

Project Information

Project Name: **Redwood-Fairgrounds Dr Interchange Imps (Study)**
Sponsor: **Solano County** TIP ID: **SOL090015** RTP ID: **230708**
Agency: **Solano Transportation Authority** Mode: **STATE HIGHWAY** Sub Mode:
Project Type: **FREEWAY I/C** Trans. System: **STATE HWY** Purpose: **EXPANSION** County: **Solano**
Proj. Desc.: **Near Vallejo: Btw SR 37 & Carquinez Bridge; Conduct study to determine the feasibility of constructing expanded I-80 Redwood St./Fairgrounds Dr. Interchange and parkway improvements. PSE, PE and Env. Phase only.**
RTP Title: **Improve local interchanges and auxiliary lanes and make local streets and roads improvements (includes street channelization, overcrossings, bicycle and pedestrian access, and safety improvements)**

Step 1: Project Identification

1: Does this project have any federal funding?	Yes
2: Does this project (or any phases of the project) require any federal action (such as federal authorization or approval for funding or environmental review) after December 14, 2010?	Yes
3: Is the project exempt from both regional and project-level air quality conformity under 40 CFR 93.126? Project Type Selected: None Applies	No
4: Is the project exempt from regional air quality conformity under 40 CFR 93.127? Project Type Selected: None Applies	No
5: Is the project exempt from regional air quality conformity under 40 CFR 93.128? Project Type Selected: None Applies	No
6: Does this project meet the definition of a "project of air quality concern" under 40 CFR 93.123(b)(1)? Project Type Selected: None Applies	No

Dates for Interagency Consultation

Requested Date of Interagency Consultation: **JUL-SEP, 2011**
Meeting Date of PM2.5 consultation via Air Quality Conformity Task Force to determine POAQC:
Action Date of PM2.5 consultation via Air Quality Conformity Task Force to determine POAQC:

Dates for PM2.5 Hot-Spot Analysis

Meeting Date of PM2.5 consultation via Air Quality Conformity Task Force to determine review hot-spot analysis:
Action Date of PM2.5 consultation via Air Quality Conformity Task Force to determine review hot-spot analysis:

Application of Criteria for a Project of Air Quality Concern

Project Title: Redwood Parkway – Fairgrounds Drive Improvements

Project Summary for Air Quality Conformity Task Force Meeting: August 25, 2011

Description

- Project will modify I-80/ Redwood Parkway and SR37/Fairgrounds Drive Interchanges.
- No change to I-80 or SR37 mainline
- Existing non-standard roadway design and safety deficiencies will be improved
- Proposed interchange improvements with connections to/from I-80 and SR 37 and nearby roadways, and between the nearby land uses to accommodate future growth in the area.
- New interchange configurations will improve weave/merge
- Standardized interchange configuration will improve traffic circulation
- Improve delays and queues on off-ramps at eastbound and westbound Redwood Parkway intersections.

Background

- Project Study Report, December 2008
- A notice of preparation was circulated on January 11, 2011
- Seeking air quality conformity determination on or before August 25, 2011

Not a Project of Air Quality Concern (40 CFR 93.123(b)(1))

(i) New or expanded highway projects with significant number/increase in diesel vehicles?

- Not a new or expanded highway project
- Interchange reconfiguration and roadway realignment.
- No change in traffic volume or truck percentages on roadways
-

(ii) Affects intersections at LOS D, E, or F with a significant number of diesel vehicles?

- Diesel vehicles represent 7 percent of traffic volume
- Intersections at LOS D, E, or F improve, and delays decrease
- No project changes to land use that would affect diesel traffic percentage
-

(iii) New bus and rail terminals and transfer points?—Not Applicable

(iv) Expanded bus and rail terminals and transfer points?—Not Applicable

(v) Affects areas identified in PM₁₀ or PM_{2.5} implementation plan as site of violation?

- No state implementation plan for PM_{2.5} (due by December 2012)
- Therefore, not identified in plan as an area of potential violation
- Nearest PM₁₀ or PM_{2.5} violations since 2007 is in Vallejo, two miles south of the project area.

