

04-Sol-37-PM 10.6/11.2, 04-Sol-80-PM 4.0/4.9

Program Code 20.20.400.620

EA 4A4410

E-FIS 0400020584

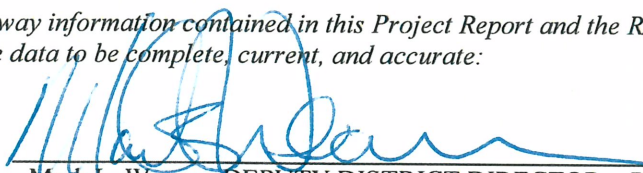
May 2015

PROJECT REPORT



**On Route 80/Redwood Pkwy Interchange; Fairgrounds Dr from Redwood St to SR 37;
and SR 37/Fairgrounds Dr Interchange
In the City of Vallejo**

I have reviewed the right of way information contained in this Project Report and the R/W Data Sheet attached hereto, and find the data to be complete, current, and accurate:

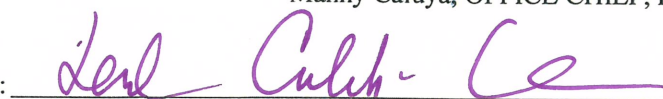

Mark L. Weaver, DEPUTY DISTRICT DIRECTOR – RIGHT OF WAY AND
LAND SURVEYS

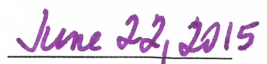
APPROVAL RECOMMENDED:


Jason Mac, PROJECT MANAGER


Manny Caluya, OFFICE CHIEF, DESIGN SHOPP

APPROVED:


Helena (Lenka) Culik-Caro, DEPUTY DISTRICT DIRECTOR-DESIGN


DATE

The Department of Transportation approves features within existing State R/W.

04-Sol-37-PM 10.6/11.2

04-Sol-80-PM 4.0/4.9

This Project Report (PR) has been prepared under the direction of the following Registered Engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.


Heidi M. Ouren, P.E.

5/21/15
DATE



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1. INTRODUCTION

The Solano Transportation Authority (STA), Solano County, and the City of Vallejo, in cooperation with the California Department of Transportation (Caltrans) and Federal Highways (FHWA), propose to construct improvements to the I-80/Redwood Parkway and the State Route (SR) 37/Fairgrounds Drive interchanges to mitigate traffic impacts caused by the planned development in the project area, including the Solano County Fairgrounds. Fairgrounds Drive, the local roadway that connects the two interchanges, will be widened from two to four lanes. Attachment A shows the Existing Conditions and location of the project.

STA is the Implementing Agency, and Solano County and the City of Vallejo are Project Sponsors. Caltrans is the Lead Agency under National Environmental Policy Act (NEPA) and STA is the Lead Agency under the California Environmental Quality Act (CEQA).

Route 80 is designated as an interstate highway and SR 37 (Marine World Parkway) is designated as a state route. This will be a Category 3 project due to the anticipated need for a revised freeway agreement to reflect the I-80/Redwood Parkway Interchange modifications. The preliminary cost estimate for the build alternative is \$48.0 million, which includes \$31,500,000 for construction and \$16,500,000 for right of way and utility relocations.

The build alternative consists of modifying the I-80/Redwood Parkway interchange to a Type L-1 diamond interchange, widening Fairgrounds Drive from two to four lanes between Redwood Street and Coach Lane, widening Fairgrounds Drive from four to five lanes between Coach Lane and the SR 37 eastbound entrance ramp, adding an exclusive right turn lane to the SR 37 westbound exit ramp, and modifying the lane configurations on Fairgrounds Drive at its intersections with SR 37.

It is assumed that the construction of the project would begin in August 2017 and be completed by April 2019.

2. RECOMMENDATION

It is recommended that the Project Report be approved for the build alternative, that the project proceed to the final design phase, and that a cooperative agreement be negotiated for final design. Approval of this Project Report is limited to State-Owned facilities.

All affected local agencies have been consulted with respect to the recommended project, their views have been considered, and they are in general accord with the plan as presented.

The design phase of the project will account for staged construction due to coordination with a future project to construct High Occupancy Vehicle/Toll lanes (express lanes) along I-80. This first stage has been labeled the Minimum Project Alternative (MPA). The I-80 corridor through Solano County has been identified by Metropolitan Transportation Commission

(MTC) as part of a feasible express lane network throughout the San Francisco Bay Area. STA has completed a study to prioritize implementation of express lanes along the I-80 corridor. The portion of I-80 within the limits of this project has been identified as a Tier 2 project. In order to construct the express lanes additional work along the I-80 mainline would be necessary. In order to maximize efficiencies and reduce costs, it has been determined that construction of the improvements to the EB side of the interchange should be done concurrently with the express lane project. It is therefore recommended that the first stage of construction not include the modifications to the EB on and off ramps.

3. BACKGROUND

A. Project History

The Solano County Transportation Authority (STA) prepared the I-80/I-680/I-780 Major Investment and Corridor Study in July 2004 to develop a long range transportation plan for those corridors. The study was broken into seven geographical segments, with this portion of the I-80 corridor identified as Segment 2 - Carquinez Bridge to SR 37. The corridor study prioritized projects within the categories of near-term, mid-term and long-term improvements. The I-80 Westbound HOV Lane was identified as Mid-Term priority number 23 and the I-80 Eastbound HOV Lane with improvements to the Redwood Parkway eastbound ramps as priority number 24. STA, Solano County, Caltrans, and local jurisdictions were involved throughout the development of the study.

Solano County received a Federal earmark in 2005 (SAFETEA-LU) to perform preliminary studies for the I-80 HOV Lanes/Turner Overcrossing and the Metropolitan Transportation Commission (MTC) programmed the project in Amendment No. 07-05 to Transportation 2030 (**TIP ID: SOL050061**). The earmark requires a 20% Local Match which is being funded jointly between STA, Solano County and the City of Vallejo.

The I-80 HOV/New Turner Parkway Project Study Report-Project Development Support (PSR-PDS) was prepared and approved in March 2009. The PSR-PDS recommended improvements to the I-80/Redwood Parkway Interchange, Fairgrounds Drive, and the SR 37/Fairgrounds Drive Interchange as an independent component of the I-80 HOV project due to the potential future development in the northern area of Vallejo.

MTC programmed this independent project component in Amendment No. 09-31 (TIP ID: SOL090015) to continue with the preliminary engineering and environmental planning activities. A subsequent TIP Amendment No. 15-02 revised the Air Quality description to non-exempt in order to confirm that the project meets Regional conformity requirements. The TIP shows total funding of \$93,349,000 with \$63,349,000 for construction.

The build alternative has not significantly changed from the alternative previously approved in the PSR-PDS. The Draft Project Report was approved on September 13, 2012.

B. Community Interaction

STA and Caltrans began the public information process using several channels of communication, including the Notice of Preparation (NOP), mailers, internet, newspaper ads, and a public open house scoping meeting to inform the public and agencies of the project and

scoping process. The NOP was issued to the State Clearinghouse on January 11, 2011. A mailer, which provided information on the project and details of the scoping meeting, was distributed to approximately 2,000 stakeholders in the project vicinity. Stakeholders include property owners within 500 feet of the project, elected officials and public agencies, special interest organizations, and neighborhood groups.

The scoping meeting was held on January 26, 2011 at Cooper Elementary School in Vallejo. Approximately 37 people attended the meeting. The scoping meeting was organized as an open house, with informational stations displaying exhibit boards staffed by representatives from STA, Caltrans, the County of Solano, and the City of Vallejo. The exhibit boards portrayed the following subjects: project improvements and location; project purpose and need; current transportation issues; environmental issues and constraints; overview of the environmental review process; and anticipated project schedule.

There were approximately eighteen written comments received from stakeholders in the project vicinity during the comment period. One comment letter was received from the California Department of Fish and Game and one letter was received from the Governor's Office of Planning and Research. The key issues raised during the scoping period were related to preservation of existing biological resources, traffic congestion and noise, and concerns related to right of way impacts. Caltrans' informational pamphlet "Your Property Your Transportation Project" July 2008 was made available at the scoping meeting as an aid in explaining the right of way process.

An additional public informational meeting was held on January 18, 2012 at Cooper Elementary School in Vallejo to update the property owners affected by the project on project status and engineering/environmental studies completed to date. Thirteen property owners and residents signed in at the meeting. One written comment was received. The meeting included a short presentation by STA staff, Caltrans Staff, and consultant team staff to explain the current status of the project, what environmental studies had been completed or are being completed, timing on the release of the environmental document for public review, and what engineering issues were being studied. As with the January 2011 public meeting, the Caltrans' informational pamphlet "Your Property Your Transportation Project" July 2008 was again made available to the attendees. The majority of questions asked during the meeting related to the relocation process. There were also some questions regarding current and projected traffic congestion within the project area.

A public meeting was also held on October 11, 2012 during the 45-day review period of the draft EIR/EA. The meeting was held from 7:00 to 8:00 p.m. at Cooper Elementary School, located at 612 Del Mar Avenue in Vallejo, California. The primary purpose of the meeting was to provide information, answer questions, and receive comments on the draft EIR/EA for the project. The secondary purpose of the meeting was to present the findings of the noise abatement options evaluated at potential noise affected areas along the project corridor, and receive public comments regarding the potential barrier locations.

Twenty-nine attendees signed in at the meeting. The meeting format was an open house, where attendees could view exhibit boards illustrating the proposed Build Alternative

improvements and submit verbal and written comments. Members of the project team were present to answer questions and provide project information. A Spanish translator was present to assist with Spanish translation.

A total of 16 written comment forms were received at the meeting. No verbal comments were submitted. The majority of the concerns raised by the attendees were regarding right-of-way acquisition of private property. Other issues raised included general support or dislike for the project, the placement of noise barriers, and traffic safety.

C. Existing Facility

Within the study limits, Interstate 80 (I-80) is currently a six lane, east-west freeway passing through the City of Vallejo connecting the Port of Oakland to the Central Valley as well as the western United States. It serves not only as a regional commuter route, but also as a major regional goods movement gateway corridor north of SR 4 in Contra Costa County through Solano County.

I-80 was originally adopted as a state highway (SR 7) on April 2, 1937 and subsequently declared a freeway by resolution of the California Highway Commission on January 24, 1941. The I-80/SR 29 (Old SR 74) Separation was the first controlled access point, constructed in 1947, and was followed by the Magazine Street interchange constructed in the mid-1950s. The six additional access points that exist today (Sequoia, I-780, Georgia Street, Solano Avenue, Tennessee Street and Redwood Street) were all added in the late 1950's and I-80 was widened to its current six lane configuration. The original facility consisted of asphalt concrete paving over a cement treated base. A metal beam guard rail and resurfacing project was constructed in the late 1960's, followed by a concrete median barrier replacement and resurfacing project in 2008 from the Tennessee Street interchange to American Canyon Road. Between Redwood Parkway and SR 37, I-80 consists of 12' lanes with varying 8'-10' left and right shoulders, separated by a concrete median barrier. Right of way is constrained on the east side by a parallel frontage road (Admiral Callaghan Lane) serving commercial areas adjacent to I-80. Attachment A shows the existing (and No Build) conditions within the project corridor.

Several nonstandard features are present within this study segment. The Redwood Parkway eastbound interchange configuration consists of short, tight radius hook ramps connecting to Admiral Callaghan Lane rather than the cross road that they serve, resulting in nonstandard merge and diverge distances. In the westbound direction, the entrance and exit ramps form a five-legged intersection with Redwood Street and Fairgrounds Drive with poor stopping and corner sight distance. Vertical clearance at the Redwood overcrossing is also nonstandard, with 14'-11" and 16'-0" clearances in the eastbound and westbound directions, respectively.

SR 37 is a four lane, east-west freeway connecting SR 29 and I-80 within the City of Vallejo. The westerly project limit includes the SR 37/Fairgrounds Drive interchange, a tight diamond configuration, and the I-80/SR 37 freeway to freeway interchange, constructed in the late 1970's, is at the easterly end of the study segment. The majority of SR 37 within the study limits was constructed in the mid- to late 1970's, while the Fairgrounds Drive/SR 37 interchange was built in the early 1990's. This segment of SR 37 consists of 12' lanes, 5' left

shoulders, and 10' right shoulders. The existing pavement section is constructed of asphaltic concrete on top of cement treated base.

