-passing zones, fnp	53.9	
Percent time-spent-following, PTSFd	63.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.18	
Peak 15-min vehicle-miles of travel, VMT15	15	veh-mi
Peak-hour vehicle-miles of travel, VMT60	54	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1669	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1669	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.1	mi/h
Percent time-spent-following, PTSFd (from above)	63.6	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	295.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.49
Bicycle LOS	B

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	0.92
Shoulder width	6.0 ft	% Trucks and buses	3 %
Lane width	12.0 ft	% Trucks crawling	0.0 %
Segment length	0.2 mi	Truck crawl speed	0.0 mi/hr
Terrain type	Level	% Recreational vehicles	4 %
Grade: Length	- mi	% No-passing zones	100 %
Up/down	- %	Access point density	20 /mi

Analysis direction volume, Vd 100 veh/h
Opposing direction volume, Vo 84 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	112 pc/h	94 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.7 mi/h
Average travel speed, ATSD 50.7 mi/h
Percent Free Flow Speed, PFFS 92.2 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	109 pc/h	92 pc/h
Base percent time-spent-following, (note-4) BPTSFD	12.6 %	
Adjustment for no-passing zones, fnp	53.0	
Percent time-spent-following, PTSFD	41.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.07	
Peak 15-min vehicle-miles of travel, VMT15	5	veh-mi
Peak-hour vehicle-miles of travel, VMT60	20	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	50.7	mi/h
Percent time-spent-following, PTSFD (from above)	41.3	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	108.7
Effective width of outside lane, We	33.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-0.58
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 84 veh/h
Opposing direction volume, Vo 100 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	94 pc/h	112 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.9 mi/h
Average travel speed, ATSD 50.5 mi/h
Percent Free Flow Speed, PFFS 91.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	92 pc/h	109 pc/h
Base percent time-spent-following, (note-4) BPTSFd	10.8 %	
Adjustment for no-passing zones, fnp	53.0	
Percent time-spent-following, PTSFd	35.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.06	
Peak 15-min vehicle-miles of travel, VMT15	5	veh-mi
Peak-hour vehicle-miles of travel, VMT60	17	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	50.5	mi/h
Percent time-spent-following, PTSFd (from above)	35.1	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	91.3
Effective width of outside lane, We	34.44
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.15
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (3A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1865	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	21.1	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1666	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1666	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	932	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	932	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	21.1	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/30/2018 10:31:31

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (3A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1927	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	21.9	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1721	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Fami liar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1721	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	964	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	964	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	21.9	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/30/2018 10:32:01

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 831 veh/h
Opposing direction volume, Vo 718 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	1.000	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	903 pc/h	783 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.4 mi/h
Average travel speed, ATSD 44.2 mi/h
Percent Free Flow Speed, PFFS 75.3 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	903 pc/h	780 pc/h
Base percent time-spent-following, (note-4) BPTSFD	73.0 %	
Adjustment for no-passing zones, fnp	23.5	
Percent time-spent-following, PTSFD	85.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.53	
Peak 15-min vehicle-miles of travel, VMT15	45	veh-mi
Peak-hour vehicle-miles of travel, VMT60	166	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	44.2	mi/h
Percent time-spent-following, PTSFD (from above)	85.6	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	903.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.06
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (WB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 718 veh/h
Opposing direction volume, Vo 831 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	0.997	1.000
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	783 pc/h	903 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATSD 44.4 mi/h
Percent Free Flow Speed, PFFS 75.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	780 pc/h	903 pc/h
Base percent time-spent-following, (note-4) BPTSFD	69.6 %	
Adjustment for no-passing zones, fnp	23.5	
Percent time-spent-following, PTSFD	80.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.46	
Peak 15-min vehicle-miles of travel, VMT15	39	veh-mi
Peak-hour vehicle-miles of travel, VMT60	144	veh-mi
Peak 15-min total travel time, TT15	0.9	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	44.4	mi/h
Percent time-spent-following, PTSFD (from above)	80.5	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	780.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.99
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (EB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 40 veh/h
Opposing direction volume, Vo 82 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	45 pc/h	92 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.5 mi/h

Free-flow speed, FFSd 57.5 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 55.8 mi/h
Percent Free Flow Speed, PFFS 97.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	44 pc/h	89 pc/h
Base percent time-spent-following, (note-4) BPTSFd	5.4 %	
Adjustment for no-passing zones, fnp	10.2	
Percent time-spent-following, PTSFd	8.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	7 veh-mi	
Peak-hour vehicle-miles of travel, VMT60	24 veh-mi	
Peak 15-min total travel time, TT15	0.1 veh-h	
Capacity from ATS, CdATS	1656 veh/h	
Capacity from PTSF, CdPTSF	1695 veh/h	
Directional Capacity	1656 veh/h	

Passing Lane Analysis

Total length of analysis segment, Lt	0.6 mi
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)	55.8 mi/h
Percent time-spent-following, PTSFd (from above)	8.8
Level of service, LOSd (from above)	A

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	- mi
Length 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	-
Average travel speed including passing lane, ATSpl	-
Percent free flow speed including passing lane, PFFSpl	0.0 %

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	- mi
Length 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

Level of service including passing lane, LOSpl	E
Peak 15-min total travel time, TT15	- veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	43.5
Effective width of outside lane, We	38.40
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.98
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 82 veh/h
Opposing direction volume, Vo 40 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	92 pc/h	45 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.5 mi/h

Free-flow speed, FFSd 57.5 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 55.8 mi/h
Percent Free Flow Speed, PFFS 97.1 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	89 pc/h	44 pc/h
Base percent time-spent-following, (note-4) BPTSFd	10.5 %	
Adjustment for no-passing zones, fnp	10.2	
Percent time-spent-following, PTSFd	17.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	49	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
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)	55.8	mi/h
Percent time-spent-following, PTSFd (from above)	17.3	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	89.1
Effective width of outside lane, We	34.62
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.23
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 53 veh/h
Opposing direction volume, Vo 48 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	59 pc/h	54 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.7 mi/h
Average travel speed, ATSD 51.4 mi/h
Percent Free Flow Speed, PFFS 93.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	58 pc/h	52 pc/h
Base percent time-spent-following, (note-4) BPTSFd	7.0 %	
Adjustment for no-passing zones, fnp	52.8	
Percent time-spent-following, PTSFd	34.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	11	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.4	mi/h
Percent time-spent-following, PTSFd (from above)	34.8	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	57.6
Effective width of outside lane, We	37.23
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.38
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 48 veh/h
Opposing direction volume, Vo 53 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	54 pc/h	59 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 5.0 mi/h

Free-flow speed, FFSd 55.0 mi/h

Adjustment for no-passing zones, fnp 2.7 mi/h
Average travel speed, ATSD 51.4 mi/h
Percent Free Flow Speed, PFFS 93.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	52 pc/h	58 pc/h
Base percent time-spent-following, (note-4) BPTSFd	6.3 %	
Adjustment for no-passing zones, fnp	52.8	
Percent time-spent-following, PTSFd	31.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	10	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	51.4	mi/h
Percent time-spent-following, PTSFd (from above)	31.3	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	52.2
Effective width of outside lane, We	37.68
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.61
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (3A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1190	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	13.5	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1063	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1063	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	595	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	595	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	13.5	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/30/2018 10:32:54

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (3A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1333	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	15.1	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1191	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi /h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Fami liar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1191	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	666	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	666	pc/h/l n
Free-Flow Speed, FFS	45.0	mi /h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi /h
Density, D	15.1	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/30/2018 10:33:15

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/.28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 461 veh/h
Opposing direction volume, Vo 498 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	504 pc/h	545 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.4 mi/h
Average travel speed, ATSD 48.2 mi/h
Percent Free Flow Speed, PFFS 82.0 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	501 pc/h	541 pc/h
Base percent time-spent-following, (note-4) BPTSFD	52.3 %	
Adjustment for no-passing zones, fnp	38.6	
Percent time-spent-following, PTSFD	70.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	C
Volume to capacity ratio, v/c	0.30
Peak 15-min vehicle-miles of travel, VMT15	25 veh-mi
Peak-hour vehicle-miles of travel, VMT60	92 veh-mi
Peak 15-min total travel time, TT15	0.5 veh-h
Capacity from ATS, CdATS	1690 veh/h
Capacity from PTSF, CdPTSF	1700 veh/h
Directional Capacity	1690 veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2 mi
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)	48.2 mi/h
Percent time-spent-following, PTSFD (from above)	70.9
Level of service, LOSd (from above)	C

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	- mi
Length 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	-
Average travel speed including passing lane, ATSpl	-
Percent free flow speed including passing lane, PFFSpl	0.0 %

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	- mi
Length 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

Level of service including passing lane, LOSpl	E
Peak 15-min total travel time, TT15	- veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	501.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.76
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (WB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 498 veh/h
Opposing direction volume, Vo 461 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	545 pc/h	504 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.8 mi/h
Average travel speed, ATSD 47.8 mi/h
Percent Free Flow Speed, PFFS 81.4 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	541 pc/h	501 pc/h
Base percent time-spent-following, (note-4) BPTSFD	54.5 %	
Adjustment for no-passing zones, fnp	38.6	
Percent time-spent-following, PTSFD	74.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.32	
Peak 15-min vehicle-miles of travel, VMT15	27	veh-mi
Peak-hour vehicle-miles of travel, VMT60	100	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	47.8	mi/h
Percent time-spent-following, PTSFD (from above)	74.5	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	541.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.80
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Smith Road (EB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 72 veh/h
Opposing direction volume, Vo 58 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	80 pc/h	65 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.9 mi/h
Average travel speed, ATSD 54.8 mi/h
Percent Free Flow Speed, PFFS 93.2 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	78 pc/h	63 pc/h
Base percent time-spent-following, (note-4) BPTSFd	9.3 %	
Adjustment for no-passing zones, fnp	53.1	
Percent time-spent-following, PTSFd	38.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	14	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	54.8	mi/h
Percent time-spent-following, PTSFd (from above)	38.7	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	78.3
Effective width of outside lane, We	35.52
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.61
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 58 veh/h
Opposing direction volume, Vo 72 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	65 pc/h	80 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 2.9 mi/h
Average travel speed, ATSD 54.8 mi/h
Percent Free Flow Speed, PFFS 93.2 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	63 pc/h	78 pc/h
Base percent time-spent-following, (note-4) BPTSFD	7.6 %	
Adjustment for no-passing zones, fnp	53.1	
Percent time-spent-following, PTSFD	31.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	12	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	54.8	mi/h
Percent time-spent-following, PTSFD (from above)	31.3	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	63.0
Effective width of outside lane, We	36.78
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.17
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway North Road, e/o Oak St (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 898 veh/h
Opposing direction volume, Vo 742 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	1.000	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	976 pc/h	809 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.4 mi/h
Average travel speed, ATSD 35.7 mi/h
Percent Free Flow Speed, PFFS 71.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	976 pc/h	807 pc/h
Base percent time-spent-following, (note-4) BPTSFd	75.1 %	
Adjustment for no-passing zones, fnp	10.6	
Percent time-spent-following, PTSFd	80.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.57	
Peak 15-min vehicle-miles of travel, VMT15	49	veh-mi
Peak-hour vehicle-miles of travel, VMT60	180	veh-mi
Peak 15-min total travel time, TT15	1.4	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	35.7	mi/h
Percent time-spent-following, PTSFd (from above)	80.9	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	976.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.10
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway North Road, e/o Oak St (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 742 veh/h
Opposing direction volume, Vo 898 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	0.997	1.000
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	809 pc/h	976 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.4 mi/h
Average travel speed, ATSD 35.7 mi/h
Percent Free Flow Speed, PFFS 71.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	807 pc/h	976 pc/h
Base percent time-spent-following,(note-4) BPTSFd	71.6 %	
Adjustment for no-passing zones, fnp	10.6	
Percent time-spent-following, PTSFd	76.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.48	
Peak 15-min vehicle-miles of travel, VMT15	40	veh-mi
Peak-hour vehicle-miles of travel, VMT60	148	veh-mi
Peak 15-min total travel time, TT15	1.1	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	35.7	mi/h
Percent time-spent-following, PTSFd (from above)	76.4	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	806.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.00
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, e/o Oak St (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 736 veh/h
Opposing direction volume, Vo 592 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	802 pc/h	645 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 38.2 mi/h
Percent Free Flow Speed, PFFS 76.4 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	800 pc/h	643 pc/h
Base percent time-spent-following, (note-4) BPTSFD	68.2 %	
Adjustment for no-passing zones, fnp	12.1	
Percent time-spent-following, PTSFD	74.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	40	veh-mi
Peak-hour vehicle-miles of travel, VMT60	147	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	38.2	mi/h
Percent time-spent-following, PTSFD (from above)	74.9	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	800.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.00
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, e/o Oak St (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 592 veh/h
Opposing direction volume, Vo 736 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	645 pc/h	802 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.4 mi/h
Average travel speed, ATSD 38.4 mi/h
Percent Free Flow Speed, PFFS 76.7 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	643 pc/h	800 pc/h
Base percent time-spent-following, (note-4) BPTSFD	62.6 %	
Adjustment for no-passing zones, fnp	12.1	
Percent time-spent-following, PTSFD	68.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.38	
Peak 15-min vehicle-miles of travel, VMT15	32	veh-mi
Peak-hour vehicle-miles of travel, VMT60	118	veh-mi
Peak 15-min total travel time, TT15	0.8	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	38.4	mi/h
Percent time-spent-following, PTSFD (from above)	68.0	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	643.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.89
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway North Road, w/o Oak St (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 588 veh/h
Opposing direction volume, Vo 623 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	641 pc/h	679 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.5 mi/h
Average travel speed, ATSD 39.2 mi/h
Percent Free Flow Speed, PFFS 78.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	639 pc/h	677 pc/h
Base percent time-spent-following, (note-4) BPTSFD	61.6 %	
Adjustment for no-passing zones, fnp	13.1	
Percent time-spent-following, PTSFD	68.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.38	
Peak 15-min vehicle-miles of travel, VMT15	32	veh-mi
Peak-hour vehicle-miles of travel, VMT60	118	veh-mi
Peak 15-min total travel time, TT15	0.8	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	39.2	mi/h
Percent time-spent-following, PTSFD (from above)	68.0	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	639.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.88
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway North Road, w/o Oak St (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Projec
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 623 veh/h
Opposing direction volume, Vo 588 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	679 pc/h	641 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 39.2 mi/h
Percent Free Flow Speed, PFFS 78.4 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	677 pc/h	639 pc/h
Base percent time-spent-following, (note-4) BPTSFD	62.1 %	
Adjustment for no-passing zones, fnp	13.1	
Percent time-spent-following, PTSFD	68.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	C
Volume to capacity ratio, v/c	0.40
Peak 15-min vehicle-miles of travel, VMT15	34 veh-mi
Peak-hour vehicle-miles of travel, VMT60	125 veh-mi
Peak 15-min total travel time, TT15	0.9 veh-h
Capacity from ATS, CdATS	1695 veh/h
Capacity from PTSF, CdPTSF	1700 veh/h
Directional Capacity	1695 veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2 mi
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)	39.2 mi/h
Percent time-spent-following, PTSFD (from above)	68.8
Level of service, LOSd (from above)	C

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	- mi
Length 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	-
Average travel speed including passing lane, ATSpl	-
Percent free flow speed including passing lane, PFFSpl	0.0 %

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	- mi
Length 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

Level of service including passing lane, LOSpl	E
Peak 15-min total travel time, TT15	- veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	677.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.91
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, w/o Oak St (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 471 veh/h
Opposing direction volume, Vo 389 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.991
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	515 pc/h	427 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 1.0 mi/h
Average travel speed, ATSD 41.7 mi/h
Percent Free Flow Speed, PFFS 83.3 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	512 pc/h	423 pc/h
Base percent time-spent-following, (note-4) BPTSFd	50.4 %	
Adjustment for no-passing zones, fnp	14.2	
Percent time-spent-following, PTSFd	58.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.30	
Peak 15-min vehicle-miles of travel, VMT15	26	veh-mi
Peak-hour vehicle-miles of travel, VMT60	94	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1685	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	41.7	mi/h
Percent time-spent-following, PTSFd (from above)	58.2	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	512.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.77
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, w/o Oak St (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 389 veh/h
Opposing direction volume, Vo 471 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.991	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	427 pc/h	515 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.8 mi/h
Average travel speed, ATSD 41.9 mi/h
Percent Free Flow Speed, PFFS 83.8 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	423 pc/h	512 pc/h
Base percent time-spent-following, (note-4) BPTSFd	46.2 %	
Adjustment for no-passing zones, fnp	14.2	
Percent time-spent-following, PTSFd	52.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.25	
Peak 15-min vehicle-miles of travel, VMT15	21	veh-mi
Peak-hour vehicle-miles of travel, VMT60	78	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	41.9	mi/h
Percent time-spent-following, PTSFd (from above)	52.6	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	422.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.68
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, n/o North St (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 733 veh/h
Opposing direction volume, Vo 518 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	0.997	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	799 pc/h	565 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.7 mi/h
Average travel speed, ATSD 38.7 mi/h
Percent Free Flow Speed, PFFS 77.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	797 pc/h	563 pc/h
Base percent time-spent-following,(note-4) BPTSFd	67.0 %	
Adjustment for no-passing zones, fnp	12.1	
Percent time-spent-following, PTSFd	74.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	40	veh-mi
Peak-hour vehicle-miles of travel, VMT60	147	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	38.7	mi/h
Percent time-spent-following, PTSFd (from above)	74.1	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	796.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.00
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, n/o North St (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 518 veh/h
Opposing direction volume, Vo 733 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	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	565 pc/h	799 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 60.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.4 mi/h
Average travel speed, ATSD 39.0 mi/h
Percent Free Flow Speed, PFFS 78.0 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	563 pc/h	797 pc/h
Base percent time-spent-following, (note-4) BPTSFD	58.7 %	
Adjustment for no-passing zones, fnp	12.1	
Percent time-spent-following, PTSFD	63.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.33	
Peak 15-min vehicle-miles of travel, VMT15	28	veh-mi
Peak-hour vehicle-miles of travel, VMT60	104	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	39.0	mi/h
Percent time-spent-following, PTSFD (from above)	63.7	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	563.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.82
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, n/o North St (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 888 veh/h
Opposing direction volume, Vo 554 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	1.000	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	965 pc/h	604 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 37.2 mi/h
Percent Free Flow Speed, PFFS 74.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	965 pc/h	602 pc/h
Base percent time-spent-following, (note-4) BPTSFd	72.8 %	
Adjustment for no-passing zones, fnp	10.5	
Percent time-spent-following, PTSFd	79.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.57	
Peak 15-min vehicle-miles of travel, VMT15	48	veh-mi
Peak-hour vehicle-miles of travel, VMT60	178	veh-mi
Peak 15-min total travel time, TT15	1.3	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	37.2	mi/h
Percent time-spent-following, PTSFd (from above)	79.3	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	965.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.09
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, n/o North St (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 554 veh/h
Opposing direction volume, Vo 888 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	0.997	1.000
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	604 pc/h	965 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 10.0 mi/h

Free-flow speed, FFSd 50.0 mi/h

Adjustment for no-passing zones, fnp 0.4 mi/h
Average travel speed, ATSD 37.4 mi/h
Percent Free Flow Speed, PFFS 74.8 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	602 pc/h	965 pc/h
Base percent time-spent-following, (note-4) BPTSFD	62.2 %	
Adjustment for no-passing zones, fnp	10.5	
Percent time-spent-following, PTSFD	66.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.36	
Peak 15-min vehicle-miles of travel, VMT15	30	veh-mi
Peak-hour vehicle-miles of travel, VMT60	111	veh-mi
Peak 15-min total travel time, TT15	0.8	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	37.4	mi/h
Percent time-spent-following, PTSFD (from above)	66.2	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	602.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.85
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, s/o North St (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 196 veh/h
Opposing direction volume, Vo 149 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.7
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.985	0.979
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	216 pc/h	165 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.0 mi/h

Free-flow speed, FFSd 58.0 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATSD 53.7 mi/h
Percent Free Flow Speed, PFFS 92.6 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	214 pc/h	162 pc/h
Base percent time-spent-following, (note-4) BPTSFD	22.8 %	
Adjustment for no-passing zones, fnp	36.8	
Percent time-spent-following, PTSFD	43.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.13	
Peak 15-min vehicle-miles of travel, VMT15	16	veh-mi
Peak-hour vehicle-miles of travel, VMT60	59	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1664	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1664	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
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)	53.7	mi/h
Percent time-spent-following, PTSFD (from above)	43.7	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	213.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.33
Bicycle LOS	B

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, s/o North St (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 149 veh/h
Opposing direction volume, Vo 196 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.7	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.979	0.985
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	165 pc/h	216 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.0 mi/h

Free-flow speed, FFSd 58.0 mi/h

Adjustment for no-passing zones, fnp 1.7 mi/h
Average travel speed, ATSD 53.3 mi/h
Percent Free Flow Speed, PFFS 92.0 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	162 pc/h	214 pc/h
Base percent time-spent-following, (note-4) BPTSFd	18.8 %	
Adjustment for no-passing zones, fnp	36.8	
Percent time-spent-following, PTSFd	34.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	A
Volume to capacity ratio, v/c	0.10
Peak 15-min vehicle-miles of travel, VMT15	12 veh-mi
Peak-hour vehicle-miles of travel, VMT60	45 veh-mi
Peak 15-min total travel time, TT15	0.2 veh-h
Capacity from ATS, CdATS	1675 veh/h
Capacity from PTSF, CdPTSF	1695 veh/h
Directional Capacity	1675 veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3 mi
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)	53.3 mi/h
Percent time-spent-following, PTSFd (from above)	34.7
Level of service, LOSd (from above)	A

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	- mi
Length 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	-
Average travel speed including passing lane, ATSpl	-
Percent free flow speed including passing lane, PFFSpl	0.0 %

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	- mi
Length 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

Level of service including passing lane, LOSpl	E
Peak 15-min total travel time, TT15	- veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	162.0
Effective width of outside lane, We	28.59
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	0.98
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, s/o North St (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 237 veh/h
Opposing direction volume, Vo 137 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.7
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.988	0.979
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	261 pc/h	152 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.0 mi/h

Free-flow speed, FFSd 58.0 mi/h

Adjustment for no-passing zones, fnp 1.2 mi/h
Average travel speed, ATSD 53.6 mi/h
Percent Free Flow Speed, PFFS 92.4 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	258 pc/h	149 pc/h
Base percent time-spent-following, (note-4) BPTSFD	26.7 %	
Adjustment for no-passing zones, fnp	34.2	
Percent time-spent-following, PTSFD	48.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	19	veh-mi
Peak-hour vehicle-miles of travel, VMT60	71	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1664	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1664	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
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)	53.6	mi/h
Percent time-spent-following, PTSFD (from above)	48.4	
Level of service, LOSd (from above)	A	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	257.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.42
Bicycle LOS	B

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, s/o North St (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 137 veh/h
Opposing direction volume, Vo 237 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.7	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.979	0.988
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	152 pc/h	261 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 2.0 mi/h

Free-flow speed, FFSd 58.0 mi/h

Adjustment for no-passing zones, fnp 1.6 mi/h
Average travel speed, ATSD 53.2 mi/h
Percent Free Flow Speed, PFFS 91.7 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	149 pc/h	258 pc/h
Base percent time-spent-following, (note-4) BPTSFD	17.6 %	
Adjustment for no-passing zones, fnp	34.2	
Percent time-spent-following, PTSFD	30.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.09	
Peak 15-min vehicle-miles of travel, VMT15	11	veh-mi
Peak-hour vehicle-miles of travel, VMT60	41	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
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)	53.2	mi/h
Percent time-spent-following, PTSFD (from above)	30.1	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	148.9
Effective width of outside lane, We	29.67
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	0.62
Bicycle LOS	A

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040+F_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (F)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	993	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	8.3	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	933	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	933	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	496	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	496	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	8.3	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 12:53:55

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040+F_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (F)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	1214	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	10.1	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1141	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, f _{AF}	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Fami liar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1141	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	607	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	607	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	10.1	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 12:54:26

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040+F_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (F)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	679	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.7	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	638	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	638	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	340	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	340	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	5.7	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 12:55:24

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040+F_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (F)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	812	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	6.8	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	763	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, f _{AF}	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Fami liar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	763	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	406	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	406	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	6.8	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 12:55:43

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040+F_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (F)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	716	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	6.0	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	673	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{lw}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, f _{SAF}	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	673	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	358	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	358	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	6.0	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 13:02:13

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040+F_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (F)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	790	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	6.6	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	743	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	743	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	395	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	395	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	6.6	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 13:02:42

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040+F_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (F)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	464	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	3.9	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	436	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{lw}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, f _{SAF}	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	436	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	232	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	232	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	3.9	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 13:03:41

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040+F_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (F)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	454	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	3.8	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	427	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{LW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, f _{SAF}	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi /h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	427	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	227	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	227	pc/h/l n
Free-Flow Speed, FFS	60.0	mi /h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi /h
Density, D	3.8	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 13:04:00

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Canyon Road (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Proje
Description Redding Rancheria (F)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 240 veh/h
Opposing direction volume, Vo 368 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.977	0.982
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	267 pc/h	407 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 0.0 mi/h

Free-flow speed, FFSd 60.0 mi/h

Adjustment for no-passing zones, fnp 3.8 mi/h
Average travel speed, ATSD 50.9 mi/h
Percent Free Flow Speed, PFFS 84.9 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	262 pc/h	402 pc/h
Base percent time-spent-following, (note-4) BPTSFd	31.2 %	
Adjustment for no-passing zones, fnp	50.0	
Percent time-spent-following, PTSFd	50.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.16	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	48	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1669	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1669	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	50.9	mi/h
Percent time-spent-following, PTSFd (from above)	50.9	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	260.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.31
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Canyon Road (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Proje
Description Redding Rancheria (F)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 368 veh/h
Opposing direction volume, Vo 240 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.982	0.977
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	407 pc/h	267 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 0.0 mi/h

Free-flow speed, FFSd 60.0 mi/h

Adjustment for no-passing zones, fnp 4.1 mi/h
Average travel speed, ATSD 50.7 mi/h
Percent Free Flow Speed, PFFS 84.5 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	402 pc/h	262 pc/h
Base percent time-spent-following, (note-4) BPTSFD	39.2 %	
Adjustment for no-passing zones, fnp	50.0	
Percent time-spent-following, PTSFD	69.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.24	
Peak 15-min vehicle-miles of travel, VMT15	20	veh-mi
Peak-hour vehicle-miles of travel, VMT60	74	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1661	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1661	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	50.7	mi/h
Percent time-spent-following, PTSFD (from above)	69.5	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	400.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.52
Bicycle LOS	D

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Canyon Road (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Proje
Description Redding Rancheria (F)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 233 veh/h
Opposing direction volume, Vo 207 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.977	0.971
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	259 pc/h	232 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 0.0 mi/h

Free-flow speed, FFSd 60.0 mi/h

Adjustment for no-passing zones, fnp 4.2 mi/h
Average travel speed, ATSD 52.0 mi/h
Percent Free Flow Speed, PFFS 86.7 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	255 pc/h	226 pc/h
Base percent time-spent-following, (note-4) BPTSFD	27.2 %	
Adjustment for no-passing zones, fnp	60.2	
Percent time-spent-following, PTSFD	59.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	47	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1651	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1651	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	52.0	mi/h
Percent time-spent-following, PTSFD (from above)	59.1	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	253.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.29
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Canyon Road (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Proje
Description Redding Rancheria (F)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 207 veh/h
Opposing direction volume, Vo 233 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.971	0.977
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	232 pc/h	259 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 60.0 mi/h
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h
Adj. for access point density, (note-3) fA 0.0 mi/h

Free-flow speed, FFSd 60.0 mi/h

Adjustment for no-passing zones, fnp 4.1 mi/h
Average travel speed, ATSD 52.1 mi/h
Percent Free Flow Speed, PFFS 86.8 %

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	226 pc/h	255 pc/h
Base percent time-spent-following, (note-4) BPTSFD	25.1 %	
Adjustment for no-passing zones, fnp	60.2	
Percent time-spent-following, PTSFD	53.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.14	
Peak 15-min vehicle-miles of travel, VMT15	11	veh-mi
Peak-hour vehicle-miles of travel, VMT60	41	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1661	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1661	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.2	mi
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)	52.1	mi/h
Percent time-spent-following, PTSFD (from above)	53.4	
Level of service, LOSd (from above)	B	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length 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	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length 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

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	225.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.23
Bicycle LOS	C

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 downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ 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.

Segment Inputs				2040														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
		Number of Lanes	Interchange Density	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(ft)	(N)	(I/mi)	(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/ln/mi)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/ln/mi)		
Southbound Northbound	Smith Rd to Bonnyview Rd	2400	3	0.33	2,947	2,425	1099.79	74.12	75	74.8898	14.685	B	904.9819	74.12	75	74.9001	12.1	B
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	2,010	1,680	750.109	74.12	75	74.3087	10.094	A	626.9565	74.12	75	73.4595	8.5347	A
	Bonnyview Rd to Cypress Ave	7000	3	0.33	3,300	2,628	1231.52	74.12	75	74.4066	16.551	B	980.7391	74.12	75	74.9959	13.077	B
	Cypress Ave to Bonnyview Rd	7000	3	0.33	4,126	3,360	1539.78	74.12	75	71.7747	21.453	C	1253.913	74.12	75	74.2863	16.879	B
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,910	2,398	1085.98	74.12	75	74.9182	14.496	B	894.9058	74.12	75	74.8777	11.952	B
	Bonnyview Rd to Smith Rd	2600	3	0.33	4,086	3,102	1524.85	74.12	75	71.9506	21.193	C	1157.63	74.12	75	74.7249	15.492	B
	Universal Inputs: PHF 0.92 (P _a) 6% FHV 0.970873786																	

Segment Inputs				2040																																
				Friday PM Flow Inputs			AM LOS Performance Measures										Saturday PM Flow Inputs			PM LOS Performance Measures																
Segment	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L _a)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	V ₀ /S ₀	P _T M	V ₀	Capacity	V ₃	V _{12a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	V ₀ /S ₀	P _T M	V ₀	Capacity	V ₃	V _{12a}	v/c	D	LOS			
				(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	
B	Bonnyview Rd On Ramp	3	1	430	4237	2947	1290	4744	3299	1444	94	0.5895	1945.1	7200	677	1459	1945	0.6588	28.551	D	3373	2425	948	3776	2715	1061	78	0.5895	1600.6	7200	557	1200	1601	0.5245	23.054	C
B	Bonnyview Rd On Ramp	3	1	380	5302	4126	1176	5936	4619	1317	132	0.5881	2716.8	7200	951	2038	2717	0.8244	33.947	D	4064	3360	704	4550	3762	788	107	0.5881	2212.4	7200	775	1659	2212	0.6319	26.135	C
Segment inputs:																																				
Length	1500		(ft)																																	
b ₀	70		(m/h)																																	
b ₁	35		(m/h)																																	
b ₂	0.52		(m/h)																																	
b ₃	0.5		(m/h)																																	
b ₄	0.970873786		(m/h)																																	

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Segment Inputs				2040														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
		Number of Lanes	Interchange Density	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
	(ft)	(N)	(I/mi)															
Southbound Northbound	Smith Rd to Bonnyview Rd	2400	3	0.33	2,759	2,184	1029.63	74.12	75	74.9903	13.73	B	815.0435	74.12	75	74.6213	10.9	A
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	2,010	1,680	750.109	74.12	75	74.3087	10.094	A	626.9565	74.12	75	73.4595	8.5347	A
	Bonnyview Rd to Cypress Ave	7000	3	0.33	3,300	2,628	1231.52	74.12	75	74.4066	16.551	B	980.7391	74.12	75	74.9959	13.077	B
	Cypress Ave to Bonnyview Rd	7000	3	0.33	4,126	3,360	1539.78	74.12	75	71.7747	21.453	C	1253.913	74.12	75	74.2863	16.879	B
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,910	2,398	1085.98	74.12	75	74.9182	14.496	B	894.9058	74.12	75	74.8777	11.952	B
	Bonnyview Rd to Smith Rd	2600	3	0.33	3,958	2,966	1477.08	74.12	75	72.4804	20.379	C	1106.877	74.12	75	74.8736	14.783	B
Universal Inputs:																		
PHF		0.92																
(P _a)		6%																
FHV		0.970873786																

[illegible]











Universal inputs:
Length 1500
 S_{EE} 70
 S_{EE} 35
 P_{HE} 0.92
 (P_c) 6%
 f_{av} 0.9708737











Segment Inputs				2040														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
		Number of Lanes	Interchange Density	AM Peak	PM Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
		(ft)	(N)	(I/mi)	(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)		(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)			
Northbound	Knighton Rd to Smith Rd	1800	3	0.33	3,078	3,245	1148.67	74.12	75	74.7553	15.366	B	1210.996	74.12	75	74.5072	16.3	B
	Smith Rd Off to Smith Rd On	2000	3	0.33	2,864	2,967	1068.81	74.12	75	74.9476	14.261	B	1107.25	74.12	75	74.8727	14.788	B
	Smith Rd to Bonnyview Rd	2400	3	0.33	3,174	3,298	1184.5	74.12	75	74.6232	15.873	B	1230.775	74.12	75	74.4104	16.5	B
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	2,324	2,700	867.29	74.12	75	74.805	11.594	B	1007.609	74.12	75	74.9994	13.435	B
	Bonnyview Rd to Cypress Ave	7000	3	0.33	3,410	3,431	1272.57	74.12	75	74.1775	17.156	B	1280.409	74.12	75	74.1296	17.273	B
Southbound	Cypress Ave to Bonnyview Rd	7000	3	0.33	4,290	4,413	1600.98	74.12	75	71.0018	22.548	C	1646.88	74.12	75	70.3677	23.404	C
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	3,329	3,787	1242.34	74.12	75	74.3499	16.709	B	1413.264	74.12	75	73.1094	19.331	C
	Bonnyview Rd to Smith Rd	2600	3	0.33	4,523	4,542	1687.93	74.12	75	69.7611	24.196	C	1695.022	74.12	75	69.6526	24.335	C
	Smith Rd Off to Smith Rd On	2000	3	0.33	4,076	3,966	1521.12	74.12	75	71.9938	21.128	C	1480.065	74.12	75	72.4488	20.429	C
	Smith Rd to Knighton Rd	1400	3	0.33	4,229	4,129	1578.21	74.12	75	71.299	22.135	C	1540.895	74.12	75	71.7613	21.473	C
Universal Inputs:																		
PHF		0.92																
(P _t)		6%																
F _{HV}		0.970873786																

length	1500	(ft)
S_{ij}	70	(mi/h)
S_{ik}	35	(mi/h)
P_H	0.92	
P_j	6%	
f_{av}	0.970873786	