PM_{2.5} Project Assessment Form for Interagency Consultation

RTIP ID# 230708				
TIP ID# SOL090015				
Air Quality Conformity Task Force Consideration Date: August 25, 2011				
Project Description: The Redwood Parkway–Fairgrounds Drive Improvements Project would construct several roadway improvements along portions of Fairgrounds Drive and Redwood Parkway/Redwood Street within the City of Vallejo. The total length of the project corridor is approximately 1.5 miles, and extends from the Redwood Parkway/Interstate 80 (I-80) interchange (postmile 4.0-4.9) to the Fairgrounds Drive/State Route 37 (SR37) interchange (postmile 10.6-11.2). The project would modify the existing I-80/Redwood Parkway Interchange to a tight diamond, realign Fairgrounds Drive to a tee intersection north of the I-80 westbound ramps, widen Fairgrounds Drive between Redwood Street and SR 37, and widen the westbound off ramp at the SR 37/Fairgrounds Drive Interchange in order to accommodate existing and future growth in the project vicinity.				
Type of Project: Reconfigure existing interchange on- and off-ramps; Intersection signalization; Roadway realignment.				
County Solano County	Narrative Location/Route & Postmiles: The project is located along Fairgrounds Drive from the Fairgrounds Drive/State Route 37 (SR37) interchange to the Redwood Parkway/Interstate 80 (I-80) interchange. Postmiles: 04-Sol-80 PM 4.0/4.9 04-Sol-37-PM 10.6/11.2 Caltrans Projects – EA# 4A4410			
Lead Agency: Caltrans is the Lead Agency for NEPA; STA is the Lead Agency for CEQA				
Contact Person: Janet Adams	Phone# (707) 424-4065	Fax# (707) 424-6074	Email jadamas@STA-SNCl.com	
Federal Action for which Project-Level PM Conformity is Needed <i>(check appropriate box)</i>				
Categorical Exclusion (NEPA)	X EA or Draft EIS	FONSI or Final EIS	PS&E or Construction	Other
Scheduled Date of Federal Action: October 2012				
NEPA Delegation – Project Type <i>(check appropriate box)</i>				
Exempt	Section 6004 – Categorical Exemption	Section 6005 – Non-Categorical Exemption		

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Current Programming Dates				
	PE/Environmental	ENG	ROW	CON
Start	July 2010	Jan 2013	Jan 2013	Oct 2014
End	Oct 2012	April 2014	July 2014	Dec 2015

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Project Purpose and Need (Summary):

Current transportation issues within the project corridor include poor circulation during peak commute periods, long delays at intersections, and above-average accident rates due to limited sight distance. In addition, the existing capacity of the roadways in this area will not accommodate projected future traffic volumes planned for in the project vicinity.

The purpose of the project is to address these issues by relieving existing congestion and improving traffic flow on the local roadway network for approved redevelopment and planned growth in the area; improving the existing interchange and intersection operations; and improving the safety of the local roadway network.

The Fairgrounds Drive at Sage Street and Fairgrounds Drive at Redwood Street/westbound I-80 ramps intersections currently operate at unacceptable Levels of Service (LOS) D or worse during the PM peak periods.

The Solano County Fairgrounds are expected to be redeveloped with a mixture of hotel, retail and entertainment uses. This redevelopment is expected to be in place by 2030, as derived from the Solano360 Vision Report, dated May 28, 2009. In addition, the existing Elks Club located at 2850 Redwood Parkway, is expected to be replaced in the near future by a small retail development, known as the Winco project.

The Traffic Operation Analysis Report (TOAR) shows that without the project in 2015 two intersections within the project limits would operate at unacceptable Levels of Service (LOS D or worse) during AM peak periods and six intersections within the project limits would operate at unacceptable LOS during the PM peak periods.

The TOAR also shows that in 2035 without the project, nine intersections within the project limits would operate at unacceptable Levels of Service (LOS D or worse) during AM peak periods and seventeen intersections within the project limits would operate at unacceptable LOS during PM peak periods.

Safety Operations and Deficiencies

Existing roadway configurations are non-standard in some areas and have led to above average accident rates in the project area. As described below, current interchange spacing creates short weaving sections and inadequate distance between entrance and exit ramps. There is also limited sight distance in the project area. These existing conditions have resulted in decreased safety operation.

Non-Standard Roadway Design Features

The existing I-80/Redwood Parkway interchange facility is over 50 years old and several non-standard features are present with the study limits. Currently, the I-80 eastbound ramps configuration consists of short, tight radius hook ramps connecting to the parallel arterial roadway rather than the cross road that they serve. The hook ramps create short weaving sections between entrance and exit ramps, resulting in nonstandard merge and diverge distances. The I-80 westbound ramps are configured to create a five-legged intersection with Redwood Street and Fairgrounds Drive, resulting in poor operations and inadequate sight distance.

