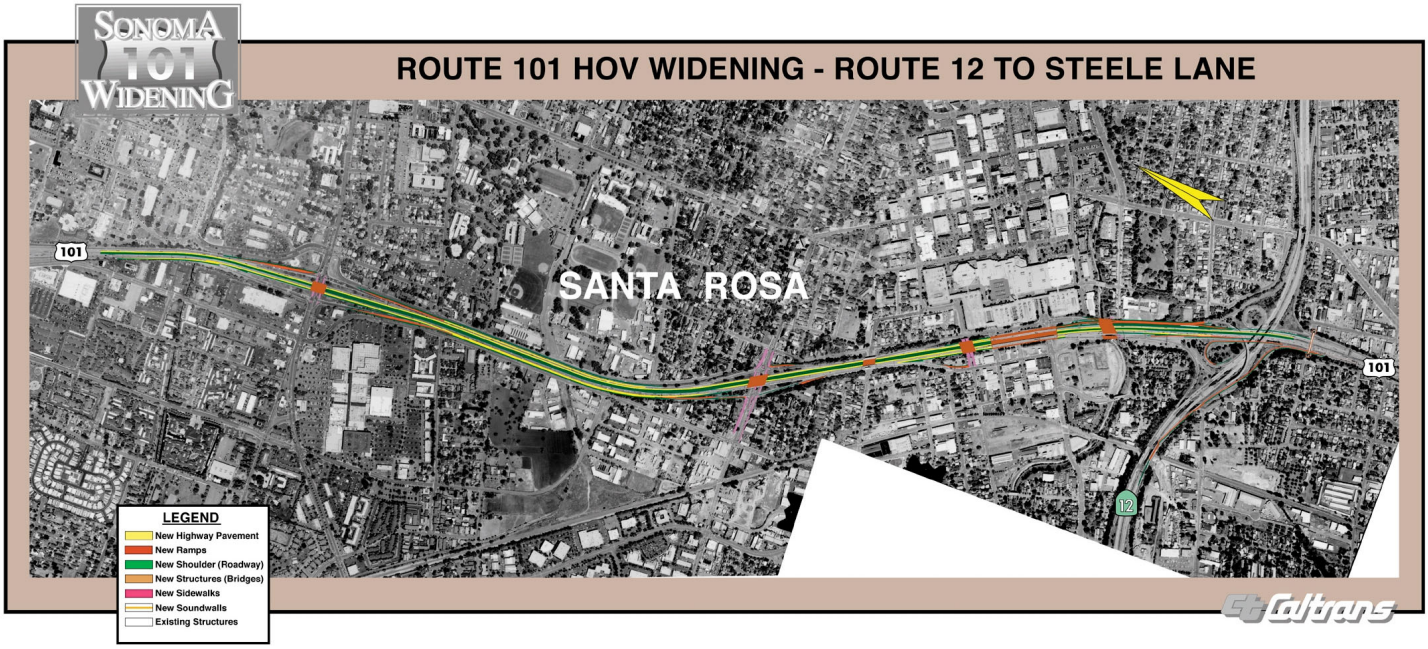

ROUTE 101 HOV WIDENING

FINAL ENVIRONMENTAL ASSESSMENT and 4(f) Evaluation with Finding of No Significant Impact/ FINAL ENVIRONMENTAL IMPACT REPORT

This project is located within the City of Santa Rosa in Sonoma County
on Route 101 from State Route 12 to just north of Steele Lane
04-SON-101-KP 31.4 - 35.7 (PM 19.5 - 22.2)
Expense Authorization 245400/263900
SCH No. 2000102074

December 2003

DEPARTMENT OF TRANSPORTATION UNITED STATES OF AMERICA

Caltrans Metric

Caltrans

SCH Number: 2000102074
04 - SON - 101
KP 31.4 - 35.7
(PM 19.5 - 22.2)
EA 245400/263900

ROUTE 101 HOV WIDENING

This project is located in the City of Santa Rosa in Sonoma County on Route 101 between State Route 12 and just north of Steele Lane

FINAL ENVIRONMENTAL ASSESSMENT and Section 4(f) Evaluation with Finding of No Significant Impact/ FINAL ENVIRONMENTAL IMPACT REPORT

Submitted Pursuant to: (Federal) 42 USC 4332(2)(C) and 49 USC 303
(State) Division 13, Public Resources Code

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration, and
THE STATE OF CALIFORNIA
Department of Transportation

Susan Chang
Deputy Director District 4
Environmental Division
California Department of Transportation

Dec 29, 2003
Date of Approval

Gary N. Hamby
Division Administrator
California Division
Federal Highway Administration

12-29-03
Date of Approval

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FINDING OF NO SIGNIFICANT IMPACT
and
SECTION 4(f) APPROVAL
for
Route 101 HOV Widening

This project adds High Occupancy Vehicle Lanes to U.S. Route 101 from State Route 12 to north of Steel Lane within the City of Santa Rosa in Sonoma County, California. A detailed description of the proposed project is outlined in the Environmental Assessment/Initial Study and Final Section 4(f) Evaluation dated December 2003.