Segment Inputs					2040																														
					AM Flow Inputs										PM Flow Inputs					PM LOS Performance Measures															
Lanes	Number of Lanes	Number of Ramp Lanes	L _{TD} (ft)	Length of Deceleration Lane (L _d) (ft)	Downstream Volume	Upstream Volume	Ramp Volume	V ₀	V ₁	V ₂	P _{T0}	V ₁₂	Capacity	V ₃	V _{12a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (U)	Ramp Volume (R)	V ₀	V ₁	V ₂	P _{T0}	V ₁₂	Capacity	V ₃	V _{12a}	v/c	D	LOS			
					(veh/hr)	(veh/hr)	(veh/hr)	(pc/h/sf)	(pc/h/sf)	(pc/h/sf)	(pc/h/sf)	(pc/h/sf)	(pc/h/sf)	(pc/h/sf)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)	(veh/hr)
S B S	Smith Off	3	1	614	140	2300	2610	310	803.848	2922.1	347.07	0.436	1469.8	7200	726	1102	1470	0.4058	15.632	B	2437	2768	331	569.859	3099	370.58	0.436	1560.1	7200	769	1170	1560	0.4304	16.409	B
	Bonnyslew Rd Off	3	1	810	140	1270	1988	718	981.859	2225.7	803.85	0.436	1423.8	7200	401	1068	1424	0.3091	15.236	B	1803	2312	509	633.674	2588.4	569.86	0.436	1450	7200	569	1087	1450	0.3595	15.462	B
	Bonnyslew Rd Off	3	1	-	140	1887	2764	877	-	3094.5	981.86	0.6375	2328.6	7200	766	1746	2329	0.4298	23.018	C	2632	3198	566	-	3580.4	633.67	0.6413	2523.5	7200	1057	1893	2524	0.4973	24.694	C
S	Smith Rd Off	3	1	-	140	3350	3797	447	-	4251	500.45	0.6307	2885.9	7200	1385	2149	2866	0.5904	27.639	C	3290	3866	576	-	4328.2	644.87	0.6221	2936.4	7200	1392	2202	2936	0.6011	28.245	D
General Inputs																																			
Range 1500																																			
K ₁ T10					(ft)																														
K ₂ T10					(mi/h)																														
K ₃ G 0.92					(mi/h)																														
K ₄ G 0.92																																			
K ₅ G 0.92																																			
K ₆ G 0.92																																			
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OPENING YEAR (2025) PLUS PROJECT MITIGATED ANALYSIS












								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	0	645	338	0	226	495		
Future Volume (veh/h)	0	645	338	0	226	495		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863		
Adj Flow Rate, veh/h	0	701	367	0	246	538		
Adj No. of Lanes	0	2	2	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	2	2	0	2	2		
Cap, veh/h	0	1282	1282	0	725	647		
Arrive On Green	0.00	0.36	0.36	0.00	0.41	0.41		
Sat Flow, veh/h	0	3725	3725	0	1774	1583		
Grp Volume(v), veh/h	0	701	367	0	246	538		
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1774	1583		
Q Serve(g_s), s	0.0	5.5	2.6	0.0	3.3	10.6		
Cycle Q Clear(g_c), s	0.0	5.5	2.6	0.0	3.3	10.6		
Prop In Lane	0.00			0.00	1.00	1.00		
Lane Grp Cap(c), veh/h	0	1282	1282	0	725	647		
V/C Ratio(X)	0.00	0.55	0.29	0.00	0.34	0.83		
Avail Cap(c_a), veh/h	0	1825	1825	0	966	862		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	0.0	8.9	7.9	0.0	7.1	9.2		
Incr Delay (d2), s/veh	0.0	0.4	0.1	0.0	0.3	5.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	2.7	1.2	0.0	1.6	5.4		
LnGrp Delay(d),s/veh	0.0	9.2	8.0	0.0	7.4	14.5		
LnGrp LOS		A	A		A	B		
Approach Vol, veh/h		701	367		784			
Approach Delay, s/veh		9.2	8.0		12.3			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				16.6		18.3		16.6
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		19.0		18.0
Max Q Clear Time (g_c+I1), s				7.5		12.6		4.6
Green Ext Time (p_c), s				5.1		1.6		6.0
Intersection Summary								
HCM 2010 Ctrl Delay			10.3					
HCM 2010 LOS			B					

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	0	525	206	0	135	515		
Future Volume (veh/h)	0	525	206	0	135	515		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863		
Adj Flow Rate, veh/h	0	571	224	0	147	560		
Adj No. of Lanes	0	2	2	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	2	2	0	2	2		
Cap, veh/h	0	1143	1143	0	756	675		
Arrive On Green	0.00	0.32	0.32	0.00	0.43	0.43		
Sat Flow, veh/h	0	3725	3725	0	1774	1583		
Grp Volume(v), veh/h	0	571	224	0	147	560		
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1774	1583		
Q Serve(g_s), s	0.0	4.2	1.5	0.0	1.7	10.0		
Cycle Q Clear(g_c), s	0.0	4.2	1.5	0.0	1.7	10.0		
Prop In Lane	0.00			0.00	1.00	1.00		
Lane Grp Cap(c), veh/h	0	1143	1143	0	756	675		
V/C Ratio(X)	0.00	0.50	0.20	0.00	0.19	0.83		
Avail Cap(c_a), veh/h	0	1997	1997	0	1056	943		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	0.0	8.7	7.8	0.0	5.7	8.1		
Incr Delay (d2), s/veh	0.0	0.3	0.1	0.0	0.1	4.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	2.0	0.7	0.0	0.8	5.0		
LnGrp Delay(d),s/veh	0.0	9.1	7.9	0.0	5.8	12.6		
LnGrp LOS		A	A		A	B		
Approach Vol, veh/h		571	224		707			
Approach Delay, s/veh		9.1	7.9		11.2			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				14.3		17.6		14.3
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		19.0		18.0
Max Q Clear Time (g_c+I1), s				6.2		12.0		3.5
Green Ext Time (p_c), s				4.2		1.6		4.6
Intersection Summary								
HCM 2010 Ctrl Delay			9.9					
HCM 2010 LOS			A					

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (1A) Conditions MITIGATED

Friday PM Peak

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	198	443	399	73	75	157		
Future Volume (veh/h)	198	443	399	73	75	157		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	215	482	434	79	82	171		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	551	1070	882	160	113	235		
Arrive On Green	0.57	0.57	0.57	0.57	0.21	0.21		
Sat Flow, veh/h	884	1863	1534	279	530	1105		
Grp Volume(v), veh/h	215	482	0	513	254	0		
Grp Sat Flow(s),veh/h/ln	884	1863	0	1813	1641	0		
Q Serve(g_s), s	7.2	5.6	0.0	6.3	5.4	0.0		
Cycle Q Clear(g_c), s	13.5	5.6	0.0	6.3	5.4	0.0		
Prop In Lane	1.00			0.15	0.32	0.67		
Lane Grp Cap(c), veh/h	551	1070	0	1042	349	0		
V/C Ratio(X)	0.39	0.45	0.00	0.49	0.73	0.00		
Avail Cap(c_a), veh/h	725	1438	0	1399	786	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	8.7	4.6	0.0	4.7	13.8	0.0		
Incr Delay (d2), s/veh	0.5	0.3	0.0	0.4	2.9	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	2.9	0.0	3.1	2.7	0.0		
LnGrp Delay(d),s/veh	9.2	4.9	0.0	5.1	16.7	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		697	513		254			
Approach Delay, s/veh		6.2	5.1		16.7			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				25.6		12.0		25.6
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				29.0		18.0		29.0
Max Q Clear Time (g_c+I1), s				15.5		7.4		8.3
Green Ext Time (p_c), s				6.1		0.6		7.6
Intersection Summary								
HCM 2010 Ctrl Delay			7.6					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.






Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (1A) Conditions MITIGATED

Friday PM Peak

Intersection

Int Delay, s/veh 7.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	198	443	399	73	75	157
Future Vol, veh/h	198	443	399	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	482	434	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	513	0	0 1385 473
Stage 1	-	-	- 473 -
Stage 2	-	-	- 912 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1052	-	- 158 591
Stage 1	-	-	- 627 -
Stage 2	-	-	- 392 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1052	-	- 126 591
Mov Cap-2 Maneuver	-	-	- 126 -
Stage 1	-	-	- 627 -
Stage 2	-	-	- 312 -












Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	33.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1052	-	-	-	126	591
HCM Lane V/C Ratio	0.205	-	-	-	0.647	0.289
HCM Control Delay (s)	9.3	-	-	-	75.1	13.5
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.8	-	-	-	3.4	1.2

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (1A) Conditions MITIGATED

Saturday PM Peak

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations					 			
Traffic Volume (veh/h)	124	235	305	32	52	163		
Future Volume (veh/h)	124	235	305	32	52	163		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	135	255	332	35	57	177		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	599	829	737	78	92	285		
Arrive On Green	0.44	0.44	0.44	0.44	0.23	0.23		
Sat Flow, veh/h	1011	1863	1657	175	395	1225		
Grp Volume(v), veh/h	135	255	0	367	235	0		
Grp Sat Flow(s),veh/h/ln	1011	1863	0	1832	1627	0		
Q Serve(g_s), s	2.7	2.2	0.0	3.5	3.2	0.0		
Cycle Q Clear(g_c), s	6.1	2.2	0.0	3.5	3.2	0.0		
Prop In Lane	1.00			0.10	0.24	0.75		
Lane Grp Cap(c), veh/h	599	829	0	815	379	0		
V/C Ratio(X)	0.23	0.31	0.00	0.45	0.62	0.00		
Avail Cap(c_a), veh/h	882	1350	0	1328	1179	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.9	4.4	0.0	4.8	8.5	0.0		
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.4	1.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	1.1	0.0	1.8	1.6	0.0		
LnGrp Delay(d),s/veh	7.1	4.6	0.0	5.2	10.2	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		390	367		235			
Approach Delay, s/veh		5.5	5.2		10.2			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				15.1		9.8		15.1
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				8.1		5.2		5.5
Green Ext Time (p_c), s				3.0		0.6		3.4
Intersection Summary								
HCM 2010 Ctrl Delay			6.5					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.






Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (1A) Conditions MITIGATED

Saturday PM Peak

Intersection

Int Delay, s/veh 4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	124	235	305	32	52	163
Future Vol, veh/h	124	235	305	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	255	332	35	57	177

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	366	0	0 874 349
Stage 1	-	-	- - 349 -
Stage 2	-	-	- - 525 -
Critical Hdwy	4.12	-	- - 6.42 6.22
Critical Hdwy Stg 1	-	-	- - 5.42 -
Critical Hdwy Stg 2	-	-	- - 5.42 -
Follow-up Hdwy	2.218	-	- - 3.518 3.318
Pot Cap-1 Maneuver	1193	-	- - 320 694
Stage 1	-	-	- - 714 -
Stage 2	-	-	- - 593 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1193	-	- - 284 694
Mov Cap-2 Maneuver	-	-	- - 284 -
Stage 1	-	-	- - 714 -
Stage 2	-	-	- - 526 -












Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1193	-	-	-	284	694
HCM Lane V/C Ratio	0.113	-	-	-	0.199	0.255
HCM Control Delay (s)	8.4	-	-	-	20.8	12
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	1

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (1B) Conditions MITIGATED

Friday PM Peak

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	198	439	395	73	75	157		
Future Volume (veh/h)	198	439	395	73	75	157		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	215	477	429	79	82	171		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	528	979	804	148	118	247		
Arrive On Green	0.53	0.53	0.53	0.53	0.22	0.22		
Sat Flow, veh/h	888	1863	1531	282	530	1105		
Grp Volume(v), veh/h	215	477	0	508	254	0		
Grp Sat Flow(s),veh/h/ln	888	1863	0	1813	1641	0		
Q Serve(g_s), s	6.7	5.2	0.0	5.9	4.5	0.0		
Cycle Q Clear(g_c), s	12.6	5.2	0.0	5.9	4.5	0.0		
Prop In Lane	1.00			0.16	0.32	0.67		
Lane Grp Cap(c), veh/h	528	979	0	953	367	0		
V/C Ratio(X)	0.41	0.49	0.00	0.53	0.69	0.00		
Avail Cap(c_a), veh/h	564	1053	0	1024	927	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.1	4.8	0.0	5.0	11.4	0.0		
Incr Delay (d2), s/veh	0.5	0.4	0.0	0.5	2.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	2.8	0.0	2.9	2.3	0.0		
LnGrp Delay(d),s/veh	9.6	5.2	0.0	5.4	13.7	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		692	508		254			
Approach Delay, s/veh		6.6	5.4		13.7			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				20.7		11.1		20.7
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				14.6		6.5		7.9
Green Ext Time (p_c), s				2.1		0.6		5.1
Intersection Summary								
HCM 2010 Ctrl Delay			7.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.






Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (1B) Conditions MITIGATED

Friday PM Peak

Intersection

Int Delay, s/veh 7.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	198	439	395	73	75	157
Future Vol, veh/h	198	439	395	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	477	429	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	509	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1056	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1056	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-












Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	33
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1056	-	-	-	127	594
HCM Lane V/C Ratio	0.204	-	-	-	0.642	0.287
HCM Control Delay (s)	9.3	-	-	-	73.9	13.5
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.8	-	-	-	3.4	1.2

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (1B) Conditions MITIGATED






Saturday PM Peak

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations					 			
Traffic Volume (veh/h)	124	226	296	32	52	163		
Future Volume (veh/h)	124	226	296	32	52	163		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	135	246	322	35	57	177		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	604	820	727	79	92	287		
Arrive On Green	0.44	0.44	0.44	0.44	0.23	0.23		
Sat Flow, veh/h	1020	1863	1652	180	395	1225		
Grp Volume(v), veh/h	135	246	0	357	235	0		
Grp Sat Flow(s),veh/h/ln	1020	1863	0	1831	1627	0		
Q Serve(g_s), s	2.6	2.1	0.0	3.3	3.2	0.0		
Cycle Q Clear(g_c), s	5.9	2.1	0.0	3.3	3.2	0.0		
Prop In Lane	1.00			0.10	0.24	0.75		
Lane Grp Cap(c), veh/h	604	820	0	806	381	0		
V/C Ratio(X)	0.22	0.30	0.00	0.44	0.62	0.00		
Avail Cap(c_a), veh/h	903	1366	0	1343	1193	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.8	4.4	0.0	4.8	8.4	0.0		
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.4	1.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	1.1	0.0	1.7	1.5	0.0		
LnGrp Delay(d),s/veh	7.0	4.6	0.0	5.2	10.1	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		381	357		235			
Approach Delay, s/veh		5.5	5.2		10.1			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				14.8		9.7		14.8
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				7.9		5.2		5.3
Green Ext Time (p_c), s				2.9		0.6		3.3
Intersection Summary								
HCM 2010 Ctrl Delay			6.5					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Intersection

Int Delay, s/veh 4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	124	226	296	32	52	163
Future Vol, veh/h	124	226	296	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	246	322	35	57	177

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	357	0	0 854 339
Stage 1	-	-	- 339 -
Stage 2	-	-	- 515 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1202	-	- 329 703
Stage 1	-	-	- 722 -
Stage 2	-	-	- 600 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1202	-	- 292 703
Mov Cap-2 Maneuver	-	-	- 292 -
Stage 1	-	-	- 722 -
Stage 2	-	-	- 533 -












Approach	EB	WB	SB
HCM Control Delay, s	3	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1202	-	-	-	292	703
HCM Lane V/C Ratio	0.112	-	-	-	0.194	0.252
HCM Control Delay (s)	8.4	-	-	-	20.3	11.8
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	1

HCM 2010 Signalized Intersection Summary

8: S Bonnyview Rd & Victor Ave

06/01/2018












								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations					 			
Traffic Volume (veh/h)	156	405	316	73	67	111		
Future Volume (veh/h)	156	405	316	73	67	111		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	170	440	343	79	73	121		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	607	939	738	170	123	203		
Arrive On Green	0.50	0.50	0.50	0.50	0.20	0.20		
Sat Flow, veh/h	961	1863	1466	338	618	1024		
Grp Volume(v), veh/h	170	440	0	422	195	0		
Grp Sat Flow(s),veh/h/ln	961	1863	0	1803	1651	0		
Q Serve(g_s), s	3.7	4.1	0.0	4.1	2.9	0.0		
Cycle Q Clear(g_c), s	7.8	4.1	0.0	4.1	2.9	0.0		
Prop In Lane	1.00			0.19	0.37	0.62		
Lane Grp Cap(c), veh/h	607	939	0	909	327	0		
V/C Ratio(X)	0.28	0.47	0.00	0.46	0.60	0.00		
Avail Cap(c_a), veh/h	766	1248	0	1208	1106	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.8	4.3	0.0	4.3	9.8	0.0		
Incr Delay (d2), s/veh	0.2	0.4	0.0	0.4	1.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	2.2	0.0	2.1	1.5	0.0		
LnGrp Delay(d),s/veh	7.1	4.7	0.0	4.7	11.5	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		610	422		195			
Approach Delay, s/veh		5.4	4.7		11.5			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				17.5		9.3		17.5
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				9.8		4.9		6.1
Green Ext Time (p_c), s				3.7		0.4		4.7
Intersection Summary								
HCM 2010 Ctrl Delay			6.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

8: S Bonnyview Rd & Victor Ave

06/01/2018












								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations					 			
Traffic Volume (veh/h)	98	215	244	31	46	116		
Future Volume (veh/h)	98	215	244	31	46	116		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	107	234	265	34	50	126		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	639	751	652	84	106	267		
Arrive On Green	0.40	0.40	0.40	0.40	0.23	0.23		
Sat Flow, veh/h	1076	1863	1618	208	462	1163		
Grp Volume(v), veh/h	107	234	0	299	177	0		
Grp Sat Flow(s),veh/h/ln	1076	1863	0	1826	1634	0		
Q Serve(g_s), s	1.7	1.9	0.0	2.5	2.0	0.0		
Cycle Q Clear(g_c), s	4.3	1.9	0.0	2.5	2.0	0.0		
Prop In Lane	1.00			0.11	0.28	0.71		
Lane Grp Cap(c), veh/h	639	751	0	736	375	0		
V/C Ratio(X)	0.17	0.31	0.00	0.41	0.47	0.00		
Avail Cap(c_a), veh/h	1094	1540	0	1509	1351	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.2	4.4	0.0	4.6	7.2	0.0		
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.4	0.9	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.5	1.0	0.0	1.3	1.0	0.0		
LnGrp Delay(d),s/veh	6.3	4.7	0.0	5.0	8.2	0.0		
LnGrp LOS	A	A		A	A			
Approach Vol, veh/h		341	299		177			
Approach Delay, s/veh		5.2	5.0		8.2			
Approach LOS		A	A		A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				12.8		9.0		12.8
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				6.3		4.0		4.5
Green Ext Time (p_c), s				2.7		0.4		2.9
Intersection Summary								
HCM 2010 Ctrl Delay			5.8					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

8: S Bonnyview Rd & Victor Ave

06/01/2018












								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	156	397	300	73	67	111		
Future Volume (veh/h)	156	397	300	73	67	111		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	170	432	326	79	73	121		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	616	928	722	175	123	204		
Arrive On Green	0.50	0.50	0.50	0.50	0.20	0.20		
Sat Flow, veh/h	976	1863	1449	351	618	1024		
Grp Volume(v), veh/h	170	432	0	405	195	0		
Grp Sat Flow(s),veh/h/ln	976	1863	0	1801	1651	0		
Q Serve(g_s), s	3.6	4.0	0.0	3.9	2.8	0.0		
Cycle Q Clear(g_c), s	7.5	4.0	0.0	3.9	2.8	0.0		
Prop In Lane	1.00			0.20	0.37	0.62		
Lane Grp Cap(c), veh/h	616	928	0	897	329	0		
V/C Ratio(X)	0.28	0.47	0.00	0.45	0.59	0.00		
Avail Cap(c_a), veh/h	794	1267	0	1224	1123	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.7	4.3	0.0	4.3	9.6	0.0		
Incr Delay (d2), s/veh	0.2	0.4	0.0	0.4	1.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	2.1	0.0	1.9	1.4	0.0		
LnGrp Delay(d),s/veh	7.0	4.7	0.0	4.7	11.3	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		602	405		195			
Approach Delay, s/veh		5.3	4.7		11.3			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				17.2		9.3		17.2
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				9.5		4.8		5.9
Green Ext Time (p_c), s				3.7		0.4		4.6
Intersection Summary								
HCM 2010 Ctrl Delay			6.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

8: S Bonnyview Rd & Victor Ave

06/01/2018












								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	98	209	226	31	46	116		
Future Volume (veh/h)	98	209	226	31	46	116		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	107	227	246	34	50	126		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	401	591	508	70	218	550		
Arrive On Green	0.32	0.32	0.32	0.32	0.47	0.47		
Sat Flow, veh/h	1095	1863	1602	221	462	1163		
Grp Volume(v), veh/h	107	227	0	280	177	0		
Grp Sat Flow(s),veh/h/ln	1095	1863	0	1824	1634	0		
Q Serve(g_s), s	3.3	3.6	0.0	4.7	2.4	0.0		
Cycle Q Clear(g_c), s	8.0	3.6	0.0	4.7	2.4	0.0		
Prop In Lane	1.00			0.12	0.28	0.71		
Lane Grp Cap(c), veh/h	401	591	0	579	773	0		
V/C Ratio(X)	0.27	0.38	0.00	0.48	0.23	0.00		
Avail Cap(c_a), veh/h	571	880	0	862	773	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	13.7	10.1	0.0	10.5	5.9	0.0		
Incr Delay (d2), s/veh	0.4	0.4	0.0	0.6	0.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	1.9	0.0	2.4	1.2	0.0		
LnGrp Delay(d),s/veh	14.1	10.5	0.0	11.1	6.6	0.0		
LnGrp LOS	B	B		B	A			
Approach Vol, veh/h		334	280		177			
Approach Delay, s/veh		11.7	11.1		6.6			
Approach LOS		B	B		A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				16.1		22.0		16.1
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				10.0		4.4		6.7
Green Ext Time (p_c), s				2.1		0.4		2.5
Intersection Summary								
HCM 2010 Ctrl Delay			10.3					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (3A) Conditions MIT

Friday PM Peak












								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	180	400	343	77	73	137		
Future Volume (veh/h)	180	400	343	77	73	137		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	196	435	373	84	79	149		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	570	958	757	170	121	228		
Arrive On Green	0.51	0.51	0.51	0.51	0.21	0.21		
Sat Flow, veh/h	931	1863	1473	332	568	1071		
Grp Volume(v), veh/h	196	435	0	457	229	0		
Grp Sat Flow(s),veh/h/ln	931	1863	0	1804	1645	0		
Q Serve(g_s), s	5.1	4.3	0.0	4.8	3.7	0.0		
Cycle Q Clear(g_c), s	9.9	4.3	0.0	4.8	3.7	0.0		
Prop In Lane	1.00			0.18	0.34	0.65		
Lane Grp Cap(c), veh/h	570	958	0	928	351	0		
V/C Ratio(X)	0.34	0.45	0.00	0.49	0.65	0.00		
Avail Cap(c_a), veh/h	662	1142	0	1106	1009	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	7.9	4.5	0.0	4.6	10.6	0.0		
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.4	2.1	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	2.3	0.0	2.4	1.9	0.0		
LnGrp Delay(d),s/veh	8.2	4.9	0.0	5.0	12.6	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		631	457		229			
Approach Delay, s/veh		5.9	5.0		12.6			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				19.1		10.3		19.1
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				11.9		5.7		6.8
Green Ext Time (p_c), s				3.2		0.5		4.8
Intersection Summary								
HCM 2010 Ctrl Delay			6.8					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (3A) Conditions MIT

Saturday PM Peak












								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	113	204	250	34	51	142		
Future Volume (veh/h)	113	204	250	34	51	142		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	123	222	272	37	55	154		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	638	773	666	91	97	271		
Arrive On Green	0.41	0.41	0.41	0.41	0.23	0.23		
Sat Flow, veh/h	1066	1863	1606	218	427	1196		
Grp Volume(v), veh/h	123	222	0	309	210	0		
Grp Sat Flow(s),veh/h/ln	1066	1863	0	1824	1630	0		
Q Serve(g_s), s	2.0	1.8	0.0	2.7	2.6	0.0		
Cycle Q Clear(g_c), s	4.7	1.8	0.0	2.7	2.6	0.0		
Prop In Lane	1.00			0.12	0.26	0.73		
Lane Grp Cap(c), veh/h	638	773	0	757	369	0		
V/C Ratio(X)	0.19	0.29	0.00	0.41	0.57	0.00		
Avail Cap(c_a), veh/h	1056	1503	0	1472	1315	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.3	4.3	0.0	4.6	7.7	0.0		
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.4	1.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.6	0.9	0.0	1.4	1.2	0.0		
LnGrp Delay(d),s/veh	6.4	4.5	0.0	5.0	9.0	0.0		
LnGrp LOS	A	A		A	A			
Approach Vol, veh/h		345	309		210			
Approach Delay, s/veh		5.2	5.0		9.0			
Approach LOS		A	A		A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				13.3		9.1		13.3
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				6.7		4.6		4.7
Green Ext Time (p_c), s				2.7		0.5		2.9
Intersection Summary								
HCM 2010 Ctrl Delay			6.0					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (3B) Conditions MIT

Friday PM Peak












								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	180	400	343	77	73	137		
Future Volume (veh/h)	180	400	343	77	73	137		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	196	435	373	84	79	149		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	570	958	757	170	121	228		
Arrive On Green	0.51	0.51	0.51	0.51	0.21	0.21		
Sat Flow, veh/h	931	1863	1473	332	568	1071		
Grp Volume(v), veh/h	196	435	0	457	229	0		
Grp Sat Flow(s),veh/h/ln	931	1863	0	1804	1645	0		
Q Serve(g_s), s	5.1	4.3	0.0	4.8	3.7	0.0		
Cycle Q Clear(g_c), s	9.9	4.3	0.0	4.8	3.7	0.0		
Prop In Lane	1.00			0.18	0.34	0.65		
Lane Grp Cap(c), veh/h	570	958	0	928	351	0		
V/C Ratio(X)	0.34	0.45	0.00	0.49	0.65	0.00		
Avail Cap(c_a), veh/h	662	1142	0	1106	1009	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	7.9	4.5	0.0	4.6	10.6	0.0		
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.4	2.1	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	2.3	0.0	2.4	1.9	0.0		
LnGrp Delay(d),s/veh	8.2	4.9	0.0	5.0	12.6	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		631	457		229			
Approach Delay, s/veh		5.9	5.0		12.6			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				19.1		10.3		19.1
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				11.9		5.7		6.8
Green Ext Time (p_c), s				3.2		0.5		4.8
Intersection Summary								
HCM 2010 Ctrl Delay			6.8					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (3B) Conditions MIT

Saturday PM Peak












								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	113	204	250	34	51	142		
Future Volume (veh/h)	113	204	250	34	51	142		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	123	222	272	37	55	154		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	638	773	666	91	97	271		
Arrive On Green	0.41	0.41	0.41	0.41	0.23	0.23		
Sat Flow, veh/h	1066	1863	1606	218	427	1196		
Grp Volume(v), veh/h	123	222	0	309	210	0		
Grp Sat Flow(s),veh/h/ln	1066	1863	0	1824	1630	0		
Q Serve(g_s), s	2.0	1.8	0.0	2.7	2.6	0.0		
Cycle Q Clear(g_c), s	4.7	1.8	0.0	2.7	2.6	0.0		
Prop In Lane	1.00			0.12	0.26	0.73		
Lane Grp Cap(c), veh/h	638	773	0	757	369	0		
V/C Ratio(X)	0.19	0.29	0.00	0.41	0.57	0.00		
Avail Cap(c_a), veh/h	1056	1503	0	1472	1315	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.3	4.3	0.0	4.6	7.7	0.0		
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.4	1.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.6	0.9	0.0	1.4	1.2	0.0		
LnGrp Delay(d),s/veh	6.4	4.5	0.0	5.0	9.0	0.0		
LnGrp LOS	A	A		A	A			
Approach Vol, veh/h		345	309		210			
Approach Delay, s/veh		5.2	5.0		9.0			
Approach LOS		A	A		A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				13.3		9.1		13.3
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				6.7		4.6		4.7
Green Ext Time (p_c), s				2.7		0.5		2.9
Intersection Summary								
HCM 2010 Ctrl Delay			6.0					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
8: S Bonnyview Rd & Victor Ave

Opening Year (2025) plus Project (3C) Conditions MIT

Friday PM Peak



















								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	180	400	343	77	73	137		
Future Volume (veh/h)	180	400	343	77	73	137		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	196	435	373	84	79	149		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	570	958	757	170	121	228		
Arrive On Green	0.51	0.51	0.51	0.51	0.21	0.21		
Sat Flow, veh/h	931	1863	1473	332	568	1071		
Grp Volume(v), veh/h	196	435	0	457	229	0		
Grp Sat Flow(s),veh/h/ln	931	1863	0	1804	1645	0		
Q Serve(g_s), s	5.1	4.3	0.0	4.8	3.7	0.0		
Cycle Q Clear(g_c), s	9.9	4.3	0.0	4.8	3.7	0.0		
Prop In Lane	1.00			0.18	0.34	0.65		
Lane Grp Cap(c), veh/h	570	958	0	928	351	0		
V/C Ratio(X)	0.34	0.45	0.00	0.49	0.65	0.00		
Avail Cap(c_a), veh/h	662	1142	0	1106	1009	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	7.9	4.5	0.0	4.6	10.6	0.0		
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.4	2.1	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	2.3	0.0	2.4	1.9	0.0		
LnGrp Delay(d),s/veh	8.2	4.9	0.0	5.0	12.6	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		631	457		229			
Approach Delay, s/veh		5.9	5.0		12.6			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				19.1		10.3		19.1
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				11.9		5.7		6.8
Green Ext Time (p_c), s				3.2		0.5		4.8
Intersection Summary								
HCM 2010 Ctrl Delay			6.8					
HCM 2010 LOS			A					
Notes								



















User approved volume balancing among the lanes for turning movement.

Redding Rancheria
18: Oak St & North St

Opening Year (2025) plus Project (E) Conditions MITIGATED

Friday PM Peak



















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	344	4	12	429	379	3	176	16	274	127	114
Future Volume (veh/h)	176	344	4	12	429	379	3	176	16	274	127	114
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	191	374	4	13	466	412	3	191	17	298	138	124
Adj No. of Lanes	1	1	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	242	1063	11	512	629	555	82	412	36	0	222	200
Arrive On Green	0.14	0.58	0.58	0.35	0.35	0.35	0.25	0.25	0.25	0.00	0.25	0.25
Sat Flow, veh/h	1774	1840	20	1001	1782	1573	7	1677	148	0	906	814
Grp Volume(v), veh/h	191	0	378	13	463	415	211	0	0	0	0	262
Grp Sat Flow(s),veh/h/ln	1774	0	1859	1001	1770	1585	1832	0	0	0	0	1719
Q Serve(g_s), s	4.7	0.0	4.9	0.4	10.4	10.4	0.0	0.0	0.0	0.0	0.0	6.1
Cycle Q Clear(g_c), s	4.7	0.0	4.9	0.4	10.4	10.4	4.4	0.0	0.0	0.0	0.0	6.1
Prop In Lane	1.00		0.01	1.00		0.99	0.01		0.08	0.00		0.47
Lane Grp Cap(c), veh/h	242	0	1074	512	625	560	530	0	0	0	0	422
V/C Ratio(X)	0.79	0.00	0.35	0.03	0.74	0.74	0.40	0.00	0.00	0.00	0.00	0.62
Avail Cap(c_a), veh/h	314	0	1232	557	704	630	1008	0	0	0	0	1216
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	5.1	9.6	12.8	12.8	14.6	0.0	0.0	0.0	0.0	15.2
Incr Delay (d2), s/veh	9.8	0.0	0.2	0.0	3.7	4.1	0.5	0.0	0.0	0.0	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	2.5	0.1	5.7	5.1	2.3	0.0	0.0	0.0	0.0	3.1
LnGrp Delay(d),s/veh	28.7	0.0	5.3	9.6	16.5	17.0	15.0	0.0	0.0	0.0	0.0	16.7
LnGrp LOS	C		A	A	B	B	B					B
Approach Vol, veh/h		569			891			211			262	
Approach Delay, s/veh		13.1			16.6			15.0			16.7	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	0.0	15.1		30.1		15.1	10.2	20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s	5.0	23.0		30.0		32.0	8.0	18.0				
Max Q Clear Time (g_c+I1), s	0.0	6.4		6.9		8.1	6.7	12.4				
Green Ext Time (p_c), s	0.0	2.6		9.2		3.0	0.1	3.6				
Intersection Summary												
HCM 2010 Ctrl Delay			15.4									
HCM 2010 LOS			B									



















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	350	217	296	151	252	32	92	210	199	0	0	0
Future Volume (veh/h)	350	217	296	151	252	32	92	210	199	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1900	1863			
Adj Flow Rate, veh/h	380	236	322	164	274	0	100	228	216			
Adj No. of Lanes	1	2	0	1	2	0	1	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	471	670	599	210	819	0	350	0	312			
Arrive On Green	0.27	0.38	0.38	0.12	0.23	0.00	0.20	0.20	0.20			
Sat Flow, veh/h	1774	1770	1583	1774	3632	0	1774	0	1583			
Grp Volume(v), veh/h	380	236	322	164	274	0	100	0	216			
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1774	0	1583			
Q Serve(g_s), s	7.9	3.8	6.2	3.5	2.5	0.0	1.9	0.0	5.0			
Cycle Q Clear(g_c), s	7.9	3.8	6.2	3.5	2.5	0.0	1.9	0.0	5.0			
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	471	670	599	210	819	0	350	0	312			
V/C Ratio(X)	0.81	0.35	0.54	0.78	0.33	0.00	0.29	0.00	0.69			
Avail Cap(c_a), veh/h	769	1263	1130	317	1624	0	814	0	727			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	13.5	8.7	9.5	16.8	12.6	0.0	13.4	0.0	14.6			
Incr Delay (d2), s/veh	3.3	0.3	0.8	6.9	0.2	0.0	0.4	0.0	2.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.2	1.9	2.8	2.1	1.2	0.0	1.0	0.0	2.4			
LnGrp Delay(d),s/veh	16.8	9.1	10.3	23.7	12.8	0.0	13.8	0.0	17.4			
LnGrp LOS	B	A	B	C	B		B		B			
Approach Vol, veh/h		938			438			316				
Approach Delay, s/veh		12.6			16.9			16.3				
Approach LOS		B			B			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4			7	8				
Phs Duration (G+Y+Rc), s		11.7	8.6	18.9			14.4	13.1				
Change Period (Y+Rc), s		4.0	4.0	4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.0	7.0	28.0			17.0	18.0				
Max Q Clear Time (g_c+I1), s		7.0	5.5	8.2			9.9	4.5				
Green Ext Time (p_c), s		0.8	0.1	5.4			0.7	4.6				
Intersection Summary												
HCM 2010 Ctrl Delay			14.4									
HCM 2010 LOS			B									

Redding Rancheria
18: Oak St & North St

Opening Year (2025) plus Project (E) Conditions MITIGATED

Saturday PM Peak

























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	221	2	9	226	459	3	220	13	293	137	119
Future Volume (veh/h)	207	221	2	9	226	459	3	220	13	293	137	119
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	225	240	2	10	246	499	3	239	14	318	149	129
Adj No. of Lanes	1	1	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	282	1088	9	541	621	556	74	435	25	0	232	201
Arrive On Green	0.16	0.59	0.59	0.35	0.35	0.35	0.25	0.25	0.25	0.00	0.25	0.25
Sat Flow, veh/h	1774	1845	15	1133	1770	1583	6	1735	101	0	923	799
Grp Volume(v), veh/h	225	0	242	10	246	499	256	0	0	0	0	278
Grp Sat Flow(s),veh/h/ln	1774	0	1860	1133	1770	1583	1841	0	0	0	0	1722
Q Serve(g_s), s	6.1	0.0	3.1	0.3	5.3	15.0	0.0	0.0	0.0	0.0	0.0	7.2
Cycle Q Clear(g_c), s	6.1	0.0	3.1	0.3	5.3	15.0	6.1	0.0	0.0	0.0	0.0	7.2
Prop In Lane	1.00		0.01	1.00		1.00	0.01		0.05	0.00		0.46
Lane Grp Cap(c), veh/h	282	0	1097	541	621	556	535	0	0	0	0	432
V/C Ratio(X)	0.80	0.00	0.22	0.02	0.40	0.90	0.48	0.00	0.00	0.00	0.00	0.64
Avail Cap(c_a), veh/h	282	0	1111	549	634	567	913	0	0	0	0	1096
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	4.9	10.7	12.3	15.5	16.4	0.0	0.0	0.0	0.0	16.8
Incr Delay (d2), s/veh	14.7	0.0	0.1	0.0	0.4	16.9	0.7	0.0	0.0	0.0	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	1.6	0.1	2.6	9.1	3.2	0.0	0.0	0.0	0.0	3.6
LnGrp Delay(d),s/veh	35.0	0.0	5.0	10.7	12.7	32.4	17.0	0.0	0.0	0.0	0.0	18.4
LnGrp LOS	C		A	B	B	C	B					B
Approach Vol, veh/h		467			755			256			278	
Approach Delay, s/veh		19.4			25.7			17.0			18.4	
Approach LOS		B			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	0.0	16.6		33.6		16.6	12.0	21.6				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s	5.0	23.0		30.0		32.0	8.0	18.0				
Max Q Clear Time (g_c+I1), s	0.0	8.1		5.1		9.2	8.1	17.0				
Green Ext Time (p_c), s	0.0	2.9		7.3		3.4	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			21.6									
HCM 2010 LOS			C									