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Surrounding Land Use/Traffic Generators: (especially effect on diesel traffic)

The project study area is located within an existing urban context, with a mixture of commercial, office, residential, and recreation facility developments.

In the southernmost portion of the project study area, the Redwood Parkway/Interstate 80 (I-80) and Redwood Parkway/Fairground Drive intersections are surrounded by a mixture of commercial and residential development. The northeastern portion of the Redwood Parkway/I-80 intersection is primarily comprised of commercial developments. The area to the south of the Redwood Parkway/I-80 intersection is primarily developed with single family homes, with the exception of some commercial vendors.

The Redwood Street/Fairgrounds Drive intersection is located northwest of the Redwood Parkway/I-80 intersection. This area is comprised of a mix of single-family and multi-family homes and some commercial uses. One of the single-family homes on Redwood Parkway just west of Fairgrounds Drive functions as a private day care facility.

Farther north into the project study area, the intersection of Valle Vista Avenue/Fairgrounds Drive is also characterized by a mix of residential and commercial developments. The area on Fairgrounds Drive between Valle Vista Avenue and Coach Lane is developed with multi-family homes and medical office buildings, as well as vacant lands.

The area between Coach Lane and State Route 37 (SR 37) on Fairgrounds Drive is primarily developed with recreational facilities. Six Flags Discovery Kingdom Amusement Park (Six Flags) and associated surface parking areas are located to the west of Fairgrounds Drive. Lake Chabot is also on the west side of Fairgrounds Drive. The Solano County Fairgrounds and associated surface parking areas are located to the east, along with a Courtyard Marriot hotel and fast-food restaurants.

The area to the north of SR 37 on Fairgrounds Drive is comprised of single-family homes and some commercial uses.

Expected redevelopment projects in the project vicinity include the Solano County Fairgrounds and the Elks Club. The Solano County Fairgrounds are expected to redevelop as a mixture of hotel, retail and entertainment uses. The Elks Club is expected to be replaced by the Winco project, a small retail development, in the near future. The traffic forecast simulations include estimates of traffic generated by these redevelopment projects.

Brief summary of assumptions and methodology used for conducting analysis:

Traffic forecasts were prepared, based on the latest version of the Solano-Napa Phase II countywide transportation model. This model was modified to accurately reflect the road improvement projects expected to be in place by 2035. Some additional modifications were made to improve the representation of the road network within the study area and to incorporate the changes in land use that are expected to occur by both 2015 and 2035.

The operations analysis covered three distinct elements: freeway operation during AM and PM peak periods on I-80 and SR 37; analysis of intersections within the project limits to provide design inputs; and analysis of other intersections within the study area to quantify the broader impacts of the project at key intersections identified by City of Vallejo and Solano County.

The freeway operations analysis involved: field observations; use of performance data available from Caltrans; bottleneck and capacity analysis using FREQ12; and analysis of merging, diverging and weaving locations using HCS.

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Opening Year: Build and No Build LOS, AADT, % trucks, truck AADT:

LOS: Tables 1 and 2 below show the 2015 no build and build peak hour LOS of I-80 eastbound at Redwood Parkway. As is shown by the tables, the peak hour LOS will not differ between the no build and build scenarios.

Tables 3, 4 and 5 below show the 2015 peak hour LOS of westbound I-80 at Redwood Parkway, eastbound SR 37 at Fairgrounds Drive and westbound SR 37 at Fairgrounds Drive, respectively. There will be no change to traffic volumes or geometry in the build scenario and therefore no change is expected in the LOS of these roadways.

Intersection LOS ratings for 2015 AM and PM peak hours for the no build and build scenarios are provided in Attachment A, Table 56. The build scenario would result in improved LOS at three intersections, the removal of two intersections with LOS D and a decreased LOS at one intersection. Overall, the no build scenario would result in seven intersections operating at LOS D or worse, while the build scenario would result in three intersections operating at LOS D or worse.