Between Redwood Street and Coach Lane, Fairgrounds Drive is a two-lane, undivided local arterial with 12' lanes, a 12' two-way left turn lane, and 2 to 4 foot shoulders. Moorland Street is a two-lane residential roadway that runs parallel to the west of Fairgrounds Drive. The roadway continues south, between Redwood Street and Greenfield Avenue, however, only the northern portion of Moorland Street connects directly to Redwood Street. The portion of Moorland Street south of Redwood Street is currently a nonstandard dead-end that does not provide an adequate turning radius for emergency fire response vehicles.

4. NEED and PURPOSE

A. Problem, Deficiencies, Justification

The Redwood Parkway-Fairgrounds Drive improvements will reduce congestion on the local roadway network adjacent to I-80 between Redwood Parkway and SR 37 to mitigate existing and future traffic impacts caused by planned development in the northern portion of Vallejo, including the planned redevelopment of the Solano County Fairgrounds.

Current transportation issues within the project corridor include poor circulation during peak commute periods, long delays at intersections, short acceleration and deceleration lengths, and 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 land uses in the area;
- Improving the existing interchanges and intersection operations; and
- Improving the safety of the local roadway network by reducing congestion.

This project will eliminate the five legged intersection on the WB side of the I-80/Redwood Street Interchange and will improve the skewed intersection angles of the ramps from 45 degrees to 85 degrees for the off-ramp and from 60 degrees to 75 degrees for the on-ramp. Eliminating the unconventional five legged intersection should reduce the potential for conflicts due to driver error. Improving the skew angle of the ramps will aid in maneuverability of turning vehicles through the intersection.

The I-80/Redwood Parkway eastbound interchange configuration consists of short, tight radius hook ramps connecting to Admiral Callaghan Lane rather than the cross road that they serve, resulting in nonstandard merge and diverge distances. Historic data shows that hook off-ramps have accident rates that are higher than traditional diamond type ramps. The short

deceleration and acceleration hook ramps on I-80 EB to and from Admiral Callaghan Lane would be eliminated, resulting in increased deceleration length, weaving length and improved sight distance.

As a result of the modifications to Fairgrounds Drive, the corner sight distance at the crest vertical curve on Fairgrounds Drive near Redwood Street will be improved from 55 feet to 300 feet.

The existing sidewalks on both eastbound and westbound Fairgrounds Drive under SR-37 are proposed to be relocated to be between the piers and abutments. Placing the sidewalks behind the existing undercrossing piers, thereby increasing the separation from the vehicular traffic, should improve pedestrian safety.

The portion of Moorland Street south of Redwood Street that is currently a nonstandard dead-end will be improved to provide an adequate turning radius for emergency fire response vehicles.

B. Regional & System Planning

Identify Systems

Interstate 80 and State Route 37 within the project area are both on the National Highway System. Neither I-80 nor SR 37 are part of the Scenic Highway System or State Highway Extra Legal Load Route System.

State Planning

On March 15, 2007, the CTC adopted Resolution CMIA-P-0607-02. In Sections 2.12 and 2.13 of this resolution, the CTC resolved that "...the Commission expects Caltrans and regional agencies to preserve the mobility gains of urban corridor capacity improvements over time that will be described in Corridor System Management Plans (CSMP's),..." A CSMP is a transportation planning document that will study the facility based on comprehensive performance assessments and evaluations. The strategies take into account transit usage and projections and interactions with arterial network and connection to State Highways. Each CSMP presents an analysis of existing and future traffic conditions and proposes traffic management strategies and capital improvements to maintain and enhance mobility within each corridor. The I-80 EAST CSMP was approved on October 11, 2010 and includes year 2030 strategies for improving geometry and access at interchanges by consolidating or removing access points and improving merge and diverge areas. It also includes 2015 strategies to implement ramp metering at local access interchange in Vallejo between SR 29 and SR 37.

Regional Planning

The project is included in Metropolitan Transportation Commission's (MTC) 2015 Transportation Improvement Program (TIP) Amendment No. 15-02 as project number SOL090015. MTC approved the financially constrained TIP on December 17, 2014. Following approval by the Department, the Federal Highway Administration (FHWA), and

Federal Transit Administration (FTA) incorporated the TIP Amendment into the Federal Statewide Transportation Improvement Program (FSTIP) on February 2, 2015.

Consistent with the goals of Transportation 2030, MTC sponsored development of the San Francisco Bay Area Regional Intelligent Transportation System (ITS) Plan as a roadmap for transportation systems integration in the Bay Area over the next 10 years. It identifies ITS strategies such as vehicle detection, ramp metering, closed circuit television (CCTV) cameras, and changeable message signs (CMS) for the I-80 corridor. This project is consistent with the ITS plan in that it proposes to maintain the existing traffic operations system (TOS) elements of in-road detectors and CMS. In addition, ramp metering of the entrance ramps at the I-80/Redwood Parkway interchange is included in the proposed alternative. One of the objectives of the Solano Comprehensive Transportation Plan (CTP 2030) is to support the goals of MTC's ITS Plan.

Solano CTP 2030 - Arterials, Highways and Freeways Element, also identifies I-80 as a Regional Route of Significance and supports the implementation of interchange modifications on I-80 in Vallejo.

In December, 2011, STA published the Final Bicycle Transportation Plan (Bicycle Plan) for Solano County. The Bicycle Plan serves as a guide to planning and engineering professionals in Solano County's jurisdictions, to encourage the development of a unified bicycle system throughout the County. The system consists of the physical bikeway routes, way finding signage, and associated amenities such as bicycle lockers, showers, etc. The Bicycle Plan focuses on a bikeway network that will provide origin and destination connections in Solano County as well as to surrounding counties.

The Bicycle Plan includes the potential construction of a Class I bike path along Fairgrounds Drive, from Marine World Parkway to Redwood Street. Under the Build Alternative, this bike path would be reduced to a Class II bike lane facility. Although the Build Alternative does not propose the construction of a separated bike path, such as the one proposed in the Bicycle Plan, the proposed improvements would establish the bicycle network connectivity the Bicycle Plan intended to establish along Fairgrounds Drive. As such, the proposed Build Alternative is not considered to be in conflict with the Bicycle Plan.

Local Planning

The development of the Solano County Fairgrounds is consistent with the City of Vallejo Redevelopment Agency's Five Year Implementation Plan (FY 04/05 to FY 08/09). The Fairgrounds property is included in the Flosden Acres Redevelopment Area of that plan. In addition, the project alternatives are consistent with the City of Vallejo's Regulations and Standard Specifications for Public Improvements.

C. Traffic

Existing Conditions

The Average Annual Daily Traffic and truck percentages are given in Table 1 below.

Table 1 - 2009 Total AADT and Truck AADT

Roadway	Post Mile	Total AADT	Truck AADT	%Truck
State Route 37	11.73	96,000	5,626	5.86
I-80 Vallejo	5.6347	115,000	5,831	5.07

Source: Redwood Parkway-Fairgrounds Drive Improvements Project, Air Quality Technical Report, December 2011.

Since the only work on the I-80 mainline was to tie in the future ramps, no future AADT numbers were projected for I-80. Also, the project will not require any work to be done on the SR 37 mainline so no AADT numbers were project for that route.

According to the Traffic Operations Analysis Report, September 2011, the following intersections within the project limits currently operate at unacceptable Levels of Service (LOS) D or worse during the PM peak periods as shown in Table 2:

- Fairgrounds Drive at Sage Street
- Fairgrounds Drive at Redwood Street/westbound I-80 ramps

The intersections of Tuolumne/Redwood Street and Redwood Parkway/Foothill Boulevard also operate at unacceptable levels of service, but the proposed project (Build Alternative) has no impact on those intersections. See Attachment E for Existing Peak Hour traffic volumes and study intersection locations.

Table 2 - Summary of existing conditions at intersections

Signalized Int ID	Study Intersection	Signal Control Type	Existing			
			AM		PM	
			Delay (seconds)	LOS	Delay (seconds)	LOS
1	Fairgrounds Dr at Taper Ave	signalized	19.9	B	21.3	C
2	Fairgrounds Dr at Gateway Dr	signalized	7	A	7.3	A
3	Fairgrounds Dr at WB 37 Ramps	signalized	20.4	C	33.1	C
4	Fairgrounds Dr at EB 37 Ramps	signalized	15.6	B	22.4	C
5	Fairgrounds Dr at Sage St	stop controlled ¹	24.7	C	59.2	F
6	Fairgrounds Dr at Fairground Gate	signalized	3.3	A	9	A
7	Fairgrounds Dr at Six Flags Gate	signalized	8.7	A	9.3	A
8	Fairgrounds Dr at Coach Lane	stop controlled ¹	11.6	B	16.4	C
9	Fairgrounds Dr at Sereno Dr	signalized	12.4	B	17.9	B
10	Fairgrounds Dr at Valle Vista Ave	stop controlled ¹	11.6	B	13.3	B
11	Fairgrounds Dr at Redwood St/WB I-80 Ramps	signalized	33.7	C	38.7	D
12	Tuolumne St at Sereno Dr	signalized	27.2	C	31.6	C
13	Tuolumne St at Redwood St	signalized	32.4	C	59.8	E
14	Redwood Pkwy at EB I-80 Ramps	signalized	27.7	C	32.8	C
15	Redwood Pkwy at Foothill Dr	stop controlled ¹	23.8	C	26.9	D
16	Admiral Callaghan S Ln at Redwood Pkwy	signalized	16.3	B	24.1	C
17	Admiral Callaghan Ln at EB I-80 Ramps	stop controlled ¹	9.5	A	14.7	B
18	Admiral Callaghan Ln at Turner Pkwy	signalized	9.9	A	14	B
19	Admiral Callaghan Ln at Columbus Pkwy	signalized	10.5	B	26.7	C
20	Columbus Pkwy at Ascot Pkwy	signalized	11.5	B	8.2	A
Note: ¹ Two-way-stop-control intersection: delay and LOS of the worst movement is reported						

Collision Analysis

Accident data for the three-year period from April 1, 2007 to March 31, 2010 was obtained from Caltrans Traffic Accident Surveillance and Analysis System (TASAS). The data is summarized in the tables below. The summaries are shown for the following project segments:

- I-80 Ramps – EB and WB
- SR 37 Ramps – EB and WB

The accident information includes the number of fatal (F), fatal plus injury (F+I) and total (Total) accidents in the study area. The actual rates for the project area are compared with the statewide averages for similar facilities in urban areas.

Accident Statistics – I-80 Ramps
April 1, 2007 to March 31, 2010 (36 months)

Location	No. of Accidents			Actual Rates (per million vehicle miles)			Average Rates (per million vehicle miles)		
	F	F+I	Total	F	F+I	Total	F	F+I	Total
I-80 EB									
Exit to EB Redwood Street/ Admiral Callaghan Lane (PM 4.30)	0	1	1	0.000	0.21	0.21	0.004	0.26	0.85
Exit to Redwood Street/ Admiral Callaghan Lane (PM 4.50)	0	1	5	0.000	0.11	0.54	0.004	0.28	0.95
Entrance from Redwood Street/ Admiral Callaghan Lane (PM 4.58)	0	0	0	0.000	0.00	0.00	0.002	0.16	0.55
I-80 WB									
Entrance from Redwood Street/ Fairgrounds Drive (PM 4.32)	0	1	7	0.000	0.06	0.43	0.002	0.14	0.45
Exit to Redwood Street/ Fairgrounds Drive (PM 4.51)	0	1	3	0.000	0.18	0.55	0.004	0.42	1.20

I-80 EB Exit to EB Redwood Street/Admiral Callaghan Lane

Only one accident occurred in this segment during the reporting period. The accident occurred during the day under clear, dry conditions, and no unusual or apparent factor was reported. Only one vehicle was involved in the accident. The driver was speeding and was under the influence of alcohol.

I-80 EB Exit to Redwood Street/Admiral Callaghan Lane

All the accidents in this segment occurred during the day with no unusual conditions. Two accidents (40%) were caused by drivers executing an improper turn. All accidents involved one of the following conditions; the driver was under the influence of alcohol, speeding, and/or failed to yield the right of way. 60% of the accidents occurred in clear weather and dry condition. 40% of the accidents had no apparent factor and 20% were caused by drivers' inattention.

I-80 EB Entrance from Redwood Street/Admiral Callaghan Lane

No accidents were reported in this area during the studied period.