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	304	155	198	114	153	35	61	127	165	0	0	0
Future Volume (veh/h)	304	155	198	114	153	35	61	127	165	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1900	1863			
Adj Flow Rate, veh/h	330	168	215	124	166	0	66	138	179			
Adj No. of Lanes	1	2	0	1	2	0	1	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	431	597	534	185	703	0	328	0	292			
Arrive On Green	0.24	0.34	0.34	0.10	0.20	0.00	0.18	0.18	0.18			
Sat Flow, veh/h	1774	1770	1583	1774	3632	0	1774	0	1583			
Grp Volume(v), veh/h	330	168	215	124	166	0	66	0	179			
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1774	0	1583			
Q Serve(g_s), s	5.6	2.2	3.3	2.2	1.3	0.0	1.0	0.0	3.3			
Cycle Q Clear(g_c), s	5.6	2.2	3.3	2.2	1.3	0.0	1.0	0.0	3.3			
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	431	597	534	185	703	0	328	0	292			
V/C Ratio(X)	0.77	0.28	0.40	0.67	0.24	0.00	0.20	0.00	0.61			
Avail Cap(c_a), veh/h	884	1544	1381	387	2095	0	995	0	888			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	11.3	7.8	8.2	13.8	10.8	0.0	11.1	0.0	12.0			
Incr Delay (d2), s/veh	2.9	0.3	0.5	4.2	0.2	0.0	0.3	0.0	2.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.0	1.1	1.5	1.2	0.6	0.0	0.5	0.0	1.6			
LnGrp Delay(d),s/veh	14.2	8.0	8.6	18.0	11.0	0.0	11.4	0.0	14.1			
LnGrp LOS	B	A	A	B	B		B		B			
Approach Vol, veh/h		713			290			245				
Approach Delay, s/veh		11.1			14.0			13.4				
Approach LOS		B			B			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4			7	8				
Phs Duration (G+Y+Rc), s		9.9	7.3	14.8			11.8	10.4				
Change Period (Y+Rc), s		4.0	4.0	4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.0	7.0	28.0			16.0	19.0				
Max Q Clear Time (g_c+I1), s		5.3	4.2	5.3			7.6	3.3				
Green Ext Time (p_c), s		0.6	0.1	3.5			0.7	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			12.2									
HCM 2010 LOS			B									

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions - MIT

Friday PM Peak













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	163	543	1102	306	119	32	388	756	45	265
Future Volume (veh/h)	208	989	163	543	1102	306	119	32	388	756	45	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	226	1075	177	590	1198	333	129	0	445	822	49	288
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	1149	514	652	1309	585	169	0	901	895	61	360
Arrive On Green	0.14	0.32	0.32	0.19	0.37	0.37	0.10	0.00	0.10	0.26	0.26	0.26
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	235	1383
Grp Volume(v), veh/h	226	1075	177	590	1198	333	129	0	445	822	0	337
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1619
Q Serve(g_s), s	15.3	36.0	10.4	20.5	39.5	20.5	8.7	0.0	0.0	28.4	0.0	23.8
Cycle Q Clear(g_c), s	15.3	36.0	10.4	20.5	39.5	20.5	8.7	0.0	0.0	28.4	0.0	23.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.85
Lane Grp Cap(c), veh/h	256	1149	514	652	1309	585	169	0	901	895	0	421
V/C Ratio(X)	0.88	0.94	0.34	0.90	0.92	0.57	0.77	0.00	0.49	0.92	0.00	0.80
Avail Cap(c_a), veh/h	377	1172	524	717	1309	585	218	0	989	928	0	437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.3	40.1	31.4	48.5	36.7	30.8	54.0	0.0	36.4	44.0	0.0	42.3
Incr Delay (d2), s/veh	15.2	13.5	0.4	14.2	10.2	1.3	11.4	0.0	0.4	13.6	0.0	9.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	19.8	4.6	11.0	21.2	9.2	4.8	0.0	6.3	15.2	0.0	11.8
LnGrp Delay(d),s/veh	66.5	53.6	31.8	62.7	46.9	32.1	65.4	0.0	36.8	57.6	0.0	52.2
LnGrp LOS	E	D	C	E	D	C	E		D	E		D
Approach Vol, veh/h		1478			2121			574			1159	
Approach Delay, s/veh		52.9			49.0			43.3			56.0	
Approach LOS		D			D			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.6	27.2	43.7		35.8	21.7	49.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		15.0	25.5	40.5		33.0	26.0	40.0				
Max Q Clear Time (g_c+I1), s		10.7	22.5	38.0		30.4	17.3	41.5				
Green Ext Time (p_c), s		0.9	0.7	1.7		1.4	0.4	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			51.0									
HCM 2010 LOS			D									
Notes												









User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd






















Opening Year (2025) plus Project (1A) Conditions - MIT

Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑						↑	↑
Traffic Volume (veh/h)	0	1418	715	300	1097	0	0	0	0	285	1	855
Future Volume (veh/h)	0	1418	715	300	1097	0	0	0	0	285	1	855
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1541	777	326	1192	0				310	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1508	704	331	2423	0				369	1	330
Arrive On Green	0.00	0.44	0.44	0.19	0.68	0.00				0.21	0.21	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1541	777	326	1192	0				311	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	33.4	33.4	13.7	12.0	0.0				12.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	33.4	33.4	13.7	12.0	0.0				12.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1508	704	331	2423	0				370	0	330
V/C Ratio(X)	0.00	1.02	1.10	0.98	0.49	0.00				0.84	0.00	0.00
Avail Cap(c_a), veh/h	0	1508	704	331	2423	0				551	0	492
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.34	0.34	0.09	0.09	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	20.8	20.8	30.4	5.6	0.0				28.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	19.5	54.5	11.5	0.1	0.0				7.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	19.6	25.1	7.8	5.8	0.0				6.9	0.0	0.0
LnGrp Delay(d),s/veh	0.0	40.4	75.3	41.8	5.7	0.0				35.8	0.0	0.0
LnGrp LOS		F	F	D	A					D		
Approach Vol, veh/h		2318			1518						311	
Approach Delay, s/veh		52.1			13.5						35.8	
Approach LOS		D			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			18.0	37.4		19.6		55.4				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			14.0	25.7		23.3		43.7				
Max Q Clear Time (g_c+I1), s			15.7	35.4		14.6		14.0				
Green Ext Time (p_c), s			0.0	0.0		1.1		27.3				
Intersection Summary												
HCM 2010 Ctrl Delay			36.7									
HCM 2010 LOS			D									

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	815	889	0	0	844	285	552	5	255	0	0	0
Future Volume (veh/h)	815	889	0	0	844	285	552	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	886	966	0	0	917	310	604	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	828	2684	0	0	914	409	621	0	277			
Arrive On Green	0.47	0.76	0.00	0.00	0.26	0.26	0.17	0.00	0.17			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	886	966	0	0	917	310	604	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	56.0	10.9	0.0	0.0	31.0	21.7	20.3	0.0	21.0			
Cycle Q Clear(g_c), s	56.0	10.9	0.0	0.0	31.0	21.7	20.3	0.0	21.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	828	2684	0	0	914	409	621	0	277			
V/C Ratio(X)	1.07	0.36	0.00	0.00	1.00	0.76	0.97	0.00	1.00			
Avail Cap(c_a), veh/h	828	2684	0	0	914	409	621	0	277			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.61	0.61	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.0	4.8	0.0	0.0	44.5	41.0	49.2	0.0	49.5			
Incr Delay (d2), s/veh	34.3	0.0	0.0	0.0	24.0	7.8	29.3	0.0	54.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	35.3	5.2	0.0	0.0	18.2	10.4	12.5	0.0	13.3			
LnGrp Delay(d),s/veh	66.3	4.9	0.0	0.0	68.5	48.9	78.5	0.0	103.5			
LnGrp LOS	F	A			F	D	E		F			
Approach Vol, veh/h	1852				1227			881				
Approach Delay, s/veh	34.3				63.5			86.3				
Approach LOS	C				E			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		25.0		95.0			60.0	35.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		21.0		91.0			56.0	31.0				
Max Q Clear Time (g_c+I1), s		23.0		12.9			58.0	33.0				
Green Ext Time (p_c), s		0.0		26.5			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				54.9								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	646	80	35	521	130	125	10	25	145	15	483
Future Volume (veh/h)	418	646	80	35	521	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	702	87	38	566	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	529	1333	596	55	714	177	445	36	428	285	29	491
Arrive On Green	0.15	0.38	0.38	0.03	0.25	0.25	0.27	0.27	0.27	0.18	0.18	0.18
Sat Flow, veh/h	3442	3539	1583	1774	2811	698	1647	133	1583	1618	164	2787
Grp Volume(v), veh/h	454	702	87	38	356	351	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1740	1780	0	1583	1782	0	1393
Q Serve(g_s), s	14.1	17.0	4.0	2.3	20.6	20.8	7.2	0.0	1.4	9.8	0.0	19.4
Cycle Q Clear(g_c), s	14.1	17.0	4.0	2.3	20.6	20.8	7.2	0.0	1.4	9.8	0.0	19.4
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	529	1333	596	55	450	442	481	0	428	314	0	491
V/C Ratio(X)	0.86	0.53	0.15	0.69	0.79	0.80	0.31	0.00	0.06	0.55	0.00	1.07
Avail Cap(c_a), veh/h	657	1480	662	97	499	490	481	0	428	314	0	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	26.7	22.6	52.7	38.3	38.3	31.9	0.0	29.8	41.3	0.0	45.3
Incr Delay (d2), s/veh	8.5	0.3	0.1	14.0	7.7	8.1	1.6	0.0	0.3	2.1	0.0	60.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	8.3	1.8	1.4	11.0	10.9	3.8	0.0	0.6	5.0	0.0	11.6
LnGrp Delay(d),s/veh	53.9	27.0	22.7	66.7	46.0	46.4	33.5	0.0	30.1	43.5	0.0	105.3
LnGrp LOS	D	C	C	E	D	D	C		C	D		F
Approach Vol, veh/h	1243				745			174		699		
Approach Delay, s/veh	36.5				47.3			33.0		89.9		
Approach LOS	D				D			C		F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.7	7.4	45.4		23.4	20.9	31.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		22.6	6.0	46.0		19.4	21.0	31.0				
Max Q Clear Time (g_c+I1), s		9.2	4.3	19.0		21.4	16.1	22.8				
Green Ext Time (p_c), s		0.6	0.0	10.6		0.0	0.8	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay	52.1											
HCM 2010 LOS	D											

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	711	591	30	25	95
Future Vol, veh/h	105	711	591	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	773	642	33	27	103

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	675	0	0 1274 338
Stage 1	-	-	- 659 -
Stage 2	-	-	- 615 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	912	-	- 159 658
Stage 1	-	-	- 476 -
Stage 2	-	-	- 502 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	912	-	- 124 658
Mov Cap-2 Maneuver	-	-	- 124 -
Stage 1	-	-	- 476 -
Stage 2	-	-	- 392 -

























Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	912	-	-	-	124	658
HCM Lane V/C Ratio	0.125	-	-	-	0.219	0.157
HCM Control Delay (s)	9.5	-	-	-	42	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions - MIT

Saturday PM Peak













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	201	669	783	174	122	23	396	271	44	112
Future Volume (veh/h)	113	721	201	669	783	174	122	23	396	271	44	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	123	784	218	727	851	189	133	0	447	295	48	122
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	1147	513	731	1590	711	254	0	1125	488	66	168
Arrive On Green	0.09	0.32	0.32	0.21	0.45	0.45	0.14	0.00	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	467	1187
Grp Volume(v), veh/h	123	784	218	727	851	189	133	0	447	295	0	170
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1653
Q Serve(g_s), s	6.1	17.2	9.7	18.9	15.6	6.7	6.2	0.0	9.5	7.2	0.0	8.8
Cycle Q Clear(g_c), s	6.1	17.2	9.7	18.9	15.6	6.7	6.2	0.0	9.5	7.2	0.0	8.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.72
Lane Grp Cap(c), veh/h	154	1147	513	731	1590	711	254	0	1125	488	0	235
V/C Ratio(X)	0.80	0.68	0.42	1.00	0.54	0.27	0.52	0.00	0.40	0.60	0.00	0.72
Avail Cap(c_a), veh/h	218	1325	593	731	1641	734	367	0	1327	1269	0	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.1	26.3	23.7	35.2	17.9	15.4	35.5	0.0	21.7	36.0	0.0	36.7
Incr Delay (d2), s/veh	12.8	1.2	0.6	32.0	0.3	0.2	1.7	0.0	0.2	1.2	0.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	8.6	4.3	12.1	7.6	2.9	3.1	0.0	4.2	3.5	0.0	4.3
LnGrp Delay(d),s/veh	52.9	27.5	24.3	67.2	18.2	15.6	37.2	0.0	21.9	37.3	0.0	41.0
LnGrp LOS	D	C	C	E	B	B	D		C	D		D
Approach Vol, veh/h		1125			1767			580			465	
Approach Delay, s/veh		29.6			38.1			25.4			38.6	
Approach LOS		C			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.8	23.0	33.0		16.7	11.8	44.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	19.0	33.5		33.0	11.0	41.5				
Max Q Clear Time (g_c+I1), s		11.5	20.9	19.2		10.8	8.1	17.6				
Green Ext Time (p_c), s		1.3	0.0	9.8		1.9	0.1	13.8				
Intersection Summary												
HCM 2010 Ctrl Delay			33.9									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions - MIT









Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑						↑	↑
Traffic Volume (veh/h)	0	947	440	178	895	0	0	0	0	176	1	732
Future Volume (veh/h)	0	947	440	178	895	0	0	0	0	176	1	732
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1029	478	193	973	0				191	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1966	913	237	2698	0				243	1	218
Arrive On Green	0.00	0.58	0.58	0.04	0.25	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	3564	1578	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	1027	480	193	973	0				192	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1584	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	14.6	14.6	8.6	18.1	0.0				8.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	14.6	14.6	8.6	18.1	0.0				8.4	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1962	917	237	2698	0				245	0	218
V/C Ratio(X)	0.00	0.52	0.52	0.82	0.36	0.00				0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1962	917	333	2698	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.73	0.73	0.66	0.66	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	10.2	10.2	37.3	13.9	0.0				33.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	1.6	6.9	0.2	0.0				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.9	6.7	4.7	9.0	0.0				4.5	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.9	11.8	44.2	14.1	0.0				38.8	0.0	0.0
LnGrp LOS		B	B	D	B					D		
Approach Vol, veh/h		1507			1166						192	
Approach Delay, s/veh		11.2			19.1						38.8	
Approach LOS		B			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	50.3		15.0		65.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	16.6		10.4		20.1				
Green Ext Time (p_c), s			0.2	8.3		0.8		18.8				
Intersection Summary												
HCM 2010 Ctrl Delay			16.3									
HCM 2010 LOS			B									






















Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions - MIT

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	592	531	0	0	603	222	470	3	255	0	0	0
Future Volume (veh/h)	592	531	0	0	603	222	470	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	643	577	0	0	655	241	513	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2458	0	0	1219	545	729	0	325			
Arrive On Green	0.50	1.00	0.00	0.00	0.69	0.69	0.21	0.00	0.21			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	643	577	0	0	655	241	513	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	7.3	5.4	10.7	0.0	13.5			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	7.3	5.4	10.7	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	532	2458	0	0	1219	545	729	0	325			
V/C Ratio(X)	1.21	0.23	0.00	0.00	0.54	0.44	0.70	0.00	0.85			
Avail Cap(c_a), veh/h	532	2458	0	0	1219	545	820	0	366			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.44	0.44	0.00	0.00	0.76	0.76	1.00	0.00	1.00			
Uniform Delay (d), s/veh	20.0	0.0	0.0	0.0	9.3	9.0	29.5	0.0	30.6			
Incr Delay (d2), s/veh	101.6	0.1	0.0	0.0	1.3	2.0	2.4	0.0	15.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	26.3	0.0	0.0	0.0	3.7	2.6	5.5	0.0	7.3			
LnGrp Delay(d),s/veh	121.5	0.1	0.0	0.0	10.6	11.0	31.9	0.0	46.4			
LnGrp LOS	F	A			B	B	C		D			
Approach Vol, veh/h	1220				896			790				
Approach Delay, s/veh	64.1				10.7			37.0				
Approach LOS	E				B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.4		59.6			28.0	31.6				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		15.5		2.0			26.0	9.3				
Green Ext Time (p_c), s		1.0		11.9			0.0	8.0				
Intersection Summary												
HCM 2010 Ctrl Delay				40.3								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	349	104	35	347	110	175	5	50	129	0	303
Future Volume (veh/h)	333	349	104	35	347	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	379	113	38	377	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	914	409	63	514	162	610	16	558	273	0	428
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.35	0.35	0.35	0.15	0.00	0.15
Sat Flow, veh/h	3442	3539	1583	1774	2652	833	1731	46	1583	1774	0	2787
Grp Volume(v), veh/h	362	379	113	38	250	247	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1716	1776	0	1583	1774	0	1393
Q Serve(g_s), s	8.0	5.9	3.7	1.7	10.6	10.8	6.4	0.0	1.8	5.8	0.0	9.1
Cycle Q Clear(g_c), s	8.0	5.9	3.7	1.7	10.6	10.8	6.4	0.0	1.8	5.8	0.0	9.1
Prop In Lane	1.00		1.00	1.00		0.49	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	914	409	63	343	333	626	0	558	273	0	428
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.73	0.74	0.31	0.00	0.10	0.51	0.00	0.77
Avail Cap(c_a), veh/h	344	951	426	111	409	397	626	0	558	410	0	644
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.6	17.9	38.0	30.3	30.4	18.9	0.0	17.4	31.1	0.0	32.5
Incr Delay (d2), s/veh	61.7	0.3	0.3	8.8	5.3	6.0	1.3	0.0	0.3	1.5	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.6	1.0	5.6	5.7	3.4	0.0	0.8	3.0	0.0	3.6
LnGrp Delay(d),s/veh	95.0	18.8	18.3	46.8	35.5	36.4	20.1	0.0	17.7	32.6	0.0	35.6
LnGrp LOS	F	B	B	D	D	D	C		B	C		D
Approach Vol, veh/h		854			535			249			469	
Approach Delay, s/veh		51.0			36.7			19.6			34.7	
Approach LOS		D			D			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.2	6.9	24.7		16.3	12.0	19.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.4	3.7	7.9		11.1	10.0	12.8				
Green Ext Time (p_c), s		0.8	0.0	4.7		1.2	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay				40.1								
HCM 2010 LOS				D								

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	451	418	30	10	74
Future Vol, veh/h	77	451	418	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	490	454	33	11	80

























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	487	0	884
Stage 1	-	-	471
Stage 2	-	-	413
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1072	-	285
Stage 1	-	-	594
Stage 2	-	-	636
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1072	-	254
Mov Cap-2 Maneuver	-	-	254
Stage 1	-	-	594
Stage 2	-	-	567

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1072	-	-	-	254	758
HCM Lane V/C Ratio	0.078	-	-	-	0.043	0.106
HCM Control Delay (s)	8.6	-	-	-	19.8	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd
























Opening Year (2025) plus Project (1B) Conditions - MIT
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	141	455	1102	306	94	28	292	756	41	265
Future Volume (veh/h)	208	989	141	455	1102	306	94	28	292	756	41	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	226	1075	153	495	1198	333	102	0	337	822	45	288
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1130	506	526	1226	548	202	0	844	930	59	378
Arrive On Green	0.13	0.32	0.32	0.15	0.35	0.35	0.11	0.00	0.11	0.27	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	218	1398
Grp Volume(v), veh/h	226	1075	153	495	1198	333	102	0	337	822	0	333
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1616
Q Serve(g_s), s	14.0	33.0	8.1	15.8	37.2	19.4	6.0	0.0	9.7	25.5	0.0	21.1
Cycle Q Clear(g_c), s	14.0	33.0	8.1	15.8	37.2	19.4	6.0	0.0	9.7	25.5	0.0	21.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	223	1130	506	526	1226	548	202	0	844	930	0	437
V/C Ratio(X)	1.01	0.95	0.30	0.94	0.98	0.61	0.51	0.00	0.40	0.88	0.00	0.76
Avail Cap(c_a), veh/h	223	1130	506	526	1226	548	295	0	1011	1021	0	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	37.0	28.5	46.6	35.9	30.1	46.3	0.0	33.5	38.9	0.0	37.3
Incr Delay (d2), s/veh	63.3	16.4	0.3	25.3	20.4	1.9	2.0	0.0	0.3	8.8	0.0	6.5
Initial Q Delay(d3),s/veh	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	18.7	3.6	9.3	21.6	8.7	3.1	0.0	4.3	13.2	0.0	10.2
LnGrp Delay(d),s/veh	111.9	53.4	28.8	71.9	56.3	32.0	48.3	0.0	33.8	47.7	0.0	43.8
LnGrp LOS	F	D	C	E	E	C	D		C	D		D
Approach Vol, veh/h		1454			2026			439			1155	
Approach Delay, s/veh		59.9			56.1			37.1			46.6	
Approach LOS		E			E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.6	21.0	39.5		34.0	18.0	42.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	17.0	35.5		33.0	14.0	38.5				
Max Q Clear Time (g_c+I1), s		11.7	17.8	35.0		27.5	16.0	39.2				
Green Ext Time (p_c), s		0.9	0.0	0.5		2.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			53.4									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.




















Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions - MIT
Friday PM Peak






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	 						 	 
Traffic Volume (veh/h)	0	1362	675	300	1056	0	0	0	0	285	1	808
Future Volume (veh/h)	0	1362	675	300	1056	0	0	0	0	285	1	808
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1480	734	326	1148	0				310	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1852	865	258	2577	0				352	1	315
Arrive On Green	0.00	0.55	0.55	0.15	0.73	0.00				0.20	0.20	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1480	734	326	1148	0				311	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	38.7	43.1	16.0	14.4	0.0				18.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	38.7	43.1	16.0	14.4	0.0				18.7	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1852	865	258	2577	0				353	0	315
V/C Ratio(X)	0.00	0.80	0.85	1.26	0.45	0.00				0.88	0.00	0.00
Avail Cap(c_a), veh/h	0	1852	865	258	2577	0				500	0	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.37	0.37	0.12	0.12	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	20.1	21.1	47.0	6.0	0.0				42.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	4.1	122.4	0.1	0.0				12.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	18.2	19.7	16.6	6.9	0.0				10.4	0.0	0.0
LnGrp Delay(d),s/veh	0.0	21.5	25.2	169.4	6.1	0.0				55.2	0.0	0.0
LnGrp LOS		C	C	F	A					E		
Approach Vol, veh/h		2214			1474						311	
Approach Delay, s/veh		22.7			42.2						55.2	
Approach LOS		C			D						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			20.0	64.1		25.9		84.1				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			16.0	51.0		31.0		71.0				
Max Q Clear Time (g_c+I1), s			18.0	45.1		20.7		16.4				
Green Ext Time (p_c), s			0.0	5.7		1.2		45.6				
Intersection Summary												
HCM 2010 Ctrl Delay			32.4									
HCM 2010 LOS			C									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions - MIT
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	764	885	0	0	840	285	516	5	255	0	0	0
Future Volume (veh/h)	764	885	0	0	840	285	516	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	830	962	0	0	913	310	565	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	828	2684	0	0	914	409	621	0	277			
Arrive On Green	0.47	0.76	0.00	0.00	0.26	0.26	0.17	0.00	0.17			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	830	962	0	0	913	310	565	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	56.0	10.8	0.0	0.0	30.9	21.7	18.8	0.0	21.0			
Cycle Q Clear(g_c), s	56.0	10.8	0.0	0.0	30.9	21.7	18.8	0.0	21.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	828	2684	0	0	914	409	621	0	277			
V/C Ratio(X)	1.00	0.36	0.00	0.00	1.00	0.76	0.91	0.00	1.00			
Avail Cap(c_a), veh/h	828	2684	0	0	914	409	621	0	277			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.20	0.20	0.00	0.00	0.53	0.53	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.0	4.8	0.0	0.0	44.5	41.0	48.6	0.0	49.5			
Incr Delay (d2), s/veh	14.5	0.1	0.0	0.0	21.4	6.9	17.6	0.0	54.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	30.7	5.2	0.0	0.0	17.8	10.3	10.7	0.0	13.3			
LnGrp Delay(d),s/veh	46.5	4.9	0.0	0.0	65.9	48.0	66.1	0.0	103.5			
LnGrp LOS	F	A			E	D	E		F			
Approach Vol, veh/h	1792				1223			842				
Approach Delay, s/veh	24.2				61.4			78.4				
Approach LOS	C				E			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		25.0		95.0			60.0	35.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		21.0		91.0			56.0	31.0				
Max Q Clear Time (g_c+I1), s		23.0		12.8			58.0	32.9				
Green Ext Time (p_c), s		0.0		26.3			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			47.8									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	642	80	35	517	130	125	10	25	145	15	483
Future Volume (veh/h)	418	642	80	35	517	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	698	87	38	562	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	529	1330	595	55	711	178	447	36	429	285	29	523
Arrive On Green	0.15	0.38	0.38	0.03	0.25	0.25	0.27	0.27	0.27	0.18	0.18	0.18
Sat Flow, veh/h	3442	3539	1583	1774	2807	702	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	698	87	38	354	349	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1739	1780	0	1583	1782	0	1583
Q Serve(g_s), s	14.1	16.9	4.0	2.3	20.5	20.6	7.2	0.0	1.4	9.8	0.0	19.4
Cycle Q Clear(g_c), s	14.1	16.9	4.0	2.3	20.5	20.6	7.2	0.0	1.4	9.8	0.0	19.4
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	529	1330	595	55	448	440	483	0	429	314	0	523
V/C Ratio(X)	0.86	0.52	0.15	0.69	0.79	0.79	0.30	0.00	0.06	0.55	0.00	1.00
Avail Cap(c_a), veh/h	657	1480	662	97	499	490	483	0	429	314	0	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	26.7	22.7	52.7	38.3	38.4	31.8	0.0	29.7	41.3	0.0	36.8
Incr Delay (d2), s/veh	8.5	0.3	0.1	14.0	7.6	7.9	1.6	0.0	0.3	2.1	0.0	40.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	8.3	1.8	1.4	11.0	10.9	3.8	0.0	0.6	5.0	0.0	21.7
LnGrp Delay(d),s/veh	53.9	27.0	22.8	66.7	45.9	46.3	33.5	0.0	30.0	43.5	0.0	77.3
LnGrp LOS	D	C	C	E	D	D	C		C	D		F
Approach Vol, veh/h	1239					741		174		699		
Approach Delay, s/veh	36.6					47.2		32.9		68.9		
Approach LOS	D					D		C		E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.8	7.4	45.3		23.4	20.9	31.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		22.6	6.0	46.0		19.4	21.0	31.0				
Max Q Clear Time (g_c+l1), s		9.2	4.3	18.9		21.4	16.1	22.6				
Green Ext Time (p_c), s		0.6	0.0	10.5		0.0	0.8	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay	47.0											
HCM 2010 LOS	D											

Redding Rancheria
7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Opening Year (2025) plus Project (1B) Conditions - MIT

Friday PM Peak

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	707	587	30	25	95
Future Vol, veh/h	105	707	587	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	768	638	33	27	103

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	671	0	0 1267 335
Stage 1	-	-	- 654 -
Stage 2	-	-	- 613 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	915	-	- 161 661
Stage 1	-	-	- 479 -
Stage 2	-	-	- 503 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	915	-	- 126 661
Mov Cap-2 Maneuver	-	-	- 126 -
Stage 1	-	-	- 479 -
Stage 2	-	-	- 394 -

























Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	126	661
HCM Lane V/C Ratio	0.125	-	-	-	0.216	0.156
HCM Control Delay (s)	9.5	-	-	-	41.3	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions - MIT

Saturday PM Peak


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	151	474	783	174	74	14	208	271	35	112
Future Volume (veh/h)	113	721	151	474	783	174	74	14	208	271	35	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	123	784	164	515	851	189	80	0	236	295	38	122
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	1276	571	635	1616	723	171	0	889	497	56	181
Arrive On Green	0.09	0.36	0.36	0.18	0.46	0.46	0.10	0.00	0.10	0.14	0.14	0.14
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	390	1252
Grp Volume(v), veh/h	123	784	164	515	851	189	80	0	236	295	0	160
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1642
Q Serve(g_s), s	5.1	13.6	5.5	10.7	12.8	5.5	3.2	0.0	4.3	6.0	0.0	6.9
Cycle Q Clear(g_c), s	5.1	13.6	5.5	10.7	12.8	5.5	3.2	0.0	4.3	6.0	0.0	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	157	1276	571	635	1616	723	171	0	889	497	0	237
V/C Ratio(X)	0.78	0.61	0.29	0.81	0.53	0.26	0.47	0.00	0.27	0.59	0.00	0.68
Avail Cap(c_a), veh/h	262	1589	711	876	1969	881	440	0	1370	1522	0	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	19.6	17.0	29.2	14.5	12.5	31.9	0.0	20.9	29.9	0.0	30.3
Incr Delay (d2), s/veh	8.3	0.5	0.3	4.1	0.3	0.2	2.0	0.0	0.2	1.1	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.7	2.5	5.4	6.3	2.4	1.7	0.0	1.9	2.9	0.0	3.3
LnGrp Delay(d),s/veh	41.6	20.1	17.3	33.3	14.8	12.7	33.9	0.0	21.0	31.0	0.0	33.6
LnGrp LOS	D	C	B	C	B	B	C		C	C		C
Approach Vol, veh/h		1071			1555			316			455	
Approach Delay, s/veh		22.1			20.6			24.3			31.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.2	17.8	30.9		14.8	10.6	38.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	19.0	33.5		33.0	11.0	41.5				
Max Q Clear Time (g_c+I1), s		6.3	12.7	15.6		8.9	7.1	14.8				
Green Ext Time (p_c), s		0.9	1.1	11.3		1.9	0.1	14.5				
Intersection Summary												
HCM 2010 Ctrl Delay			23.0									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions - MIT




















Saturday PM Peak

	<div></div>											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑						↑	↑
Traffic Volume (veh/h)	0	838	362	178	804	0	0	0	0	176	1	627
Future Volume (veh/h)	0	838	362	178	804	0	0	0	0	176	1	627
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	911	393	193	874	0				191	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2018	869	237	2698	0				243	1	218
Arrive On Green	0.00	0.58	0.58	0.04	0.25	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	3654	1502	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	886	418	193	874	0				192	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1598	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	11.9	11.9	8.6	16.1	0.0				8.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	11.9	11.9	8.6	16.1	0.0				8.4	0.0	0.0
Prop In Lane	0.00		0.94	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1962	925	237	2698	0				245	0	218
V/C Ratio(X)	0.00	0.45	0.45	0.82	0.32	0.00				0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1962	925	333	2698	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.74	0.74	0.77	0.77	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.6	9.6	37.3	13.1	0.0				33.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	1.2	8.0	0.2	0.0				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.7	5.5	4.8	8.0	0.0				4.5	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.2	10.8	45.3	13.4	0.0				38.8	0.0	0.0
LnGrp LOS		B	B	D	B					D		
Approach Vol, veh/h	1304					1067				192		
Approach Delay, s/veh	10.4					19.2				38.8		
Approach LOS	B					B				D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	50.3		15.0		65.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	13.9		10.4		18.1				
Green Ext Time (p_c), s			0.2	9.6		0.8		17.5				
Intersection Summary												
HCM 2010 Ctrl Delay			16.2									
HCM 2010 LOS			B									






















Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions - MIT

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	492	522	0	0	594	222	388	3	255	0	0	0
Future Volume (veh/h)	492	522	0	0	594	222	388	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	535	567	0	0	646	241	424	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2462	0	0	1224	547	725	0	323			
Arrive On Green	0.60	1.00	0.00	0.00	0.69	0.69	0.20	0.00	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	535	567	0	0	646	241	424	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	7.1	5.4	8.6	0.0	13.5			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	7.1	5.4	8.6	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	532	2462	0	0	1224	547	725	0	323			
V/C Ratio(X)	1.01	0.23	0.00	0.00	0.53	0.44	0.58	0.00	0.86			
Avail Cap(c_a), veh/h	532	2462	0	0	1224	547	820	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.58	0.58	0.00	0.00	0.77	0.77	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.0	0.0	0.0	0.0	9.2	8.9	28.8	0.0	30.7			
Incr Delay (d2), s/veh	30.9	0.1	0.0	0.0	1.3	2.0	0.8	0.0	16.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	15.8	0.0	0.0	0.0	3.4	2.6	4.3	0.0	7.3			
LnGrp Delay(d),s/veh	46.9	0.1	0.0	0.0	10.4	10.9	29.6	0.0	47.1			
LnGrp LOS	F	A			B	B	C		D			
Approach Vol, veh/h	1102				887				701			
Approach Delay, s/veh	22.8				10.6				36.5			
Approach LOS	C				B				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4				7	8				
Phs Duration (G+Y+Rc), s	20.3		59.7				28.0	31.7				
Change Period (Y+Rc), s	4.0		4.0				4.0	4.0				
Max Green Setting (Gmax), s	18.5		53.5				24.0	25.5				
Max Q Clear Time (g_c+I1), s	15.5		2.0				26.0	9.1				
Green Ext Time (p_c), s	0.8		11.7				0.0	7.9				
Intersection Summary												
HCM 2010 Ctrl Delay			22.4									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	340	104	35	338	110	175	5	50	129	0	303
Future Volume (veh/h)	333	340	104	35	338	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	370	113	38	367	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	906	405	63	505	163	515	14	471	374	0	492
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.30	0.30	0.30	0.21	0.00	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2633	849	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	370	113	38	245	242	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1713	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.8	3.7	1.7	10.4	10.6	6.9	0.0	2.0	5.4	0.0	14.5
Cycle Q Clear(g_c), s	8.0	5.8	3.7	1.7	10.4	10.6	6.9	0.0	2.0	5.4	0.0	14.5
Prop In Lane	1.00		1.00	1.00		0.50	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	906	405	63	339	328	528	0	471	374	0	492
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.72	0.74	0.37	0.00	0.11	0.37	0.00	0.67
Avail Cap(c_a), veh/h	344	907	406	133	409	396	528	0	471	410	0	524
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.7	18.1	38.0	30.3	30.4	22.2	0.0	20.4	27.0	0.0	24.0
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	4.9	5.7	2.0	0.0	0.5	0.6	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.7	1.0	5.5	5.6	3.7	0.0	0.9	2.7	0.0	6.7
LnGrp Delay(d),s/veh	95.0	19.0	18.4	46.8	35.3	36.2	24.2	0.0	20.9	27.7	0.0	27.0
LnGrp LOS	F	B	B	D	D	D	C		C	C		C
Approach Vol, veh/h		845			525			249			469	
Approach Delay, s/veh		51.5			36.5			23.5			27.2	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.8	6.9	24.5		20.9	12.0	19.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	6.0	20.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	7.8		16.5	10.0	12.6				
Green Ext Time (p_c), s		0.8	0.0	4.5		0.4	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay					38.9							
HCM 2010 LOS					D							

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	442	409	30	10	74
Future Vol, veh/h	77	442	409	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	480	445	33	11	80