Table 1 2015 No Build Eastbound I-80 at Redwood Parkway Peak Hour LOS

Segment	Eastbound	
	AM	PM
Tennessee on-ramp to Redwood EB Off-ramp	D	E
Redwood EB off-ramp to Redwood WB off-ramp ¹	C	D
Redwood WB off-ramp to Redwood on-ramp ¹	C	C
Redwood on-ramp to SR 37 off-ramp	C	D

Table 2 2015 Build Eastbound I-80 at Redwood Parkway Peak Hour LOS

Segment	Eastbound	
	AM	PM
Tennessee on-ramp to Redwood Off-ramp	D	E
Redwood off-ramp to Redwood on-ramp	C	C
Redwood on-ramp to SR 37 off-ramp	C	D

¹ The existing eastbound ramps will be closed as part of the project; as such, the two segments in Table 1 are shown in Table 2 as one segment.

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Table 3 2015 Westbound I-80 at Redwood Parkway Peak Hour LOS

Segment	Westbound	
	AM	PM
Tennessee on-ramp to Redwood Off-ramp	B	C
Redwood off-ramp to Redwood on-ramp	C	C
Redwood on-ramp to SR 37 off-ramp	C	D

Table 4 2015 Eastbound SR 37 at Fairgrounds Drive Peak Hour LOS

Segment	Eastbound	
	AM	PM
SR 29 to Fairgrounds off-ramp	A	D
Fairgrounds off-ramp to on-ramp	A	D
Fairgrounds on-ramp to I80 WB connector	B	C

Table 5 2015 Westbound SR 37 at Fairgrounds Drive Peak Hour LOS

Segment	Westbound	
	AM	PM
On from WB I-80 to Fairgrounds off-ramp	C	C
Fairgrounds off-ramp to Fairgrounds on-ramp	C	C
Fairgrounds on-ramp to SR 29	C	C

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AADT: The average daily traffic (ADT) estimates for 2010, 2015 and 2035 within the project limits are shown in Table 6 below. The 2015 no build and build estimates do not differ as the project would have negligible effects on traffic volumes.

Truck ADT and Truck Percent: The average daily truck traffic estimates are shown in italics for each year in Table 6. It is estimated that seven percent of traffic along Fairgrounds Drive and Redwood Parkway is truck traffic. The percentage for the current year, build year and horizon year is not expected to change. Therefore, truck traffic in the project area in 2015 will increase in proportion to the expected increase in traffic volumes but would not increase as a result of the project. Truck ADT on Fairgrounds Drive is estimated to be approximately 4,800 in year 2010 increasing to 6,118 in year 2015. Truck ADT on Redwood Street is estimated to be approximately 7,014 in year 2010 decreasing to 6,902 in year 2015.

Table 6 Estimated ADT and Truck ADT, 2010, 2015, and 2035

Roadway	Segment		Direction	ADT	<i>Truck</i>	ADT	<i>Truck</i>	ADT	<i>Truck</i>
				2010	<i>ADT</i>	2015	<i>ADT</i>	2035	<i>ADT</i>
Fairgrounds Drive	Whitney / Taper Ave	WB CA-37	SB	18800	<i>1316</i>	20300	<i>1421</i>	26200	<i>1834</i>
			NB	17200	<i>1204</i>	19100	<i>1337</i>	23000	<i>1610</i>
	WB CA-37	EB CA-37	SB	18100	<i>1267</i>	19900	<i>1393</i>	26600	<i>1862</i>
			NB	6700	<i>469</i>	8100	<i>567</i>	14700	<i>1029</i>
	EB CA-37	Sereno Dr	SB	2500	<i>175</i>	6200	<i>434</i>	5100	<i>357</i>
			NB	2700	<i>189</i>	6300	<i>441</i>	11100	<i>777</i>
	Sereno Dr	Redwood St	SB	1500	<i>105</i>	3300	<i>231</i>	8000	<i>560</i>
			NB	1100	<i>77</i>	4200	<i>294</i>	6700	<i>469</i>
Redwood Street	Tuolumne St	WB I-80	EB	22300	<i>1561</i>	20000	<i>1400</i>	23800	<i>1666</i>
			WB	22500	<i>1575</i>	21200	<i>1484</i>	23000	<i>1610</i>
	WB I-80	EB I-80	EB	16600	<i>1162</i>	17400	<i>1218</i>	21600	<i>1512</i>
			WB	21700	<i>1519</i>	21100	<i>1477</i>	26300	<i>1841</i>
	EB I-80	Foothill Dr	EB	7400	<i>518</i>	8700	<i>609</i>	8500	<i>595</i>
			WB	9700	<i>679</i>	10200	<i>714</i>	8900	<i>623</i>

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RTP Horizon Year / Design Year: Build and No Build LOS, AADT, % trucks, truck AADT:

LOS: Tables 7 and 8 below show the 2035 no build and build peak hour LOS of I-80 eastbound at Redwood Parkway. As is shown by the tables the peak hour LOS will not differ between the build and no build scenarios.