I-80 WB Entrance from EB Redwood Street/Fairgrounds Drive

All accidents in this segment occurred in the afternoon with no unusual condition. All of the drivers causing the accidents were either speeding or were committing some other type of traffic violation. Over 70% of the accidents occurred under clear and dry conditions. 85% of the vehicles were proceeding straight. Over 70% of the accidents were rear end collisions.

I-80 WB Exit to Redwood Street/Fairgrounds Drive

67% of the drivers responsible for the accidents in this segment were speeding. The other

33% of the accidents involved some other traffic violation. All accidents occurred in dry weather, with no unusual conditions and no other apparent factors. All accidents were rear end collisions caused by speeding or some other traffic violation. All accidents occurred during the day time between the hours of 7am to 5pm. 85% of the vehicles were proceeding straight. All of the accidents involved at least one vehicle that was at a complete stop prior to the accident.

Accident Statistics – SR-37 Ramps
April 1, 2007 to March 31, 2010 (36 months)

Location	No. of Accidents			Actual Rates (per million vehicle miles)			Average Rates (per million vehicle miles)		
	F	F+I	Total	F	F+I	Total	F	F+I	Total
SR-37 EB									
(“FA2” Line) Exit to Fairgrounds Drive (PM 10.76)	0	2	4	0.000	0.72	1.43	0.004	0.42	1.20
(“FA3” Line) Entrance from Fairgrounds Drive (PM 11.05)	0	3	7	0.000	0.16	0.38	0.002	0.26	0.75
SR-37 WB									
(“FA4” Line) Exit to Fairgrounds Drive (PM 11.09)	0	5	20	0.000	0.26	1.05	0.004	0.42	1.20
(“FA1” Line) Entrance from Fairgrounds Drive (PM 10.81)	0	0	3	0.000	0.00	1.14	0.002	0.26	0.75

x.xx = Actual rate is higher than average rate; F=Fatal; I=Injury

SR-37 EB Ramp Exit to Fairgrounds Dr

The actual fatalities plus injuries rate and the total accident rate in this location were higher than the statewide averages for a similar facility but no fatalities were reported. Failure to yield, executing an improper turn, speeding, and other traffic violations each contributed to one accident. 75% of the accidents occurred in clear weather. All accidents were either broadside or rear end collisions. 50% of the vehicles were proceeding straight. No unusual conditions were reported for any of the accidents.

SR-37 EB Ramp Entrance from Fairgrounds Dr

42% of the drivers who caused the accidents were speeding or had committed other traffic violations. Only one accident (14%) was caused by unknown factors. 70% of the accidents occurred in clear weather. All accidents were broadside, rear end, or sideswipe collisions. Over 85% of the vehicles were proceeding straight. 57% of the accidents happened during dry conditions.

SR-37 WB Ramp Exit to Fairgrounds Dr

60% of the drivers who caused the accidents were speeding or had committed other traffic violations. 20% of the accidents resulted from following too close, failure to yield, or committing an improper turn. 15% of the drivers were under the influence of alcohol. Only

one accident (14%) was caused by unknown factors. 80% of the accidents occurred in clear weather. One accident did not state the type of collision. 50% of the accidents were rear end collisions. 80% of the accidents occurred during clear and dry conditions. The only accident within the project limits involving a pedestrian occurred in this segment. No fatalities were reported.

SR-37 WB Ramp Entrance from Fairgrounds Dr

The total actual accident rate for this location was higher than the statewide average for a similar facility, but no fatalities or injuries were reported. 67% of the accidents involved drivers speeding and the rest were the result of failure to yield. 67% of the accidents occurred in clear and dry conditions. 67% of the accidents were rear end collision and the remaining 33% were broadside collisions. 67% of the accidents involved vehicles proceeding straight and/or stopped.

Forecasted Conditions (2035)

Traffic forecasts were prepared based on the latest version of the Solano-Napa Phase II county-wide transportation model. This model was provided by STA and modifications were made to ensure that it accurately reflected 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. This was based on input received from STA, Solano County, and City of Vallejo.

The land use assumptions in the 2010 travel demand model have been used for 2010 land use assumptions; however, the land use files for 2030 did not reflect current expectations about development within the study area. The Solano County Fairgrounds are now 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 Solano-Napa Phase II model was modified to reflect these current projected land uses.

The traffic operations analysis performed for 2035 Build and No Build conditions 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. No significant change is expected in the freeway operations as a result of the project. In the eastbound direction on I-80 at the Redwood Parkway interchange, there will be minor changes to traffic speed between the existing first off-ramp and the on-ramp, as a result of consolidating the two off-ramps. 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.

The delays and queues on the off-ramps at Redwood Parkway, in both the eastbound and westbound directions, will be improved by the project. In particular, 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 between Redwood Street and Coach Lane will be necessary to prevent the PM peak LOS deteriorating to E or F at each of the signalized intersections in 2035. At some locations an additional turning lane is recommended to accommodate increased traffic volumes expected from the redevelopment of the Solano County Fairgrounds. At these intersections, the recommended layout has been developed collaboratively with the designers.

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. These have been incorporated into the recommended layouts.

At the remaining intersections outside the project construction limits but within the study area, no change is expected in the LOS and no mitigations will be required.

The Traffic Operations Analysis Report shows that the following intersections within the project limits would operate at unacceptable Levels of Service (LOS D or worse) during the AM and PM peak periods in 2035:

- Fairgrounds Drive at westbound SR 37 ramps
- Fairgrounds Drive at eastbound SR 37 ramps
- Fairgrounds Drive at Sage Street
- Fairgrounds Drive at Fairground gate
- Fairgrounds drive at Six Flags gate
- Fairgrounds Drive at Coach Lane
- Fairgrounds Drive at Sereno Drive
- Fairgrounds Drive at Valle Vista Avenue
- Fairgrounds Drive at Redwood Street/westbound I-80 ramps
- Admiral Callaghan Lane at Redwood Parkway
- Admiral Callaghan Lane at eastbound I-80 ramps

5. ALTERNATIVES

A. Build Alternative

Proposed Features

The Build Alternative would construct several roadway improvements along portions of Fairgrounds Drive and Redwood Parkway/Redwood Street, within the City of Vallejo. The Typical Cross Section and Layouts shown in Attachment B illustrate the improvements proposed under the Build Alternative, which would include the following major elements.

- ***Modification of the Redwood Parkway/I-80 Interchange***

The existing Redwood Parkway/I-80 interchange would be reconstructed as a tight diamond configuration that utilizes the existing I-80 overcrossing structure. New I-80 westbound on- and off-ramps would be constructed to directly connect with Redwood Street as a signalized four-way intersection, independent of the Fairgrounds Drive/Redwood Street intersection, and closer to the I-80 freeway right-of-way. West of the I-80 overcrossing structure, Redwood Street would be widened to accommodate new turning lanes to and from the proposed I-80 westbound ramps, requiring additional right-of-way acquisition from existing residential land uses.

The existing tight radius hook on- and off- ramps connecting I-80 eastbound to Admiral Callaghan Lane would be replaced with a new Redwood Parkway/I-80 eastbound on-ramp that follows the proposed tight diamond interchange configuration. Similar to the proposed Redwood Street/I-80 westbound ramps, new I-80 eastbound on- and off-ramps would be constructed to directly connect with Redwood Parkway as a signalized four-way intersection, independent of the Redwood Parkway/Admiral Callaghan Lane intersection, and closer to the I-80 freeway right-of-way. Construction of the new I-80 eastbound on-ramp would require additional right-of-way acquisition from existing commercial land uses.

- ***Relocation of the Fairgrounds Drive/Redwood Street Intersection***

The existing Fairgrounds Drive/Redwood Street intersection would be relocated approximately 200 feet west of its current location. Separating the Fairgrounds Drive intersection from the I-80 westbound ramps would remove severe skew angles and increase the sight distance on Fairgrounds Drive. As discussed above, the new three-way signalized intersection would be independent from the proposed Redwood Street/I-80 westbound ramps.

- ***Moorland Street Cul-de-sacs***

The existing Redwood Street/Moorland Street intersection would be removed due to its proximity to the relocated Fairgrounds Drive intersection. The termini of Moorland Street, both north and south of Redwood Street, would be reconfigured as cul-de-sacs. Each of the cul-de-sacs would be designed to provide an adequate turning radius for

emergency fire response vehicles. The alignment of the Moorland Street cul-de-sacs would require additional right-of-way acquisition from existing residential land uses.

- ***Widening of Fairgrounds Drive***

Fairgrounds Drive would be widened from two to four lanes from Redwood Street to Coach Lane, and from four to five lanes from Coach Lane to the SR 37 eastbound entrance ramp. The two way left turn lane will be maintained between Redwood Street and Coach Lane to accommodate frontage property access. As a result of the widening, approximately 1300 linear feet of Rindler Creek that parallels Fairgrounds Drive will be relocated to the east. Five-foot sidewalks will be provided in the southbound direction between Sereno Drive and Redwood Street and in the northbound direction from Redwood Street to Coach Lane. A ten-foot sidewalk is proposed in the northbound direction north of Coach Lane. Class II bike lanes are planned in both direction of travel from Redwood Street to the SR 37 interchange.

- ***Modifications to the Fairgrounds Drive/SR 37 interchange***

The portion of Fairgrounds Drive that crosses under SR 37 would be widened to better accommodate queuing issues associated with closely spaced intersections. However, the existing tight diamond configuration of the Fairgrounds Drive/SR 37 interchange would largely remain unchanged. Minor modifications to the SR37 westbound exit ramp would include the addition of an exclusive right turn lane and reconfiguration of the turning lanes to and from Fairgrounds Drive.

- ***Signal Modifications***

All of the new intersections associated with the interchange modifications and relocation of the Fairgrounds Drive/Redwood Street intersection would be signalized. In addition, the Build Alternative includes the signalization of the Fairgrounds Drive/Sage Street intersection.

The Build Alternative would also include signal modifications at Fairgrounds Drive/SR 37 westbound ramps, Fairgrounds Drive/SR 37 eastbound ramps, Fairgrounds Drive/Solano County Fairgrounds Development Entrance (north), Sereno Drive/Fairgrounds Drive, and Redwood Parkway/Admiral Callaghan Way.

The project does not affect the operations on I-80 or SR 37 as the same merge and diverge points will remain with the exception of combining the I-80 eastbound exit ramps into one exit instead of two. Thus there is no difference in mainline operations between the Build and No Build Alternatives, on the intersections at the interchanges.

Table 3 summarizes the study intersection operating conditions for the year 2035 under both the Build and No-Build Alternatives. Four study intersections currently operate at unacceptable LOS D or worse during the evening peak period. Under 2035 No Build Alternative evening conditions, the vehicle delay at the majority of the study intersections would deteriorate. Design Year 2035 Build and No Build Peak Hour forecasted volumes are shown in Attachment E.

Table 3 – 2035 Intersection LOS

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										

The improvements proposed under the Build Alternative would improve intersection operations under 2035 conditions. With the exception of the following, the majority of the study intersections would operate at LOS C or better:

- Fairgrounds Drive/Coach Lane (LOS F-evening peak hours)-Stop controlled
- Fairgrounds Drive/Valle Vista Ave (LOS F-evening peak hours)-Stop controlled
- Tuolumne Street/Sereno Drive (LOS D-evening peak hours)-Signalized
- Tuolumne Street/Redwood Street (LOS E-morning peak hours, LOS F-evening peak hours)-Signalized
- Redwood Parkway/Foothill Drive (LOS E-morning peak hours, LOS F-evening peak hours)-Stop controlled
- Admiral Callaghan Lane/Columbus Parkway (LOS D-morning peak hours, LOS D-evening peak hours)-Signalized
- Columbus Parkway/Ascot Parkway (LOS F-morning peak hours, LOS D-evening peak hours)-Signalized
- Redwood Street/I-80 eastbound Ramps (LOS D-evening peak hours)-

There are three existing unsignalized intersections within the project limits on Fairgrounds Drive: Sage Street, Coach Lane and Valle Vista Avenue. It is proposed to signalize the Sage Street intersection, and it will operate satisfactorily. The low-volume left turn movements at Coach Lane and Valle Vista Avenue, that would experience long delays according to this analysis, are not likely to materialize in practice. Drivers wishing to make these movements are likely to either turn right instead (experiencing much less delay), or (in the case of Valle Vista) choose an alternative route.