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	477	0	869
Stage 1	-	-	461
Stage 2	-	-	408
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1082	-	291
Stage 1	-	-	601
Stage 2	-	-	640
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1082	-	260
Mov Cap-2 Maneuver	-	-	260
Stage 1	-	-	601
Stage 2	-	-	572

























Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1082	-	-	-	260	762
HCM Lane V/C Ratio	0.077	-	-	-	0.042	0.106
HCM Control Delay (s)	8.6	-	-	-	19.4	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions - MIT

Friday PM Peak













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	148	485	1102	306	104	29	330	756	42	265
Future Volume (veh/h)	208	989	148	485	1102	306	104	29	330	756	42	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	226	1075	161	527	1198	333	113	0	380	822	46	288
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	1143	511	580	1235	553	217	0	921	867	56	351
Arrive On Green	0.14	0.32	0.32	0.17	0.35	0.35	0.12	0.00	0.12	0.25	0.25	0.25
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	223	1394
Grp Volume(v), veh/h	226	1075	161	527	1198	333	113	0	380	822	0	334
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1617
Q Serve(g_s), s	14.9	35.1	9.1	17.9	39.6	20.6	7.1	0.0	11.5	27.9	0.0	23.2
Cycle Q Clear(g_c), s	14.9	35.1	9.1	17.9	39.6	20.6	7.1	0.0	11.5	27.9	0.0	23.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	252	1143	511	580	1235	553	217	0	921	867	0	407
V/C Ratio(X)	0.90	0.94	0.31	0.91	0.97	0.60	0.52	0.00	0.41	0.95	0.00	0.82
Avail Cap(c_a), veh/h	261	1145	512	593	1235	553	298	0	1066	868	0	408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.2	39.2	30.4	48.6	38.1	31.9	48.9	0.0	34.0	43.7	0.0	42.0
Incr Delay (d2), s/veh	29.6	14.6	0.3	17.9	18.8	1.8	1.9	0.0	0.3	19.1	0.0	12.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	19.5	4.0	9.9	22.5	9.3	3.6	0.0	5.1	15.5	0.0	11.8
LnGrp Delay(d),s/veh	79.7	53.8	30.7	66.4	56.9	33.8	50.9	0.0	34.3	62.9	0.0	54.5
LnGrp LOS	E	D	C	E	E	C	D		C	E		D
Approach Vol, veh/h		1462			2058			493			1156	
Approach Delay, s/veh		55.3			55.6			38.1			60.4	
Approach LOS		E			E			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.6	24.0	42.4		34.0	20.9	45.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		20.0	20.5	38.5		30.0	17.5	41.5				
Max Q Clear Time (g_c+I1), s		13.5	19.9	37.1		29.9	16.9	41.6				
Green Ext Time (p_c), s		1.0	0.1	1.3		0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			54.9									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions - MIT




















Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↰	↑↑						↰	↱
Traffic Volume (veh/h)	0	1384	691	300	1070	0	0	0	0	285	1	824
Future Volume (veh/h)	0	1384	691	300	1070	0	0	0	0	285	1	824
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1504	751	326	1163	0				310	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1695	792	319	2548	0				354	1	317
Arrive On Green	0.00	0.50	0.50	0.18	0.72	0.00				0.20	0.20	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1504	751	326	1163	0				311	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	39.9	45.1	18.0	13.7	0.0				17.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	39.9	45.1	18.0	13.7	0.0				17.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1695	792	319	2548	0				355	0	317
V/C Ratio(X)	0.00	0.89	0.95	1.02	0.46	0.00				0.88	0.00	0.00
Avail Cap(c_a), veh/h	0	1695	792	319	2548	0				479	0	427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.35	0.35	0.10	0.10	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	22.5	23.8	41.0	5.8	0.0				38.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.8	10.2	21.8	0.1	0.0				13.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	19.2	21.8	10.7	6.6	0.0				9.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	25.2	33.9	62.8	5.9	0.0				51.9	0.0	0.0
LnGrp LOS		C	C	F	A					D		
Approach Vol, veh/h		2255			1489						311	
Approach Delay, s/veh		28.1			18.4						51.9	
Approach LOS		C			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			22.0	54.0		24.0		76.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			18.0	43.0		27.0		65.0				
Max Q Clear Time (g_c+l1), s			20.0	47.1		19.0		15.7				
Green Ext Time (p_c), s			0.0	0.0		1.0		42.4				
Intersection Summary												
HCM 2010 Ctrl Delay			26.4									
HCM 2010 LOS			C									






















Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions - MIT

Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	784	886	0	0	841	285	528	5	255	0	0	0
Future Volume (veh/h)	784	886	0	0	841	285	528	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	852	963	0	0	914	310	578	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	828	2684	0	0	914	409	621	0	277			
Arrive On Green	0.47	0.76	0.00	0.00	0.26	0.26	0.17	0.00	0.17			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	852	963	0	0	914	310	578	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	56.0	10.8	0.0	0.0	31.0	21.7	19.3	0.0	21.0			
Cycle Q Clear(g_c), s	56.0	10.8	0.0	0.0	31.0	21.7	19.3	0.0	21.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	828	2684	0	0	914	409	621	0	277			
V/C Ratio(X)	1.03	0.36	0.00	0.00	1.00	0.76	0.93	0.00	1.00			
Avail Cap(c_a), veh/h	828	2684	0	0	914	409	621	0	277			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.53	0.53	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.0	4.8	0.0	0.0	44.5	41.0	48.8	0.0	49.5			
Incr Delay (d2), s/veh	18.1	0.0	0.0	0.0	21.7	6.9	20.8	0.0	54.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	11.5	5.2	0.0	0.0	17.9	10.3	11.3	0.0	13.3			
LnGrp Delay(d),s/veh	50.1	4.8	0.0	0.0	66.2	48.0	69.6	0.0	103.5			
LnGrp LOS	F	A			E	D	E		F			
Approach Vol, veh/h	1815			1224			855					
Approach Delay, s/veh	26.1			61.5			80.6					
Approach LOS	C			E			F					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4				7	8				
Phs Duration (G+Y+Rc), s	25.0		95.0				60.0	35.0				
Change Period (Y+Rc), s	4.0		4.0				4.0	4.0				
Max Green Setting (Gmax), s	21.0		91.0				56.0	31.0				
Max Q Clear Time (g_c+I1), s	23.0		12.8				58.0	33.0				
Green Ext Time (p_c), s	0.0		26.4				0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	49.2											
HCM 2010 LOS	D											
Notes												

User approved volume balancing among the lanes for turning movement.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	643	80	35	518	130	125	10	25	145	15	483
Future Volume (veh/h)	418	643	80	35	518	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	699	87	38	563	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	529	1331	595	55	712	178	446	36	429	285	29	523
Arrive On Green	0.15	0.38	0.38	0.03	0.25	0.25	0.27	0.27	0.27	0.18	0.18	0.18
Sat Flow, veh/h	3442	3539	1583	1774	2808	701	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	699	87	38	354	350	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1739	1780	0	1583	1782	0	1583
Q Serve(g_s), s	14.1	16.9	4.0	2.3	20.5	20.7	7.2	0.0	1.4	9.8	0.0	19.4
Cycle Q Clear(g_c), s	14.1	16.9	4.0	2.3	20.5	20.7	7.2	0.0	1.4	9.8	0.0	19.4
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	529	1331	595	55	449	441	482	0	429	314	0	523
V/C Ratio(X)	0.86	0.53	0.15	0.69	0.79	0.79	0.30	0.00	0.06	0.55	0.00	1.00
Avail Cap(c_a), veh/h	657	1480	662	97	499	490	482	0	429	314	0	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	26.7	22.7	52.7	38.3	38.4	31.9	0.0	29.7	41.3	0.0	36.8
Incr Delay (d2), s/veh	8.5	0.3	0.1	14.0	7.6	8.0	1.6	0.0	0.3	2.1	0.0	40.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	8.3	1.8	1.4	11.0	10.9	3.8	0.0	0.6	5.0	0.0	21.7
LnGrp Delay(d),s/veh	53.9	27.0	22.8	66.7	45.9	46.3	33.5	0.0	30.0	43.5	0.0	77.3
LnGrp LOS	D	C	C	E	D	D	C		C	D		F
Approach Vol, veh/h	1240					742		174		699		
Approach Delay, s/veh	36.5					47.2		32.9		68.9		
Approach LOS	D					D		C		E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.8	7.4	45.4		23.4	20.9	31.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		22.6	6.0	46.0		19.4	21.0	31.0				
Max Q Clear Time (g_c+I1), s		9.2	4.3	18.9		21.4	16.1	22.7				
Green Ext Time (p_c), s		0.6	0.0	10.5		0.0	0.8	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay	47.0											
HCM 2010 LOS	D											

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	708	588	30	25	95
Future Vol, veh/h	105	708	588	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	770	639	33	27	103

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	672	0	0 1268 336
Stage 1	-	-	- 655 -
Stage 2	-	-	- 613 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	915	-	- 160 660
Stage 1	-	-	- 479 -
Stage 2	-	-	- 503 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	915	-	- 125 660
Mov Cap-2 Maneuver	-	-	- 125 -
Stage 1	-	-	- 479 -
Stage 2	-	-	- 393 -

























Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	125	660
HCM Lane V/C Ratio	0.125	-	-	-	0.217	0.156
HCM Control Delay (s)	9.5	-	-	-	41.6	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions - MIT

Saturday PM Peak


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	184	603	783	174	112	21	355	271	41	112
Future Volume (veh/h)	113	721	184	603	783	174	112	21	355	271	41	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	123	784	200	655	851	189	122	0	401	295	45	122
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	1167	522	728	1607	719	236	0	1091	487	63	171
Arrive On Green	0.09	0.33	0.33	0.21	0.45	0.45	0.13	0.00	0.13	0.14	0.14	0.14
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	445	1205
Grp Volume(v), veh/h	123	784	200	655	851	189	122	0	401	295	0	167
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1650
Q Serve(g_s), s	5.9	16.6	8.4	16.1	15.0	6.4	5.6	0.0	8.3	7.0	0.0	8.4
Cycle Q Clear(g_c), s	5.9	16.6	8.4	16.1	15.0	6.4	5.6	0.0	8.3	7.0	0.0	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.73
Lane Grp Cap(c), veh/h	155	1167	522	728	1607	719	236	0	1091	487	0	233
V/C Ratio(X)	0.80	0.67	0.38	0.90	0.53	0.26	0.52	0.00	0.37	0.61	0.00	0.72
Avail Cap(c_a), veh/h	225	1366	611	753	1692	757	378	0	1345	1308	0	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.9	25.1	22.3	33.3	17.0	14.7	35.0	0.0	21.4	35.0	0.0	35.6
Incr Delay (d2), s/veh	11.7	1.0	0.5	13.5	0.3	0.2	1.8	0.0	0.2	1.2	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	8.2	3.7	9.0	7.4	2.8	2.8	0.0	3.6	3.4	0.0	4.1
LnGrp Delay(d),s/veh	50.5	26.1	22.8	46.9	17.3	14.9	36.8	0.0	21.6	36.2	0.0	39.7
LnGrp LOS	D	C	C	D	B	B	D		C	D		D
Approach Vol, veh/h		1107			1695			523			462	
Approach Delay, s/veh		28.2			28.5			25.1			37.5	
Approach LOS		C			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.5	22.4	32.6		16.3	11.6	43.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	19.0	33.5		33.0	11.0	41.5				
Max Q Clear Time (g_c+I1), s		10.3	18.1	18.6		10.4	7.9	17.0				
Green Ext Time (p_c), s		1.3	0.3	10.1		1.9	0.1	14.0				
Intersection Summary												
HCM 2010 Ctrl Delay			29.0									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions - MIT









Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑						↑	↑
Traffic Volume (veh/h)	0	923	423	178	864	0	0	0	0	176	1	696
Future Volume (veh/h)	0	923	423	178	864	0	0	0	0	176	1	696
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1003	460	193	939	0				191	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1981	908	234	2698	0				243	1	218
Arrive On Green	0.00	0.58	0.58	0.13	0.76	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	3580	1565	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	997	466	193	939	0				192	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1587	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	14.0	14.0	8.5	6.9	0.0				8.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	14.0	14.0	8.5	6.9	0.0				8.4	0.0	0.0
Prop In Lane	0.00		0.99	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1968	921	234	2698	0				245	0	218
V/C Ratio(X)	0.00	0.51	0.51	0.83	0.35	0.00				0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1968	921	333	2698	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.74	0.74	0.72	0.72	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	10.0	10.0	33.8	3.1	0.0				33.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	1.5	8.2	0.3	0.0				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.7	6.5	4.7	3.4	0.0				4.5	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.7	11.4	42.0	3.3	0.0				38.8	0.0	0.0
LnGrp LOS		B	B	D	A					D		
Approach Vol, veh/h	1463					1132				192		
Approach Delay, s/veh	10.9					9.9				38.8		
Approach LOS	B					A				D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.5	50.4		15.0		65.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.5	16.0		10.4		8.9				
Green Ext Time (p_c), s			0.2	8.7		0.8		23.7				
Intersection Summary												
HCM 2010 Ctrl Delay			12.4									
HCM 2010 LOS			B									






















Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions - MIT

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	570	529	0	0	600	222	442	3	255	0	0	0
Future Volume (veh/h)	570	529	0	0	600	222	442	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	620	575	0	0	652	241	482	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	650	2527	0	0	1073	480	699	0	312			
Arrive On Green	0.37	0.71	0.00	0.00	0.30	0.30	0.20	0.00	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	620	575	0	0	652	241	482	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	30.6	5.0	0.0	0.0	14.2	11.3	11.4	0.0	15.3			
Cycle Q Clear(g_c), s	30.6	5.0	0.0	0.0	14.2	11.3	11.4	0.0	15.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	650	2527	0	0	1073	480	699	0	312			
V/C Ratio(X)	0.95	0.23	0.00	0.00	0.61	0.50	0.69	0.00	0.89			
Avail Cap(c_a), veh/h	670	2527	0	0	1073	480	729	0	325			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.47	0.47	0.00	0.00	0.77	0.77	1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.8	4.4	0.0	0.0	26.8	25.8	33.6	0.0	35.2			
Incr Delay (d2), s/veh	13.9	0.1	0.0	0.0	2.0	2.9	2.6	0.0	23.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	17.5	2.4	0.0	0.0	7.2	5.3	5.8	0.0	8.8			
LnGrp Delay(d),s/veh	41.7	4.5	0.0	0.0	28.8	28.7	36.2	0.0	59.0			
LnGrp LOS	D	A			C	C	D		E			
Approach Vol, veh/h	1195				893			759				
Approach Delay, s/veh	23.8				28.7			44.5				
Approach LOS	C				C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		21.7		68.3			37.0	31.3				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		63.5			34.0	25.5				
Max Q Clear Time (g_c+l1), s		17.3		7.0			32.6	16.2				
Green Ext Time (p_c), s		0.4		12.0			0.4	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay				30.9								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	347	104	35	344	110	175	5	50	129	0	303
Future Volume (veh/h)	333	347	104	35	344	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	377	113	38	374	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	910	407	63	510	161	513	13	469	374	0	492
Arrive On Green	0.10	0.26	0.26	0.04	0.19	0.19	0.30	0.30	0.30	0.21	0.00	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2646	838	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	377	113	38	248	246	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1715	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	7.1	4.6	1.7	10.6	10.8	6.9	0.0	2.0	5.4	0.0	14.5
Cycle Q Clear(g_c), s	8.0	7.1	4.6	1.7	10.6	10.8	6.9	0.0	2.0	5.4	0.0	14.5
Prop In Lane	1.00		1.00	1.00		0.49	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	910	407	63	341	330	526	0	469	374	0	492
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.73	0.74	0.37	0.00	0.12	0.37	0.00	0.67
Avail Cap(c_a), veh/h	344	910	407	133	409	397	526	0	469	410	0	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.0	24.7	23.8	38.0	30.3	30.4	22.2	0.0	20.5	27.0	0.0	24.0
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	5.2	6.0	2.0	0.0	0.5	0.6	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	3.5	2.0	1.0	5.6	5.7	3.7	0.0	0.9	2.7	0.0	6.7
LnGrp Delay(d),s/veh	97.7	25.0	24.1	46.8	35.6	36.5	24.2	0.0	21.0	27.7	0.0	27.0
LnGrp LOS	F	C	C	D	D	D	C		C	C		C
Approach Vol, veh/h		852			532			249			469	
Approach Delay, s/veh		55.8			36.8			23.5			27.2	
Approach LOS		E			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.7	6.9	24.6		20.9	12.0	19.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	6.0	20.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	9.1		16.5	10.0	12.8				
Green Ext Time (p_c), s		0.8	0.0	4.3		0.4	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			40.8									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	449	415	30	10	74
Future Vol, veh/h	77	449	415	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	488	451	33	11	80

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	484	0	878
Stage 1	-	-	467
Stage 2	-	-	411
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1075	-	287
Stage 1	-	-	597
Stage 2	-	-	638
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1075	-	256
Mov Cap-2 Maneuver	-	-	256
Stage 1	-	-	597
Stage 2	-	-	570

























Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1075	-	-	-	256	759
HCM Lane V/C Ratio	0.078	-	-	-	0.042	0.106
HCM Control Delay (s)	8.6	-	-	-	19.7	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions - MIT

Friday PM Peak


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	59	176	1102	306	58	21	167	756	26	265
Future Volume (veh/h)	208	989	59	176	1102	306	58	21	167	756	26	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	226	1075	64	191	1198	333	63	0	197	822	28	288
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	1481	663	254	1273	569	144	0	490	946	39	402
Arrive On Green	0.13	0.42	0.42	0.07	0.36	0.36	0.08	0.00	0.08	0.27	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	142	1462
Grp Volume(v), veh/h	226	1075	64	191	1198	333	63	0	197	822	0	316
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1605
Q Serve(g_s), s	13.4	26.7	2.6	5.7	34.6	18.0	3.6	0.0	5.9	24.0	0.0	18.7
Cycle Q Clear(g_c), s	13.4	26.7	2.6	5.7	34.6	18.0	3.6	0.0	5.9	24.0	0.0	18.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.91
Lane Grp Cap(c), veh/h	236	1481	663	254	1273	569	144	0	490	946	0	441
V/C Ratio(X)	0.96	0.73	0.10	0.75	0.94	0.58	0.44	0.00	0.40	0.87	0.00	0.72
Avail Cap(c_a), veh/h	236	1481	663	294	1292	578	311	0	789	1077	0	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	25.6	18.6	47.9	32.7	27.4	46.2	0.0	40.2	36.4	0.0	34.5
Incr Delay (d2), s/veh	47.2	1.8	0.1	9.0	13.3	1.5	2.1	0.0	0.5	7.1	0.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	13.4	1.1	3.0	19.2	8.1	1.8	0.0	2.6	12.3	0.0	8.9
LnGrp Delay(d),s/veh	92.7	27.4	18.6	56.9	46.0	28.9	48.3	0.0	40.7	43.5	0.0	38.7
LnGrp LOS	F	C	B	E	D	C	D		D	D		D
Approach Vol, veh/h		1365			1722			260			1138	
Approach Delay, s/veh		37.8			43.9			42.5			42.2	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.5	11.8	48.1		33.0	18.0	41.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	9.0	43.5		33.0	14.0	38.5				
Max Q Clear Time (g_c+I1), s		7.9	7.7	28.7		26.0	15.4	36.6				
Green Ext Time (p_c), s		0.6	0.1	12.4		3.0	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			41.5									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions - MIT




















Friday PM Peak

	<div></div>											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	1288	624	300	927	0	0	0	0	285	1	658
Future Volume (veh/h)	0	1288	624	300	927	0	0	0	0	285	1	658
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1400	678	326	1008	0				310	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1695	792	319	2548	0				354	1	317
Arrive On Green	0.00	0.50	0.50	0.18	0.72	0.00				0.20	0.20	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1400	678	326	1008	0				311	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	35.2	37.4	18.0	11.2	0.0				17.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	35.2	37.4	18.0	11.2	0.0				17.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1695	792	319	2548	0				355	0	317
V/C Ratio(X)	0.00	0.83	0.86	1.02	0.40	0.00				0.88	0.00	0.00
Avail Cap(c_a), veh/h	0	1695	792	319	2548	0				479	0	427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.55	0.55	0.37	0.37	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	21.3	21.9	41.0	5.5	0.0				38.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.7	6.7	36.1	0.2	0.0				13.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.0	17.7	12.0	5.4	0.0				9.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	24.0	28.6	77.2	5.7	0.0				51.9	0.0	0.0
LnGrp LOS		C	C	F	A					D		
Approach Vol, veh/h	2078				1334						311	
Approach Delay, s/veh	25.5				23.1						51.9	
Approach LOS	C				C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			22.0	54.0		24.0		76.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			18.0	43.0		27.0		65.0				
Max Q Clear Time (g_c+I1), s			20.0	39.4		19.0		13.2				
Green Ext Time (p_c), s			0.0	3.4		1.0		40.4				
Intersection Summary												
HCM 2010 Ctrl Delay			26.8									
HCM 2010 LOS			C									






















Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions - MIT

Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	696	878	0	0	825	285	402	5	255	0	0	0
Future Volume (veh/h)	696	878	0	0	825	285	402	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	757	954	0	0	897	310	441	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	670	2528	0	0	1034	463	698	0	312			
Arrive On Green	0.38	0.71	0.00	0.00	0.29	0.29	0.20	0.00	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	757	954	0	0	897	310	441	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	34.0	9.5	0.0	0.0	21.6	15.5	10.3	0.0	15.3			
Cycle Q Clear(g_c), s	34.0	9.5	0.0	0.0	21.6	15.5	10.3	0.0	15.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	670	2528	0	0	1034	463	698	0	312			
V/C Ratio(X)	1.13	0.38	0.00	0.00	0.87	0.67	0.63	0.00	0.89			
Avail Cap(c_a), veh/h	670	2528	0	0	1034	463	729	0	325			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.19	0.19	0.00	0.00	0.54	0.54	1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.0	5.0	0.0	0.0	30.2	28.0	33.2	0.0	35.2			
Incr Delay (d2), s/veh	62.4	0.1	0.0	0.0	5.7	4.2	1.7	0.0	24.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	28.2	4.5	0.0	0.0	11.4	7.3	5.2	0.0	8.8			
LnGrp Delay(d),s/veh	90.4	5.1	0.0	0.0	35.9	32.2	34.8	0.0	59.2			
LnGrp LOS	F	A			D	C	C		E			
Approach Vol, veh/h	1711				1207				718			
Approach Delay, s/veh	42.8				34.9				44.2			
Approach LOS	D				C				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4				7		8			
Phs Duration (G+Y+Rc), s	21.7		68.3				38.0		30.3			
Change Period (Y+Rc), s	4.0		4.0				4.0		4.0			
Max Green Setting (Gmax), s	18.5		63.5				34.0		25.5			
Max Q Clear Time (g_c+I1), s	17.3		11.5				36.0		23.6			
Green Ext Time (p_c), s	0.4		22.8				0.0		1.7			
Intersection Summary												
HCM 2010 Ctrl Delay			40.5									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	635	80	35	502	130	125	10	25	145	15	483
Future Volume (veh/h)	418	635	80	35	502	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	690	87	38	546	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	529	1320	590	55	698	180	452	37	434	285	29	523
Arrive On Green	0.15	0.37	0.37	0.03	0.25	0.25	0.27	0.27	0.27	0.18	0.18	0.18
Sat Flow, veh/h	3442	3539	1583	1774	2788	717	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	690	87	38	346	341	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1736	1780	0	1583	1782	0	1583
Q Serve(g_s), s	14.1	16.7	4.0	2.3	20.0	20.2	7.2	0.0	1.4	9.8	0.0	19.4
Cycle Q Clear(g_c), s	14.1	16.7	4.0	2.3	20.0	20.2	7.2	0.0	1.4	9.8	0.0	19.4
Prop In Lane	1.00		1.00	1.00		0.41	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	529	1320	590	55	443	435	488	0	434	314	0	523
V/C Ratio(X)	0.86	0.52	0.15	0.69	0.78	0.79	0.30	0.00	0.06	0.55	0.00	1.00
Avail Cap(c_a), veh/h	657	1480	662	97	499	489	488	0	434	314	0	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	26.9	22.9	52.7	38.4	38.5	31.6	0.0	29.5	41.3	0.0	36.8
Incr Delay (d2), s/veh	8.5	0.3	0.1	14.0	7.0	7.4	1.6	0.0	0.3	2.1	0.0	40.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	8.2	1.8	1.4	10.7	10.6	3.8	0.0	0.6	5.0	0.0	21.7
LnGrp Delay(d),s/veh	53.9	27.2	23.0	66.7	45.4	45.9	33.2	0.0	29.8	43.5	0.0	77.3
LnGrp LOS	D	C	C	E	D	D	C		C	D		F
Approach Vol, veh/h	1231				725			174		699		
Approach Delay, s/veh	36.7				46.7			32.6		68.9		
Approach LOS	D				D			C		E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		34.2	7.4	45.0		23.4	20.9	31.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		22.6	6.0	46.0		19.4	21.0	31.0				
Max Q Clear Time (g_c+I1), s		9.2	4.3	18.7		21.4	16.1	22.2				
Green Ext Time (p_c), s		0.6	0.0	10.3		0.0	0.8	5.4				
Intersection Summary												
HCM 2010 Ctrl Delay	47.0											
HCM 2010 LOS	D											

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	700	572	30	25	95
Future Vol, veh/h	105	700	572	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	761	622	33	27	103

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	654	0	0 1247 327
Stage 1	-	-	- 638 -
Stage 2	-	-	- 609 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	929	-	- 166 669
Stage 1	-	-	- 488 -
Stage 2	-	-	- 505 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	929	-	- 131 669
Mov Cap-2 Maneuver	-	-	- 131 -
Stage 1	-	-	- 488 -
Stage 2	-	-	- 397 -

























Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	929	-	-	-	131	669
HCM Lane V/C Ratio	0.123	-	-	-	0.207	0.154
HCM Control Delay (s)	9.4	-	-	-	39.5	11.4
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions - MIT

Saturday PM Peak













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	86	271	783	174	78	15	247	271	23	112
Future Volume (veh/h)	113	721	86	271	783	174	78	15	247	271	23	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	123	784	93	295	851	189	85	0	279	295	25	122
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	1368	612	420	1485	664	208	0	757	485	39	190
Arrive On Green	0.09	0.39	0.39	0.12	0.42	0.42	0.12	0.00	0.12	0.14	0.14	0.14
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	276	1348
Grp Volume(v), veh/h	123	784	93	295	851	189	85	0	279	295	0	147
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1625
Q Serve(g_s), s	4.7	12.0	2.6	5.6	12.6	5.4	3.0	0.0	5.0	5.5	0.0	5.9
Cycle Q Clear(g_c), s	4.7	12.0	2.6	5.6	12.6	5.4	3.0	0.0	5.0	5.5	0.0	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.83
Lane Grp Cap(c), veh/h	158	1368	612	420	1485	664	208	0	757	485	0	229
V/C Ratio(X)	0.78	0.57	0.15	0.70	0.57	0.28	0.41	0.00	0.37	0.61	0.00	0.64
Avail Cap(c_a), veh/h	285	1729	773	953	2141	958	479	0	1240	1656	0	782
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.6	16.6	13.7	28.9	15.2	13.1	28.1	0.0	21.8	27.7	0.0	27.8
Incr Delay (d2), s/veh	8.0	0.4	0.1	2.2	0.4	0.2	1.3	0.0	0.3	1.2	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	5.8	1.2	2.8	6.2	2.4	1.6	0.0	2.2	2.7	0.0	2.8
LnGrp Delay(d),s/veh	38.6	17.0	13.8	31.1	15.6	13.3	29.4	0.0	22.1	28.9	0.0	30.8
LnGrp LOS	D	B	B	C	B	B	C		C	C		C
Approach Vol, veh/h		1000			1335			364			442	
Approach Delay, s/veh		19.3			18.7			23.8			29.5	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.0	12.4	30.5		13.7	10.1	32.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	19.0	33.5		33.0	11.0	41.5				
Max Q Clear Time (g_c+I1), s		7.0	7.6	14.0		7.9	6.7	14.6				
Green Ext Time (p_c), s		1.0	0.8	11.7		1.8	0.1	14.2				
Intersection Summary												
HCM 2010 Ctrl Delay			21.0									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions - MIT




















Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↰	↑↑						↰	↰
Traffic Volume (veh/h)	0	859	380	178	711	0	0	0	0	176	1	517
Future Volume (veh/h)	0	859	380	178	711	0	0	0	0	176	1	517
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	934	413	193	773	0				191	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2007	887	234	2698	0				243	1	218
Arrive On Green	0.00	0.58	0.58	0.13	0.76	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	3624	1527	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	916	431	193	773	0				192	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1593	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	12.4	12.4	8.5	5.3	0.0				8.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	12.4	12.4	8.5	5.3	0.0				8.4	0.0	0.0
Prop In Lane	0.00		0.96	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1968	925	234	2698	0				245	0	218
V/C Ratio(X)	0.00	0.47	0.47	0.83	0.29	0.00				0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1968	925	333	2698	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.78	0.78	0.84	0.84	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.6	9.6	33.8	2.9	0.0				33.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	1.3	9.4	0.2	0.0				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.9	5.7	4.7	2.7	0.0				4.5	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.3	11.0	43.2	3.1	0.0				38.8	0.0	0.0
LnGrp LOS		B	B	D	A					D		
Approach Vol, veh/h		1347			966						192	
Approach Delay, s/veh		10.5			11.1						38.8	
Approach LOS		B			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.5	50.4		15.0		65.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.5	14.4		10.4		7.3				
Green Ext Time (p_c), s			0.2	9.1		0.8		20.8				
Intersection Summary												
HCM 2010 Ctrl Delay			12.9									
HCM 2010 LOS			B									






















Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions - MIT

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	511	523	0	0	582	222	307	3	255	0	0	0
Future Volume (veh/h)	511	523	0	0	582	222	307	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	555	568	0	0	633	241	336	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	594	2530	0	0	1188	531	696	0	311			
Arrive On Green	0.33	0.71	0.00	0.00	0.34	0.34	0.20	0.00	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	555	568	0	0	633	241	336	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	27.3	4.9	0.0	0.0	13.0	10.7	7.6	0.0	15.3			
Cycle Q Clear(g_c), s	27.3	4.9	0.0	0.0	13.0	10.7	7.6	0.0	15.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	594	2530	0	0	1188	531	696	0	311			
V/C Ratio(X)	0.93	0.22	0.00	0.00	0.53	0.45	0.48	0.00	0.89			
Avail Cap(c_a), veh/h	670	2530	0	0	1188	531	729	0	325			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.66	0.66	0.00	0.00	0.78	0.78	1.00	0.00	1.00			
Uniform Delay (d), s/veh	29.0	4.4	0.0	0.0	24.2	23.4	32.1	0.0	35.2			
Incr Delay (d2), s/veh	14.1	0.1	0.0	0.0	1.3	2.2	0.5	0.0	24.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	15.6	2.4	0.0	0.0	6.6	5.0	3.7	0.0	8.8			
LnGrp Delay(d),s/veh	43.0	4.5	0.0	0.0	25.5	25.6	32.6	0.0	59.6			
LnGrp LOS	D	A			C	C	C		E			
Approach Vol, veh/h	1123				874				613			
Approach Delay, s/veh	23.5				25.6				44.8			
Approach LOS	C				C				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4				7	8				
Phs Duration (G+Y+Rc), s	21.7		68.3				34.1	34.2				
Change Period (Y+Rc), s	4.0		4.0				4.0	4.0				
Max Green Setting (Gmax), s	18.5		63.5				34.0	25.5				
Max Q Clear Time (g_c+I1), s	17.3		6.9				29.3	15.0				
Green Ext Time (p_c), s	0.3		11.6				0.9	5.9				
Intersection Summary												
HCM 2010 Ctrl Delay			29.2									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	341	104	35	326	110	175	5	50	129	0	303
Future Volume (veh/h)	333	341	104	35	326	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	371	113	38	354	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	897	401	63	493	165	519	14	475	374	0	492
Arrive On Green	0.10	0.25	0.25	0.04	0.19	0.19	0.30	0.30	0.30	0.21	0.00	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2608	871	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	371	113	38	239	235	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1709	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	7.0	4.6	1.7	10.1	10.4	6.9	0.0	2.0	5.4	0.0	14.5
Cycle Q Clear(g_c), s	8.0	7.0	4.6	1.7	10.1	10.4	6.9	0.0	2.0	5.4	0.0	14.5
Prop In Lane	1.00		1.00	1.00		0.51	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	897	401	63	335	323	533	0	475	374	0	492
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.71	0.73	0.37	0.00	0.11	0.37	0.00	0.67
Avail Cap(c_a), veh/h	344	907	406	133	409	395	533	0	475	410	0	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.0	24.9	24.0	38.0	30.4	30.5	22.0	0.0	20.3	27.0	0.0	24.0
Incr Delay (d2), s/veh	61.6	0.3	0.4	8.8	4.5	5.3	1.9	0.0	0.5	0.6	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	3.4	2.0	1.0	5.3	5.4	3.6	0.0	0.9	2.7	0.0	6.7
LnGrp Delay(d),s/veh	97.6	25.2	24.4	46.8	34.9	35.8	24.0	0.0	20.8	27.7	0.0	27.0
LnGrp LOS	F	C	C	D	C	D	C		C	C		C
Approach Vol, veh/h		846			512			249			469	
Approach Delay, s/veh		56.1			36.2			23.3			27.2	
Approach LOS		E			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.0	6.9	24.3		20.9	12.0	19.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	6.0	20.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+l1), s		8.9	3.7	9.0		16.5	10.0	12.4				
Green Ext Time (p_c), s		0.8	0.0	4.2		0.4	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay				40.7								
HCM 2010 LOS				D								

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	443	397	30	10	74
Future Vol, veh/h	77	443	397	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	482	432	33	11	80

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	464	0	856
Stage 1	-	-	448
Stage 2	-	-	408
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1094	-	297
Stage 1	-	-	611
Stage 2	-	-	640
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1094	-	266
Mov Cap-2 Maneuver	-	-	266
Stage 1	-	-	611
Stage 2	-	-	573

























Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1094	-	-	-	266	770
HCM Lane V/C Ratio	0.077	-	-	-	0.041	0.104
HCM Control Delay (s)	8.6	-	-	-	19.1	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions - MIT

Friday PM Peak













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	163	354	1102	306	119	32	260	756	45	265
Future Volume (veh/h)	208	989	163	354	1102	306	119	32	260	756	45	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	226	1075	177	385	1198	333	129	0	306	822	49	288
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	1234	552	436	1234	552	193	0	746	933	64	375
Arrive On Green	0.13	0.35	0.35	0.13	0.35	0.35	0.11	0.00	0.11	0.27	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	235	1383
Grp Volume(v), veh/h	226	1075	177	385	1198	333	129	0	306	822	0	337
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1619
Q Serve(g_s), s	14.0	31.4	9.1	12.1	36.8	19.2	7.7	0.0	9.0	25.3	0.0	21.2
Cycle Q Clear(g_c), s	14.0	31.4	9.1	12.1	36.8	19.2	7.7	0.0	9.0	25.3	0.0	21.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.85
Lane Grp Cap(c), veh/h	225	1234	552	436	1234	552	193	0	746	933	0	439
V/C Ratio(X)	1.00	0.87	0.32	0.88	0.97	0.60	0.67	0.00	0.41	0.88	0.00	0.77
Avail Cap(c_a), veh/h	225	1234	552	436	1234	552	297	0	932	1029	0	484
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.2	33.6	26.4	47.4	35.4	29.7	47.3	0.0	35.7	38.5	0.0	37.1
Incr Delay (d2), s/veh	61.2	7.0	0.3	18.6	18.9	1.9	4.0	0.0	0.4	8.5	0.0	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	16.4	4.0	6.9	21.2	8.6	4.0	0.0	4.0	13.1	0.0	10.3
LnGrp Delay(d),s/veh	109.4	40.6	26.7	66.0	54.3	31.5	51.3	0.0	36.1	47.0	0.0	43.8
LnGrp LOS	F	D	C	E	D	C	D		D	D		D
Approach Vol, veh/h		1478			1916			435			1159	
Approach Delay, s/veh		49.5			52.7			40.6			46.1	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.0	18.0	42.5		33.9	18.0	42.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	14.0	38.5		33.0	14.0	38.5				
Max Q Clear Time (g_c+I1), s		11.0	14.1	33.4		27.3	16.0	38.8				
Green Ext Time (p_c), s		1.0	0.0	4.7		2.7	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			49.2									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions - MIT




















Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑						↑	↑
Traffic Volume (veh/h)	0	1418	587	300	908	0	0	0	0	285	1	855
Future Volume (veh/h)	0	1418	587	300	908	0	0	0	0	285	1	855
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1541	638	326	987	0				310	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1785	716	319	2548	0				354	1	317
Arrive On Green	0.00	0.50	0.50	0.18	0.72	0.00				0.20	0.20	0.00
Sat Flow, veh/h	0	3737	1431	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1461	718	326	987	0				311	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1610	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	37.9	40.2	18.0	10.8	0.0				17.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	37.9	40.2	18.0	10.8	0.0				17.0	0.0	0.0
Prop In Lane	0.00		0.89	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1695	805	319	2548	0				355	0	317
V/C Ratio(X)	0.00	0.86	0.89	1.02	0.39	0.00				0.88	0.00	0.00
Avail Cap(c_a), veh/h	0	1695	805	319	2548	0				479	0	427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.42	0.42	0.18	0.18	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	22.0	22.6	41.0	5.4	0.0				38.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.7	6.8	26.9	0.1	0.0				13.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	18.3	19.3	11.2	5.2	0.0				9.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	24.6	29.3	68.0	5.5	0.0				51.9	0.0	0.0
LnGrp LOS		C	C	F	A					D		
Approach Vol, veh/h		2179			1313						311	
Approach Delay, s/veh		26.2			21.0						51.9	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			22.0	54.0		24.0		76.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			18.0	43.0		27.0		65.0				
Max Q Clear Time (g_c+I1), s			20.0	42.2		19.0		12.8				
Green Ext Time (p_c), s			0.0	0.8		1.0		41.7				
Intersection Summary												
HCM 2010 Ctrl Delay			26.5									
HCM 2010 LOS			C									






















Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions - MIT

Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	815	889	0	0	844	285	364	5	255	0	0	0
Future Volume (veh/h)	815	889	0	0	844	285	364	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	886	966	0	0	917	310	400	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	857	2758	0	0	929	416	547	0	244			
Arrive On Green	0.48	0.78	0.00	0.00	0.26	0.26	0.15	0.00	0.15			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	886	966	0	0	917	310	400	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	58.0	9.9	0.0	0.0	30.9	21.5	12.9	0.0	18.5			
Cycle Q Clear(g_c), s	58.0	9.9	0.0	0.0	30.9	21.5	12.9	0.0	18.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	857	2758	0	0	929	416	547	0	244			
V/C Ratio(X)	1.03	0.35	0.00	0.00	0.99	0.75	0.73	0.00	1.13			
Avail Cap(c_a), veh/h	857	2758	0	0	929	416	547	0	244			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.53	0.53	1.00	0.00	1.00			
Uniform Delay (d), s/veh	31.0	4.0	0.0	0.0	44.0	40.6	48.4	0.0	50.8			
Incr Delay (d2), s/veh	19.5	0.0	0.0	0.0	18.7	6.4	5.0	0.0	98.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	33.0	4.8	0.0	0.0	17.6	10.1	6.7	0.0	14.8			
LnGrp Delay(d),s/veh	50.5	4.1	0.0	0.0	62.7	47.0	53.4	0.0	149.5			
LnGrp LOS	F	A			E	D	D		F			
Approach Vol, veh/h	1852				1227				677			
Approach Delay, s/veh	26.3				58.7				92.7			
Approach LOS	C				E				F			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		97.5			62.0	35.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		93.5			58.0	31.5				
Max Q Clear Time (g_c+I1), s		20.5		11.9			60.0	32.9				
Green Ext Time (p_c), s		0.0		26.8			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			48.9									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	646	80	35	521	130	125	10	25	145	15	483
Future Volume (veh/h)	418	646	80	35	521	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	702	87	38	566	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	529	1333	596	55	714	177	445	36	428	285	29	523
Arrive On Green	0.15	0.38	0.38	0.03	0.25	0.25	0.27	0.27	0.27	0.18	0.18	0.18
Sat Flow, veh/h	3442	3539	1583	1774	2811	698	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	702	87	38	356	351	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1740	1780	0	1583	1782	0	1583
Q Serve(g_s), s	14.1	17.0	4.0	2.3	20.6	20.8	7.2	0.0	1.4	9.8	0.0	19.4
Cycle Q Clear(g_c), s	14.1	17.0	4.0	2.3	20.6	20.8	7.2	0.0	1.4	9.8	0.0	19.4
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	529	1333	596	55	450	442	481	0	428	314	0	523
V/C Ratio(X)	0.86	0.53	0.15	0.69	0.79	0.80	0.31	0.00	0.06	0.55	0.00	1.00
Avail Cap(c_a), veh/h	657	1480	662	97	499	490	481	0	428	314	0	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	26.7	22.6	52.7	38.3	38.3	31.9	0.0	29.8	41.3	0.0	36.8
Incr Delay (d2), s/veh	8.5	0.3	0.1	14.0	7.7	8.1	1.6	0.0	0.3	2.1	0.0	40.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	8.3	1.8	1.4	11.0	10.9	3.8	0.0	0.6	5.0	0.0	21.7
LnGrp Delay(d),s/veh	53.9	27.0	22.7	66.7	46.0	46.4	33.5	0.0	30.1	43.5	0.0	77.3
LnGrp LOS	D	C	C	E	D	D	C		C	D		F
Approach Vol, veh/h	1243				745			174			699	
Approach Delay, s/veh	36.5				47.3			33.0			68.9	
Approach LOS	D				D			C			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.7	7.4	45.4		23.4	20.9	31.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		22.6	6.0	46.0		19.4	21.0	31.0				
Max Q Clear Time (g_c+l1), s		9.2	4.3	19.0		21.4	16.1	22.8				
Green Ext Time (p_c), s		0.6	0.0	10.6		0.0	0.8	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay	47.0											
HCM 2010 LOS	D											

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	711	591	30	25	95
Future Vol, veh/h	105	711	591	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	773	642	33	27	103

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	675	0	0 1274 338
Stage 1	-	-	- 659 -
Stage 2	-	-	- 615 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	912	-	- 159 658
Stage 1	-	-	- 476 -
Stage 2	-	-	- 502 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	912	-	- 124 658
Mov Cap-2 Maneuver	-	-	- 124 -
Stage 1	-	-	- 476 -
Stage 2	-	-	- 392 -

























Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	912	-	-	-	124	658
HCM Lane V/C Ratio	0.125	-	-	-	0.219	0.157
HCM Control Delay (s)	9.5	-	-	-	42	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions - MIT

Saturday PM Peak


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	201	429	783	174	122	23	259	271	44	112
Future Volume (veh/h)	113	721	201	429	783	174	122	23	259	271	44	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	123	784	218	466	851	189	133	0	299	295	48	122
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	1263	565	583	1551	694	205	0	903	512	69	177
Arrive On Green	0.09	0.36	0.36	0.17	0.44	0.44	0.12	0.00	0.12	0.15	0.15	0.15
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	467	1187
Grp Volume(v), veh/h	123	784	218	466	851	189	133	0	299	295	0	170
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1653
Q Serve(g_s), s	5.2	14.0	7.9	10.0	13.6	5.8	5.5	0.0	5.7	6.1	0.0	7.5
Cycle Q Clear(g_c), s	5.2	14.0	7.9	10.0	13.6	5.8	5.5	0.0	5.7	6.1	0.0	7.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.72
Lane Grp Cap(c), veh/h	157	1263	565	583	1551	694	205	0	903	512	0	246
V/C Ratio(X)	0.79	0.62	0.39	0.80	0.55	0.27	0.65	0.00	0.33	0.58	0.00	0.69
Avail Cap(c_a), veh/h	255	1549	693	854	1919	859	429	0	1302	1484	0	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.2	20.3	18.4	30.5	15.9	13.7	32.3	0.0	21.6	30.3	0.0	30.9
Incr Delay (d2), s/veh	8.4	0.5	0.4	3.4	0.3	0.2	3.4	0.0	0.2	1.0	0.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	7.0	3.5	5.0	6.7	2.6	2.9	0.0	2.5	3.0	0.0	3.6
LnGrp Delay(d),s/veh	42.6	20.9	18.8	33.9	16.2	13.9	35.7	0.0	21.8	31.4	0.0	34.4
LnGrp LOS	D	C	B	C	B	B	D		C	C		C
Approach Vol, veh/h		1125			1506			432			465	
Approach Delay, s/veh		22.8			21.4			26.1			32.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.9	17.0	31.3		15.4	10.8	37.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	19.0	33.5		33.0	11.0	41.5				
Max Q Clear Time (g_c+I1), s		7.7	12.0	16.0		9.5	7.2	15.6				
Green Ext Time (p_c), s		1.2	1.0	11.3		1.9	0.1	14.5				
Intersection Summary												
HCM 2010 Ctrl Delay			23.9									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions - MIT




















Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	947	304	178	654	0	0	0	0	176	1	732
Future Volume (veh/h)	0	947	304	178	654	0	0	0	0	176	1	732
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1029	330	193	711	0				191	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2214	710	234	2698	0				243	1	218
Arrive On Green	0.00	0.58	0.58	0.13	0.76	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	3982	1223	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	914	445	193	711	0				192	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1647	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	12.4	12.4	8.5	4.8	0.0				8.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	12.4	12.4	8.5	4.8	0.0				8.4	0.0	0.0
Prop In Lane	0.00		0.74	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1968	956	234	2698	0				245	0	218
V/C Ratio(X)	0.00	0.46	0.46	0.83	0.26	0.00				0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1968	956	333	2698	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.75	0.75	0.80	0.80	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.6	9.6	33.8	2.8	0.0				33.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	1.2	9.0	0.2	0.0				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.9	5.9	4.7	2.3	0.0				4.5	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.2	10.9	42.8	3.0	0.0				38.8	0.0	0.0
LnGrp LOS		B	B	D	A					D		
Approach Vol, veh/h	1359			904						192		
Approach Delay, s/veh	10.4			11.5						38.8		
Approach LOS	B			B						D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.5	50.4		15.0		65.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.5	14.4		10.4		6.8				
Green Ext Time (p_c), s			0.2	9.0		0.8		20.2				
Intersection Summary												
HCM 2010 Ctrl Delay	13.1											
HCM 2010 LOS	B											






















Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions - MIT

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	592	531	0	0	603	222	229	3	255	0	0	0
Future Volume (veh/h)	592	531	0	0	603	222	229	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	643	577	0	0	655	241	251	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	669	2532	0	0	1041	466	694	0	310			
Arrive On Green	0.38	0.72	0.00	0.00	0.29	0.29	0.20	0.00	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	643	577	0	0	655	241	251	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	31.9	5.0	0.0	0.0	14.4	11.4	5.5	0.0	15.3			
Cycle Q Clear(g_c), s	31.9	5.0	0.0	0.0	14.4	11.4	5.5	0.0	15.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	669	2532	0	0	1041	466	694	0	310			
V/C Ratio(X)	0.96	0.23	0.00	0.00	0.63	0.52	0.36	0.00	0.89			
Avail Cap(c_a), veh/h	670	2532	0	0	1041	466	729	0	325			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.54	0.54	0.00	0.00	0.77	0.77	1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.4	4.4	0.0	0.0	27.5	26.4	31.3	0.0	35.3			
Incr Delay (d2), s/veh	17.2	0.1	0.0	0.0	2.2	3.1	0.3	0.0	24.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	18.7	2.4	0.0	0.0	7.3	5.4	2.7	0.0	8.8			
LnGrp Delay(d),s/veh	44.6	4.5	0.0	0.0	29.7	29.6	31.6	0.0	60.0			
LnGrp LOS	D	A			C	C	C		E			
Approach Vol, veh/h	1220				896			528				
Approach Delay, s/veh	25.6				29.7			46.5				
Approach LOS	C				C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		7			8				
Phs Duration (G+Y+Rc), s	21.6		68.4		37.9			30.5				
Change Period (Y+Rc), s	4.0		4.0		4.0			4.0				
Max Green Setting (Gmax), s	18.5		63.5		34.0			25.5				
Max Q Clear Time (g_c+I1), s	17.3		7.0		33.9			16.4				
Green Ext Time (p_c), s	0.3		12.0		0.0			5.4				
Intersection Summary												
HCM 2010 Ctrl Delay	31.2											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	349	104	35	347	110	175	5	50	129	0	303
Future Volume (veh/h)	333	349	104	35	347	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	379	113	38	377	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	911	407	63	512	161	512	13	469	374	0	492
Arrive On Green	0.10	0.26	0.26	0.04	0.19	0.19	0.30	0.30	0.30	0.21	0.00	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2652	833	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	379	113	38	250	247	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1716	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	7.1	4.6	1.7	10.6	10.9	6.9	0.0	2.0	5.4	0.0	14.5
Cycle Q Clear(g_c), s	8.0	7.1	4.6	1.7	10.6	10.9	6.9	0.0	2.0	5.4	0.0	14.5
Prop In Lane	1.00		1.00	1.00		0.49	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	911	407	63	342	331	526	0	469	374	0	492
V/C Ratio(X)	1.05	0.42	0.28	0.60	0.73	0.75	0.37	0.00	0.12	0.37	0.00	0.67
Avail Cap(c_a), veh/h	344	911	407	133	409	397	526	0	469	410	0	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.0	24.7	23.8	38.0	30.3	30.4	22.3	0.0	20.5	27.0	0.0	24.0
Incr Delay (d2), s/veh	61.5	0.3	0.3	8.8	5.4	6.2	2.0	0.0	0.5	0.6	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	3.5	2.0	1.0	5.7	5.7	3.7	0.0	0.9	2.7	0.0	6.7
LnGrp Delay(d),s/veh	97.5	25.0	24.1	46.8	35.7	36.6	24.3	0.0	21.0	27.7	0.0	27.0
LnGrp LOS	F	C	C	D	D	D	C		C	C		C
Approach Vol, veh/h		854			535			249			469	
Approach Delay, s/veh		55.6			36.9			23.6			27.2	
Approach LOS		E			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.7	6.9	24.6		20.9	12.0	19.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	6.0	20.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	9.1		16.5	10.0	12.9				
Green Ext Time (p_c), s		0.8	0.0	4.3		0.4	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			40.8									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	451	418	30	10	74
Future Vol, veh/h	77	451	418	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	490	454	33	11	80

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	487	0	884
Stage 1	-	-	471
Stage 2	-	-	413
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1072	-	285
Stage 1	-	-	594
Stage 2	-	-	636
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1072	-	254
Mov Cap-2 Maneuver	-	-	254
Stage 1	-	-	594
Stage 2	-	-	567

























Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1072	-	-	-	254	758
HCM Lane V/C Ratio	0.078	-	-	-	0.043	0.106
HCM Control Delay (s)	8.6	-	-	-	19.8	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions - MIT

Friday PM Peak













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	141	297	1102	306	94	28	198	756	41	265
Future Volume (veh/h)	208	989	141	297	1102	306	94	28	198	756	41	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	226	1075	153	323	1198	333	102	0	235	822	45	288
Adj No. of Lanes	1	2	1	1	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	254	1180	528	322	1315	588	150	0	842	891	57	362
Arrive On Green	0.14	0.33	0.33	0.18	0.37	0.37	0.08	0.00	0.08	0.26	0.26	0.26
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	0	3167	3442	218	1398
Grp Volume(v), veh/h	226	1075	153	323	1198	333	102	0	235	822	0	333
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1583	1721	0	1616
Q Serve(g_s), s	14.1	32.8	8.1	20.5	36.3	18.9	6.3	0.0	6.6	26.3	0.0	21.7
Cycle Q Clear(g_c), s	14.1	32.8	8.1	20.5	36.3	18.9	6.3	0.0	6.6	26.3	0.0	21.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	254	1180	528	322	1315	588	150	0	842	891	0	418
V/C Ratio(X)	0.89	0.91	0.29	1.00	0.91	0.57	0.68	0.00	0.28	0.92	0.00	0.80
Avail Cap(c_a), veh/h	275	1207	540	322	1315	588	314	0	1136	914	0	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.5	36.0	27.8	46.2	33.7	28.2	50.2	0.0	32.9	40.7	0.0	39.1
Incr Delay (d2), s/veh	26.5	10.3	0.3	50.9	9.7	1.3	5.4	0.0	0.2	14.4	0.0	9.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	17.7	3.6	14.6	19.4	8.4	3.3	0.0	2.9	14.2	0.0	10.9
LnGrp Delay(d),s/veh	74.0	46.3	28.1	97.1	43.4	29.5	55.6	0.0	33.0	55.1	0.0	48.9
LnGrp LOS	E	D	C	F	D	C	E		C	E		D
Approach Vol, veh/h		1454			1854			337			1155	
Approach Delay, s/veh		48.7			50.3			39.9			53.3	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.5	24.5	41.7		33.2	20.2	46.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		20.0	20.5	38.5		30.0	17.5	41.5				
Max Q Clear Time (g_c+I1), s		8.6	22.5	34.8		28.3	16.1	38.3				
Green Ext Time (p_c), s		0.9	0.0	2.8		1.0	0.1	3.0				
Intersection Summary												
HCM 2010 Ctrl Delay			49.8									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions - MIT



















Friday PM Peak






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↰	↑↑						↰	↱
Traffic Volume (veh/h)	0	1362	581	300	898	0	0	0	0	285	1	808
Future Volume (veh/h)	0	1362	581	300	898	0	0	0	0	285	1	808
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1480	632	326	976	0				310	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1764	733	319	2548	0				354	1	317
Arrive On Green	0.00	0.50	0.50	0.36	1.00	0.00				0.20	0.20	0.00
Sat Flow, veh/h	0	3696	1466	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1421	691	326	976	0				311	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1604	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	36.1	37.9	18.0	0.0	0.0				17.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	36.1	37.9	18.0	0.0	0.0				17.0	0.0	0.0
Prop In Lane	0.00		0.91	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1695	802	319	2548	0				355	0	317
V/C Ratio(X)	0.00	0.84	0.86	1.02	0.38	0.00				0.88	0.00	0.00
Avail Cap(c_a), veh/h	0	1695	802	319	2548	0				479	0	427
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.34	0.34	0.09	0.09	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	21.5	22.0	32.0	0.0	0.0				38.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.8	4.5	20.7	0.0	0.0				13.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.2	17.7	10.5	0.0	0.0				9.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	23.3	26.4	52.7	0.0	0.0				51.9	0.0	0.0
LnGrp LOS		C	C	F	A					D		
Approach Vol, veh/h		2112			1302						311	
Approach Delay, s/veh		24.4			13.2						51.9	
Approach LOS		C			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			22.0	54.0		24.0		76.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			18.0	43.0		27.0		65.0				
Max Q Clear Time (g_c+I1), s			20.0	39.9		19.0		2.0				
Green Ext Time (p_c), s			0.0	3.0		1.0		46.9				
Intersection Summary												
HCM 2010 Ctrl Delay			22.8									
HCM 2010 LOS			C									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions - MIT

Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	764	885	0	0	840	285	358	5	255	0	0	0
Future Volume (veh/h)	764	885	0	0	840	285	358	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	830	962	0	0	913	310	389	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	745	2513	0	0	885	396	368	5	332			
Arrive On Green	0.84	1.00	0.00	0.00	0.25	0.25	0.21	0.21	0.21			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	23	1583			
Grp Volume(v), veh/h	830	962	0	0	913	310	394	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	42.0	0.0	0.0	0.0	25.0	18.3	21.0	0.0	16.8			
Cycle Q Clear(g_c), s	42.0	0.0	0.0	0.0	25.0	18.3	21.0	0.0	16.8			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	745	2513	0	0	885	396	373	0	332			
V/C Ratio(X)	1.11	0.38	0.00	0.00	1.03	0.78	1.06	0.00	0.83			
Avail Cap(c_a), veh/h	745	2513	0	0	885	396	373	0	332			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.15	0.15	0.00	0.00	0.53	0.53	1.00	0.00	1.00			
Uniform Delay (d), s/veh	8.0	0.0	0.0	0.0	37.5	35.0	39.5	0.0	37.8			
Incr Delay (d2), s/veh	54.6	0.1	0.0	0.0	30.8	8.1	62.4	0.0	16.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	29.5	0.0	0.0	0.0	15.9	8.9	16.7	0.0	8.8			
LnGrp Delay(d),s/veh	62.6	0.1	0.0	0.0	68.3	43.1	101.9	0.0	54.2			
LnGrp LOS	F	A			F	D	F		D			
Approach Vol, veh/h	1792			1223			671					
Approach Delay, s/veh	29.0			61.9			82.2					
Approach LOS	C			E			F					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		7		8					
Phs Duration (G+Y+Rc), s	25.0		75.0		46.0		29.0					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	21.0		71.0		42.0		25.0					
Max Q Clear Time (g_c+I1), s	23.0		2.0		44.0		27.0					
Green Ext Time (p_c), s	0.0		25.5		0.0		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	49.6											
HCM 2010 LOS	D											

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	642	80	35	517	130	125	10	25	145	15	483
Future Volume (veh/h)	418	642	80	35	517	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	698	87	38	562	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	529	1330	595	55	711	178	447	36	429	285	29	523
Arrive On Green	0.15	0.38	0.38	0.03	0.25	0.25	0.27	0.27	0.27	0.18	0.18	0.18
Sat Flow, veh/h	3442	3539	1583	1774	2807	702	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	698	87	38	354	349	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1739	1780	0	1583	1782	0	1583
Q Serve(g_s), s	14.1	16.9	4.0	2.3	20.5	20.6	7.2	0.0	1.4	9.8	0.0	19.4
Cycle Q Clear(g_c), s	14.1	16.9	4.0	2.3	20.5	20.6	7.2	0.0	1.4	9.8	0.0	19.4
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	529	1330	595	55	448	440	483	0	429	314	0	523
V/C Ratio(X)	0.86	0.52	0.15	0.69	0.79	0.79	0.30	0.00	0.06	0.55	0.00	1.00
Avail Cap(c_a), veh/h	657	1480	662	97	499	490	483	0	429	314	0	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	26.7	22.7	52.7	38.3	38.4	31.8	0.0	29.7	41.3	0.0	36.8
Incr Delay (d2), s/veh	8.5	0.3	0.1	14.0	7.6	7.9	1.6	0.0	0.3	2.1	0.0	40.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	8.3	1.8	1.4	11.0	10.9	3.8	0.0	0.6	5.0	0.0	21.7
LnGrp Delay(d),s/veh	53.9	27.0	22.8	66.7	45.9	46.3	33.5	0.0	30.0	43.5	0.0	77.3
LnGrp LOS	D	C	C	E	D	D	C		C	D		F
Approach Vol, veh/h	1239				741			174			699	
Approach Delay, s/veh	36.5				47.2			32.9			68.9	
Approach LOS	D				D			C			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.8	7.4	45.3		23.4	20.9	31.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		22.6	6.0	46.0		19.4	21.0	31.0				
Max Q Clear Time (g_c+I1), s		9.2	4.3	18.9		21.4	16.1	22.6				
Green Ext Time (p_c), s		0.6	0.0	10.5		0.0	0.8	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay	47.0											
HCM 2010 LOS	D											

Redding Rancheria
7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Opening Year (2025) plus Project (2B) Conditions - MIT
























Friday PM Peak

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	707	587	30	25	95
Future Vol, veh/h	105	707	587	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	768	638	33	27	103
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	671	0	-	0	1267	335
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	613	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	915	-	-	-	161	661
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	503	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	915	-	-	-	126	661
Mov Cap-2 Maneuver	-	-	-	-	126	-
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	394	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.2	0		17.7		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	126	661
HCM Lane V/C Ratio	0.125	-	-	-	0.216	0.156
HCM Control Delay (s)	9.5	-	-	-	41.3	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions - MIT

Saturday PM Peak


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	151	303	783	174	74	14	138	271	35	112
Future Volume (veh/h)	113	721	151	303	783	174	74	14	138	271	35	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	164	329	851	189	80	15	150	322	0	122
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	1239	554	371	1668	746	158	30	498	465	0	207
Arrive On Green	0.09	0.35	0.35	0.21	0.47	0.47	0.11	0.11	0.11	0.13	0.00	0.13
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1505	282	1583	3548	0	1583
Grp Volume(v), veh/h	123	784	164	329	851	189	95	0	150	322	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1787	0	1583	1774	0	1583
Q Serve(g_s), s	5.3	14.5	5.9	14.1	13.1	5.6	3.9	0.0	5.6	6.8	0.0	5.7
Cycle Q Clear(g_c), s	5.3	14.5	5.9	14.1	13.1	5.6	3.9	0.0	5.6	6.8	0.0	5.7
Prop In Lane	1.00		1.00	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	1239	554	371	1668	746	188	0	498	465	0	207
V/C Ratio(X)	0.79	0.63	0.30	0.89	0.51	0.25	0.51	0.00	0.30	0.69	0.00	0.59
Avail Cap(c_a), veh/h	249	1515	678	431	1876	839	422	0	706	1496	0	668
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.0	21.2	18.4	30.0	14.4	12.4	33.1	0.0	20.3	32.5	0.0	32.0
Incr Delay (d2), s/veh	8.5	0.6	0.3	17.7	0.2	0.2	2.1	0.0	0.3	1.9	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	7.2	2.6	8.7	6.4	2.5	2.0	0.0	2.5	3.4	0.0	2.6
LnGrp Delay(d),s/veh	43.4	21.8	18.7	47.7	14.6	12.6	35.2	0.0	20.7	34.4	0.0	34.7
LnGrp LOS	D	C	B	D	B	B	D		C	C		C
Approach Vol, veh/h		1071			1369			245			444	
Approach Delay, s/veh		23.8			22.3			26.3			34.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.2	20.4	31.4		14.2	10.9	40.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	19.0	33.5		33.0	11.0	41.5				
Max Q Clear Time (g_c+I1), s		7.6	16.1	16.5		8.8	7.3	15.1				
Green Ext Time (p_c), s		0.7	0.3	10.9		1.5	0.1	14.4				
Intersection Summary												
HCM 2010 Ctrl Delay			24.9									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions - MIT



















Saturday PM Peak






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑						↑	↑
Traffic Volume (veh/h)	0	838	292	178	632	0	0	0	0	176	1	627
Future Volume (veh/h)	0	838	292	178	632	0	0	0	0	176	1	627
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	911	317	193	687	0				191	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2159	749	237	2698	0				243	1	218
Arrive On Green	0.00	0.58	0.58	0.04	0.25	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	3898	1294	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	828	400	193	687	0				192	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1634	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	10.9	10.9	8.6	12.4	0.0				8.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.9	10.9	8.6	12.4	0.0				8.4	0.0	0.0
Prop In Lane	0.00		0.79	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1962	946	237	2698	0				245	0	218
V/C Ratio(X)	0.00	0.42	0.42	0.82	0.25	0.00				0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1962	946	333	2698	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.73	0.73	0.78	0.78	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.4	9.4	37.3	11.8	0.0				33.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.0	8.2	0.2	0.0				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.2	5.2	4.8	6.2	0.0				4.5	0.0	0.0
LnGrp Delay(d),s/veh	0.0	9.9	10.4	45.4	11.9	0.0				38.8	0.0	0.0
LnGrp LOS		A	B	D	B					D		
Approach Vol, veh/h	1228		880				192					
Approach Delay, s/veh	10.1		19.3				38.8					
Approach LOS	B		B				D					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	50.3		15.0		65.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+l1), s			10.6	12.9		10.4		14.4				
Green Ext Time (p_c), s			0.2	9.3		0.8		16.3				
Intersection Summary												
HCM 2010 Ctrl Delay			16.0									
HCM 2010 LOS			B									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions - MIT

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	492	522	0	0	594	222	216	3	255	0	0	0
Future Volume (veh/h)	492	522	0	0	594	222	216	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	535	567	0	0	646	241	235	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2468	0	0	1229	550	355	5	321			
Arrive On Green	0.60	1.00	0.00	0.00	0.69	0.69	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	22	1583			
Grp Volume(v), veh/h	535	567	0	0	646	241	238	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	7.0	5.3	9.9	0.0	13.5			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	7.0	5.3	9.9	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2468	0	0	1229	550	360	0	321			
V/C Ratio(X)	1.01	0.23	0.00	0.00	0.53	0.44	0.66	0.00	0.86			
Avail Cap(c_a), veh/h	532	2468	0	0	1229	550	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.62	0.62	0.00	0.00	0.77	0.77	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.0	0.0	0.0	0.0	9.0	8.8	29.4	0.0	30.8			
Incr Delay (d2), s/veh	32.0	0.1	0.0	0.0	1.2	2.0	3.3	0.0	17.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	16.0	0.0	0.0	0.0	3.4	2.6	5.2	0.0	7.4			
LnGrp Delay(d),s/veh	48.1	0.1	0.0	0.0	10.3	10.8	32.6	0.0	47.9			
LnGrp LOS	F	A			B	B	C		D			
Approach Vol, veh/h	1102				887			515				
Approach Delay, s/veh	23.4				10.4			40.8				
Approach LOS	C				B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4				7	8				
Phs Duration (G+Y+Rc), s	20.2		59.8				28.0	31.8				
Change Period (Y+Rc), s	4.0		4.0				4.0	4.0				
Max Green Setting (Gmax), s	18.5		53.5				24.0	25.5				
Max Q Clear Time (g_c+I1), s	15.5		2.0				26.0	9.0				
Green Ext Time (p_c), s	0.7		11.7				0.0	7.9				
Intersection Summary												
HCM 2010 Ctrl Delay	22.4											
HCM 2010 LOS	C											

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	340	104	35	338	110	175	5	50	129	0	303
Future Volume (veh/h)	333	340	104	35	338	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	370	113	38	367	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	906	405	63	505	163	515	14	471	374	0	492
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.30	0.30	0.30	0.21	0.00	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2633	849	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	370	113	38	245	242	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1713	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.8	3.7	1.7	10.4	10.6	6.9	0.0	2.0	5.4	0.0	14.5
Cycle Q Clear(g_c), s	8.0	5.8	3.7	1.7	10.4	10.6	6.9	0.0	2.0	5.4	0.0	14.5
Prop In Lane	1.00		1.00	1.00		0.50	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	906	405	63	339	328	528	0	471	374	0	492
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.72	0.74	0.37	0.00	0.11	0.37	0.00	0.67
Avail Cap(c_a), veh/h	344	907	406	133	409	396	528	0	471	410	0	524
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.7	18.1	38.0	30.3	30.4	22.2	0.0	20.4	27.0	0.0	24.0
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	4.9	5.7	2.0	0.0	0.5	0.6	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	2.9	1.7	1.0	5.5	5.6	3.7	0.0	0.9	2.7	0.0	6.7
LnGrp Delay(d),s/veh	95.0	19.0	18.4	46.8	35.3	36.2	24.2	0.0	20.9	27.7	0.0	27.0
LnGrp LOS	F	B	B	D	D	D	C		C	C		C
Approach Vol, veh/h		845			525			249			469	
Approach Delay, s/veh		51.5			36.5			23.5			27.2	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.8	6.9	24.5		20.9	12.0	19.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	6.0	20.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	7.8		16.5	10.0	12.6				
Green Ext Time (p_c), s		0.8	0.0	4.5		0.4	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			38.9									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	442	409	30	10	74
Future Vol, veh/h	77	442	409	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	480	445	33	11	80

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	477	0	0 869 239
Stage 1	-	-	- 461 -
Stage 2	-	-	- 408 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	1082	-	- 291 762
Stage 1	-	-	- 601 -
Stage 2	-	-	- 640 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1082	-	- 260 762
Mov Cap-2 Maneuver	-	-	- 260 -
Stage 1	-	-	- 601 -
Stage 2	-	-	- 572 -

























Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1082	-	-	-	260	762
HCM Lane V/C Ratio	0.077	-	-	-	0.042	0.106
HCM Control Delay (s)	8.6	-	-	-	19.4	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions - MIT

Friday PM Peak













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	148	317	1102	306	104	29	223	756	42	265
Future Volume (veh/h)	208	989	148	317	1102	306	104	29	223	756	42	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	226	1075	161	345	1198	333	113	0	263	822	46	288
Adj No. of Lanes	1	2	1	1	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	1128	505	353	1363	610	157	0	910	900	58	365
Arrive On Green	0.13	0.32	0.32	0.20	0.38	0.38	0.09	0.00	0.09	0.26	0.26	0.26
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	0	3167	3442	223	1394
Grp Volume(v), veh/h	226	1075	161	345	1198	333	113	0	263	822	0	334
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1583	1721	0	1617
Q Serve(g_s), s	15.3	35.9	9.3	23.3	38.0	19.8	7.5	0.0	7.8	28.0	0.0	23.2
Cycle Q Clear(g_c), s	15.3	35.9	9.3	23.3	38.0	19.8	7.5	0.0	7.8	28.0	0.0	23.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	235	1128	505	353	1363	610	157	0	910	900	0	423
V/C Ratio(X)	0.96	0.95	0.32	0.98	0.88	0.55	0.72	0.00	0.29	0.91	0.00	0.79
Avail Cap(c_a), veh/h	235	1129	505	353	1363	610	272	0	1115	941	0	442
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.0	40.2	31.2	48.1	34.5	28.9	53.6	0.0	33.4	43.2	0.0	41.5
Incr Delay (d2), s/veh	47.7	16.7	0.4	41.9	6.9	1.0	6.1	0.0	0.2	12.7	0.0	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	20.1	4.1	15.5	19.8	8.8	3.9	0.0	3.4	14.8	0.0	11.5
LnGrp Delay(d),s/veh	99.7	57.0	31.5	90.0	41.4	29.9	59.7	0.0	33.6	56.0	0.0	50.5
LnGrp LOS	F	E	C	F	D	C	E		C	E		D
Approach Vol, veh/h		1462			1876			376			1156	
Approach Delay, s/veh		60.8			48.3			41.4			54.4	
Approach LOS		E			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		14.7	28.0	42.5		35.6	20.0	50.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	24.0	38.5		33.0	16.0	46.5				
Max Q Clear Time (g_c+I1), s		9.8	25.3	37.9		30.0	17.3	40.0				
Green Ext Time (p_c), s		0.9	0.0	0.6		1.6	0.0	5.9				
Intersection Summary												
HCM 2010 Ctrl Delay			53.0									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions - MIT



















Friday PM Peak






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑						↑	↑
Traffic Volume (veh/h)	0	1384	584	300	902	0	0	0	0	285	1	824
Future Volume (veh/h)	0	1384	584	300	902	0	0	0	0	285	1	824
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1504	635	326	980	0				310	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1772	727	319	2548	0				354	1	317
Arrive On Green	0.00	0.50	0.50	0.36	1.00	0.00				0.20	0.20	0.00
Sat Flow, veh/h	0	3711	1453	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1437	702	326	980	0				311	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1606	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	36.8	38.8	18.0	0.0	0.0				17.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	36.8	38.8	18.0	0.0	0.0				17.0	0.0	0.0
Prop In Lane	0.00		0.90	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1695	803	319	2548	0				355	0	317
V/C Ratio(X)	0.00	0.85	0.87	1.02	0.38	0.00				0.88	0.00	0.00
Avail Cap(c_a), veh/h	0	1695	803	319	2548	0				479	0	427
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.30	0.30	0.11	0.11	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	21.7	22.2	32.0	0.0	0.0				38.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	4.3	21.9	0.0	0.0				13.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.6	18.1	10.6	0.0	0.0				9.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	23.4	26.5	54.0	0.0	0.0				51.9	0.0	0.0
LnGrp LOS		C	C	F	A					D		
Approach Vol, veh/h		2139			1306						311	
Approach Delay, s/veh		24.4			13.5						51.9	
Approach LOS		C			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			22.0	54.0		24.0		76.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			18.0	43.0		27.0		65.0				
Max Q Clear Time (g_c+I1), s			20.0	40.8		19.0		2.0				
Green Ext Time (p_c), s			0.0	2.1		1.0		47.5				
Intersection Summary												
HCM 2010 Ctrl Delay			22.9									
HCM 2010 LOS			C									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions - MIT

Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	784	886	0	0	841	285	360	5	255	0	0	0
Future Volume (veh/h)	784	886	0	0	841	285	360	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	852	963	0	0	914	310	391	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	745	2548	0	0	920	412	351	4	317			
Arrive On Green	0.84	1.00	0.00	0.00	0.26	0.26	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	22	1583			
Grp Volume(v), veh/h	852	963	0	0	914	310	396	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	42.0	0.0	0.0	0.0	25.8	18.0	20.0	0.0	17.0			
Cycle Q Clear(g_c), s	42.0	0.0	0.0	0.0	25.8	18.0	20.0	0.0	17.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	745	2548	0	0	920	412	355	0	317			
V/C Ratio(X)	1.14	0.38	0.00	0.00	0.99	0.75	1.12	0.00	0.87			
Avail Cap(c_a), veh/h	745	2548	0	0	920	412	355	0	317			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.12	0.12	0.00	0.00	0.52	0.52	1.00	0.00	1.00			
Uniform Delay (d), s/veh	8.0	0.0	0.0	0.0	36.9	34.0	40.0	0.0	38.8			
Incr Delay (d2), s/veh	66.8	0.1	0.0	0.0	19.9	6.5	82.7	0.0	22.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	0.0	0.0	0.0	0.0	15.1	8.6	17.9	0.0	9.4			
LnGrp Delay(d),s/veh	74.8	0.1	0.0	0.0	56.8	40.6	122.7	0.0	61.5			
LnGrp LOS	F	A			E	D	F		E			
Approach Vol, veh/h	1815			1224			673					
Approach Delay, s/veh	35.1			52.7			97.5					
Approach LOS	D			D			F					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4				7	8				
Phs Duration (G+Y+Rc), s	24.0		76.0				46.0	30.0				
Change Period (Y+Rc), s	4.0		4.0				4.0	4.0				
Max Green Setting (Gmax), s	20.0		72.0				42.0	26.0				
Max Q Clear Time (g_c+I1), s	22.0		2.0				44.0	27.8				
Green Ext Time (p_c), s	0.0		25.7				0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	52.2											
HCM 2010 LOS	D											

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	643	80	35	518	130	125	10	25	145	15	483
Future Volume (veh/h)	418	643	80	35	518	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	699	87	38	563	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	530	1220	546	60	632	158	392	32	376	333	34	569
Arrive On Green	0.15	0.34	0.34	0.03	0.23	0.23	0.24	0.24	0.24	0.21	0.21	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2808	701	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	699	87	38	354	350	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1739	1780	0	1583	1782	0	1583
Q Serve(g_s), s	11.6	14.5	3.4	1.9	17.5	17.6	6.2	0.0	1.2	7.7	0.0	18.5
Cycle Q Clear(g_c), s	11.6	14.5	3.4	1.9	17.5	17.6	6.2	0.0	1.2	7.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	530	1220	546	60	398	391	423	0	376	366	0	569
V/C Ratio(X)	0.86	0.57	0.16	0.63	0.89	0.89	0.35	0.00	0.07	0.48	0.00	0.92
Avail Cap(c_a), veh/h	574	1220	546	118	421	414	423	0	376	366	0	569
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	24.1	20.4	42.9	33.8	33.8	28.5	0.0	26.6	31.5	0.0	27.6
Incr Delay (d2), s/veh	10.7	0.6	0.1	10.3	19.6	20.5	2.2	0.0	0.4	1.0	0.0	20.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	7.2	1.5	1.1	10.7	10.7	3.3	0.0	0.6	3.9	0.0	15.8
LnGrp Delay(d),s/veh	47.8	24.7	20.6	53.2	53.4	54.4	30.7	0.0	27.0	32.4	0.0	48.4
LnGrp LOS	D	C	C	D	D	D	C		C	C		D
Approach Vol, veh/h	1240				742		174				699	
Approach Delay, s/veh	32.8				53.8		30.2				44.4	
Approach LOS	C				D		C				D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.4	7.1	35.0		22.5	17.8	24.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.1	6.0	30.4		18.5	15.0	21.4				
Max Q Clear Time (g_c+I1), s		8.2	3.9	16.5		20.5	13.6	19.6				
Green Ext Time (p_c), s		0.5	0.0	7.5		0.0	0.3	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			41.0									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	708	588	30	25	95
Future Vol, veh/h	105	708	588	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	770	639	33	27	103

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	672	0	0 1268 336
Stage 1	-	-	- 655 -
Stage 2	-	-	- 613 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	915	-	- 160 660
Stage 1	-	-	- 479 -
Stage 2	-	-	- 503 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	915	-	- 125 660
Mov Cap-2 Maneuver	-	-	- 125 -
Stage 1	-	-	- 479 -
Stage 2	-	-	- 393 -
























Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	125	660
HCM Lane V/C Ratio	0.125	-	-	-	0.217	0.156
HCM Control Delay (s)	9.5	-	-	-	41.6	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions - MIT

Saturday PM Peak


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	184	386	783	174	112	21	233	271	41	112
Future Volume (veh/h)	113	721	184	386	783	174	112	21	233	271	41	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	200	420	851	189	122	23	253	327	0	122
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	1093	489	457	1697	759	215	41	634	443	0	198
Arrive On Green	0.09	0.31	0.31	0.26	0.48	0.48	0.14	0.14	0.14	0.12	0.00	0.12
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1504	284	1583	3548	0	1583
Grp Volume(v), veh/h	123	784	200	420	851	189	145	0	253	327	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1788	0	1583	1774	0	1583
Q Serve(g_s), s	6.6	19.0	9.6	22.2	15.9	6.8	7.3	0.0	11.0	8.6	0.0	7.0
Cycle Q Clear(g_c), s	6.6	19.0	9.6	22.2	15.9	6.8	7.3	0.0	11.0	8.6	0.0	7.0
Prop In Lane	1.00		1.00	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	154	1093	489	457	1697	759	255	0	634	443	0	198
V/C Ratio(X)	0.80	0.72	0.41	0.92	0.50	0.25	0.57	0.00	0.40	0.74	0.00	0.62
Avail Cap(c_a), veh/h	294	1230	550	534	1707	764	343	0	711	1214	0	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.2	29.6	26.4	34.8	17.2	14.8	38.5	0.0	20.6	40.7	0.0	40.0
Incr Delay (d2), s/veh	9.0	1.8	0.5	19.5	0.2	0.2	2.0	0.0	0.4	2.4	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	9.5	4.3	13.3	7.7	3.0	3.7	0.0	4.8	4.3	0.0	3.2
LnGrp Delay(d),s/veh	52.2	31.4	26.9	54.3	17.4	15.0	40.5	0.0	21.0	43.1	0.0	43.1
LnGrp LOS	D	C	C	D	B	B	D		C	D		D
Approach Vol, veh/h		1107			1460			398			449	
Approach Delay, s/veh		32.9			27.7			28.1			43.1	
Approach LOS		C			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		17.8	28.8	33.8		16.0	12.4	50.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	29.0	33.5		33.0	16.0	46.5				
Max Q Clear Time (g_c+I1), s		13.0	24.2	21.0		10.6	8.6	17.9				
Green Ext Time (p_c), s		0.8	0.6	8.8		1.5	0.2	15.2				
Intersection Summary												
HCM 2010 Ctrl Delay			31.5									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions - MIT



















Saturday PM Peak






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	923	301	178	647	0	0	0	0	176	1	696
Future Volume (veh/h)	0	923	301	178	647	0	0	0	0	176	1	696
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1003	327	193	703	0				191	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2205	718	234	2698	0				243	1	218
Arrive On Green	0.00	0.58	0.58	0.13	0.76	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	3965	1237	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	895	435	193	703	0				192	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1644	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	12.0	12.1	8.5	4.7	0.0				8.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	12.0	12.1	8.5	4.7	0.0				8.4	0.0	0.0
Prop In Lane	0.00		0.75	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1968	955	234	2698	0				245	0	218
V/C Ratio(X)	0.00	0.45	0.46	0.83	0.26	0.00				0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1968	955	333	2698	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.67	0.67	0.77	0.77	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.6	9.6	33.8	2.8	0.0				33.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.1	8.7	0.2	0.0				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.7	5.7	4.7	2.3	0.0				4.5	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.1	10.6	42.5	3.0	0.0				38.8	0.0	0.0
LnGrp LOS		B	B	D	A					D		
Approach Vol, veh/h	1330					896				192		
Approach Delay, s/veh	10.3					11.5				38.8		
Approach LOS	B					B				D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.5	50.4		15.0		65.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.5	14.1		10.4		6.7				
Green Ext Time (p_c), s			0.2	9.1		0.8		19.7				
Intersection Summary												
HCM 2010 Ctrl Delay			13.0									
HCM 2010 LOS			B									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions - MIT

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	570	529	0	0	600	222	225	3	255	0	0	0
Future Volume (veh/h)	570	529	0	0	600	222	225	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	620	575	0	0	652	241	245	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	650	2531	0	0	1076	481	344	4	311			
Arrive On Green	0.37	0.72	0.00	0.00	0.30	0.30	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1754	21	1583			
Grp Volume(v), veh/h	620	575	0	0	652	241	248	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	30.6	5.0	0.0	0.0	14.1	11.2	11.7	0.0	15.3			
Cycle Q Clear(g_c), s	30.6	5.0	0.0	0.0	14.1	11.2	11.7	0.0	15.3			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	650	2531	0	0	1076	481	348	0	311			
V/C Ratio(X)	0.95	0.23	0.00	0.00	0.61	0.50	0.71	0.00	0.89			
Avail Cap(c_a), veh/h	670	2531	0	0	1076	481	365	0	325			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.56	0.56	0.00	0.00	0.77	0.77	1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.8	4.4	0.0	0.0	26.7	25.7	33.8	0.0	35.2			
Incr Delay (d2), s/veh	15.9	0.1	0.0	0.0	2.0	2.9	6.1	0.0	24.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	17.8	2.4	0.0	0.0	7.2	5.3	6.3	0.0	8.8			
LnGrp Delay(d),s/veh	43.6	4.5	0.0	0.0	28.7	28.6	39.9	0.0	59.7			
LnGrp LOS	D	A			C	C	D		E			
Approach Vol, veh/h	1195				893			525				
Approach Delay, s/veh	24.8				28.7			50.3				
Approach LOS	C				C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		21.6		68.4			37.0	31.4				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		63.5			34.0	25.5				
Max Q Clear Time (g_c+I1), s		17.3		7.0			32.6	16.1				
Green Ext Time (p_c), s		0.3		12.0			0.4	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay				31.2								
HCM 2010 LOS				C								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	347	104	35	344	110	175	5	50	129	0	303
Future Volume (veh/h)	333	347	104	35	344	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	377	113	38	374	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	910	407	63	510	161	513	13	469	374	0	492
Arrive On Green	0.10	0.26	0.26	0.04	0.19	0.19	0.30	0.30	0.30	0.21	0.00	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2646	838	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	377	113	38	248	246	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1715	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	7.1	4.6	1.7	10.6	10.8	6.9	0.0	2.0	5.4	0.0	14.5
Cycle Q Clear(g_c), s	8.0	7.1	4.6	1.7	10.6	10.8	6.9	0.0	2.0	5.4	0.0	14.5
Prop In Lane	1.00		1.00	1.00		0.49	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	910	407	63	341	330	526	0	469	374	0	492
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.73	0.74	0.37	0.00	0.12	0.37	0.00	0.67
Avail Cap(c_a), veh/h	344	910	407	133	409	397	526	0	469	410	0	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.0	24.7	23.8	38.0	30.3	30.4	22.2	0.0	20.5	27.0	0.0	24.0
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	5.2	6.0	2.0	0.0	0.5	0.6	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	3.5	2.0	1.0	5.6	5.7	3.7	0.0	0.9	2.7	0.0	6.7
LnGrp Delay(d),s/veh	97.7	25.0	24.1	46.8	35.6	36.5	24.2	0.0	21.0	27.7	0.0	27.0
LnGrp LOS	F	C	C	D	D	D	C		C	C		C
Approach Vol, veh/h		852			532			249			469	
Approach Delay, s/veh		55.8			36.8			23.5			27.2	
Approach LOS		E			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.7	6.9	24.6		20.9	12.0	19.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	6.0	20.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	9.1		16.5	10.0	12.8				
Green Ext Time (p_c), s		0.8	0.0	4.3		0.4	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			40.8									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	449	415	30	10	74
Future Vol, veh/h	77	449	415	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	488	451	33	11	80

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	484	0	878
Stage 1	-	-	467
Stage 2	-	-	411
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1075	-	287
Stage 1	-	-	597
Stage 2	-	-	638
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1075	-	256
Mov Cap-2 Maneuver	-	-	256
Stage 1	-	-	597
Stage 2	-	-	570

























Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1075	-	-	-	256	759
HCM Lane V/C Ratio	0.078	-	-	-	0.042	0.106
HCM Control Delay (s)	8.6	-	-	-	19.7	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions - MIT

Friday PM Peak













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	59	130	1102	306	58	21	122	756	26	265
Future Volume (veh/h)	208	989	59	130	1102	306	58	21	122	756	26	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	226	1075	64	141	1198	333	63	0	148	822	28	288
Adj No. of Lanes	1	2	1	1	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	1436	642	170	1300	581	123	0	220	949	39	403
Arrive On Green	0.13	0.41	0.41	0.10	0.37	0.37	0.07	0.00	0.07	0.28	0.28	0.28
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	0	3167	3442	142	1462
Grp Volume(v), veh/h	226	1075	64	141	1198	333	63	0	148	822	0	316
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1583	1721	0	1605
Q Serve(g_s), s	13.2	27.1	2.6	8.1	33.8	17.6	3.6	0.0	4.8	23.7	0.0	18.5
Cycle Q Clear(g_c), s	13.2	27.1	2.6	8.1	33.8	17.6	3.6	0.0	4.8	23.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.91
Lane Grp Cap(c), veh/h	238	1436	642	170	1300	581	123	0	220	949	0	443
V/C Ratio(X)	0.95	0.75	0.10	0.83	0.92	0.57	0.51	0.00	0.67	0.87	0.00	0.71
Avail Cap(c_a), veh/h	238	1441	645	170	1306	584	314	0	561	1088	0	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.8	26.5	19.2	46.4	31.6	26.5	46.8	0.0	47.4	36.0	0.0	34.1
Incr Delay (d2), s/veh	44.4	2.2	0.1	28.0	10.9	1.3	3.3	0.0	3.5	6.8	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	13.6	1.1	5.3	18.4	7.9	1.9	0.0	2.2	12.2	0.0	8.7
LnGrp Delay(d),s/veh	89.3	28.7	19.3	74.4	42.4	27.8	50.1	0.0	50.9	42.7	0.0	38.1
LnGrp LOS	F	C	B	E	D	C	D		D	D		D
Approach Vol, veh/h		1365			1672			211			1138	
Approach Delay, s/veh		38.3			42.2			50.7			41.4	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.3	14.0	46.4		32.8	18.0	42.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	10.0	42.5		33.0	14.0	38.5				
Max Q Clear Time (g_c+I1), s		6.8	10.1	29.1		25.7	15.2	35.8				
Green Ext Time (p_c), s		0.5	0.0	11.4		3.1	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			41.2									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions - MIT



















Friday PM Peak























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑						↑	↑
Traffic Volume (veh/h)	0	1288	579	300	882	0	0	0	0	285	1	658
Future Volume (veh/h)	0	1288	579	300	882	0	0	0	0	285	1	658
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1400	629	326	959	0				310	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1731	761	319	2548	0				354	1	317
Arrive On Green	0.00	0.50	0.50	0.18	0.72	0.00				0.20	0.20	0.00
Sat Flow, veh/h	0	3630	1522	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1370	659	326	959	0				311	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1594	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	33.9	35.2	18.0	10.4	0.0				17.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	33.9	35.2	18.0	10.4	0.0				17.0	0.0	0.0
Prop In Lane	0.00		0.95	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1695	797	319	2548	0				355	0	317
V/C Ratio(X)	0.00	0.81	0.83	1.02	0.38	0.00				0.88	0.00	0.00
Avail Cap(c_a), veh/h	0	1695	797	319	2548	0				479	0	427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.52	0.52	0.19	0.19	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	21.0	21.3	41.0	5.4	0.0				38.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.3	5.2	27.4	0.1	0.0				13.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	16.3	16.5	11.2	5.1	0.0				9.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	23.2	26.5	68.4	5.5	0.0				51.9	0.0	0.0
LnGrp LOS		C	C	F	A					D		
Approach Vol, veh/h		2029			1285						311	
Approach Delay, s/veh		24.3			21.4						51.9	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			22.0	54.0		24.0		76.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			18.0	43.0		27.0		65.0				
Max Q Clear Time (g_c+l1), s			20.0	37.2		19.0		12.4				
Green Ext Time (p_c), s			0.0	5.5		1.0		39.5				
Intersection Summary												
HCM 2010 Ctrl Delay			25.7									
HCM 2010 LOS			C									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions - MIT

Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	696	878	0	0	825	285	356	5	255	0	0	0
Future Volume (veh/h)	696	878	0	0	825	285	356	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	757	954	0	0	897	310	387	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	739	2531	0	0	938	420	383	5	346			
Arrive On Green	0.42	0.72	0.00	0.00	0.27	0.27	0.22	0.22	0.22			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1752	23	1583			
Grp Volume(v), veh/h	757	954	0	0	897	310	392	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	50.0	12.6	0.0	0.0	29.9	21.5	26.2	0.0	19.9			
Cycle Q Clear(g_c), s	50.0	12.6	0.0	0.0	29.9	21.5	26.2	0.0	19.9			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	739	2531	0	0	938	420	388	0	346			
V/C Ratio(X)	1.02	0.38	0.00	0.00	0.96	0.74	1.01	0.00	0.80			
Avail Cap(c_a), veh/h	739	2531	0	0	938	420	388	0	346			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.23	0.23	0.00	0.00	0.53	0.53	1.00	0.00	1.00			
Uniform Delay (d), s/veh	35.0	6.7	0.0	0.0	43.4	40.3	46.9	0.0	44.4			
Incr Delay (d2), s/veh	22.5	0.1	0.0	0.0	13.3	6.1	48.6	0.0	12.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0			
%ile BackOfQ(50%),veh/ln	29.1	6.1	0.0	0.0	16.3	10.1	18.0	0.0	9.9			
LnGrp Delay(d),s/veh	57.5	6.8	0.0	0.0	56.7	46.4	95.6	0.0	57.1			
LnGrp LOS	F	A			E	D	F		E			
Approach Vol, veh/h	1711				1207			669				
Approach Delay, s/veh	29.2				54.1			79.6				
Approach LOS	C				D			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		30.2		89.8			54.0	35.8				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		26.2		85.8			50.0	31.8				
Max Q Clear Time (g_c+I1), s		28.2		14.6			52.0	31.9				
Green Ext Time (p_c), s		0.0		25.1			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				47.0								
HCM 2010 LOS				D								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	635	80	35	502	130	125	10	25	145	15	483
Future Volume (veh/h)	418	635	80	35	502	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	690	87	38	546	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	530	1204	539	60	615	158	399	32	384	333	34	569
Arrive On Green	0.15	0.34	0.34	0.03	0.22	0.22	0.24	0.24	0.24	0.21	0.21	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2788	717	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	690	87	38	346	341	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1736	1780	0	1583	1782	0	1583
Q Serve(g_s), s	11.6	14.4	3.5	1.9	17.0	17.2	6.1	0.0	1.2	7.7	0.0	18.5
Cycle Q Clear(g_c), s	11.6	14.4	3.5	1.9	17.0	17.2	6.1	0.0	1.2	7.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.41	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	530	1204	539	60	390	383	431	0	384	366	0	569
V/C Ratio(X)	0.86	0.57	0.16	0.63	0.89	0.89	0.34	0.00	0.07	0.48	0.00	0.92
Avail Cap(c_a), veh/h	574	1204	539	118	413	405	431	0	384	366	0	569
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	24.3	20.7	42.9	34.0	34.0	28.2	0.0	26.3	31.5	0.0	27.6
Incr Delay (d2), s/veh	10.7	0.6	0.1	10.3	19.4	20.5	2.1	0.0	0.4	1.0	0.0	20.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.3	7.1	1.5	1.1	10.5	10.4	3.3	0.0	0.6	3.9	0.0	15.8
LnGrp Delay(d),s/veh	47.9	24.9	20.9	53.2	53.4	54.5	30.3	0.0	26.6	32.4	0.0	48.4
LnGrp LOS	D	C	C	D	D	D	C		C	C		D
Approach Vol, veh/h	1231				725		174		699			
Approach Delay, s/veh	33.1				53.9		29.7		44.4			
Approach LOS	C				D		C		D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.8	7.1	34.6		22.5	17.8	23.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.5	6.0	30.0		18.5	15.0	21.0				
Max Q Clear Time (g_c+I1), s		8.1	3.9	16.4		20.5	13.6	19.2				
Green Ext Time (p_c), s		0.5	0.0	7.2		0.0	0.3	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			41.0									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	700	572	30	25	95
Future Vol, veh/h	105	700	572	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	761	622	33	27	103

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	654	0	0 1247 327
Stage 1	-	-	- 638 -
Stage 2	-	-	- 609 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	929	-	- 166 669
Stage 1	-	-	- 488 -
Stage 2	-	-	- 505 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	929	-	- 131 669
Mov Cap-2 Maneuver	-	-	- 131 -
Stage 1	-	-	- 488 -
Stage 2	-	-	- 397 -
























Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	929	-	-	-	131	669
HCM Lane V/C Ratio	0.123	-	-	-	0.207	0.154
HCM Control Delay (s)	9.4	-	-	-	39.5	11.4
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions - MIT

Saturday PM Peak


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	86	187	783	174	78	15	170	271	23	112
Future Volume (veh/h)	113	721	86	187	783	174	78	15	170	271	23	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	93	203	851	189	85	16	185	313	0	122
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	126	1330	595	202	1481	663	226	43	238	471	0	210
Arrive On Green	0.07	0.38	0.38	0.11	0.42	0.42	0.15	0.15	0.15	0.13	0.00	0.13
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1504	283	1583	3548	0	1583
Grp Volume(v), veh/h	123	784	93	203	851	189	101	0	185	313	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1788	0	1583	1774	0	1583
Q Serve(g_s), s	4.9	12.5	2.7	8.0	12.9	5.5	3.6	0.0	7.9	5.9	0.0	5.1
Cycle Q Clear(g_c), s	4.9	12.5	2.7	8.0	12.9	5.5	3.6	0.0	7.9	5.9	0.0	5.1
Prop In Lane	1.00		1.00	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	126	1330	595	202	1481	663	268	0	238	471	0	210
V/C Ratio(X)	0.97	0.59	0.16	1.01	0.57	0.29	0.38	0.00	0.78	0.66	0.00	0.58
Avail Cap(c_a), veh/h	126	1737	777	202	1888	845	470	0	417	1666	0	743
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.6	17.6	14.6	31.2	15.7	13.5	26.9	0.0	28.7	29.0	0.0	28.6
Incr Delay (d2), s/veh	72.1	0.4	0.1	64.8	0.4	0.2	0.9	0.0	5.4	1.6	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	6.2	1.2	7.5	6.3	2.5	1.8	0.0	3.8	3.0	0.0	2.4
LnGrp Delay(d),s/veh	104.7	18.0	14.7	95.9	16.0	13.7	27.8	0.0	34.2	30.6	0.0	31.2
LnGrp LOS	F	B	B	F	B	B	C		C	C		C
Approach Vol, veh/h		1000			1243			286			435	
Approach Delay, s/veh		28.4			28.7			31.9			30.8	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		14.6	12.0	30.4		13.3	9.0	33.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	8.0	34.5		33.0	5.0	37.5				
Max Q Clear Time (g_c+I1), s		9.9	10.0	14.5		7.9	6.9	14.9				
Green Ext Time (p_c), s		0.7	0.0	11.9		1.4	0.0	12.8				
Intersection Summary												
HCM 2010 Ctrl Delay			29.2									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions - MIT



















Saturday PM Peak






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↔	↑↑						↔	↔
Traffic Volume (veh/h)	0	859	303	178	628	0	0	0	0	176	1	517
Future Volume (veh/h)	0	859	303	178	628	0	0	0	0	176	1	517
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	934	329	193	683	0				191	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2050	721	218	2606	0				248	1	223
Arrive On Green	0.00	0.55	0.55	0.12	0.74	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	3884	1306	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	852	411	193	683	0				192	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1632	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	9.8	9.8	7.0	4.1	0.0				6.8	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.8	9.8	7.0	4.1	0.0				6.8	0.0	0.0
Prop In Lane	0.00		0.80	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1870	900	218	2606	0				250	0	223
V/C Ratio(X)	0.00	0.46	0.46	0.88	0.26	0.00				0.77	0.00	0.00
Avail Cap(c_a), veh/h	0	1870	900	218	2606	0				546	0	487
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.73	0.73	0.75	0.75	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	8.7	8.7	28.0	2.8	0.0				26.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	1.2	25.8	0.2	0.0				5.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.6	4.6	4.9	2.1	0.0				3.7	0.0	0.0
LnGrp Delay(d),s/veh	0.0	9.3	10.0	53.9	3.0	0.0				31.9	0.0	0.0
LnGrp LOS		A	A	D	A					C		
Approach Vol, veh/h	1263				876						192	
Approach Delay, s/veh	9.5				14.2						31.9	
Approach LOS	A				B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			12.0	39.9		13.1		51.9				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			8.0	25.0		20.0		37.0				
Max Q Clear Time (g_c+I1), s			9.0	11.8		8.8		6.1				
Green Ext Time (p_c), s			0.0	9.4		0.7		16.6				
Intersection Summary												
HCM 2010 Ctrl Delay	13.1											
HCM 2010 LOS	B											

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions - MIT

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	511	523	0	0	582	222	224	3	255	0	0	0
Future Volume (veh/h)	511	523	0	0	582	222	224	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	555	568	0	0	633	241	243	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2467	0	0	1228	550	356	4	321			
Arrive On Green	0.30	0.70	0.00	0.00	0.69	0.69	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	22	1583			
Grp Volume(v), veh/h	555	568	0	0	633	241	246	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	4.6	0.0	0.0	6.8	5.4	10.3	0.0	13.5			
Cycle Q Clear(g_c), s	24.0	4.6	0.0	0.0	6.8	5.4	10.3	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2467	0	0	1228	550	360	0	321			
V/C Ratio(X)	1.04	0.23	0.00	0.00	0.52	0.44	0.68	0.00	0.86			
Avail Cap(c_a), veh/h	532	2467	0	0	1228	550	410	0	366			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.73	0.73	0.00	0.00	0.78	0.78	1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.0	4.4	0.0	0.0	9.0	8.8	29.5	0.0	30.8			
Incr Delay (d2), s/veh	45.1	0.2	0.0	0.0	1.2	2.0	3.9	0.0	17.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	18.3	2.3	0.0	0.0	3.4	2.6	5.4	0.0	7.4			
LnGrp Delay(d),s/veh	73.1	4.5	0.0	0.0	10.2	10.8	33.4	0.0	47.8			
LnGrp LOS	F	A			B	B	C		D			
Approach Vol, veh/h	1123				874				523			
Approach Delay, s/veh	38.4				10.4				41.0			
Approach LOS	D				B				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		7		8					
Phs Duration (G+Y+Rc), s	20.2		59.8		28.0		31.8					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	18.5		53.5		24.0		25.5					
Max Q Clear Time (g_c+l1), s	15.5		6.6		26.0		8.8					
Green Ext Time (p_c), s	0.7		11.3		0.0		7.9					
Intersection Summary												
HCM 2010 Ctrl Delay	29.2											
HCM 2010 LOS	C											

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	341	104	35	326	110	175	5	50	129	0	303
Future Volume (veh/h)	333	341	104	35	326	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	371	113	38	354	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	897	401	63	493	165	519	14	475	374	0	492
Arrive On Green	0.17	0.42	0.42	0.04	0.19	0.19	0.30	0.30	0.30	0.21	0.00	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2608	871	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	371	113	38	239	235	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1709	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.9	3.7	1.7	10.1	10.4	6.9	0.0	2.0	5.4	0.0	14.5
Cycle Q Clear(g_c), s	8.0	5.9	3.7	1.7	10.1	10.4	6.9	0.0	2.0	5.4	0.0	14.5
Prop In Lane	1.00		1.00	1.00		0.51	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	897	401	63	335	323	533	0	475	374	0	492
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.71	0.73	0.37	0.00	0.11	0.37	0.00	0.67
Avail Cap(c_a), veh/h	344	907	406	133	409	395	533	0	475	410	0	524
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.9	18.3	38.0	30.4	30.5	22.0	0.0	20.3	27.0	0.0	24.0
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	4.5	5.3	1.9	0.0	0.5	0.6	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.7	1.0	5.3	5.4	3.6	0.0	0.9	2.7	0.0	6.7
LnGrp Delay(d),s/veh	95.0	19.2	18.7	46.8	34.9	35.8	24.0	0.0	20.8	27.7	0.0	27.0
LnGrp LOS	F	B	B	D	C	D	C		C	C		C
Approach Vol, veh/h		846			512			249			469	
Approach Delay, s/veh		51.6			36.2			23.3			27.2	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.0	6.9	24.3		20.9	12.0	19.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	6.0	20.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	7.9		16.5	10.0	12.4				
Green Ext Time (p_c), s		0.8	0.0	4.4		0.4	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay					38.9							
HCM 2010 LOS					D							

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	443	397	30	10	74
Future Vol, veh/h	77	443	397	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	482	432	33	11	80

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	464	0	856
Stage 1	-	-	448
Stage 2	-	-	408
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1094	-	297
Stage 1	-	-	611
Stage 2	-	-	640
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1094	-	266
Mov Cap-2 Maneuver	-	-	266
Stage 1	-	-	611
Stage 2	-	-	573























Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1094	-	-	-	266	770
HCM Lane V/C Ratio	0.077	-	-	-	0.041	0.104
HCM Control Delay (s)	8.6	-	-	-	19.1	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions - MIT

Friday PM Peak


















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1142	15	42	1222	335	21	15	38	797	10	242
Future Volume (veh/h)	212	1142	15	42	1222	335	21	15	38	797	10	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	230	1241	16	46	1328	364	23	16	41	874	0	263
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	1565	20	68	1442	645	52	36	77	1038	0	463
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.05	0.05	0.05	0.29	0.00	0.29
Sat Flow, veh/h	1774	3578	46	1774	3539	1583	1067	742	1583	3548	0	1583
Grp Volume(v), veh/h	230	614	643	46	1328	364	39	0	41	874	0	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1809	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	26.2	26.2	2.2	31.2	15.5	1.8	0.0	2.2	20.3	0.0	12.3
Cycle Q Clear(g_c), s	6.0	26.2	26.2	2.2	31.2	15.5	1.8	0.0	2.2	20.3	0.0	12.3
Prop In Lane	1.00		0.02	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	121	774	811	68	1442	645	89	0	77	1038	0	463
V/C Ratio(X)	1.89	0.79	0.79	0.67	0.92	0.56	0.44	0.00	0.53	0.84	0.00	0.57
Avail Cap(c_a), veh/h	121	774	811	101	1475	660	382	0	334	1336	0	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.8	21.2	21.2	41.6	24.6	20.0	40.5	0.0	40.7	29.1	0.0	26.3
Incr Delay (d2), s/veh	431.1	5.7	5.4	11.0	9.7	1.1	3.4	0.0	5.5	4.0	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.5	13.8	14.4	1.3	17.1	7.0	1.0	0.0	1.1	10.4	0.0	5.5
LnGrp Delay(d),s/veh	471.9	26.9	26.6	52.6	34.3	21.0	43.9	0.0	46.2	33.1	0.0	27.4
LnGrp LOS	F	C	C	D	C	C	D		D	C		C
Approach Vol, veh/h		1487			1738			80			1137	
Approach Delay, s/veh		95.6			32.0			45.1			31.8	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.4	42.3		29.6	10.0	39.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.2	4.2	28.2		22.3	8.0	33.2				
Green Ext Time (p_c), s		0.2	0.0	8.5		3.4	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			53.5									
HCM 2010 LOS			D									
Notes												



















User approved volume balancing among the lanes for turning movement.






















Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions - MIT

Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1236	741	291	979	0	0	0	0	256	1	620
Future Volume (veh/h)	0	1236	741	291	979	0	0	0	0	256	1	620
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1343	805	316	1064	0				278	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1848	863	266	2602	0				327	1	293
Arrive On Green	0.00	0.55	0.55	0.30	1.00	0.00				0.18	0.18	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1768	6	1583
Grp Volume(v), veh/h	0	1343	805	316	1064	0				279	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	29.8	47.0	15.0	0.0	0.0				15.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	29.8	47.0	15.0	0.0	0.0				15.2	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1848	863	266	2602	0				328	0	293
V/C Ratio(X)	0.00	0.73	0.93	1.19	0.41	0.00				0.85	0.00	0.00
Avail Cap(c_a), veh/h	0	1848	863	266	2602	0				586	0	523
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.47	0.47	0.21	0.21	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	17.1	21.0	35.0	0.0	0.0				39.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	10.1	92.5	0.1	0.0				6.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.1	22.8	14.1	0.0	0.0				8.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	18.3	31.2	127.5	0.1	0.0				45.6	0.0	0.0
LnGrp LOS		B	C	F	A					D		
Approach Vol, veh/h		2148			1380						279	
Approach Delay, s/veh		23.1			29.3						45.6	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	58.5		22.5		77.5				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	40.0		33.0		59.0				
Max Q Clear Time (g_c+I1), s			17.0	49.0		17.2		2.0				
Green Ext Time (p_c), s			0.0	0.0		1.3		45.5				
Intersection Summary												
HCM 2010 Ctrl Delay			27.0									
HCM 2010 LOS			C									

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	641	851	0	0	798	261	472	5	249	0	0	0
Future Volume (veh/h)	641	851	0	0	798	261	472	5	249	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	697	925	0	0	867	284	513	5	271			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	621	2293	0	0	913	409	478	5	431			
Arrive On Green	0.70	1.00	0.00	0.00	0.26	0.26	0.27	0.27	0.27			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1758	17	1583			
Grp Volume(v), veh/h	697	925	0	0	867	284	518	0	271			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	35.0	0.0	0.0	0.0	24.1	16.2	27.2	0.0	15.0			
Cycle Q Clear(g_c), s	35.0	0.0	0.0	0.0	24.1	16.2	27.2	0.0	15.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	621	2293	0	0	913	409	483	0	431			
V/C Ratio(X)	1.12	0.40	0.00	0.00	0.95	0.70	1.07	0.00	0.63			
Avail Cap(c_a), veh/h	621	2293	0	0	913	409	483	0	431			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.58	0.58	1.00	0.00	1.00			
Uniform Delay (d), s/veh	15.0	0.0	0.0	0.0	36.5	33.5	36.4	0.0	32.0			
Incr Delay (d2), s/veh	57.4	0.0	0.0	0.0	13.5	5.6	61.9	0.0	2.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	26.1	0.0	0.0	0.0	13.4	7.7	21.6	0.0	6.9			
LnGrp Delay(d),s/veh	72.4	0.0	0.0	0.0	50.0	39.1	98.3	0.0	34.9			
LnGrp LOS	F	A			D	D	F		C			
Approach Vol, veh/h	1622				1151			789				
Approach Delay, s/veh	31.2				47.3			76.5				
Approach LOS	C				D			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		31.2		68.8			39.0	29.8				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		27.2		64.8			35.0	25.8				
Max Q Clear Time (g_c+I1), s		29.2		2.0			37.0	26.1				
Green Ext Time (p_c), s		0.0		22.7			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				46.4								
HCM 2010 LOS				D								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Future Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	459	650	87	38	501	122	136	11	27	154	16	514
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	534	1161	519	60	585	142	419	34	403	332	34	571
Arrive On Green	0.16	0.33	0.33	0.03	0.21	0.21	0.25	0.25	0.25	0.21	0.21	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2827	685	1647	133	1583	1614	168	1583
Grp Volume(v), veh/h	459	650	87	38	313	310	147	0	27	170	0	514
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1742	1780	0	1583	1782	0	1583
Q Serve(g_s), s	11.7	13.6	3.5	1.9	15.3	15.5	6.0	0.0	1.2	7.5	0.0	18.5
Cycle Q Clear(g_c), s	11.7	13.6	3.5	1.9	15.3	15.5	6.0	0.0	1.2	7.5	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.39	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	534	1161	519	60	366	361	453	0	403	366	0	571
V/C Ratio(X)	0.86	0.56	0.17	0.63	0.85	0.86	0.32	0.00	0.07	0.46	0.00	0.90
Avail Cap(c_a), veh/h	574	1161	519	118	393	387	453	0	403	366	0	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	24.9	21.5	42.9	34.4	34.4	27.3	0.0	25.4	31.4	0.0	27.2
Incr Delay (d2), s/veh	11.0	0.6	0.1	10.3	15.7	16.8	1.9	0.0	0.3	0.9	0.0	17.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.4	6.7	1.5	1.1	9.1	9.1	3.2	0.0	0.5	3.8	0.0	14.8
LnGrp Delay(d),s/veh	48.1	25.4	21.6	53.2	50.1	51.2	29.1	0.0	25.8	32.3	0.0	44.5
LnGrp LOS	D	C	C	D	D	D	C		C	C		D
Approach Vol, veh/h	1196				661		174		684			
Approach Delay, s/veh	33.9				50.8		28.6		41.5			
Approach LOS	C				D		C		D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.9	7.1	33.5		22.5	18.0	22.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		20.5	6.0	29.0		18.5	15.0	20.0				
Max Q Clear Time (g_c+l1), s		8.0	3.9	15.6		20.5	13.7	17.5				
Green Ext Time (p_c), s		0.6	0.0	6.7		0.0	0.3	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			39.6									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	106	659	515	26	24	93
Future Vol, veh/h	106	659	515	26	24	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	716	560	28	26	101

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	588	0	0 1163 294
Stage 1	-	-	- 574 -
Stage 2	-	-	- 589 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	983	-	- 188 702
Stage 1	-	-	- 527 -
Stage 2	-	-	- 517 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	983	-	- 152 702
Mov Cap-2 Maneuver	-	-	- 152 -
Stage 1	-	-	- 527 -
Stage 2	-	-	- 417 -























Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	152	702
HCM Lane V/C Ratio	0.117	-	-	-	0.172	0.144
HCM Control Delay (s)	9.1	-	-	-	33.5	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions - MIT

Saturday PM Peak
















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	910	15	18	882	199	18	5	16	309	6	102
Future Volume (veh/h)	115	910	15	18	882	199	18	5	16	309	6	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	125	989	16	20	959	216	20	5	17	341	0	111
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1887	31	42	1640	734	60	15	66	522	0	233
Arrive On Green	0.09	0.53	0.53	0.02	0.46	0.46	0.04	0.04	0.04	0.15	0.00	0.15
Sat Flow, veh/h	1774	3565	58	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	125	491	514	20	959	216	25	0	17	341	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1853	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	4.3	11.2	11.2	0.7	12.3	5.2	0.8	0.0	0.6	5.6	0.0	4.0
Cycle Q Clear(g_c), s	4.3	11.2	11.2	0.7	12.3	5.2	0.8	0.0	0.6	5.6	0.0	4.0
Prop In Lane	1.00		0.03	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	937	981	42	1640	734	74	0	66	522	0	233
V/C Ratio(X)	0.79	0.52	0.52	0.48	0.58	0.29	0.34	0.00	0.26	0.65	0.00	0.48
Avail Cap(c_a), veh/h	172	1072	1122	143	2086	933	535	0	473	1891	0	844
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.6	9.5	9.5	29.9	12.2	10.3	28.8	0.0	28.7	24.9	0.0	24.2
Incr Delay (d2), s/veh	19.9	0.5	0.4	8.3	0.3	0.2	2.6	0.0	2.0	1.4	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	5.6	5.8	0.4	6.1	2.3	0.5	0.0	0.3	2.8	0.0	1.8
LnGrp Delay(d),s/veh	47.5	9.9	9.9	38.2	12.6	10.5	31.5	0.0	30.8	26.3	0.0	25.7
LnGrp LOS	D	A	A	D	B	B	C		C	C		C
Approach Vol, veh/h	1130				1195		42				452	
Approach Delay, s/veh	14.1				12.6		31.2				26.2	
Approach LOS	B				B		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	6.6		5.5	36.8	13.1		9.5	32.7				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	18.5		5.0	37.5	33.0		6.0	36.5				
Max Q Clear Time (g_c+I1), s	2.8		2.7	13.2	7.6		6.3	14.3				
Green Ext Time (p_c), s	0.1		0.0	15.2	1.5		0.0	14.3				
Intersection Summary												
HCM 2010 Ctrl Delay			15.7									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions - MIT



















Saturday PM Peak






















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	740	495	172	692	0	0	0	0	158	1	407
Future Volume (veh/h)	0	740	495	172	692	0	0	0	0	158	1	407
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	538	187	752	0				172	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1992	930	148	2610	0				228	1	204
Arrive On Green	0.00	0.59	0.59	0.08	0.74	0.00				0.13	0.13	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1764	10	1583
Grp Volume(v), veh/h	0	804	538	187	752	0				173	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	7.7	12.7	5.0	4.2	0.0				5.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	7.7	12.7	5.0	4.2	0.0				5.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1992	930	148	2610	0				229	0	204
V/C Ratio(X)	0.00	0.40	0.58	1.26	0.29	0.00				0.75	0.00	0.00
Avail Cap(c_a), veh/h	0	1992	930	148	2610	0				547	0	488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.84	0.84	0.85	0.85	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	6.7	7.7	27.5	2.6	0.0				25.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	2.2	156.7	0.2	0.0				5.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.7	6.1	8.9	2.1	0.0				3.1	0.0	0.0
LnGrp Delay(d),s/veh	0.0	7.2	9.9	184.2	2.9	0.0				30.2	0.0	0.0
LnGrp LOS		A	A	F	A					C		
Approach Vol, veh/h		1342			939						173	
Approach Delay, s/veh		8.3			39.0						30.2	
Approach LOS		A			D						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			9.0	39.3		11.7		48.3				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			5.0	24.5		18.5		33.5				
Max Q Clear Time (g_c+I1), s			7.0	14.7		7.6		6.2				
Green Ext Time (p_c), s			0.0	7.8		0.6		17.0				
Intersection Summary												
HCM 2010 Ctrl Delay			21.6									
HCM 2010 LOS			C									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions - MIT

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	500	0	0	536	257	328	3	255	0	0	0
Future Volume (veh/h)	398	500	0	0	536	257	328	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	433	543	0	0	583	279	357	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	469	2370	0	0	1257	562	405	3	365			
Arrive On Green	0.26	0.67	0.00	0.00	0.71	0.71	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1760	15	1583			
Grp Volume(v), veh/h	433	543	0	0	583	279	360	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	19.0	4.8	0.0	0.0	5.7	6.3	15.7	0.0	13.1			
Cycle Q Clear(g_c), s	19.0	4.8	0.0	0.0	5.7	6.3	15.7	0.0	13.1			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	469	2370	0	0	1257	562	409	0	365			
V/C Ratio(X)	0.92	0.23	0.00	0.00	0.46	0.50	0.88	0.00	0.76			
Avail Cap(c_a), veh/h	488	2370	0	0	1257	562	444	0	396			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.71	0.71	0.00	0.00	0.81	0.81	1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.6	5.2	0.0	0.0	8.3	8.4	29.7	0.0	28.7			
Incr Delay (d2), s/veh	17.8	0.2	0.0	0.0	1.0	2.5	17.3	0.0	7.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.6	2.4	0.0	0.0	2.8	3.0	9.7	0.0	6.5			
LnGrp Delay(d),s/veh	46.4	5.3	0.0	0.0	9.3	10.9	47.1	0.0	36.4			
LnGrp LOS	D	A			A	B	D		D			
Approach Vol, veh/h		976			862			637				
Approach Delay, s/veh		23.5			9.8			42.4				
Approach LOS		C			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.4		57.6			25.2	32.4				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		20.0		52.0			22.0	26.0				
Max Q Clear Time (g_c+I1), s		17.7		6.8			21.0	8.3				
Green Ext Time (p_c), s		0.8		10.6			0.2	7.8				
Intersection Summary												
HCM 2010 Ctrl Delay				23.6								
HCM 2010 LOS				C								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Future Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	365	342	113	38	350	75	190	5	54	137	0	322
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	848	379	63	509	108	549	14	502	368	0	487
Arrive On Green	0.17	0.40	0.40	0.04	0.18	0.18	0.32	0.32	0.32	0.21	0.00	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2908	616	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	365	342	113	38	211	214	195	0	54	137	0	322
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1754	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.5	3.9	1.7	9.0	9.1	6.7	0.0	1.9	5.3	0.0	14.1
Cycle Q Clear(g_c), s	8.0	5.5	3.9	1.7	9.0	9.1	6.7	0.0	1.9	5.3	0.0	14.1
Prop In Lane	1.00		1.00	1.00		0.35	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	848	379	63	310	307	563	0	502	368	0	487
V/C Ratio(X)	1.06	0.40	0.30	0.60	0.68	0.69	0.35	0.00	0.11	0.37	0.00	0.66
Avail Cap(c_a), veh/h	344	907	406	133	409	406	563	0	502	410	0	524
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	19.9	19.4	38.0	30.9	31.0	21.0	0.0	19.3	27.2	0.0	24.1
Incr Delay (d2), s/veh	64.4	0.3	0.4	8.8	3.0	3.4	1.7	0.0	0.4	0.6	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	2.7	1.7	1.0	4.6	4.7	3.6	0.0	0.9	2.7	0.0	6.5
LnGrp Delay(d),s/veh	97.8	20.2	19.8	46.8	33.9	34.3	22.6	0.0	19.7	27.8	0.0	26.9
LnGrp LOS	F	C	B	D	C	C	C		B	C		C
Approach Vol, veh/h		820			463			249			459	
Approach Delay, s/veh		54.7			35.1			22.0			27.2	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.4	6.9	23.2		20.6	12.0	18.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	6.0	20.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.7	3.7	7.5		16.1	10.0	11.1				
Green Ext Time (p_c), s		0.8	0.0	4.0		0.5	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				39.7								
HCM 2010 LOS				D								

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	78	413	354	26	10	72
Future Vol, veh/h	78	413	354	26	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	449	385	28	11	78

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	413	0	0 793 207
Stage 1	-	-	- 399 -
Stage 2	-	-	- 394 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	1142	-	- 326 799
Stage 1	-	-	- 647 -
Stage 2	-	-	- 650 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1142	-	- 294 799
Mov Cap-2 Maneuver	-	-	- 294 -
Stage 1	-	-	- 647 -
Stage 2	-	-	- 586 -























Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1142	-	-	-	294	799
HCM Lane V/C Ratio	0.074	-	-	-	0.037	0.098
HCM Control Delay (s)	8.4	-	-	-	17.7	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions - MIT

Friday PM Peak
























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1120	15	42	1197	331	21	15	38	793	10	242
Future Volume (veh/h)	212	1120	15	42	1197	331	21	15	38	793	10	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	230	1217	16	46	1301	360	23	16	41	870	0	263
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	1566	21	68	1443	645	52	36	78	1035	0	462
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.05	0.05	0.05	0.29	0.00	0.29
Sat Flow, veh/h	1774	3577	47	1774	3539	1583	1067	742	1583	3548	0	1583
Grp Volume(v), veh/h	230	602	631	46	1301	360	39	0	41	870	0	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1583	1809	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	25.3	25.3	2.2	30.1	15.2	1.8	0.0	2.2	20.1	0.0	12.3
Cycle Q Clear(g_c), s	6.0	25.3	25.3	2.2	30.1	15.2	1.8	0.0	2.2	20.1	0.0	12.3
Prop In Lane	1.00		0.03	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	775	812	68	1443	645	89	0	78	1035	0	462
V/C Ratio(X)	1.89	0.78	0.78	0.67	0.90	0.56	0.44	0.00	0.53	0.84	0.00	0.57
Avail Cap(c_a), veh/h	122	775	812	101	1478	661	383	0	335	1340	0	598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.7	20.9	20.9	41.5	24.2	19.8	40.4	0.0	40.6	29.1	0.0	26.3
Incr Delay (d2), s/veh	429.2	5.0	4.8	11.0	7.9	1.0	3.4	0.0	5.5	3.9	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.4	13.5	14.1	1.3	16.2	6.8	1.0	0.0	1.1	10.4	0.0	5.5
LnGrp Delay(d),s/veh	469.9	25.9	25.7	52.4	32.1	20.8	43.8	0.0	46.1	33.0	0.0	27.4
LnGrp LOS	F	C	C	D	C	C	D		D	C		C
Approach Vol, veh/h		1463			1707			80			1133	
Approach Delay, s/veh		95.7			30.3			45.0			31.7	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.4	42.3		29.5	10.0	39.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.2	4.2	27.3		22.1	8.0	32.1				
Green Ext Time (p_c), s		0.2	0.0	9.1		3.4	0.0	3.5				
Intersection Summary												
HCM 2010 Ctrl Delay			52.7									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions - MIT



















Friday PM Peak






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	 						 	 
Traffic Volume (veh/h)	0	1236	715	291	950	0	0	0	0	256	1	620
Future Volume (veh/h)	0	1236	715	291	950	0	0	0	0	256	1	620
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1343	777	316	1033	0				278	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1732	809	266	2516	0				334	1	299
Arrive On Green	0.00	0.51	0.51	0.15	0.71	0.00				0.19	0.19	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1768	6	1583
Grp Volume(v), veh/h	0	1343	777	316	1033	0				279	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	25.7	37.7	12.0	9.5	0.0				12.1	0.0	0.0
Cycle Q Clear(g_c), s	0.0	25.7	37.7	12.0	9.5	0.0				12.1	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1732	809	266	2516	0				336	0	299
V/C Ratio(X)	0.00	0.78	0.96	1.19	0.41	0.00				0.83	0.00	0.00
Avail Cap(c_a), veh/h	0	1732	809	266	2516	0				554	0	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.49	0.49	0.22	0.22	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	15.8	18.8	34.0	4.7	0.0				31.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	14.6	93.1	0.1	0.0				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	12.4	19.7	12.7	4.6	0.0				6.4	0.0	0.0
LnGrp Delay(d),s/veh	0.0	17.6	33.4	127.1	4.8	0.0				36.7	0.0	0.0
LnGrp LOS		B	C	F	A					D		
Approach Vol, veh/h		2120			1349						279	
Approach Delay, s/veh		23.4			33.5						36.7	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			16.0	44.9		19.1		60.9				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			12.0	31.0		25.0		47.0				
Max Q Clear Time (g_c+l1), s			14.0	39.7		14.1		11.5				
Green Ext Time (p_c), s			0.0	0.0		1.1		30.2				
Intersection Summary												
HCM 2010 Ctrl Delay			28.0									
HCM 2010 LOS			C									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions - MIT

Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	641	851	0	0	798	261	443	5	249	0	0	0
Future Volume (veh/h)	641	851	0	0	798	261	443	5	249	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	697	925	0	0	867	284	482	5	271			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	639	2336	0	0	920	412	457	5	412			
Arrive On Green	0.36	0.66	0.00	0.00	0.26	0.26	0.26	0.26	0.26			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1757	18	1583			
Grp Volume(v), veh/h	697	925	0	0	867	284	487	0	271			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	36.0	12.0	0.0	0.0	24.0	16.2	26.0	0.0	15.3			
Cycle Q Clear(g_c), s	36.0	12.0	0.0	0.0	24.0	16.2	26.0	0.0	15.3			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	639	2336	0	0	920	412	461	0	412			
V/C Ratio(X)	1.09	0.40	0.00	0.00	0.94	0.69	1.06	0.00	0.66			
Avail Cap(c_a), veh/h	639	2336	0	0	920	412	461	0	412			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.58	0.58	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.0	7.8	0.0	0.0	36.3	33.4	37.0	0.0	33.0			
Incr Delay (d2), s/veh	43.9	0.0	0.0	0.0	12.5	5.4	57.2	0.0	3.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	25.4	5.8	0.0	0.0	13.3	7.6	20.0	0.0	7.1			
LnGrp Delay(d),s/veh	75.9	7.9	0.0	0.0	48.8	38.8	94.2	0.0	36.9			
LnGrp LOS	F	A			D	D	F		D			
Approach Vol, veh/h	1622				1151			758				
Approach Delay, s/veh	37.1				46.3			73.7				
Approach LOS	D				D			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		30.0		70.0			40.0	30.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		26.0		66.0			36.0	26.0				
Max Q Clear Time (g_c+I1), s		28.0		14.0			38.0	26.0				
Green Ext Time (p_c), s		0.0		21.4			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				48.0								
HCM 2010 LOS				D								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Future Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	459	650	87	38	501	122	136	11	27	154	16	514
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	534	1161	519	60	585	142	419	34	403	332	34	571
Arrive On Green	0.16	0.33	0.33	0.03	0.21	0.21	0.25	0.25	0.25	0.21	0.21	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2827	685	1647	133	1583	1614	168	1583
Grp Volume(v), veh/h	459	650	87	38	313	310	147	0	27	170	0	514
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1742	1780	0	1583	1782	0	1583
Q Serve(g_s), s	11.7	13.6	3.5	1.9	15.3	15.5	6.0	0.0	1.2	7.5	0.0	18.5
Cycle Q Clear(g_c), s	11.7	13.6	3.5	1.9	15.3	15.5	6.0	0.0	1.2	7.5	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.39	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	534	1161	519	60	366	361	453	0	403	366	0	571
V/C Ratio(X)	0.86	0.56	0.17	0.63	0.85	0.86	0.32	0.00	0.07	0.46	0.00	0.90
Avail Cap(c_a), veh/h	574	1161	519	118	393	387	453	0	403	366	0	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	24.9	21.5	42.9	34.4	34.4	27.3	0.0	25.4	31.4	0.0	27.2
Incr Delay (d2), s/veh	11.0	0.6	0.1	10.3	15.7	16.8	1.9	0.0	0.3	0.9	0.0	17.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.4	6.7	1.5	1.1	9.1	9.1	3.2	0.0	0.5	3.8	0.0	14.8
LnGrp Delay(d),s/veh	48.1	25.4	21.6	53.2	50.1	51.2	29.1	0.0	25.8	32.3	0.0	44.5
LnGrp LOS	D	C	C	D	D	D	C		C	C		D
Approach Vol, veh/h	1196				661		174		684			
Approach Delay, s/veh	33.9				50.8		28.6		41.5			
Approach LOS	C				D		C		D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.9	7.1	33.5		22.5	18.0	22.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		20.5	6.0	29.0		18.5	15.0	20.0				
Max Q Clear Time (g_c+I1), s		8.0	3.9	15.6		20.5	13.7	17.5				
Green Ext Time (p_c), s		0.6	0.0	6.7		0.0	0.3	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			39.6									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	106	659	515	26	24	93
Future Vol, veh/h	106	659	515	26	24	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	716	560	28	26	101

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	588	0	0 1163 294
Stage 1	-	-	- 574 -
Stage 2	-	-	- 589 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	983	-	- 188 702
Stage 1	-	-	- 527 -
Stage 2	-	-	- 517 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	983	-	- 152 702
Mov Cap-2 Maneuver	-	-	- 152 -
Stage 1	-	-	- 527 -
Stage 2	-	-	- 417 -























Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	152	702
HCM Lane V/C Ratio	0.117	-	-	-	0.172	0.144
HCM Control Delay (s)	9.1	-	-	-	33.5	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions - MIT

Saturday PM Peak













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	860	15	18	834	190	18	5	16	300	6	102
Future Volume (veh/h)	115	860	15	18	834	190	18	5	16	300	6	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	125	935	16	20	907	207	20	5	17	331	0	111
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1855	32	42	1610	720	60	15	66	517	0	231
Arrive On Green	0.09	0.52	0.52	0.02	0.45	0.45	0.04	0.04	0.04	0.15	0.00	0.15
Sat Flow, veh/h	1774	3561	61	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	125	465	486	20	907	207	25	0	17	331	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1852	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	4.1	10.2	10.2	0.7	11.2	4.9	0.8	0.0	0.6	5.3	0.0	3.8
Cycle Q Clear(g_c), s	4.1	10.2	10.2	0.7	11.2	4.9	0.8	0.0	0.6	5.3	0.0	3.8
Prop In Lane	1.00		0.03	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	922	965	42	1610	720	75	0	66	517	0	231
V/C Ratio(X)	0.79	0.50	0.50	0.48	0.56	0.29	0.33	0.00	0.26	0.64	0.00	0.48
Avail Cap(c_a), veh/h	178	1110	1162	148	2161	967	554	0	490	1959	0	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.7	9.3	9.3	28.8	11.9	10.2	27.8	0.0	27.7	24.1	0.0	23.5
Incr Delay (d2), s/veh	18.6	0.4	0.4	8.2	0.3	0.2	2.6	0.0	2.0	1.3	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	5.0	5.2	0.4	5.5	2.2	0.5	0.0	0.3	2.7	0.0	1.8
LnGrp Delay(d),s/veh	45.3	9.7	9.7	37.0	12.3	10.4	30.4	0.0	29.7	25.4	0.0	25.0
LnGrp LOS	D	A	A	D	B	B	C		C	C		C
Approach Vol, veh/h	1076				1134		42				442	
Approach Delay, s/veh	13.8				12.4		30.1				25.3	
Approach LOS	B				B		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	6.5		5.4	35.1	12.7		9.4	31.2				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	18.5		5.0	37.5	33.0		6.0	36.5				
Max Q Clear Time (g_c+I1), s	2.8		2.7	12.2	7.3		6.1	13.2				
Green Ext Time (p_c), s	0.1		0.0	14.7	1.5		0.0	14.0				
Intersection Summary												
HCM 2010 Ctrl Delay			15.4									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions - MIT



















Saturday PM Peak






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	740	436	172	635	0	0	0	0	158	1	407
Future Volume (veh/h)	0	740	436	172	635	0	0	0	0	158	1	407
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	474	187	690	0				172	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2021	944	227	2740	0				222	1	199
Arrive On Green	0.00	0.60	0.60	0.13	0.77	0.00				0.13	0.13	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1764	10	1583
Grp Volume(v), veh/h	0	804	474	187	690	0				173	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	10.0	13.8	8.2	4.4	0.0				7.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.0	13.8	8.2	4.4	0.0				7.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	2021	944	227	2740	0				223	0	199
V/C Ratio(X)	0.00	0.40	0.50	0.82	0.25	0.00				0.78	0.00	0.00
Avail Cap(c_a), veh/h	0	2021	944	333	2740	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.85	0.85	0.85	0.85	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	8.6	9.3	34.0	2.5	0.0				33.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.6	8.8	0.2	0.0				5.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.8	6.4	4.6	2.2	0.0				4.1	0.0	0.0
LnGrp Delay(d),s/veh	0.0	9.1	10.9	42.8	2.7	0.0				39.6	0.0	0.0
LnGrp LOS		A	B	D	A					D		
Approach Vol, veh/h		1278			877						173	
Approach Delay, s/veh		9.8			11.3						39.6	
Approach LOS		A			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.3	51.7		14.1		65.9				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.2	15.8		9.6		6.4				
Green Ext Time (p_c), s			0.2	7.9		0.7		19.1				
Intersection Summary												
HCM 2010 Ctrl Delay			12.5									
HCM 2010 LOS			B									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions - MIT

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	500	0	0	536	257	271	3	255	0	0	0
Future Volume (veh/h)	398	500	0	0	536	257	271	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	433	543	0	0	583	279	295	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	449	2425	0	0	1340	599	366	4	329			
Arrive On Green	0.25	0.69	0.00	0.00	0.38	0.38	0.21	0.21	0.21			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1757	18	1583			
Grp Volume(v), veh/h	433	543	0	0	583	279	298	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	18.1	4.3	0.0	0.0	9.2	10.0	12.0	0.0	12.6			
Cycle Q Clear(g_c), s	18.1	4.3	0.0	0.0	9.2	10.0	12.0	0.0	12.6			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	449	2425	0	0	1340	599	369	0	329			
V/C Ratio(X)	0.96	0.22	0.00	0.00	0.44	0.47	0.81	0.00	0.84			
Avail Cap(c_a), veh/h	449	2425	0	0	1340	599	438	0	391			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.82	0.82	0.00	0.00	0.78	0.78	1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.7	4.4	0.0	0.0	17.3	17.6	28.3	0.0	28.5			
Incr Delay (d2), s/veh	29.2	0.2	0.0	0.0	0.8	2.0	9.2	0.0	13.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	12.4	2.1	0.0	0.0	4.6	4.7	6.8	0.0	6.7			
LnGrp Delay(d),s/veh	56.9	4.6	0.0	0.0	18.1	19.6	37.5	0.0	41.8			
LnGrp LOS	E	A			B	B	D		D			
Approach Vol, veh/h		976			862			575				
Approach Delay, s/veh		27.8			18.6			39.5				
Approach LOS		C			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		19.6		55.4			23.0	32.4				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		48.5			19.0	25.5				
Max Q Clear Time (g_c+l1), s		14.6		6.3			20.1	12.0				
Green Ext Time (p_c), s		1.0		10.5			0.0	6.7				
Intersection Summary												
HCM 2010 Ctrl Delay				27.3								
HCM 2010 LOS				C								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Future Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	365	342	113	38	350	75	190	5	54	137	0	322
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	449	934	418	60	486	103	567	15	519	349	0	518
Arrive On Green	0.13	0.26	0.26	0.03	0.17	0.17	0.33	0.33	0.33	0.20	0.00	0.20
Sat Flow, veh/h	3442	3539	1583	1774	2908	616	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	365	342	113	38	211	214	195	0	54	137	0	322
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1754	1776	0	1583	1774	0	1583
Q Serve(g_s), s	9.3	7.1	5.1	1.9	10.2	10.4	7.5	0.0	2.1	6.1	0.0	15.5
Cycle Q Clear(g_c), s	9.3	7.1	5.1	1.9	10.2	10.4	7.5	0.0	2.1	6.1	0.0	15.5
Prop In Lane	1.00		1.00	1.00		0.35	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	449	934	418	60	296	293	582	0	519	349	0	518
V/C Ratio(X)	0.81	0.37	0.27	0.63	0.71	0.73	0.33	0.00	0.10	0.39	0.00	0.62
Avail Cap(c_a), veh/h	574	1101	493	118	374	370	582	0	519	365	0	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.0	27.0	26.3	42.9	35.4	35.5	22.8	0.0	21.0	31.5	0.0	25.6
Incr Delay (d2), s/veh	6.6	0.2	0.3	10.3	4.7	5.3	1.5	0.0	0.4	0.7	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	3.5	2.3	1.1	5.4	5.5	3.9	0.0	1.0	3.0	0.0	7.1
LnGrp Delay(d),s/veh	44.7	27.2	26.6	53.2	40.1	40.8	24.4	0.0	21.4	32.2	0.0	27.7
LnGrp LOS	D	C	C	D	D	D	C		C	C		C
Approach Vol, veh/h		820			463			249			459	
Approach Delay, s/veh		34.9			41.5			23.7			29.1	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.5	7.1	27.7		21.7	15.8	19.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		21.5	6.0	28.0		18.5	15.0	19.0				
Max Q Clear Time (g_c+I1), s		9.5	3.9	9.1		17.5	11.3	12.4				
Green Ext Time (p_c), s		0.9	0.0	4.7		0.2	0.5	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			33.7									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	78	413	354	26	10	72
Future Vol, veh/h	78	413	354	26	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	449	385	28	11	78

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	413	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1142	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1142	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-























Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1142	-	-	-	294	799
HCM Lane V/C Ratio	0.074	-	-	-	0.037	0.098
HCM Control Delay (s)	8.4	-	-	-	17.7	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions - MIT

Friday PM Peak





















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1128	15	42	1207	332	21	15	38	794	10	242
Future Volume (veh/h)	212	1128	15	42	1207	332	21	15	38	794	10	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	230	1226	16	46	1312	361	23	16	41	871	0	263
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	1566	20	68	1443	645	52	36	78	1036	0	462
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.05	0.05	0.05	0.29	0.00	0.29
Sat Flow, veh/h	1774	3577	47	1774	3539	1583	1067	742	1583	3548	0	1583
Grp Volume(v), veh/h	230	606	636	46	1312	361	39	0	41	871	0	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1809	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	25.6	25.6	2.2	30.5	15.3	1.8	0.0	2.2	20.2	0.0	12.3
Cycle Q Clear(g_c), s	6.0	25.6	25.6	2.2	30.5	15.3	1.8	0.0	2.2	20.2	0.0	12.3
Prop In Lane	1.00		0.03	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	775	812	68	1443	645	89	0	78	1036	0	462
V/C Ratio(X)	1.89	0.78	0.78	0.67	0.91	0.56	0.44	0.00	0.53	0.84	0.00	0.57
Avail Cap(c_a), veh/h	122	775	812	101	1477	661	383	0	335	1339	0	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.7	21.0	21.0	41.5	24.4	19.9	40.4	0.0	40.6	29.1	0.0	26.3
Incr Delay (d2), s/veh	429.8	5.2	5.0	11.0	8.5	1.0	3.4	0.0	5.5	3.9	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.4	13.6	14.2	1.3	16.5	6.8	1.0	0.0	1.1	10.4	0.0	5.5
LnGrp Delay(d),s/veh	470.6	26.3	26.1	52.5	32.9	20.9	43.8	0.0	46.1	33.0	0.0	27.4
LnGrp LOS	F	C	C	D	C	C	D		D	C		C
Approach Vol, veh/h		1472			1719			80			1134	
Approach Delay, s/veh		95.6			30.9			45.0			31.7	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.4	42.3		29.5	10.0	39.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.2	4.2	27.6		22.2	8.0	32.5				
Green Ext Time (p_c), s		0.2	0.0	8.9		3.4	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay				53.0								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions - MIT



















Friday PM Peak






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 							
Traffic Volume (veh/h)	0	1236	724	291	961	0	0	0	0	256	1	620
Future Volume (veh/h)	0	1236	724	291	961	0	0	0	0	256	1	620
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1343	787	316	1045	0				278	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1602	748	333	2513	0				336	1	301
Arrive On Green	0.00	0.47	0.47	0.19	0.71	0.00				0.19	0.19	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1768	6	1583
Grp Volume(v), veh/h	0	1343	787	316	1045	0				279	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	27.7	37.8	14.1	9.7	0.0				12.1	0.0	0.0
Cycle Q Clear(g_c), s	0.0	27.7	37.8	14.1	9.7	0.0				12.1	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1602	748	333	2513	0				337	0	301
V/C Ratio(X)	0.00	0.84	1.05	0.95	0.42	0.00				0.83	0.00	0.00
Avail Cap(c_a), veh/h	0	1602	748	333	2513	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.48	0.48	0.20	0.20	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	18.4	21.1	32.1	4.8	0.0				31.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.7	37.9	12.2	0.1	0.0				5.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.5	24.3	8.0	4.7	0.0				6.4	0.0	0.0
LnGrp Delay(d),s/veh	0.0	21.2	59.0	44.3	4.9	0.0				36.3	0.0	0.0
LnGrp LOS		C	F	D	A					D		
Approach Vol, veh/h		2130			1361						279	
Approach Delay, s/veh		35.2			14.0						36.3	
Approach LOS		D			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	41.8		19.2		60.8				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.1	39.8		14.1		11.7				
Green Ext Time (p_c), s			0.0	0.0		1.1		28.9				
Intersection Summary												
HCM 2010 Ctrl Delay			27.6									
HCM 2010 LOS			C									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions - MIT

Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	641	851	0	0	798	261	454	5	249	0	0	0
Future Volume (veh/h)	641	851	0	0	798	261	454	5	249	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	697	925	0	0	867	284	493	5	271			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	639	2325	0	0	910	407	462	5	416			
Arrive On Green	0.36	0.66	0.00	0.00	0.26	0.26	0.26	0.26	0.26			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1757	18	1583			
Grp Volume(v), veh/h	697	925	0	0	867	284	498	0	271			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	36.0	12.1	0.0	0.0	24.1	16.2	26.3	0.0	15.2			
Cycle Q Clear(g_c), s	36.0	12.1	0.0	0.0	24.1	16.2	26.3	0.0	15.2			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	639	2325	0	0	910	407	467	0	416			
V/C Ratio(X)	1.09	0.40	0.00	0.00	0.95	0.70	1.07	0.00	0.65			
Avail Cap(c_a), veh/h	639	2325	0	0	910	407	467	0	416			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.58	0.58	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.0	8.0	0.0	0.0	36.6	33.6	36.9	0.0	32.8			
Incr Delay (d2), s/veh	43.9	0.0	0.0	0.0	14.0	5.7	60.6	0.0	3.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	25.4	5.9	0.0	0.0	13.6	7.7	20.7	0.0	7.0			
LnGrp Delay(d),s/veh	75.9	8.0	0.0	0.0	50.6	39.3	97.5	0.0	36.3			
LnGrp LOS	F	A			D	D	F		D			
Approach Vol, veh/h	1622				1151			769				
Approach Delay, s/veh	37.2				47.8			75.9				
Approach LOS	D				D			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		30.3		69.7			40.0	29.7				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		26.3		65.7			36.0	25.7				
Max Q Clear Time (g_c+I1), s		28.3		14.1			38.0	26.1				
Green Ext Time (p_c), s		0.0		21.4			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				49.1								
HCM 2010 LOS				D								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Future Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	459	650	87	38	501	122	136	11	27	154	16	514
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	534	1161	519	60	585	142	419	34	403	332	34	571
Arrive On Green	0.16	0.33	0.33	0.03	0.21	0.21	0.25	0.25	0.25	0.21	0.21	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2827	685	1647	133	1583	1614	168	1583
Grp Volume(v), veh/h	459	650	87	38	313	310	147	0	27	170	0	514
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1742	1780	0	1583	1782	0	1583
Q Serve(g_s), s	11.7	13.6	3.5	1.9	15.3	15.5	6.0	0.0	1.2	7.5	0.0	18.5
Cycle Q Clear(g_c), s	11.7	13.6	3.5	1.9	15.3	15.5	6.0	0.0	1.2	7.5	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.39	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	534	1161	519	60	366	361	453	0	403	366	0	571
V/C Ratio(X)	0.86	0.56	0.17	0.63	0.85	0.86	0.32	0.00	0.07	0.46	0.00	0.90
Avail Cap(c_a), veh/h	574	1161	519	118	393	387	453	0	403	366	0	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	24.9	21.5	42.9	34.4	34.4	27.3	0.0	25.4	31.4	0.0	27.2
Incr Delay (d2), s/veh	11.0	0.6	0.1	10.3	15.7	16.8	1.9	0.0	0.3	0.9	0.0	17.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.4	6.7	1.5	1.1	9.1	9.1	3.2	0.0	0.5	3.8	0.0	14.8
LnGrp Delay(d),s/veh	48.1	25.4	21.6	53.2	50.1	51.2	29.1	0.0	25.8	32.3	0.0	44.5
LnGrp LOS	D	C	C	D	D	D	C		C	C		D
Approach Vol, veh/h	1196				661		174		684			
Approach Delay, s/veh	33.9				50.8		28.6		41.5			
Approach LOS	C				D		C		D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.9	7.1	33.5		22.5	18.0	22.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		20.5	6.0	29.0		18.5	15.0	20.0				
Max Q Clear Time (g_c+l1), s		8.0	3.9	15.6		20.5	13.7	17.5				
Green Ext Time (p_c), s		0.6	0.0	6.7		0.0	0.3	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			39.6									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	106	659	515	26	24	93
Future Vol, veh/h	106	659	515	26	24	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	716	560	28	26	101