Tables 9, 10 and 11 shows the 2035 peak hour LOS of westbound I-80 at Redwood Parkway, eastbound SR 37 at Fairgrounds Drive and westbound SR 37 at Fairgrounds Drive, respectively. There will be no change to traffic volumes or geometry in the build scenario and therefore no change is expected in the LOS.

Intersection LOS for 2035 AM and PM peak hours for the no build and build scenarios are provided in Attachment A, Table 57. The build scenario would result in improved LOS at eight intersections, the removal of three intersections with LOS D and a decreased LOS at one intersection. Overall the no build scenario would result in seventeen intersections operating at LOS D or worse, while the build scenario will result in eight intersections operating at LOS D or worse.

Table 7 2035 No Build Eastbound I-80 at Redwood Parkway Peak Hour LOS

Segment	Eastbound	
	AM	PM
Tennessee on-ramp to Redwood EB Off-ramp	C	F
Redwood EB off-ramp to Redwood WB off-ramp ²	C	E
Redwood WB off-ramp to Redwood on-ramp ²	C	D
Redwood on-ramp to SR 37 off-ramp	B	C

Table 8 2035 Build Eastbound I-80 at Redwood Parkway Peak Hour LOS

Segment	Eastbound	
	AM	PM
Tennessee on-ramp to Redwood Off-ramp	C	F
Redwood off-ramp to Redwood on-ramp	C	E
Redwood on-ramp to SR 37 off-ramp	B	C

² The existing eastbound ramps will be closed as part of the project; as such, the two segments in Table 7 are shown in Table 8 as one segment.

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Table 9 2035 Westbound I-80 at Redwood Parkway Peak Hour LOS

Segment	Westbound	
	AM	PM
Tennessee on-ramp to Redwood Off-ramp	F	C
Redwood off-ramp to Redwood on-ramp	E	D
Redwood on-ramp to SR 37 off-ramp	D	D

Table 10 2035 Eastbound SR 37 at Fairgrounds Drive Peak Hour LOS

Segment	Eastbound	
	AM	PM
SR 29 to Fairgrounds off-ramp	B	E
Fairgrounds off-ramp to on-ramp	B	F
Fairgrounds on-ramp to I-80 WB connector	C	E

Table 11 2035 Westbound SR 37 at Fairgrounds Drive Peak Hour LOS

Segment	Westbound	
	AM	PM
On from WB I-80 to Fairgrounds off-ramp	C	B
Fairgrounds off-ramp to Fairgrounds on-ramp	C	B
Fairgrounds on-ramp to SR 29	C	B

AADT: The 2010, 2015 and 2035 ADT estimates for the project limits are shown in Table 6 above. The 2035 ADT estimates to not differ between the build and no build scenarios.

Truck ADT and Truck Percent: The average daily truck traffic estimates are shown in italics for each year in Table 6 previously. It is estimated that seven percent of traffic along Fairgrounds Drive and Redwood Parkway is truck traffic. The percentage for the current year, build year and horizon year is not expected to change. Therefore, truck traffic in the project area in 2035 will increase in proportion to the expected increase in traffic volumes but would not increase as a result of the project.

Truck ADT on Fairgrounds Drive is estimated to be approximately 4,800 in year 2010 increasing to 8,498 in year 2035. Truck ADT on Redwood Street is estimated to be approximately 7,014 in year 2010 increasing to 7,847 in year 2035.

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Describe potential traffic redistribution effects of congestion relief: *(impact on other facilities)*

Traffic Redistribution:

While the proposed project will improve the levels of service at the intersections within the project limits, the improvements are expected to have little or no impact on the distribution of traffic within the study area.

- The peak hour volumes on I-80 in 2035 would vary by no more than 20 vehicles per hour, with and without the project.
- The peak hour volumes on SR 37 in 2035 would vary by no more than 38 vehicles per hour, with and without the project.
- No significant change is expected in the freeway operations as a result of the project.
- No change is expected to the locations of any bottlenecks, the duration of congestion on the freeway or the Level of Service (LOS) at the merge, diverge and weaving locations.