The proposed project will not add traffic to any of these intersections, and the project will significantly improve the expected operation in 2035. There is little or no chance that the volumes will exceed the thresholds required to meet a traffic signal warrant during the analysis period at Coach Lane or Valle Vista Avenue, and there are no project impacts that require mitigation.

For intersections that are studied, but are not within the construction footprint, the operation of the signal was optimized for the future traffic demand in order to calculate the expected LOS. These intersections were studied to verify that there are no impacts on those intersections as a consequence of the project. No geometric improvements are proposed for those intersections.

The study intersections outside the project limits were analyzed to determine whether the Build Alternative would comply with City of Vallejo's capacity-based traffic impact guidelines (V/C ratio), to show that the Build Alternative has no significant impact on those intersections. As shown in Table 4 in all cases except one, the expected change in V/C is below the City's thresholds. The exception is the Redwood Parkway/Admiral Callaghan Lane (south) intersection. This exceedance is due to a modeling assumption of independent

signal timing at this location. Contrary to the modeling assumption, it is anticipated that this intersection would be synchronized with the other traffic signals to the west during the peak commute periods. The cycle length at this intersection during the peak periods would be driven by the other, more heavily used intersections, which would result in shorter cycle lengths under the Build Alternative when compared to the No-Build Alternative. The operation of this intersection is anticipated to be more efficient under the Build Alternative, with a lower estimated delay and superior LOS, as shown in Table 4. However, the calculated V/C would be slightly higher simply because of the different cycle length. Therefore, no action is required.

Nonstandard Design Features

Mandatory nonstandard design features include a number of existing features that would remain in the build condition. These include interchange spacing, stopping sight distance at several existing locations; maximum grade of 8% on Redwood Parkway at the I-80 interchange; and 14'-11" vertical clearance on eastbound I-80 and 16'-0" on westbound I-80 at the Redwood OC.

Mandatory nonstandard features proposed with the build alternative include superelevation rates at ramps near the cross street termini, corner sight distance at the I-80 eastbound off ramp; intersection spacing between the local road and ramp termini less than 400 ft along Redwood Parkway and Fairgrounds Drive; left turn lane widths of 11 ft on Redwood; and a cross slope on Redwood Parkway/Street of 1%.

The Mandatory Design Exceptions Fact Sheet was approved on 5/7/12.

Advisory nonstandard design features consist of vertical curve lengths less than 200 ft; nonstandard superelevation transition rates and location within the curve (two-thirds on tangent) at the I-80/Redwood exit ramps; I-80 eastbound ramps connecting to Redwood Parkway where the overcrossing grade is greater than 4% (8% existing); and no provisions for adding an auxiliary lane on eastbound I-80 for projected future year exit ramp volumes over 900 vph. The Advisory Design Exception Fact Sheets were approved on 4/26/12.

HOV Lanes and Ramp Metering

HOV Lanes for this portion of I-80 will be constructed as part of a separate project. Ramp metering provisions have been included for the I-80/Redwood entrance ramps and include California Highway Patrol (CHP) enforcement areas and ramp metering equipment. Activation and implementation of operations will need to be coordinated with the City of Vallejo. A ramp metering policy exception to not provide HOV by-pass lanes as part of this project was approved on 8/3/12.

Park and Ride Facilities

Park and ride lot locations and configurations were explored during project development. However, they were eliminated due to the lack of willingness on the agencies part to operate and maintain due to current economic constraints. Park and ride lots should be reconsidered during the development of the HOV Lane project.

Table 4 – 2035 Change in Intersection V/C between Build and No Build Alternatives

Intersect ID	Study Intersection	Signal Control Type	2035 No-Build				2035 Build				
			AM	PM	PM	AM	V/C Change	Exceeds Thresholds	PM	V/C Change	Exceeds Thresholds
1	Fairgrounds Dr at Taper Ave	Signalized	0.88	C	0.83	C	.88	C	0.00	0.00	No
2	Fairgrounds Dr at Gateway Dr	Signalized	0.66	A	0.72	A	0.66	A	0.00	0.00	No
3	Fairgrounds Dr at WB 37 Ramps	Signalized	1.04	E	0.98	F	0.64	B	-0.40	-0.36	No
4	Fairgrounds Dr at EB 37 Ramps	Signalized	0.75	D	1.05	F	0.71	B	-0.04	-0.22	No
5	Fairgrounds Dr at Sage St	Stop controlled ^{1,2}	0.57	F	4.85	F	0.34	B	-0.23	-4.32	No
6	Fairgrounds Dr at Fairground Gate	Signalized	0.58	C	1.02	E	0.36	B	-0.22	-0.38	No
7	Fairgrounds Dr at Six Flags Gate	Signalized	0.65	B	1.48	F	0.26	A	-0.39	-0.68	No
8	Fairgrounds Dr at Coach Lane	Stop controlled ¹	.48	C	1.70	F	0.32	C	-0.16	-1.14	No
9	Fairgrounds Dr at Sereno Dr	Signalized	0.58	B	0.99	E	0.50	B	-0.08	-0.17	No
10	Fairgrounds Dr at Valle Vista Ave	Stop controlled ¹	0.43	D	5.42	F	0.23	C	-0.20	-4.13	No
11	Fairgrounds Dr at Redwood St/WB I-80 Ramps	Signalized									
12	Tuolumne St at Sereno Dr	Signalized	0.71	C	0.91	D	0.71	C	0.00	0.00	No
13	Tuolumne St at Redwood St	Signalized	0.79	E	1.15	F	0.73	E	0.00	0.00	No
14	Redwood Pkwy at EB I-80 Ramps	Signalized									
15	Redwood Pkwy at Foothill Dr	Stop controlled ¹	0.47	E	0.63	F	0.45	E	-0.02	0.00	No
16	Admiral Callaghan S Ln at Redwood	Signalized	0.48	C	0.79	D	0.48	B	0.00	0.05	Yes
17	Admiral Callaghan at EB I-80 Ramps	Stop controlled ¹	0.24	A	0.79	D	0.24		0.00	-0.40	No
18	Admiral Callaghan Ln at Turner Pk	Signalized	0.23	A	0.61	B	0.23	A	0.00	0.00	No
19	Admiral Callaghan Ln at Columbus	Signalized	0.98	D	0.92	D	0.98	D	0.00	0.00	No
20	Columbus Pkwy at Ascot Pkwy	Signalized	1.06	F	0.93	D	1.06	F	0.00	0.00	No
21	Fairground Dr at Redwood St						0.60	B			
22	Redwood St at I-80 WB Ramps						0.74	B			
23	Redwood St at I-80 EB Ramps						0.63	B			
24	Admiral Callaghan N Ln at Redwood Pkwy						0.53	B			

Highway Planting

No provisions have been made for highway planting with this project. Standard erosion control measures such as hydro-seeding will be applied to new cut/fill slopes. Highway planting is proposed to be accomplished through a separate project after completion of construction.

Revegetation will be required, however, in the disturbed areas of Rindler Creek along Fairgrounds Drive. These provisions would be included with the project and are required wetland mitigation as detailed in the EIR/EA.

Erosion Control

Appropriate erosion control measures will be included in the project during the PS&E phase. Standard types of treatments, such as mulch, tree/shrub planting, hydro-seed applications, and blankets/mats will be considered. An appropriate Storm Water Pollution Prevention Plan (SWPPP) will also be implemented during construction to control sedimentation, erosion, and other pollutants. A preliminary Storm Water Data Report has been reviewed by the District Storm Water Coordinator and submitted for signature.

Noise Barriers

A Noise Study Report was prepared to determine the need for noise mitigation near identified receivers. See Section 6.H. Noise Abatement Decision Report for details.

Nonmotorized and Pedestrian Features

Existing pedestrian and bicycle facilities will be maintained along Redwood Parkway/Street. All pedestrian facilities will include ADA compliant curb ramps and other required amenities. Five-foot sidewalks will be provided in the southbound direction of Fairgrounds Drive between Sereno Drive and Redwood Street and in the northbound direction from Redwood Street to Coach Lane. A ten-foot sidewalk is proposed in the northbound direction north of Coach Lane. Class II bike lanes are planned on Fairgrounds Drive in both direction of travel from Redwood Street to the SR 37 interchange.

Needed Roadway Rehabilitation and Upgrading

A resurfacing and concrete median barrier replacement project was constructed on I-80 in 2008. The project provided for pavement rehabilitation from the Tennessee Street interchange to American Canyon Road. Therefore, no upgrading of I-80 is required.

A project to construct a concrete barrier between the I-80 EB mainline and Admiral Callaghan Lane from the EB hook on-ramp to the SR37 off-ramp was completed in January 2012.

The existing pavement on Fairgrounds Drive is asphalt concrete. There are no visible signs of pavement distress or failure.

The pavement on the existing on and off ramps do not exhibit any visible signs of failure or distress.

Where ramps and roadways will be widened, an appropriate asphalt concrete overlay will be applied during construction prior to final striping of the facility. For cost estimating purposes, it is assumed that all areas of ramp and roadway widening will require an overlay.

Cost Estimates

The breakdown of remaining anticipated costs associated with the build alternative are as follows. See Attachments C and D for details of the Construction and Right of Way Cost Estimates.

Cost Element	Estimated Cost (2014)
PS&E*	\$3,700,000
Construction Management @ 12%	\$3,800,000
Construction Administration @ 3%	\$1,000,000
Construction	\$31,500,000
Right of Way	\$16,500,000
Total	\$56,500,000

*Includes 10% of Construction cost plus 3% of Right of Way cost for R/W Engineering

The designed pavement structural sections will be determined during Final Design. The approach of using the existing structural sections for cost estimating purposes was discussed with CT District materials engineer, Tinu Mishra, who concurred with proposed method on 9/6/12. The project also received approval to be exempt from preparing a Life Cycle Cost Analysis. The approval was received on 9/4/12 from Bill Farnbach. For the purposes of preparing the cost estimates, the existing structural sections were matched for the new pavement construction. The assumed structural sections were:

I-80 Mainline

OGAC	0.10'
RAC-G	0.15'
Hot Mix Asphalt (Type A)	0.14'
CTB	0.67'
CL 4 AS	1.00'

I-80 Ramps

Hot Mix Asphalt (Type B)	0.50'
ATPB	0.20'
CL 2 AB	0.55'
CL 4 AS	0.95'

SR-37 Ramp

Hot Mix Asphalt (Type B)	0.45'
ATPB	0.25'
CL 2 AB	0.60'
CL 1 PERM MTL	1.20'

Redwood St/Pkwy

Hot Mix Asphalt (Type B)	0.40'
CL 2 AB	0.80'
CL 4 AS	1.30'

Fairgrounds Drive & Other Local Streets

Hot Mix Asphalt (Type B)	0.40'
CL 2 AB	0.60'
CL 1 PERM MTL	1.00'

Right of Way Data

See Attachment D for Right of Way Data Sheets.

Effect of Projects Funded by Others on State Highway

The Traffic Operations Analysis Report included analyses of I-80 between Tennessee Street and American Canyon Road and of SR 37 between SR 29 and I-80. The analyses showed that there is no significant difference between the Build and No Build traffic operations on these facilities.

B. No Build Alternative

Under the No Build alternative no improvements would be made to the I-80/Redwood Street interchange, Redwood Street/Redwood Parkway, or Fairgrounds drive. The No Build alternative was examined for comparison between the Build alternative and not building the project for the horizon year of 2035. The No Build alternative would not address the projected traffic operational issues discussed in Section 4C. It would also not address the problems and deficiencies discussed in Section 4A.

The No Build Alternative does not meet the need and purpose of the project.

C. Rejected Alternatives

Several additional interchange configurations were investigated during the development of the Build Alternative and during the Value Analysis study. The rejected alternatives are described in Table 5 below along with the reasons for rejection.