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	588	0	0 1163 294
Stage 1	-	-	- 574 -
Stage 2	-	-	- 589 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	983	-	- 188 702
Stage 1	-	-	- 527 -
Stage 2	-	-	- 517 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	983	-	- 152 702
Mov Cap-2 Maneuver	-	-	- 152 -
Stage 1	-	-	- 527 -
Stage 2	-	-	- 417 -























Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	152	702
HCM Lane V/C Ratio	0.117	-	-	-	0.172	0.144
HCM Control Delay (s)	9.1	-	-	-	33.5	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions - MIT

Saturday PM Peak













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	893	15	18	872	197	18	5	16	306	6	102
Future Volume (veh/h)	115	893	15	18	872	197	18	5	16	306	6	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	125	971	16	20	948	214	20	5	17	338	0	111
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1880	31	42	1633	731	60	15	66	520	0	232
Arrive On Green	0.09	0.53	0.53	0.02	0.46	0.46	0.04	0.04	0.04	0.15	0.00	0.15
Sat Flow, veh/h	1774	3563	59	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	125	482	505	20	948	214	25	0	17	338	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1852	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	4.2	10.9	10.9	0.7	12.1	5.2	0.8	0.0	0.6	5.5	0.0	3.9
Cycle Q Clear(g_c), s	4.2	10.9	10.9	0.7	12.1	5.2	0.8	0.0	0.6	5.5	0.0	3.9
Prop In Lane	1.00		0.03	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	933	977	42	1633	731	75	0	66	520	0	232
V/C Ratio(X)	0.79	0.52	0.52	0.48	0.58	0.29	0.34	0.00	0.26	0.65	0.00	0.48
Avail Cap(c_a), veh/h	173	1081	1132	145	2104	941	540	0	477	1907	0	851
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.4	9.4	9.4	29.6	12.2	10.3	28.6	0.0	28.5	24.7	0.0	24.0
Incr Delay (d2), s/veh	19.5	0.4	0.4	8.3	0.3	0.2	2.6	0.0	2.0	1.4	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	5.3	5.6	0.4	5.9	2.3	0.5	0.0	0.3	2.8	0.0	1.8
LnGrp Delay(d),s/veh	46.9	9.9	9.8	37.9	12.5	10.5	31.2	0.0	30.5	26.1	0.0	25.6
LnGrp LOS	D	A	A	D	B	B	C		C	C		C
Approach Vol, veh/h	1112				1182		42				449	
Approach Delay, s/veh	14.0				12.6		30.9				25.9	
Approach LOS	B				B		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	6.6		5.4	36.4	13.0		9.5	32.3				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	18.5		5.0	37.5	33.0		6.0	36.5				
Max Q Clear Time (g_c+I1), s	2.8		2.7	12.9	7.5		6.2	14.1				
Green Ext Time (p_c), s	0.1		0.0	15.1	1.5		0.0	14.2				
Intersection Summary												
HCM 2010 Ctrl Delay			15.6									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions - MIT

Saturday PM Peak






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↵	↑↑						↵	↵
Traffic Volume (veh/h)	0	740	475	172	680	0	0	0	0	158	1	407
Future Volume (veh/h)	0	740	475	172	680	0	0	0	0	158	1	407
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	516	187	739	0				172	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2021	944	227	2740	0				222	1	199
Arrive On Green	0.00	0.60	0.60	0.13	0.77	0.00				0.13	0.13	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1764	10	1583
Grp Volume(v), veh/h	0	804	516	187	739	0				173	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	10.0	15.6	8.2	4.8	0.0				7.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.0	15.6	8.2	4.8	0.0				7.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	2021	944	227	2740	0				223	0	199
V/C Ratio(X)	0.00	0.40	0.55	0.82	0.27	0.00				0.78	0.00	0.00
Avail Cap(c_a), veh/h	0	2021	944	333	2740	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.84	0.84	0.83	0.83	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	8.6	9.7	34.0	2.6	0.0				33.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.9	8.6	0.2	0.0				5.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.8	7.2	4.5	2.3	0.0				4.1	0.0	0.0
LnGrp Delay(d),s/veh	0.0	9.1	11.6	42.6	2.8	0.0				39.6	0.0	0.0
LnGrp LOS		A	B	D	A					D		
Approach Vol, veh/h		1320			926						173	
Approach Delay, s/veh		10.0			10.8						39.6	
Approach LOS		B			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.3	51.7		14.1		65.9				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.2	17.6		9.6		6.8				
Green Ext Time (p_c), s			0.2	6.9		0.7		20.2				
Intersection Summary												
HCM 2010 Ctrl Delay			12.5									
HCM 2010 LOS			B									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions - MIT

Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	500	0	0	536	257	316	3	255	0	0	0
Future Volume (veh/h)	398	500	0	0	536	257	316	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	433	543	0	0	583	279	343	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	449	2367	0	0	1282	573	395	3	355			
Arrive On Green	0.25	0.67	0.00	0.00	0.36	0.36	0.22	0.22	0.22			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1759	15	1583			
Grp Volume(v), veh/h	433	543	0	0	583	279	346	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	18.1	4.5	0.0	0.0	9.4	10.2	14.1	0.0	12.3			
Cycle Q Clear(g_c), s	18.1	4.5	0.0	0.0	9.4	10.2	14.1	0.0	12.3			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	449	2367	0	0	1282	573	398	0	355			
V/C Ratio(X)	0.96	0.23	0.00	0.00	0.45	0.49	0.87	0.00	0.78			
Avail Cap(c_a), veh/h	449	2367	0	0	1282	573	438	0	391			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.79	0.79	0.00	0.00	0.78	0.78	1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.7	4.9	0.0	0.0	18.3	18.5	28.0	0.0	27.3			
Incr Delay (d2), s/veh	28.6	0.2	0.0	0.0	0.9	2.3	15.8	0.0	8.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	12.4	2.2	0.0	0.0	4.8	4.8	8.7	0.0	6.3			
LnGrp Delay(d),s/veh	56.3	5.0	0.0	0.0	19.2	20.8	43.8	0.0	36.3			
LnGrp LOS	E	A			B	C	D		D			
Approach Vol, veh/h		976			862			623				
Approach Delay, s/veh		27.8			19.7			40.5				
Approach LOS		C			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.8		54.2			23.0	31.2				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		48.5			19.0	25.5				
Max Q Clear Time (g_c+l1), s		16.1		6.5			20.1	12.2				
Green Ext Time (p_c), s		0.8		10.5			0.0	6.7				
Intersection Summary												
HCM 2010 Ctrl Delay				28.2								
HCM 2010 LOS				C								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Future Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	365	342	113	38	350	75	190	5	54	137	0	322
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	449	934	418	60	486	103	567	15	519	349	0	518
Arrive On Green	0.13	0.26	0.26	0.03	0.17	0.17	0.33	0.33	0.33	0.20	0.00	0.20
Sat Flow, veh/h	3442	3539	1583	1774	2908	616	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	365	342	113	38	211	214	195	0	54	137	0	322
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1754	1776	0	1583	1774	0	1583
Q Serve(g_s), s	9.3	7.1	5.1	1.9	10.2	10.4	7.5	0.0	2.1	6.1	0.0	15.5
Cycle Q Clear(g_c), s	9.3	7.1	5.1	1.9	10.2	10.4	7.5	0.0	2.1	6.1	0.0	15.5
Prop In Lane	1.00		1.00	1.00		0.35	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	449	934	418	60	296	293	582	0	519	349	0	518
V/C Ratio(X)	0.81	0.37	0.27	0.63	0.71	0.73	0.33	0.00	0.10	0.39	0.00	0.62
Avail Cap(c_a), veh/h	574	1101	493	118	374	370	582	0	519	365	0	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.0	27.0	26.3	42.9	35.4	35.5	22.8	0.0	21.0	31.5	0.0	25.6
Incr Delay (d2), s/veh	6.6	0.2	0.3	10.3	4.7	5.3	1.5	0.0	0.4	0.7	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	3.5	2.3	1.1	5.4	5.5	3.9	0.0	1.0	3.0	0.0	7.1
LnGrp Delay(d),s/veh	44.7	27.2	26.6	53.2	40.1	40.8	24.4	0.0	21.4	32.2	0.0	27.7
LnGrp LOS	D	C	C	D	D	D	C		C	C		C
Approach Vol, veh/h		820			463			249			459	
Approach Delay, s/veh		34.9			41.5			23.7			29.1	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.5	7.1	27.7		21.7	15.8	19.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		21.5	6.0	28.0		18.5	15.0	19.0				
Max Q Clear Time (g_c+I1), s		9.5	3.9	9.1		17.5	11.3	12.4				
Green Ext Time (p_c), s		0.9	0.0	4.7		0.2	0.5	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			33.7									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	78	413	354	26	10	72
Future Vol, veh/h	78	413	354	26	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	449	385	28	11	78

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	413	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1142	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1142	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-























Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1142	-	-	-	294	799
HCM Lane V/C Ratio	0.074	-	-	-	0.037	0.098
HCM Control Delay (s)	8.4	-	-	-	17.7	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions - MIT

Friday PM Peak


























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1038	15	42	1161	324	21	15	38	778	10	242
Future Volume (veh/h)	212	1038	15	42	1161	324	21	15	38	778	10	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	230	1128	16	46	1262	352	23	16	41	854	0	263
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	1571	22	69	1448	648	53	37	78	1022	0	456
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.05	0.05	0.05	0.29	0.00	0.29
Sat Flow, veh/h	1774	3573	51	1774	3539	1583	1067	742	1583	3548	0	1583
Grp Volume(v), veh/h	230	559	585	46	1262	352	39	0	41	854	0	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1583	1809	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	22.4	22.4	2.2	28.4	14.7	1.8	0.0	2.2	19.6	0.0	12.3
Cycle Q Clear(g_c), s	6.0	22.4	22.4	2.2	28.4	14.7	1.8	0.0	2.2	19.6	0.0	12.3
Prop In Lane	1.00		0.03	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	123	778	815	69	1448	648	89	0	78	1022	0	456
V/C Ratio(X)	1.87	0.72	0.72	0.67	0.87	0.54	0.44	0.00	0.53	0.84	0.00	0.58
Avail Cap(c_a), veh/h	123	778	815	102	1489	666	386	0	338	1350	0	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.4	19.9	19.9	41.2	23.5	19.5	40.1	0.0	40.2	29.0	0.0	26.4
Incr Delay (d2), s/veh	422.7	3.2	3.1	10.8	5.8	0.9	3.4	0.0	5.4	3.6	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.3	11.6	12.1	1.3	15.0	6.5	1.0	0.0	1.1	10.1	0.0	5.5
LnGrp Delay(d),s/veh	463.1	23.1	23.0	52.0	29.4	20.3	43.4	0.0	45.6	32.6	0.0	27.5
LnGrp LOS	F	C	C	D	C	C	D		D	C		C
Approach Vol, veh/h		1374			1660			80			1117	
Approach Delay, s/veh		96.7			28.1			44.6			31.4	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.3	42.1		29.0	10.0	39.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.2	4.2	24.4		21.6	8.0	30.4				
Green Ext Time (p_c), s		0.2	0.0	11.2		3.4	0.0	5.1				
Intersection Summary												
HCM 2010 Ctrl Delay			51.5									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions - MIT



















Friday PM Peak






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	 						  	  
Traffic Volume (veh/h)	0	1236	618	291	907	0	0	0	0	256	1	620
Future Volume (veh/h)	0	1236	618	291	907	0	0	0	0	256	1	620
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1343	672	316	986	0				278	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1872	874	296	2662	0				320	1	287
Arrive On Green	0.00	0.55	0.55	0.17	0.75	0.00				0.18	0.18	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1768	6	1583
Grp Volume(v), veh/h	0	1343	672	316	986	0				279	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	35.3	39.6	20.0	11.5	0.0				18.3	0.0	0.0
Cycle Q Clear(g_c), s	0.0	35.3	39.6	20.0	11.5	0.0				18.3	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1872	874	296	2662	0				321	0	287
V/C Ratio(X)	0.00	0.72	0.77	1.07	0.37	0.00				0.87	0.00	0.00
Avail Cap(c_a), veh/h	0	1872	874	296	2662	0				606	0	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.57	0.57	0.18	0.18	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	19.9	20.9	50.0	5.1	0.0				47.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	3.7	43.2	0.1	0.0				7.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	16.8	18.1	13.3	5.5	0.0				9.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	21.3	24.7	93.2	5.2	0.0				54.8	0.0	0.0
LnGrp LOS		C	C	F	A					D		
Approach Vol, veh/h		2015			1302						279	
Approach Delay, s/veh		22.4			26.6						54.8	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			24.0	70.3		25.7		94.3				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			20.0	47.0		41.0		71.0				
Max Q Clear Time (g_c+I1), s			22.0	41.6		20.3		13.5				
Green Ext Time (p_c), s			0.0	5.1		1.4		42.4				
Intersection Summary												
HCM 2010 Ctrl Delay			26.4									
HCM 2010 LOS			C									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions - MIT

Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	641	851	0	0	798	261	400	5	249	0	0	0
Future Volume (veh/h)	641	851	0	0	798	261	400	5	249	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	697	925	0	0	867	284	435	5	271			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	674	2389	0	0	902	404	430	5	388			
Arrive On Green	0.38	0.68	0.00	0.00	0.25	0.25	0.25	0.25	0.25			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1755	20	1583			
Grp Volume(v), veh/h	697	925	0	0	867	284	440	0	271			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	38.0	11.5	0.0	0.0	24.2	16.3	24.5	0.0	15.6			
Cycle Q Clear(g_c), s	38.0	11.5	0.0	0.0	24.2	16.3	24.5	0.0	15.6			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	674	2389	0	0	903	404	435	0	388			
V/C Ratio(X)	1.03	0.39	0.00	0.00	0.96	0.70	1.01	0.00	0.70			
Avail Cap(c_a), veh/h	674	2389	0	0	903	404	435	0	388			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.58	0.58	1.00	0.00	1.00			
Uniform Delay (d), s/veh	31.0	7.1	0.0	0.0	36.8	33.8	37.8	0.0	34.4			
Incr Delay (d2), s/veh	20.7	0.0	0.0	0.0	15.2	5.9	46.1	0.0	5.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	22.4	5.5	0.0	0.0	13.7	7.8	17.5	0.0	7.4			
LnGrp Delay(d),s/veh	51.7	7.2	0.0	0.0	52.0	39.7	83.9	0.0	39.8			
LnGrp LOS	F	A			D	D	F		D			
Approach Vol, veh/h	1622				1151			711				
Approach Delay, s/veh	26.3				48.9			67.1				
Approach LOS	C				D			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		28.5		71.5			42.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		24.5		67.5			38.0	25.5				
Max Q Clear Time (g_c+l1), s		26.5		13.5			40.0	26.2				
Green Ext Time (p_c), s		0.0		21.7			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				42.1								
HCM 2010 LOS				D								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Future Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	459	650	87	38	501	122	136	11	27	154	16	514
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	534	1161	519	60	585	142	419	34	403	332	34	571
Arrive On Green	0.16	0.33	0.33	0.03	0.21	0.21	0.25	0.25	0.25	0.21	0.21	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2827	685	1647	133	1583	1614	168	1583
Grp Volume(v), veh/h	459	650	87	38	313	310	147	0	27	170	0	514
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1742	1780	0	1583	1782	0	1583
Q Serve(g_s), s	11.7	13.6	3.5	1.9	15.3	15.5	6.0	0.0	1.2	7.5	0.0	18.5
Cycle Q Clear(g_c), s	11.7	13.6	3.5	1.9	15.3	15.5	6.0	0.0	1.2	7.5	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.39	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	534	1161	519	60	366	361	453	0	403	366	0	571
V/C Ratio(X)	0.86	0.56	0.17	0.63	0.85	0.86	0.32	0.00	0.07	0.46	0.00	0.90
Avail Cap(c_a), veh/h	574	1161	519	118	393	387	453	0	403	366	0	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	24.9	21.5	42.9	34.4	34.4	27.3	0.0	25.4	31.4	0.0	27.2
Incr Delay (d2), s/veh	11.0	0.6	0.1	10.3	15.7	16.8	1.9	0.0	0.3	0.9	0.0	17.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.4	6.7	1.5	1.1	9.1	9.1	3.2	0.0	0.5	3.8	0.0	14.8
LnGrp Delay(d),s/veh	48.1	25.4	21.6	53.2	50.1	51.2	29.1	0.0	25.8	32.3	0.0	44.5
LnGrp LOS	D	C	C	D	D	D	C		C	C		D
Approach Vol, veh/h	1196				661		174		684			
Approach Delay, s/veh	33.9				50.8		28.6		41.5			
Approach LOS	C				D		C		D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.9	7.1	33.5		22.5	18.0	22.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		20.5	6.0	29.0		18.5	15.0	20.0				
Max Q Clear Time (g_c+l1), s		8.0	3.9	15.6		20.5	13.7	17.5				
Green Ext Time (p_c), s		0.6	0.0	6.7		0.0	0.3	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			39.6									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	106	659	515	26	24	93
Future Vol, veh/h	106	659	515	26	24	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	716	560	28	26	101

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	588	0	0 1163 294
Stage 1	-	-	- 574 -
Stage 2	-	-	- 589 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	983	-	- 188 702
Stage 1	-	-	- 527 -
Stage 2	-	-	- 517 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	983	-	- 152 702
Mov Cap-2 Maneuver	-	-	- 152 -
Stage 1	-	-	- 527 -
Stage 2	-	-	- 417 -























Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	152	702
HCM Lane V/C Ratio	0.117	-	-	-	0.172	0.144
HCM Control Delay (s)	9.1	-	-	-	33.5	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions - MIT

Saturday PM Peak













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	795	15	18	838	191	18	5	16	288	6	102
Future Volume (veh/h)	115	795	15	18	838	191	18	5	16	288	6	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	125	864	16	20	911	208	20	5	17	318	0	111
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1846	34	42	1604	718	60	15	67	506	0	226
Arrive On Green	0.09	0.52	0.52	0.02	0.45	0.45	0.04	0.04	0.04	0.14	0.00	0.14
Sat Flow, veh/h	1774	3555	66	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	125	430	450	20	911	208	25	0	17	318	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1851	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	4.1	9.1	9.1	0.7	11.1	4.9	0.8	0.0	0.6	5.0	0.0	3.8
Cycle Q Clear(g_c), s	4.1	9.1	9.1	0.7	11.1	4.9	0.8	0.0	0.6	5.0	0.0	3.8
Prop In Lane	1.00		0.04	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	919	961	42	1604	718	76	0	67	506	0	226
V/C Ratio(X)	0.79	0.47	0.47	0.48	0.57	0.29	0.33	0.00	0.25	0.63	0.00	0.49
Avail Cap(c_a), veh/h	181	1129	1181	151	2199	984	564	0	499	1993	0	889
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.2	9.0	9.0	28.3	11.8	10.1	27.3	0.0	27.2	23.7	0.0	23.2
Incr Delay (d2), s/veh	18.0	0.4	0.4	8.1	0.3	0.2	2.5	0.0	2.0	1.3	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	4.5	4.7	0.4	5.5	2.1	0.4	0.0	0.3	2.5	0.0	1.7
LnGrp Delay(d),s/veh	44.2	9.3	9.3	36.4	12.1	10.3	29.9	0.0	29.2	25.0	0.0	24.9
LnGrp LOS	D	A	A	D	B	B	C		C	C		C
Approach Vol, veh/h		1005			1139			42			429	
Approach Delay, s/veh		13.7			12.2			29.6			25.0	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.5	5.4	34.5		12.4	9.3	30.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		2.8	2.7	11.1		7.0	6.1	13.1				
Green Ext Time (p_c), s		0.1	0.0	14.5		1.4	0.0	13.5				
Intersection Summary												
HCM 2010 Ctrl Delay			15.2									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions - MIT



















Saturday PM Peak























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↗	↑↑						↖	↗
Traffic Volume (veh/h)	0	740	359	172	640	0	0	0	0	158	1	407
Future Volume (veh/h)	0	740	359	172	640	0	0	0	0	158	1	407
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	390	187	696	0				172	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2021	944	227	2740	0				222	1	199
Arrive On Green	0.00	0.60	0.60	0.13	0.77	0.00				0.13	0.13	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1764	10	1583
Grp Volume(v), veh/h	0	804	390	187	696	0				173	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	10.0	10.6	8.2	4.4	0.0				7.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.0	10.6	8.2	4.4	0.0				7.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	2021	944	227	2740	0				223	0	199
V/C Ratio(X)	0.00	0.40	0.41	0.82	0.25	0.00				0.78	0.00	0.00
Avail Cap(c_a), veh/h	0	2021	944	333	2740	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.88	0.88	0.85	0.85	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	8.6	8.7	34.0	2.5	0.0				33.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.2	8.8	0.2	0.0				5.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.8	4.9	4.6	2.2	0.0				4.1	0.0	0.0
LnGrp Delay(d),s/veh	0.0	9.1	9.8	42.8	2.7	0.0				39.6	0.0	0.0
LnGrp LOS		A	A	D	A					D		
Approach Vol, veh/h		1194			883						173	
Approach Delay, s/veh		9.3			11.2						39.6	
Approach LOS		A			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.3	51.7		14.1		65.9				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.2	12.6		9.6		6.4				
Green Ext Time (p_c), s			0.2	9.5		0.7		17.9				
Intersection Summary												
HCM 2010 Ctrl Delay			12.4									
HCM 2010 LOS			B									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions - MIT

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	500	0	0	536	257	276	3	255	0	0	0
Future Volume (veh/h)	398	500	0	0	536	257	276	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	433	543	0	0	583	279	300	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	449	2425	0	0	1340	599	366	4	330			
Arrive On Green	0.25	0.69	0.00	0.00	0.38	0.38	0.21	0.21	0.21			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1757	18	1583			
Grp Volume(v), veh/h	433	543	0	0	583	279	303	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	18.1	4.3	0.0	0.0	9.2	10.0	12.2	0.0	12.6			
Cycle Q Clear(g_c), s	18.1	4.3	0.0	0.0	9.2	10.0	12.2	0.0	12.6			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	449	2425	0	0	1340	599	369	0	330			
V/C Ratio(X)	0.96	0.22	0.00	0.00	0.44	0.47	0.82	0.00	0.84			
Avail Cap(c_a), veh/h	449	2425	0	0	1340	599	438	0	391			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.85	0.85	0.00	0.00	0.78	0.78	1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.7	4.4	0.0	0.0	17.3	17.6	28.4	0.0	28.5			
Incr Delay (d2), s/veh	29.9	0.2	0.0	0.0	0.8	2.0	10.2	0.0	13.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	12.5	2.1	0.0	0.0	4.6	4.7	7.0	0.0	6.7			
LnGrp Delay(d),s/veh	57.5	4.6	0.0	0.0	18.1	19.6	38.6	0.0	41.7			
LnGrp LOS	E	A			B	B	D		D			
Approach Vol, veh/h		976			862			580				
Approach Delay, s/veh		28.1			18.6			40.1				
Approach LOS		C			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		19.6		55.4			23.0	32.4				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		48.5			19.0	25.5				
Max Q Clear Time (g_c+l1), s		14.6		6.3			20.1	12.0				
Green Ext Time (p_c), s		1.0		10.5			0.0	6.7				
Intersection Summary												
HCM 2010 Ctrl Delay				27.6								
HCM 2010 LOS				C								

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Future Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	365	342	113	38	350	75	190	5	54	137	0	322
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	449	934	418	60	486	103	567	15	519	349	0	518
Arrive On Green	0.13	0.26	0.26	0.03	0.17	0.17	0.33	0.33	0.33	0.20	0.00	0.20
Sat Flow, veh/h	3442	3539	1583	1774	2908	616	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	365	342	113	38	211	214	195	0	54	137	0	322
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1754	1776	0	1583	1774	0	1583
Q Serve(g_s), s	9.3	7.1	5.1	1.9	10.2	10.4	7.5	0.0	2.1	6.1	0.0	15.5
Cycle Q Clear(g_c), s	9.3	7.1	5.1	1.9	10.2	10.4	7.5	0.0	2.1	6.1	0.0	15.5
Prop In Lane	1.00		1.00	1.00		0.35	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	449	934	418	60	296	293	582	0	519	349	0	518
V/C Ratio(X)	0.81	0.37	0.27	0.63	0.71	0.73	0.33	0.00	0.10	0.39	0.00	0.62
Avail Cap(c_a), veh/h	574	1101	493	118	374	370	582	0	519	365	0	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.0	27.0	26.3	42.9	35.4	35.5	22.8	0.0	21.0	31.5	0.0	25.6
Incr Delay (d2), s/veh	6.6	0.2	0.3	10.3	4.7	5.3	1.5	0.0	0.4	0.7	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	3.5	2.3	1.1	5.4	5.5	3.9	0.0	1.0	3.0	0.0	7.1
LnGrp Delay(d),s/veh	44.7	27.2	26.6	53.2	40.1	40.8	24.4	0.0	21.4	32.2	0.0	27.7
LnGrp LOS	D	C	C	D	D	D	C		C	C		C
Approach Vol, veh/h		820			463			249			459	
Approach Delay, s/veh		34.9			41.5			23.7			29.1	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.5	7.1	27.7		21.7	15.8	19.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		21.5	6.0	28.0		18.5	15.0	19.0				
Max Q Clear Time (g_c+I1), s		9.5	3.9	9.1		17.5	11.3	12.4				
Green Ext Time (p_c), s		0.9	0.0	4.7		0.2	0.5	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay					33.7							
HCM 2010 LOS					C							

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	78	413	354	26	10	72
Future Vol, veh/h	78	413	354	26	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	449	385	28	11	78

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	413	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1142	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1142	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1142	-	-	-	294	799
HCM Lane V/C Ratio	0.074	-	-	-	0.037	0.098
HCM Control Delay (s)	8.4	-	-	-	17.7	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

CUMULATIVE (2040) PLUS PROJECT MITIGATED ANALYSIS

2040 Friday PM Ultimate - Alternative A, Option 1 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(AL L)			
3	Bonnyview Rd and Bechelli Ln	NBL	45.82	347	121	57.0	36.8	559	D
		NBT	45.82	347	45	59.9			
		NBR	74.79	498	393	27.9			
		SBL	127.57	602	873	49.0	41.1	1,267	D
		SBT	127.57	602	41	52.4			
		SBR	45.5	416	353	20.1			
		EBL	56.37	317	264	63.8	48.9	1,609	D
		EBT	170.82	686	1,187	50.5			
		EBR	119.89	620	158	11.5			
		WBL	109.98	499	533	55.2	35.1	1,947	D
		WBT	151.83	665	1,021	35.5			
		WBR	14.89	223	393	6.5			
							40.8	5,382	D
4	Bonnyview Rd and I-5 SB Ramp	SBL	34.93	246	224	25.8	47.8	960	D
		SBR	719.7	938	736	54.5			
		EBT	116.18	641	1,638	21.2			
		EBR	5.3	281	843	7.4	16.5	2,481	B
		WBL	113	398	336	0.7			
		WBT	263.04	597	1,198	38.9			
							26.9	4,975	C
5	Bonnyview Rd and I-5 NB Ramp	NBL	126.6	692	643	32.7	25.4	948	C
		NBR	13.88	256	305	10.1			
		EBL	11.69	335	885	4.3	7.5	1,852	A
		EBT	32.85	293	967	10.3			
		WBR	5.75	215	379	18.7			
							32.4	1,279	C
							19.5	4,079	B
6	Bonnyview Rd and Churn Creek Rd	NBL	11.25	151	122	24.3	22.4	159	C
		NBT	11.25	151	10	15.2			
		NBR	10.56	153	27	16.5			
		SBL	185.71	485	181	62.4	55.5	730	F
		SBT	185.71	485	14	57.2			
		SBR	185.71	485	535	53.1			
		EBL	15.4	311	478	5.9	4.8	1,263	A
		EBT	15.4	311	712	4.2			
		EBR	15.66	318	73	2.6			
		WBL	35.51	295	32	14.6	13.9	839	B
		WBT	35.51	295	630	14.8			
		WBR	35.51	295	177	10.5			
							20.7	2,991	C
7	Bonnyview Rd and Alrose Ln	SBL	3.61	74	22	10.3	11.1	116	B
		SBR	5.79	74	94	11.3			
							11.1	116	B

2040 Friday PM Ultimate - Alternative A, Option 2 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(AL L)			
3	Bonnyview Rd and Bechelli Ln	NBL	44.94	204	123	60.5	30.6	435	C
		NBT	44.94	204	43	60.0			
		NBR	25.27	229	269	12.2			
		SBL	122.46	569	879	47.4	39.9	1,274	D
		SBT	122.46	569	41	50.2			
		SBR	43.9	341	354	20.1			
		EBL	115.78	661	232	56.5	61.0	1,409	E
		EBT	1108.14	1,335	1,037	68.5			
		EBR	1042.16	1,269	140	13.3			
		WBL	67.72	310	351	51.7	31.1	1,782	C
WBT	147.9	647	1,037	33.7					
WBR	12	229	394	5.8					
							41.9	4,900	D
4	Bonnyview Rd and I-5 SB Ramp	SBL	36.07	242	225	26.5	47.8	961	D
		SBR	719.16	939	736	54.3			
		EBT	117.05	647	1,545	22.6	17.3	2,214	B
		EBR	3.78	255	669	5.2			
		WBL	3.95	242	338	0.8	13.6	1,373	B
		WBT	66.64	439	1,035	17.8			
							22.7	4,548	C
5	Bonnyview Rd and I-5 NB Ramp	NBL	40.25	362	452	15.1	12.6	756	B
		NBR	13.07	247	304	9.0			
		EBL	10.47	335	830	4.1	7.2	1,764	A
		EBT	30.11	273	934	9.9			
		WBR	0.5	68	389	13.9	18.0	1,309	B
							11.9	3,829	B
6	Bonnyview Rd and Churn Creek Rd	NBL	7.95	141	122	14.2	13.7	157	B
		NBT	7.95	141	11	13.4			
		NBR	7.19	143	24	11.6			
		SBL	45.99	291	182	15.3	14.5	757	B
		SBT	45.99	291	15	17.0			
		SBR	45.99	291	560	14.2			
		EBL	10.65	271	461	4.7	4.0	1,229	A
		EBT	10.65	271	697	3.7			
		EBR	10.79	278	71	2.5			
		WBL	18.88	231	33	9.6	6.7	842	A
		WBT	18.88	231	631	6.7			
		WBR	18.88	231	178	6.4			
							7.9	2,985	A
7	Bonnyview Rd and Alrose Ln	SBL	2.77	70	22	10.1	9.2	116	A
		SBR	4.81	70	94	9.1			
							9.2	116	A

2040 Friday PM Ultimate - Alternative A, Option 3 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(AL L)			
3	Bonnyview Rd and Bechelli Ln	NBL	18.47	91	24	63.9	38.7	101	D
		NBT	18.47	91	27	71.5			
		NBR	2.92	79	50	8.8			
		SBL	119.95	536	924	46.5	39.8	1,257	D
		SBT	119.95	536	10	48.2			
		SBR	40.14	371	323	20.1			
		EBL	322.09	1,107	252	62.2	54.7	1,501	D
		EBT	1044.5	1,348	1,235	53.6			
		EBR	979.3	1,282	14	13.2			
		WBL	14.83	93	63	48.1	26.9	1,757	C
WBT	200.32	711	1,229	33.6					
WBR	14.47	268	465	6.5					
							39.7	4,616	D
4	Bonnyview Rd and I-5 SB Ramp	SBL	36.25	305	246	24.0	50.3	920	D
		SBR	641.19	935	674	59.9			
		EBT	84.9	533	1,401	19.6	15.0	2,232	B
		EBR	1.78	178	831	7.1			
		WBL	4.73	208	361	0.8	15.6	1,440	B
		WBT	75.16	406	1,079	20.6			
							22.2	4,592	C
5	Bonnyview Rd and I-5 NB Ramp	NBL	62.21	475	565	17.4	14.4	862	B
		NBR	12.15	220	297	8.7			
		EBL	4.59	277	722	3.2	7.6	1,647	A
		EBT	34.39	226	925	11.0			
		WBR	0.09	13	360	9.0	17.0	1,238	B
							12.3	3,747	B
6	Bonnyview Rd and Churn Creek Rd	NBL	9.79	153	122	15.6	14.9	159	B
		NBT	9.79	153	10	12.6			
		NBR	9.08	155	27	13.0			
		SBL	38.78	278	187	13.1	12.4	747	B
		SBT	38.78	278	15	12.0			
		SBR	38.78	278	545	12.2			
		EBL	10.45	277	482	4.8	4.1	1,214	A
		EBT	10.45	277	658	3.8			
		EBR	10.56	284	74	2.6			
		WBL	15.42	206	32	6.6	6.5	764	A
		WBT	15.42	206	575	6.5			
		WBR	15.42	206	157	6.3			
							7.5	2,884	A
7	Bonnyview Rd and Alrose Ln	SBL	2.44	71	21	9.4	8.6	113	A
		SBR	4.36	71	92	8.4			
							8.6	113	A

2040 Saturday PM Ultimate - Alternative D, Option 3 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(AL L)			
3	Bonnyview Rd and Bechelli Ln	NBL	11.32	68	21	71.2	40.3	55	D
		NBT	11.32	68	9	65.0			
		NBR	1.03	68	25	5.4			
		SBL	60.44	215	395	57.2	44.9	537	D
		SBT	60.44	215	6	63.2			
		SBR	7.6	111	136	8.5			
		EBL	37.22	154	141	63.3	21.7	1,065	C
		EBT	48.42	444	910	15.5			
		EBR	26.24	378	14	4.1			
		WBL	7.04	59	28	48.5	13.3	1,202	B
		WBT	49.65	369	897	15.3			
WBR	4.29	140	277	3.5					
							22.9	2,859	C
4	Bonnyview Rd and I-5 SB Ramp	SBL	16.41	184	167	17.2	14.9	648	B
		SBR	42.08	419	481	14.1			
		EBT	38.59	343	915	14.7	10.9	1,340	B
		EBR	0	0	425	2.7			
		WBL	0.06	22	209	0.6	12.5	934	B
		WBT	41.31	199	725	15.9			
							12.3	2,922	B
5	Bonnyview Rd and I-5 NB Ramp	NBL	23	247	337	12.5	9.5	570	A
		NBR	4.27	141	233	5.2			
		EBL	0.97	184	460	1.9	6.1	1,086	A
		EBT	21.29	167	626	9.3			
		WBR	0	0	289	2.6	14.2	887	B
							9.7	2,543	A
6	Bonnyview Rd and Churn Creek Rd	NBL	5.98	148	173	8.8	8.3	223	A
		NBT	5.98	148	4	7.6			
		NBR	5.52	150	46	6.4			
		SBL	13.35	183	158	7.2	6.5	493	A
		SBT	13.35	183	0	0.0			
		SBR	13.35	183	335	6.2			
		EBL	5.67	234	393	3.9	3.1	854	A
		EBT	5.67	234	356	2.6			
		EBR	5.76	241	105	1.9			
		WBL	7.8	128	37	5.7	4.6	531	A
		WBT	7.8	128	383	4.5			
		WBR	7.8	128	111	4.5			
							4.8	2,101	A
7	Bonnyview Rd and Alrose Ln	SBL	2.16	75	14	7.3	7.6	106	A
		SBR	4.06	75	92	7.7			
							7.6	106	A