Therefore, the project would not result in a difference in traffic volumes, including truck traffic volumes which would be seven percent of traffic volume with or without the project.

Congestion Relief:

Overall, the project will improve project area congestion; the project will result in improved delay times and reduce queuing at intersections.

- The delays and queues on the off-ramps at Redwood Parkway, in both the eastbound and westbound directions, will be improved by the project. The westbound off-ramp intersection would become oversaturated in 2035 without the project, which would likely result in queuing from the signal causing congestion on the freeway.
- The operation along Redwood Parkway/Redwood Street between Fairgrounds Drive and Admiral Callaghan Lane, across I-80, will be improved by the project, with a better LOS and fewer delays during both AM and PM peak periods.
- Along Fairgrounds Drive, the provision of a second through lane in each direction will be necessary to prevent the PM peak LOS deteriorating to E or F at each of the signalized intersections in 2035.
- At the SR 37 / Fairgrounds Drive interchange, improvements will be required to accommodate the expected traffic volumes in 2035, such as widening the off-ramps and modifying left turn lanes on Fairgrounds Drive.

Though the project would improve congestion in the project area, improvements would not make Redwood Parkway a more attractive bypass route to diesel vehicles. Traffic volumes are not affected by the project as such there would be no increase in diesel truck traffic due to the project.

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Comments/Explanation/Details:

The project is not considered a POAQC, as defined in 40 CFR 93.123(b), for the following reasons:

- The project is not a new or expanded highway project with a significant number of or increase in diesel vehicles.
- The project does not include intersections that are or will be at LOS D, E, or F with a significant number of diesel vehicles.
- The project does not include the construction of a new bus or rail terminal with a significant number of diesel vehicles congregating at a single location.
- The project does not expand an existing bus or rail terminal with significant increases in the number of diesel vehicles congregating at a single location.
- The project is not in or affecting locations, areas, or categories of sites that are identified in the PM_{2.5} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The project would improve intersection LOS within the project area but would have no impact on the volume or distribution of traffic. It would not generate more vehicle or truck traffic or increase the capacity of freeways or highways. This project would improve interchange operation and reduce traffic congestions.

Therefore, the project meets the Clean Air Act requirements and 40 CFR 93.116 without any explicit hot-spot analysis. The project will not create a new or worsen an existing PM_{2.5} violation.

Attachment A: Intersection LOS Tables

Table 56 Intersection LOS, 2015 AM and PM, Build and No Build

Signalized Int ID	Study Intersection	Signal Control Type	2015 No Project				2015 With Project			
			AM		PM		AM		PM	
			Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS
1	Fairgrounds Dr at Taper Ave	signalized	20	C	21.2	C	20	C	21.2	C
2	Fairgrounds Dr at Gateway Dr	signalized	7.3	A	7.5	A	7.3	A	7.5	A
3	Fairgrounds Dr at WB 37 Ramps	signalized	20.6	C	43.9	D	16.3	B	17.1	B
4	Fairgrounds Dr at EB 37 Ramps	signalized	16.7	B	28.3	C	14.5	B	18.2	B
5	Fairgrounds Dr at Sage St	stop controlled ^{1,2}	15.7	C	31.8	D	12.4	B	13.3	B
6	Fairgrounds Dr at Fairground Gate	signalized	12.5	B	19.4	B	9.7	A	14.5	B
7	Fairgrounds Dr at Six Flags Gate	signalized	5.8	A	14.3	B	8	A	10.1	B
8	Fairgrounds Dr at Coach Lane	stop controlled ¹	12.7	B	20.7	C	14.2	B	18.6	C
9	Fairgrounds Dr at Sereno Dr	signalized	22.4	C	18.1	B	17.4	B	13.2	B
10	Fairgrounds Dr at Valle Vista Ave	stop controlled ¹	12.2	B	15.7	C	11.1	B	13.4	B
11	Fairgrounds Dr at Redwood St/WB I-80 Ramps	signalized	33.6	C	38.7	D	n/a		n/a	
12	Tuolumne St at Sereno Dr	signalized	27.7	C	30.6	C	27.7	C	30.6	C
13	Tuolumne St at Redwood St	signalized	34.8	D	62.5	E	34.8	C	62.5	E
14	Redwood Pkwy at EB I-80 Ramps	signalized	26.6	C	28.7	C	n/a		n/a	
15	Redwood Pkwy at Foothill Dr	stop controlled ¹	27.7	D	29.8	C	27.7	D	29.8	D
16	Admiral Callaghan S Ln at Redwood Pkwy	signalized	17.8	B	23.4	C	13.4	B	17.8	B
17	Admiral Callaghan Ln at EB I-80 Ramps	stop controlled ¹	9.6	A	29.8	D	n/a		n/a	
18	Admiral Callaghan Ln at Turner Pkwy	signalized	8.2	A	13.4	B	8.2	A	13.4	B
19	Admiral Callaghan Ln at Columbus Pkwy	signalized	27.7	C	36.3	D	27.7	C	36.3	D
20	Columbus Pkwy at Ascot Pkwy	signalized	13.2	B	11.4	B	9.4	A	12	B
21	Fairground Dr at Redwood St						6.9	A	9.2	A
22	Redwood St at I-80 WB Ramps						17.7	B	17.9	B
23	Redwood St at I-80 EB Ramps						15	B	20.2	C
24	Admiral Callaghan N Ln at Redwood Pkwy						11	B	18.2	B