Table 5 – Summary of Reasons for Rejecting Alternatives

Alternative	Summary of Reason for Withdrawal
2B	Alternative 2B would construct an overcrossing at Turner Parkway. The Turner Parkway overcrossing would not alleviate congestion at the I-80/Redwood interchange nor the SR 37/Fairgrounds Drive interchange. Both would have intersections that continue to operate at unacceptable levels of service in future years. Therefore, this alternative does not meet the purpose and need for the project. In addition, construction of the overcrossing has the high potential for biological impacts related to Rindler Creek and potential wetlands on the east side of Admiral Callaghan Lane.
3A	Alternative 3A would reconfigure the I-80/Redwood Parkway interchange as a standard partial cloverleaf interchange instead of the Build Alternative's proposed diamond configuration. A partial cloverleaf interchange at this location would require constructing a new bridge over I-80. A new structure would need to meet current standards, including minimum vertical clearances, sight distance, and horizontal clearances to the new bridge abutments. In addition, the bridge would have to be designed to accommodate standard lane widths, including a future HOV/Express lanes planned for I-80. All of these elements, combined with the steep grade on Redwood Parkway east of I-80 and the installation of loop ramps, would result in additional right-of-way and construction costs in the range of \$50-\$60 million, almost double the current estimated cost of the project.
3B	Alternative 3B would reconfigure the I-80/Redwood Parkway interchange as a modified partial cloverleaf interchange, with the westbound I-80 exit ramp connecting to Fairgrounds Drive. This configuration would decrease the amount of residential right-of-way required for the project, but would increase the amount of commercial property acquisitions, including Denny's and the dental office building. Alternative 3B would require construction of a new bridge over I-80, which would result in the additional impacts listed above under Alternative 3A.
3C	Alternative 3C would reconfigure the I-80/Redwood Parkway interchange as a modified partial cloverleaf with the westbound I-80 exit ramp connecting to Fairgrounds Drive, across from Valle Vista. This alternative would likely require additional intersection improvements at Fairgrounds Drive/Redwood Parkway. Alternative 3C would also result in non-standard shoulders (2 to 3 feet) on I-80 where loop ramp entrances connect.
4A	Alternative 4A would construct westbound I-80 hook ramps over ¼ mile away from the cross street they serve (Redwood Parkway) connecting to Valle Vista Avenue. This configuration would result in impacts to the mobile home park and Blue Rock Springs Creek. Alternative 4A would likely require additional intersection improvements at Fairgrounds Drive/Redwood Parkway due to the change in ramp traffic patterns (traffic that would need to use Fairgrounds Drive). In addition, hook ramps tend to have higher accident rates than diamond or loop ramps due to small radius curves.
4B	Alternative 4B would construct a westbound I-80 hook exit ramp connecting to Valle Vista Avenue. The existing I-80 entrance ramp would remain at Redwood Street. Under this alternative, operations at existing intersections would not be acceptable in 2035. Similar to Alternative 4A, this alternative would result in impacts to the mobile home park and Blue Rock Springs Creek and require additional intersection improvements.

Alternative	Summary of Reason for Withdrawal
5	Alternative 5 would reconfigure the I-80/Redwood Parkway interchange as a pitchfork configuration. Alternative 5 would result in non-standard shoulders (2 to 3 feet) on I-80 at the Redwood Parkway overcrossing. This Alternative would also increase the potential for wrong-way movements. Additional residential right-of-way acquisitions would be required in the southwest quadrant of the proposed interchange improvements.
6	Alternative 6 would reconfigure the I-80/Redwood Parkway interchange as a roundabout configuration. The steep grades in this area would not support this configuration. The roundabout configuration would not balance the flow of traffic in and out of the interchange.
7	Alternative 7 would reconfigure the I-80/Redwood Parkway interchange as an urban interchange configuration. It would be difficult to construct the overcrossing structure and stage, as it would have to be right on top of the existing bridge. A new bridge over I-80 would be required (see Alternative 3 for impacts). Alternative 7 eliminates access to westbound I-80 from Fairgrounds Drive. This alternative would also require three westbound through travel lanes on Redwood Parkway.
VA 1.1	Alternative VA 1.1 would improve the existing I-80 Redwood Parkway interchange by adding lanes. Modification of the existing interchange configuration does not work from an operational standpoint. The five-legged intersection at westbound I-80 Ramps/Redwood Street/Fairgrounds Drive would operate at LOS E under 2035 evening peak commute hours. In addition, the queuing associated with the evening peak traffic conditions at all intersections would cause unacceptable congestion and block adjacent intersections.
VA 1.2	Alternative VA 1.2 would improve the existing eastbound I-80 ramps by adding lanes. The queuing associated with the 2035 evening peak traffic conditions at the existing eastbound I-80 Ramps/Admiral Callaghan Lane intersection and the Redwood Parkway/Admiral Callaghan Lane/I-80 EB exit ramp intersection would cause unacceptable congestion and block adjacent intersections.
VA 1.3	Alternative VA 1.3 would construct a diverging diamond interchange serving the eastbound I-80 ramps/Redwood Parkway intersection. This alternative is not feasible due to the close proximity of the Redwood Parkway/Admiral Callaghan Lane intersection, and the 8 percent grade that would need to be maintained in order to use the existing overcrossing structure. In addition, this alternative poses substantial schedule delays as this interchange type has not been accepted in California.

6. CONSIDERATIONS REQUIRING DISCUSSION

A. Hazardous Waste

The *Initial Site Assessment Report (ISA)*, dated November 14, 2007, evaluated the potential existence of hazardous materials in shallow soil and groundwater resulting from past and present site uses within the Project area. The ISA included site reconnaissance and a review of available historical documentation; including regulatory agency records, aerial photographs, Sanborn Fire Insurance Maps, and reverse city directories. The results of the ISA indicated that various properties of potential environmental concern exist within the

Project area. Therefore, a Preliminary Site Investigation (PSI) and Aerially Deposited Lead Survey Report (ADL) dated September 19, 2011, was prepared.

The purpose of the PSI was to provide soil and groundwater data with respect to hazardous chemicals at two previously identified properties of potential environmental concern; and to provide a preliminary assessment of ADL concentrations in areas of exposed soil in the vicinity of existing roadways and areas where excavation will occur during the Project.

Based on the review of previous environmental documents and laboratory analytical reports for the subsurface samples collected during the assessment work described above, the following conclusions and recommendations were reported:

- Soil and groundwater at the facility located at 222 Fairgrounds Drive has been impacted by petroleum hydrocarbons. Based on the most recent information available on the Regional Water Quality Control Board Geotracker (GT) website, the site is currently undergoing active remediation.
- Due to the existing Underground Storage Tanks (UST) and fuel dispensing activities and the lack of subsurface information for the property located at 501 Fairgrounds Drive, this property presents a potential environmental concern. In the event that the purchase of the property located at 501 Fairgrounds Drive is necessary for road widening during the Project, a Limited Phase II Environmental Site Assessment (ESA) should be conducted prior to purchase.
- Soils located on the Western portion of the Tell Rentals property (711 Admiral Callaghan Lane), in the vicinity of the former UST pit, to a depth of at least 7 feet below ground surface (bgs) but no greater than 10 feet bgs, have been impacted with petroleum hydrocarbons. With the exception of arsenic, concentrations of California Assessment Manual (CAM) 17 Metals, Organochlorine Pesticides (OCP) and Polychlorinated Biphenyls (PCB) are below Commercial Environmental Screening Levels (ESL). In the event that excavation for the realignment of the on-ramp from Redwood Street/Parkway to I-80 Eastbound occurs in the area of the former UST pit on the Tell Rentals property, a Soil Management Plan (SMP) should be developed to manage excavation of soil from this area. The SMP should be implemented to specifically address worker protection during soil excavation and removal activities, and transport and disposal of petroleum impacted soil to the appropriate Class II Landfill facility.
- The soluble lead concentration in one of the thirteen soil samples collected from the planned excavation areas was above the regulatory threshold defining hazardous waste, i.e., Soluble Threshold Limit Concentration (STLC). These lead-contaminated soils having hazardous-waste characteristics will be buried within Caltrans' right of way and will be managed according to the engineering controls specified in the Department of Toxic Substances Control (DTSC) lead variance (Variance No. V09HQSCD006) issued to Caltrans.

There are no feasible alternatives that would avoid impacting these areas containing hazardous materials. Modifying the alignments to avoid the areas would result in additional displacements to both residential and business properties and would create additional environmental impacts.

B. Value Analysis

A Value Analysis (VA) Study was held October 17-21, 2011 at Caltrans District 04 offices. VA Team member experience encompassed the following areas of expertise: Traffic, Right of Way, Geometrics/Roadway Design, and Constructability. Several VA Alternatives were recommended for consideration, including those discussed in Section 5.B. None of those recommended alternatives were deemed viable.

The VA Study was conducted in accordance with current Caltrans policies, procedures, and guidelines for Value Analysis. The VA Study Facilitator was Ginger Adams, a Certified Value Specialist.

C. Resource Conservation

In order to conserve energy and nonrenewable resources, components of the existing facility will be reused to the greatest extent practicable. Existing pavement structural sections will be incorporated into the proposed modifications if the materials are found to be adequate during geotechnical investigations. In addition, street lighting, signs, existing drainage features, material removed during roadway excavation operations, etc. will be appropriately reused or salvaged.

D. Right of Way

Right of way acquisitions will be required to construct the proposed improvements. Properties that will be affected as a result of this project include five vacant parcels, 18 parcels with single family residential units, one parcel with a multi-family residential unit, and 13 commercial parcels. Residential and business relocation assistance will be provided for all eligible occupants. No critical or sensitive parcels will be impacted by the project.

No airspace lease areas are involved with this project.

The EIR/EA addresses impacts on the local community, and it includes a relocation impact study to specifically assess the project impacts to displaced persons and businesses.

The proposed project would result in the displacement of 14 existing single/multi-family residential units. Residential displacements would primarily occur at the periphery of the residential neighborhoods and comprise a relatively small proportion of these neighborhoods.

According to the 2010 US Census, there are 44,433 total housing units in the City of Vallejo. Of these, 3,874 housing units are vacant, representing approximately 9 percent of the total housing units in the City of Vallejo. Given the high vacancy rate of housing units within the

City, there are sufficient existing resources for the 17 displaced residential units to relocate within the City. Individuals in the displaced residential units would be able to relocate within the community.

The project would also result in the displacement of six commercial businesses. Commercial business displacements consist of a wide range of services. Removal of these businesses would not adversely impact the local community because there are several other businesses in the project area that offer the same services.

The City of Vallejo Economic Development Information System indicates that there are approximately 67 office building properties, 30 industrial buildings, 79 retail buildings, and 14 warehouse buildings vacant in the City of Vallejo. Given the number of vacant commercial properties in the City, there are sufficient existing resources for the seven displaced businesses to relocate within the community and the City. (See Attachment D, Right of Way Data Sheet)

Utilities

As shown in the Right of Way Data in Attachment D, several utilities exist within the project limits that will require relocation. These include gas distribution, electric distribution, and water lines. Other minor relocations of communications and sewer lines may also be required for service connections. High Risk Utilities include a 12" gas line crossing under I-80 near Turner Parkway and underground electrical lines along the length of Fairgrounds Drive. The 12" gas line diverts through the Solano Fairgrounds Property prior to the proposed construction footprint.

There are no longitudinal or transverse encroachments within the project limits. No utility policy exceptions are expected.

Verification of utilities will be required. The need for positive location (potholing) as prescribed by the Policy on High and Low Risk Facilities Within Highway Rights of Way will be determined once utility facilities have been plotted. Utility relocations will be performed in compliance with Buy America.

Railroad Involvement

There will be no work within operating railroad right of way for this project.

E. Environmental

The Environmental Impact Report/Environmental Assessment (EIR/EA) has been prepared in accordance with Caltrans' environmental procedures, as well as State and Federal environmental regulations. Environmental issues affecting project cost and/or design are summarized below and detailed in the EIR/EA. See Attachment G – Final EIR/EA and Finding of No Significant Impact (FONSI).

Water Quality and Floodplains

The Build Alternative would not result in significant impacts to water quality or storm water runoff. Construction activities and roadway operations would be regulated, and include

protective measures. The project would not violate any water quality standards, deplete groundwater supplies, alter drainage patterns, or create capacity exceeding runoff.

There is a portion of the Build Alternative improvements that would be located within an existing base floodplain in the area where Rindler Creek parallels Fairgrounds Drive, north of Coach Lane. This area makes up the hydrologic study area for determining potential adverse effects related to flooding and floodplain encroachment.

The Build Alternative proposes shifting the Rindler Creek channel and its associated riparian vegetation to the east in order to accommodate the widening of Fairgrounds Drive and adding approximately 380,000 cubic feet of embankment. The new embankment would encroach into the existing 100-year base floodplain. The Flood Insurance Study for Rindler Creek and the Vallejo Sanitation & Flood Control District Storm Drain Master Plan (October 2002) show that there is no history of flooding on Fairgrounds Drive. However, the areas surrounding Fairgrounds Drive are inundated during the 100-year storm event. This floodplain encroachment is not considered an environmental risk in terms of flooding. Impacts due to the placement of the new embankment area have been mitigated by excavating an additional amount of soil for the relocated Rindler Creek.

The project will have a disturbed soil area (DSA) more than 1 acre. To comply with the conditions of the Caltrans Construction General Permit (CGP), and address the temporary water quality impacts resulting from the construction activities in this project, a Storm Water Pollution Prevention Plan (SWPPP), as required by Section 13 Water Pollution Control, of the 2010 Caltrans Standard Specifications, will need to be prepared and implemented during construction. At the Plans, Specifications and Estimate (PS&E) phase when the construction start and end date is determined, a risk level determination will be performed per CGP requirement to assess the sediment, receiving water body and combined risk and the project will be designated as risk level 1, 2 or 3. Based on the project's risk level various Water Pollution Control, monitoring, and sampling tasks will be required.

Best Management Practices (BMPs) need to be implemented to address the temporary water quality impacts resulting from the construction activities in the project. BMPs will include the measures of soil stabilization, sediment control, wind erosion control, tracking control, non-storm water management, and waste management/materials pollution control. Appropriate BMPs and their quantities need to be developed during the PS & E phase.

If a significant amount of groundwater is encountered in the deep excavations, dewatering may be required. Early discussion should be initiated with the Water Pollution Control Branch. As part of the Hazardous Waste Site Investigation, ground water testing may be required to determine if it is contaminated to develop contract provisions for its handling and disposal during construction.

Creek diversion will be necessary to relocate Rindler Creek. Early discussion with the Water Pollution Control Branch of office of Water Quality is required for the Temporary Creek Diversion System and should be done early in the PS&E phase.

The Build Alternative would also add 3.7 acres of impervious surface, impenetrable by water. This would increase the water runoff for the base flood by 3 cubic feet per second and raise the total water level by 0.09 inches. This increase in water elevation is very small and would not result in a substantial change in the areas that would be subject to inundation in the event of a flood.

Cultural Resources

An archival records search and an archeological field survey of the Area of Potential Effect (APE) were conducted as part of the Archeological Survey Report. No archeological material was observed within the APE during the field survey. No known archeological resources were identified within the APE. One previously identified archaeological site was identified just west of the APE. This site is reported as a redeposit of shell fragments and a few possibly fire-affected rocks. This site is not located within any portion of the APE.

Approximately 10 percent of the APE is identified as having a high potential for buried archaeological resources in two specific areas. Both areas are situated along the margins of the former Blue Rock Springs Creek. The first area is located on the east side of Fairgrounds Drive, between Fairgrounds Drive and Lake Chabot. The second area is located off of Admiral Callaghan Lane, where the proposed I-80/Redwood Parkway eastbound entrance ramp would be located. An Extended Phase I Geoarchaeological Investigation focusing on these two high sensitivity areas was conducted to further evaluate the potential presence of unknown archeological resources. Eleven trenches were excavated, in addition to one less invasive excavation area, and no archaeological materials were uncovered. The lack of discovery from the excavations determined that the likelihood of encountering significant archeological material in these areas and other parts of the APE during construction is considered low.

A records search, review of historic and current maps, and field surveys were conducted to determine the presence of historical architectural resources within the APE. Sixteen historic-era properties were identified within the APE. Following a formal evaluation of the 16 properties, none met the criteria for listing in the National Register of Historic Places or the California Register of Historical Resources and therefore are not considered historic resources under NEPA or CEQA.

The Historic Property Survey Report determined a CEQA finding of no impact to historic properties and a Section 106 determination of no historic properties affected was filed with the California State Historic Preservation Office (SHPO). The Build Alternative would therefore not result in the use (direct or indirect) of a historic property qualifying for protection under Section 4(f).

Biological Resources

Formal studies of biological resources within the biological study area (BSA) were conducted on the following listed survey dates:

- A habitat assessment for CRLF was conducted on December 10, 2010.

- Eight protocol-level surveys for CRLF were conducted, including six breeding season surveys (four nighttime surveys/two daytime surveys) and two non-breeding season surveys (one nighttime survey/one daytime survey). Breeding season surveys were conducted on February 23, March 14, March 21 and March 31, 2011. Non-breeding season surveys were conducted on July 28, 2011.
- A reconnaissance survey to identify suitable habitat for special-status plants and to verify preliminary vegetation and land-cover classification was conducted on January 12, 2011. Two natural communities within the BSA provide suitable habitat for State-listed rare plants, and therefore a protocol-level survey was conducted on September 9, 2011, to determine the presence or absence of those State-listed species.
- A tree survey was conducted over a period of four site visits between September 28, 2011 and October 12, 2011.
- Field investigations were conducted on February 16-18, 2011 to delineate water features, including wetlands and other Waters of the U.S.
- An Essential Fish Habitat evaluation was not required because the dam that creates Lake Chabot prevents species of fish managed for commercial or recreational uses from accessing Rindler Creek.

The Build Alternative would not have an adverse effect on any special status plan or animal species, or interfere with the movement of any native resident or migratory fish or wildlife species. The Build Alternative would not conflict with the provisions of a habitat conservation plan, nor would it conflict with the provisions of the City of Vallejo's tree preservation ordinance.

Wetland delineations were conducted within the BSA by consultant biologists on February 16-18, 2011. The delineations were conducted in accordance with ACOE guidance, and a Field Review with the ACOE biologist was conducted on December 8, 2011 to confirm jurisdictional wetlands. Two natural communities of special concern are identified within the BSA: freshwater marsh and riparian woodland. These communities consist of potentially jurisdictional Waters of the U.S., including wetlands (i.e., freshwater marsh), which are regulated by the United States Army Corp of Engineers (ACOE), as well as waters of the State and riparian areas (i.e., Rindler Creek habitat) regulated by the Regional Water Quality Control Board (RWQCB) and the California Department of Fish and Game (CDFG).

As part of the Build Alternative, the existing portion of Rindler Creek north of Coach Lane would be realigned to be immediately east of the widened roadway. The realigned Rindler Creek would be of the same size as the existing creek and revegetated to maintain hydrological and biological function. The impacted jurisdictional water features to the east of Fairgrounds Drive (totaling approximately 0.623 acres) would be restored on-site at a 1:1 replacement ratio. Impacts to the jurisdictional water features and freshwater marsh communities associated with Rindler Creek would thereby be avoided through the complete on-site replacement of the affected creek segment. The procurement of on-site restoration for impacts to these areas would be permitted and verified by the appropriate regulatory oversight agencies prior to project construction. The on-site restoration of Rindler Creek is

anticipated to provide satisfactory mitigation for impacts to riparian habitat, including the removal of 151 trees. Restoration on-site will also ensure that functions, such as water flow through the BSA, will continue unchanged.

Additional effects to wetlands and Waters of the U.S. that would not be restored on site as part of the Build Alternative is considered a significant impact. The off-site mitigation ratio proposed for Waters of the U.S., including wetlands, under jurisdiction of the ACOE, is 3:1 acres of mitigation per acre of permanent impact. The estimated Build Alternative mitigation requirement for 0.0388 acres of impact is 0.1163 acres.

Paleontology

A Paleontological Evaluation Report was prepared and approved in September 2011. The findings indicate that the paleontological study area contains Pleistocene alluvial deposits, which are considered to have a high sensitivity for the presence of paleontological resources. Many of the proposed project improvements would involve substantial excavation and earth moving activities, several of which would occur in the areas containing Pleistocene alluvial deposits.

A qualified paleontologist will design a monitoring and mitigation program and implement the program during project-related excavation and earth disturbance activities prior to construction. The paleontological resource monitoring and mitigation program shall include preconstruction coordination, construction monitoring, emergency discovery procedures, and sampling and data recovery. Prior to the start of construction, the paleontologist shall conduct a field survey of exposures of sensitive stratigraphic units within the study area that would be disturbed. Finally, construction personnel would be informed that fossils could be discovered during excavation, that these fossils are protected by laws, on the appearance of common fossils, and on proper notification procedures.

F. Air Quality Conformity

The San Francisco Bay Area Air Basin, including the air quality study area, is located in a maintenance area for the Federal 1-hour and 8-hour CO standards. Therefore, a CO hot spot analysis was conducted for the Build Alternative. The CO assessment was conducted for future No-Build and Build Alternative conditions in 2015 and 2035. The results indicate that future CO levels with or without the project would remain below the NAAQS and CAAQS. The predicted decrease in future levels is due to vehicle fleet turnover, with newer (less polluting) vehicles replacing older vehicles. As a result, the project would not cause or contribute to any localized CO violations.

The project-level air quality analysis indicates that the Build Alternative would not cause or contribute to any new localized CO violations; therefore, meeting the “hot-spot” conformity requirements of 40 CFR 93.116(a).

On March 10, 2006, the U.S. EPA published a final rule that establishes the transportation conformity criteria and procedures for determining which transportation projects must be analyzed for local air quality impacts in PM_{2.5} and PM₁₀ nonattainment and maintenance

areas (71 FR 12468). The Federal PM_{10} standards have been met in the SF Bay Area, and therefore the project is not subject to hot spot analysis for PM_{10} for purposes of transportation conformity. The Federal $PM_{2.5}$ standards are exceeded in the SF Bay Area and the project would be subject to hot spot analysis for $PM_{2.5}$ for purposes of transportation conformity. MTC's Air Quality Conformity Task Force met on September 22, 2011 as part of interagency consultation for the Build Alternative. On October 6, 2011, the task force took action to conclude that the Build Alternative was not a POAQC. As a result of that action, a project-level $PM_{2.5}$ Hot Spot Analysis is not required.

Avoidance, minimization and/or mitigation measure related to Air Quality will be those applicable to temporary construction impacts and are detailed in the EIR/EA.

G. Title VI Considerations

The EIR/EA details the potential impacts on low mobility and minority groups. All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this project.

H. Noise Abatement Decision Report

Results of the Noise Study Report (NSR)

The NSR for this project was prepared by Michael S. Thill, Illingworth and Rodkin, Inc. on November 30, 2011 and approved by Glenn Kinoshita on December 5, 2011.

The purpose of the Noise Study Report (NSR) is to document the assessment of existing and future traffic noise levels at noise sensitive receptors in the vicinity of the proposed Project and the identification whether or not preliminary noise abatement measures are necessary for the project to comply with state and federal noise abatement/mitigation requirements. The primary objective of this study is to identify noise sensitive receptors where noise levels would approach or exceed the noise abatement criteria (67 dBA $L_{eq[h]}$) with the project or receptors that would experience a substantial increase in noise levels as a result of the project.

The study includes noise measurements, prediction of future noise levels with the construction and operation of the project, and identification of measures to reduce construction noise levels at adjacent receptors. This study follows Federal Highway Administration (FHWA) and Caltrans policies to address traffic noise impacts and noise abatement. FHWA has established regulations (23CFR772) that address traffic noise. This report has been prepared in accordance with the Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects (Protocol or TNAP). The Protocol addresses both Federal and State environmental statutes with regard to noise. The FHWA Traffic Noise Model, TNM 2.5, was used to predict future noise levels, analyze noise impacts, and assess potential abatement options for the project. The model was calibrated and adjusted based on measured noise and traffic conditions documented during the field survey. Noise levels were assessed in TNM using the free-flowing traffic capacity conditions and ramp volumes provided in the traffic report. Typical noise increases resulting

from the project were calculated to be 0 to 6 dBA $L_{eq(h)}$ higher than existing noise levels. Noise level increases resulting from the project would not be substantial; however, noise levels at many Category B receivers would continue to approach or exceed the Noise Abatement Criteria (NAC) of 67 dBA.

Noise abatement, in the form of new noise barriers, was assessed for receivers where noise levels would approach or exceed the NAC. A total of five potential barriers were evaluated for feasibility and reasonableness at Category B land uses where the NAC would be approached or exceeded. To be considered feasible, a noise barrier must achieve a minimum of a 5-decibel reduction at a given receiver. All five barriers were found to be feasible, and the noise reduction provided by barriers of a certain height can also achieve the Caltrans noise reduction design goal. The NSR did not include an analysis of barrier cost-effectiveness, which is assessed by the project engineers and the project development team based on the Noise Abatement Decision Report (NADR). The final decision to include noise barriers in the proposed project design must consider reasonableness factors, such as cost-effectiveness, as well as other feasibility considerations including topography, access requirements, and other noise sources, safety, and information developed during the design and public review process. Table 6 summarizes the Noise Prediction and Barrier Analysis results. Feasible barrier locations, as well as measured and modeled receiver locations, are shown in Attachment F.