Note: ¹ Two-way-stop-control intersection: delay and LOS of the worst movement is reported
² Signalized intersection in Build scenario

Table 57 Intersection LOS, 2035, AM and PM, Build and No Build

Signalized Int ID	Study Intersection	Signal Control Type	2035 No Project				2035 With Project			
			AM		PM		AM		PM	
			Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS
1	Fairgrounds Dr at Taper Ave	signalized	28.9	C	25.6	C	28.9	C	25.6	C
2	Fairgrounds Dr at Gateway Dr	signalized	9.2	A	9.9	A	9.2	A	10	A
3	Fairgrounds Dr at WB 37 Ramps	signalized	60.9	E	87.6	F	17.4	B	23.8	C
4	Fairgrounds Dr at EB 37 Ramps	signalized	38.4	D	110.3	F	16.7	B	27.4	C
5	Fairgrounds Dr at Sage St	stop controlled ^{1,2}	72.1	F	2248	F	10.1	B	12.7	B
6	Fairgrounds Dr at Fairground Gate	signalized	22.7	C	68.5	E	15.5	B	24.7	C
7	Fairgrounds Dr at Six Flags Gate	signalized	16	B	201.7	F	9.3	A	20.2	C
8	Fairgrounds Dr at Coach Lane	stop controlled ¹	21.1	C	799.1	F	24.6	C	121.2	F
9	Fairgrounds Dr at Sereno Dr	signalized	15	B	60.6	E	13	B	21.9	C
10	Fairgrounds Dr at Valle Vista Ave	stop controlled ¹	28.3	D	1571.3	F	16.2	C	196.3	F
11	Fairgrounds Dr at Redwood St/WB I-80 Ramps	signalized	78.2	E	142	F	n/a		n/a	
12	Tuolumne St at Sereno Dr	signalized	33.6	C	46.9	D	33.6	C	46.9	D
13	Tuolumne St at Redwood St	signalized	64.5	E	110.9	F	64.5	E	110.9	F
14	Redwood Pkwy at EB I-80 Ramps	signalized	29	C	57.5	E	n/a		n/a	
15	Redwood Pkwy at Foothill Dr	stop controlled ¹	42.5	E	61.6	F	42.5	E	61.6	F
16	Admiral Callaghan S Ln at Redwood Pkwy	signalized	25.8	C	41.6	D	14	B	26.7	C
17	Admiral Callaghan Ln at EB I-80 Ramps	stop controlled ¹	10.5	A	31.6	D	n/a		n/a	
18	Admiral Callaghan Ln at Turner Pkwy	signalized	9.5	A	15	B	9.5	A	15	B
19	Admiral Callaghan Ln at Columbus Pkwy	signalized	50.1	D	50.5	D	50.1	D	50.5	D
20	Columbus Pkwy at Ascot Pkwy	signalized	101.7	F	52.4	D	101.7	F	52.4	D
21	Fairground Dr at Redwood St						10.8	B	23	C
22	Redwood St at I-80 WB Ramps						18	B	16.8	B
23	Redwood St at I-80 EB Ramps						16.2	B	36.4	D
24	Admiral Callaghan N Ln at Redwood Pkwy						12.9	B	20.7	C

Note: ¹ Two-way-stop-control intersection: delay and LOS of the worst movement is reported
² Signalized intersection in Build scenario