Construction activities would result in temporary increases to noise levels at noise-sensitive receptor in the project vicinity. Construction activities would be conducted in compliance with applicable regulations and would be short-term and intermittent. Measures to reduce construction noise are detailed in the NSR.

Table 6: Summary of Acoustically Feasible Barriers

Noise Barrier ID	Location and Approximate Stationing	Barrier Height	Predicted Noise Reduction, dBA	Number of Benefited Receivers	Total Reasonableness Allowance
1	EB I- 80 EOS/ROW ("C6" Line 210+00 to 225+00)	8	3-6	15	\$825,000
		10	5-9	19	\$1,045,000
		12	6-11	19	\$1,045,000
		14	7-12	19	\$1,045,000
		16	7-13	19	\$1,045,000
2	EB Redwood Pkwy. ROW ("Red" Line 221+00 to 227+00)	8	4	--	--
		10	6	3	\$165,000
		12	7	3	\$165,000
		14	8	3	\$165,000
		16	9	3	\$165,000
3	SB Fairgrounds Dr. ROW ("FAI" Line 231+00 to 236+00)	8	4-9	7	\$385,000
		10	6-11	10	\$550,000
		12	7-12	10	\$550,000
		14	9-13	10	\$550,000
		16	9-14	10	\$550,000

Noise Barrier ID	Location and Approximate Stationing	Barrier Height	Predicted Noise Reduction, dBA	Number of Benefited Receivers	Total Reasonableness Allowance
4	SB Fairgrounds Dr. ("FAI" Line 236+50 to 239+30)	6	8	3	\$165,000
		8	10	3	\$165,000
		10	12	3	\$165,000
		12	14	3	\$165,000
		14	15	3	\$165,000
5	SB Fairgrounds Dr. ROW ("FAI" Line 241+00 to 246+00)	8	7	16	\$880,000
		10	9	16	\$880,000
		12	10	16	\$880,000
		14	11	16	\$880,000
		16	12	16	\$880,000

Source: Noise Study Report, November 2011

Summary of Key Information

A summary of key information used in making the preliminary noise abatement decision as to *reasonableness* is shown in Table 7. The key information includes:

- an indication of acoustical feasibility,
- number of benefited residences,
- the total reasonableness allowance and engineer's cost estimate for each barrier and barrier height evaluated, and
- a comparison of cost versus allowance.

The engineer's cost estimate includes the following costs required to construct the abatement. Unit prices are based on Caltrans 2010 Contract Cost Data with a 3.5% escalation applied.

- Structure Excavation (Sound Wall) - \$35/CY
- Structure Backfill (Sound Wall) - \$42/CY
- 16" Cast-In-Drilled-Hole (CIDH) Concrete Piling - \$47/LF
- Concrete Barrier (Type 736SV) - \$114/LF
- Sound Wall (Masonry Block) - \$20/SF
- Retaining Wall (Type 1) - \$80/SF
- Clearing and Grubbing – 8% of the total cost
- Landscaping – 10% of the total cost
- Storm Water Pollution Prevention – 5% of the total cost
- Traffic Control – 5% of the total cost

Costs associated with the mitigation of secondary effects of the abatement are not included in the abatement construction cost estimate. Examples include costs for mitigation of visual effects, such as planting of vines or use of see-through wall materials; mitigation of effects related to hazardous materials (i.e., removal of materials); mitigation of effects on cultural resources (i.e., removal of buried artifacts); and mitigation of effects on biological resources (i.e., replacement of endangered plant species or wildlife habitat).

Table 7. Summary of Key Abatement Information

Noise Barrier ID	Barrier Height (feet)	Acoustically Feasible?	Number of Benefited Receivers	Total Reasonableness Allowance	Estimated Construction Cost	Cost Less than Allowance?
1	8	Yes	15	\$825,000	\$1,338,000	No
	10	Yes	19	\$1,045,000	\$1,491,000	No
	12	Yes	19	\$1,045,000	\$1,619,000	No
2	8	No	--	--	--	--
	10	Yes	3	\$165,000	\$179,000	No
	12	Yes	3	\$165,000	\$214,000	No
3	8	Yes	7	\$385,000	\$430,000	No
	10	Yes	10	\$550,000	\$481,000	Yes
	12	Yes	10	\$550,000	\$554,000	No
4	6	Yes	3	\$165,000	\$648,000	No
	8	Yes	3	\$165,000	\$692,000	No
5	8	Yes	16	\$880,000	\$243,000	Yes
	10	Yes	16	\$880,000	\$292,000	Yes

Nonacoustical Factors Relating to Feasibility

The following nonacoustical factors were considered in evaluating the *feasibility* of noise abatement. The applicability of each factor is discussed below for each barrier recommended in the NSR.

- minimum stopping and corner sight distances;
- access requirements for driveways;
- maintenance;
- emergency services;
- security; and
- topography

Preliminary Recommendation and Noise Abatement Decision

The preliminary noise abatement decisions presented in this report are based on preliminary project alignments and profiles, which may be subject to change. As such, the physical characteristics of noise abatement described herein also may be subject to change. If pertinent parameters change substantially during the final project design, the preliminary noise abatement decision may be changed or eliminated from the final project design. A final decision to construct noise abatement will be made upon completion of the project design.

The preliminary noise abatement decision presented here was included in the draft environmental document, which was circulated for public review. See Section 3.B. Community Interaction for a summary of comments received during circulation of the Draft ED.

Noise Barrier 1 – EB I-80

Noise Barrier 1 was proposed in the NSR along the eastbound I-80 edge of shoulder. The noise barrier would transition from the eastbound I-80 edge of shoulder to the eastbound right-of-way and continue uphill to approximately Station 225+00. However, there is a programmed HOV/Express Lane project for this segment of I-80 that is planned for implementation within the next fifteen years that will require Noise Barrier 1 to be constructed approximately 20 feet from the existing shoulder to accommodate the future widening. The face of the barrier along EB I-80 would be constructed at the grade required for the future widening in order to provide the noise abatement predicted in the NSR as well as avoid future reconstruction.

As indicated in Table 5, ten-foot to sixteen-foot noise barrier heights would provide a feasible noise reduction for nineteen benefited receivers. A minimum ten-foot noise barrier would also provide at least 7 dB of noise reduction at one or more benefited receptors, which meets the noise reduction design goal, and would break the line of sight from first-row receptors to truck stacks. The estimated construction cost of a ten-foot noise barrier is \$446,000 higher than the calculated reasonable allowance of \$1,045,000. **Therefore, Noise Barrier 1 is not recommended for construction.** Layout Sheets L-1 and L-2, contained in Attachment F, show the modeled location of the noise barrier and receptors.

Noise Barrier 2 – EB Redwood Parkway ROW

Noise Barrier 2 was proposed in the NSR along the eastbound Redwood Street right-of-way. A minimum ten-foot noise barrier would provide a feasible noise reduction (minimum 5 dB reduction), however, a twelve-foot noise barrier would be necessary to provide at least 7 dB of noise reduction at one or more benefited receptors. The estimated construction cost of a ten-foot noise barrier is only \$14,000 higher than the reasonable allowance of \$165,000, while the estimated cost of a twelve-foot barrier is \$49,000 higher. During the initial public informational meeting held in January 2011, residents representing the receptors in this area indicated that noise was an issue and that sound walls were desired. **Therefore, a ten-foot noise barrier is recommended for construction.** Layout Sheet L-3 in Attachment F shows the modeled location Noise Barrier 2.

Noise Barrier 3 – SB Fairgrounds Drive ROW

Noise Barrier 3 is shown in the NSR along the property line of Moorland Street residential properties that would remain with the project, along the northbound Moorland Street right-of-way, and along a segment of westbound Redwood Street at the right-of-way. Layout Sheet L-3 shows the modeled location of the noise barrier. The noise barrier is proposed to replace the existing acoustical shielding that would be lost with the removal of homes on the east side of Moorland Street. A ten-foot noise barrier would be the minimum height noise barrier that would feasibly abate noise levels at ST-9, R5, and R6 while also meeting the noise reduction design goal. The estimated construction cost for a ten-foot high barrier is \$481,000, which is less than the reasonable cost allowance assuming ten benefited receptors. The portion of the noise barrier modeled along Redwood Street is not feasible due to emergency access requirements at the Moorland Street cul-de-sac. **Therefore, assuming nine benefitted receptors, the ten-foot barrier would still be reasonable and is recommended for construction.**

Noise Barrier 4 – Del Mar Avenue

Noise Barrier 4 was evaluated to abate noise at ground level outdoor use areas of three Category B land uses located at the terminus of Del Mar Avenue. Noise barriers tested within the right-of-way were not feasible given that these Category B land uses are situated approximately 30 feet above Fairgrounds Drive and overlook Interstate 80. The barrier was tested on private property at the top of the slope generally following the 220-foot elevation contour. A minimum six-foot noise barrier would provide at least 8 dB of noise reduction at three Category B land uses represented by Receptor ST-5 meeting the feasibility test and the Caltrans noise reduction design goal. The estimated construction cost is \$648,000, almost four times the reasonable allowance of \$165,000 for the barrier. In addition, severe constructability and maintenance issues will be encountered due to the extremely steep slope. **Construction of Noise Barrier 4 is not recommended.** Layout Sheets L-3 and L-5 in Attachment F show the modeled location of the noise barrier.

Noise Barrier 5 – SB Fairgrounds Drive ROW

Noise Barrier 5 is proposed along the southbound Fairgrounds Drive right-of-way. A minimum eight-foot noise barrier would provide a feasible noise reduction and at least 7 dB of noise reduction at one or more benefited receptors meeting the Caltrans noise reduction design goal. The reasonable allowance calculated for this barrier is \$880,000 and the estimated construction cost is estimated well below that at \$243,000. The proposed location of the noise barrier shown on Layout Sheet L-5 is on the inside of a tight radius curve at the back of sidewalk, flanked by driveways to the apartment complex on either side. The construction of a sound wall at this locations would create a non-standard stopping sight distance for the Fairgrounds Drive southbound number two lane and impair the corner sight distance for vehicles exiting the apartment driveways. **These factors render the barrier infeasible and construction of Noise Barrier 5 is not recommended.**

Secondary Effects of Abatement

The noise abatement recommended in the preliminary noise abatement decision may have the potential to result in secondary effects on visual resources for Noise Barrier 3. No potential secondary effects resulting from the construction of Noise Barrier 2 are anticipated.

7. OTHER CONSIDERATIONS AS APPROPRIATE

A. Public Hearing Process

A public hearing was held on October 11, 2012 during the 45-day review period of the draft EIR/EA. A total of 16 written comment forms were received at the meeting. No verbal comments were submitted. The majority of the concerns raised by the attendees were regarding right-of-way acquisition of private property. Other issues raised included general support or dislike for the project, the placement of noise barriers, and traffic safety. There were no changes to the project design or mitigation features resulting from the Draft ED circulation and the public hearing process.

B. Route Matters

A superseding Freeway Agreement will need to be executed between the Department and the City of Vallejo prior to construction to revise the existing agreement. Revisions to the Freeway Agreement map will address interchange modifications and frontage roadway realignments.

C. Permits

Permits and approval required prior to construction are listed in the table below. Temporary construction easements and/or encroachment permits may be required from the City of Valley and Solano County to accommodate work outside state-owned right-of-way. There are no known longitudinal utility encroachments that would require a longitudinal encroachment exception.

Agency	Permit/Approval	Status
United States Army Corps of Engineers	Section 404 Permit – Nationwide	Issued during the Final Design Phase
United States Fish and Wildlife Service	Review and Comment on 404 Permit	Issued during the Final Design Phase
California Department of Fish and Game	1602 Agreement	Issued during the Final Design Phase
California Water Resources Board	NPDES Permit	Issued during the Final Design Phase
Regional Water Quality Control Board	Section 401 Certification	Issued during the Final Design Phase

D. Cooperative Agreements

A Cooperative Agreement between the Department and STA was executed in February 2010 to define the roles and responsibilities of each party. It covers the PA & ED phase of the

project. Full funding for the PS&E and Construction phases has not been identified. Therefore, a Cooperative Agreement Report (CAR) will be prepared once funding is identified for PS&E.

E. Other Agreements

Maintenance Agreements between the Department and the City of Vallejo will also be prepared (or existing agreements amended) to address the roles and responsibilities of each party in maintaining the final facility. Details of the agreement(s) will be addressed as the project progresses into the PS&E phase and in accordance with the Caltrans Project Development Procedures Manual and the Caltrans Maintenance Manual will be resolved prior to advertisement of the project.

Amended or new Funding Agreements may be required between STA, Vallejo, Solano County, and/or other contributing partners depending on the funding sources to be used during PS&E and construction.

F. Transportation Management Plan

A Preliminary Transportation Management Plan (TMP) was prepared and approved in November 2011. The Preliminary TMP addressed temporary, short-term ramp and lane closures, as well as conceptual detouring of traffic, bicycles and pedestrians. The TMP Data Sheet is included in this report as Attachment H. The preliminary TMP includes the Construction Zone Enhanced Enforcement Program (COZEEP) providing California Highway Patrol presence during ramp and lane closures on I-80, changeable message signs, a public information campaign with local mailings and preparation of lane closure charts during PS&E. The TMP will also include coordination with other construction projects as appropriate. No long term ramp closures are anticipated and no full freeway closures will be required to construct the proposed improvements.

During the Plans, Specifications, and Estimates (PS&E) phase of the project, a more detailed Transportation Management Plan will be developed to facilitate access and reduce traffic congestion during construction. The Transportation Management Plan would include four broad strategy categories: public information, motorist information, incident management, and construction. Under this plan, mailers would be sent to notify and inform motorists, business community groups, local entities, emergency services, and elected officials of upcoming road closures and detours. Freeway ramp and lane closures would be displayed on changeable message signs and construction area signs would be used to direct traffic. A Construction Zone Enhanced Enforcement Program would be implemented to engage California Highway Patrol (CHP) officers for ramp or lane closures, and to provide for enforcement of speed restrictions and faster incident response. Traffic management strategies that require action by the construction contractor would be presented in detail in the Build Alternative's technical specifications of the bid contract.

G. Stage Construction

The design phase of the project will account for staged construction due to coordination with a future project to construct High Occupancy Vehicle/Toll lanes (express lanes) along I-80. The I-80 corridor through Solano County has been identified by Metropolitan Transportation

Commission (MTC) as part of a feasible express lane network throughout the San Francisco Bay Area. STA has completed a study to prioritize implementation of express lanes along the I-80 corridor. The portion of I-80 within the limits of this project have been identified as a Tier 2 project. In order to construct the express lanes additional work along the I-80 mainline would be necessary. In order to maximize efficiencies and reduce costs, it has been determined that final design and construction of the improvements to the EB side of the interchange should be done concurrently with the future express lane project.

The first stage of the construction for this project will not include the modifications to the EB on and off ramps. This stage is referred to as the Minimum Project Alternative (MPA).

The MPA will consist of constructing the improvements to the I-80 WB on and off ramps, realign the Fairgrounds Drive/Redwood Street intersection, construct the improvements to Redwood Street and Fairgrounds Drive, modifications to Moorland Street, and to construct the improvements to the SR-37/Fairgrounds Drive on and off ramps. The MPA does provide independent utility. The estimated cost associated with the MPA are as follows:

Cost Element	Estimated Cost (2014)
PS&E*	\$2,900,000
Construction Management @ 12%	\$2,900,000
Construction Administration @ 3%	\$720,000
Construction	\$24,000,000
Right of Way	\$14,300,000
Total	\$44,820,000

*Includes 10% of Construction cost plus 3% of Right of Way cost for R/W Engineering

The revised layouts sheets for the MPA that vary from the ultimate project are included as attachment I. The MPA cost estimate and right of way estimate are Attachments J & K.

H. Accommodation of Oversize Loads

The proposed project will not change any height restrictions on oversize vehicles moving in and out of the project area. The existing nonstandard clearance of 14'-11" on I-80 eastbound and 16'-0" on westbound I-80 at Redwood Parkway will remain.

I. Graffiti Control

The project is in an identified graffiti-prone area. Specific graffiti control measures will be examined during final design.

8. PROGRAMMING

A. Programming

The Fiscally Constrained Solano RTP Project List for submittal to MTC (T2040 Update "Plan Bay Area") was adopted by the STA Board on May 22, 2011. RTP ID Number 230313 identifies the Redwood Parkway/Fairgrounds Drive Improvements project as Fiscally Constrained with Committed Funds of \$93 million (Local Funding) and \$3 million in

Discretionary Funds, for a total of \$96 million. MTC's RTP update, Plan Bay Area, was adopted on July 18, 2013.

Capital Outlay Support and Project Estimates (Full Build Alternative)

Fund Source	Fiscal Year Estimate							
Local	Prior	2012/13	2013/14	2014/15	2015/16	2016/17	Future	Total
Component	In thousands of dollars (\$1,000)							
PA&ED Support	\$1,609							\$1,609
PS&E Support					\$15		\$5,000	\$5,015
Right-of-Way Support							\$780	\$780
Construction Support							\$9,000	\$9,000
Right-of-Way							\$25,220	\$25,220
Construction					\$397		\$54,349	\$54,746
Total	\$1,609				\$412		\$94,349	\$96,370

The support cost ratio is 20.5%.

B. Funding

As stated above, funding for the majority of the project is Local Funding that will come from traffic impact fees.

9. SCHEDULE

Project Milestones		Scheduled Delivery Date (Month/Day/Year)
PROGRAM PROJECT	M015	March 2009
BEGIN ENVIRONMENTAL	M020	October 2010
NOTICE OF PREPARATION (NOP)	M030	January 2011
CIRCULATE DPR & DED EXTERNALLY	M120	September 2012
PA & ED	M200	June 2015
PROJECT PS&E	M380	August 2016
RIGHT OF WAY CERTIFICATION	M410	May 2017
READY TO LIST	M460	May 2017
AWARD	M495	November 2017
APPROVE CONTRACT	M500	January 2018
CONTRACT ACCEPTANCE	M600	May 2019
END PROJECT	M800	July 2019

10. RISKS

A Project Risk Register is included in this document as Attachment M.

11. REVIEWS

The project was reviewed by Mike Thomas, Division of Design, Design Coordinator and Gordon Brown, Division of Design, Design Reviewer, on September 26, 2011, and Karen Bobo, FHWA Director, Local Programs on September 5, 2008 (during the preparation of the PSR-PDS). The Draft Project Report was reviewed by Gordon Brown, Division of Design - Design Reviewer, on 2/29/2012. All of their comments have been incorporated into this document.

This report was reviewed by Lanh Phan, FHWA Senior Transportation Engineer, on 5/14/2012. Per the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), the project is eligible for federal-aid funding and is considered to be an "assigned" project under the updated 2010 FHWA-Caltrans Joint Stewardship and Oversight Agreement.

Signed into law in 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU) was a funding and authorization bill that governed United States federal surface transportation spending. Under Section 6005 of the SAFETEA-LU, the Department assumed all of FHWA's responsibilities under NEPA for projects on California's State Highway System and for federal-aid local streets and roads projects under FHWA's Surface Transportation Project Delivery Pilot Program (Pilot Program). The Pilot Program (as amended) expired in August 2012, and was effectively replaced under a new transportation bill, Moving Ahead for Progress in the 21st Century (MAP-21), which was signed into law by President Barack Obama on July 6, 2012. MAP-21 establishes a revised and permanent Surface Transportation Project Delivery Program. As a result, the Department entered into a memorandum of understanding (NEPA Assignment MOU) with FHWA that incorporates by reference the terms and conditions of the Pilot Program.

The Department continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. The passing of MAP-21 is considered a global revision to the regulatory setting of the environmental document. Incorporation of the MAP-21 regulatory language does not affect the environmental analyses or conclusions of the EIR/EA.

At the Interstate 80 and Redwood Parkway interchange, an FHWA "engineering and operational acceptability" (EOA) determination is required in the PA&ED phase prior to circulation of the draft environmental document for access change/modification. Final approval would be given immediately after the NEPA process is completed, if there are no major changes in the proposed design since the approval of EOA. Exceptions to Mandatory Design Standards proposed on the Interstate System would also require FHWA concurrence.

FHWA found the Build Alternative and Mandatory Design Exceptions to be acceptable as documented in the EOA letter to Bijan Sartipi, District Director, Caltrans District 4, dated August 15, 2013. A copy of the letter has been included in this document as Appendix L.

12. PROJECT PERSONNEL

<i>AGENCY</i>	<i>CONTACT PERSON</i>	<i>PHONE</i>
Solano Transportation Authority One Harbor Center Suite 130 Suisun City, CA 94585	Janet Adams Deputy Executive Director/Director of Projects	(707) 424-6010
Solano County 675 Texas Street, Suite 5500 Fairfield, CA 94533	Matthew Tuggle Engineering Manager	(707) 784-6072
City of Vallejo 555 Santa Clara Street Vallejo, CA 94590	David Kleinschmidt Director of Public Works	(707) 648-4301
Caltrans – District 4 111 Grand Avenue Oakland, CA 94623	Jason Mac, Project Manager Stewart Lee, Design Evelyn Gestuvo, Highway Operations Phillip Cox, Traffic Forecasting Howell Chan, Environmental Analysis Kristen Schober, Right of Way	(510) 622-8891 (510) 286-5986 (510) 286-4535 (510) 286-5584 (510) 286-5623 (510) 286-5327
Caltrans – HQ Sacramento, CA	Mike Thomas, Division of Design, Design Coordinator Gordon Brown, Division of Design, Design Reviewer	(916) 275-2942 (510) 622-5932
FHWA CALIFORNIA DIVISION 650 Capitol Mall, Suite 4-100 Sacramento, CA 95814	Lanh T. Phan, Senior Transportation Engineer	(916) 498-5046
HQE Incorporated 1814 Franklin Street, Suite 700 Oakland, CA 94612	Heidi Ouren, Project Manager Garrett Low, Project Engineer	(510) 763-4895 x114 (510) 763-4895 x102
CirclePoint 135 Main Street, Suite 1600 San Francisco, CA 94105	Scott Steinwert, QA/QC Environmental Audrey Darnell, Senior Environmental	(415) 227-1100 x117 (415) 227-1100 x167

<i>AGENCY</i>	<i>CONTACT PERSON</i>	<i>PHONE</i>
DKS Associates 1970 Broadway, Suite 740 Oakland, CA 94612	Kevin Fehon, Traffic Engineer	(510) 763-2061
Ninyo & Moore 1956 Webster Street, Suite 400 Oakland, CA 94612	Kris Larson, Principal Geologist Lise Bison, Senior Geologist	(510) 633-5640

13. LIST OF ATTACHMENTS

Attachment A – Existing Conditions

Attachment B – Typical Cross Sections, Layouts and Profiles – Build Alternative

Attachment C – Cost Estimate

Attachment D – Right of Way Data Sheet

Attachment E – Existing and Forecasted Traffic Data

Attachment F – Feasible Noise Barrier Locations

Attachment G –Final EIR/EA

Attachment H - TMP Data Sheet

Attachment I - Minimum Project Alternative Layouts

Attachment J - Minimum Project Alternative Cost Estimate

Attachment K - Minimum Project Alternative Right of Way Data Sheet

Attachment L - FHWA EOC Determination Letter

Attachment M - Risk Register

Attachment N - Pavement Strategy Review Checklist

Attachment A

Existing Conditions

Attachment B
Typical Cross Sections, Layouts and
Profiles
Build Alternative

Attachment C

Cost Estimate

Attachment D

Right of Way Data Sheet

Attachment E

Existing and Forecasted Traffic Data

Attachment F

Feasible Noise Barrier Locations

**Attachment G
Final EIR/EA and
Finding of No Significant Impact (FONSI)
Cover, Signature Page,
and Summary
(Complete FED Under Separate Cover)**

Attachment H

TMP Data Sheet

Attachment I

Minimum Project Alternative Layouts

Attachment J
Minimum Project Alternative
Cost Estimate

Attachment K
Minimum Project Alternative
Right of Way Data Sheet

Attachment L
FHWA Engineering And
Operational Acceptability
Determination Letter

Attachment M

Risk Register

Attachment N

Pavement Strategy

Review Checklist