The Federal Highway Administration (FHWA) has determined that this project will not have any significant impact on the human environment. This Finding Of No Significant Impact is based on the attached Environmental Assessment, which has been evaluated by the FHWA and determined to adequately and accurately discuss the environmental issues and impacts of the proposed project. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required.

Based on the attached Final 4(f) Evaluation, the FHWA has concluded there is no feasible and prudent alternative to the use of 4(f) properties and the proposed action includes all possible planning to minimize harm to 4(f) properties resulting from such use.

The FHWA assumes responsibility for the accuracy, scope, and content of the attached Environmental Assessment and Final Section 4(f) Evaluation.

12/19/03
Date

For Gary N. Hamby
Division Administrator

Summary

S.1 Proposed Action

The California Department of Transportation (Caltrans) and Federal Highway Administration (FHWA) are proposing a freeway improvement project on Route 101 in Sonoma County in the City of Santa Rosa. In order to reduce congestion and increase traffic circulation, the project proposes to widen Route 101 from four to six lanes (mostly in the median) between State Route (SR)-12 and immediately north of Steele Lane for the construction of high occupancy vehicle (HOV) lanes in each direction of travel. In addition, the proposed project includes interchange modification at the SR-12, College Avenue, and Steele Lane interchanges. The proposed project would decrease travel delays that are currently experienced between SR-116 in Cotati and River Road in Fulton during the busy AM and PM peak traffic periods. Other features of the proposed project include:

- On northbound Route 101, construct a collector-distributor road between SR-12 and the 3rd Street off-ramp on the outside (right hand side) of the existing roadway.
- Construct various auxiliary lanes between the interchanges to enhance freeway flow.
- Replace the three Santa Rosa Creek Bridge structures with wider structures.
- Replace the existing northern pedestrian overcrossing with a new pedestrian undercrossing at the Santa Rosa Creek Bridge consistent with the design of the City of Santa Rosa's Prince Memorial Greenway project.
- Construct a new City under crossing at 6th Street. Connect 6th Street as a four-lane local street between Morgan Street and Davis Street.
- Replace College Avenue and Steele Lane under crossings.
- Construct soundwalls at locations as recommended by the Caltrans Noise Study, where reasonableness and feasibility criteria are met and where soundwalls are desired by the affected property owners.

S.2 Other Proposed Actions in Project Vicinity

The following FHWA/Caltrans projects are located along either Route 101 or SR-12 in the general vicinity of the proposed project:

- HOV Widening Route 101 from Wilfred Avenue north to SR-12 (open to traffic in November 2002);
- Wilfred Avenue Interchange Improvements on Route 101;

- HOV Widening Route 101 from north of Steele Lane north to Windsor River Road;
- HOV Widening Route 101 from Old Redwood Highway north to Rohnert Park Expressway; and
- SR-12/Farmer's Lane Interchange Improvements.

S.3 Project Alternatives

Four road improvement alternatives and the No-Build were initially evaluated for the project. These are described in detail in Chapter 2 (Alternatives Analysis). The following is a brief overview of the alternatives evaluated during the course of this study:

- **No Build (No Project under CEQA) Alternative** – under this alternative, Route 101 would retain its present configuration and location. It would remain a four-lane freeway and no modifications to the interchanges would occur. Route 101 would receive only minor operational and safety improvements that would support the continuing operation of the existing freeway within the project area, when needed. The No Build Alternative would produce no immediate environmental impacts.
- **Proposed Alternative** – under this alternative, the proposed project would widen Route 101 from four to six lanes (mostly in the median) between SR-12 and immediately north of Steele Lane for the construction of HOV lanes in each direction. In addition, the proposed project would increase the capacity of the SR-12, College Avenue, and Steele Lane interchanges.
- **Alternative 1** – this is formerly known as the Full Build Out alternative from the earlier public workshop process. This alternative proposed widening Route 101 from four to six lanes with major operational improvements at 9th Street and College Avenue. The two additional lanes would be used as HOV lanes. This alternative reconfigured local access to allow for improved traffic flow on the freeway. However, as described in Chapter 2 (Alternatives Analysis), this alternative was eliminated from consideration after consultation with the City of Santa Rosa and the Sonoma County Transportation Authority (SCTA).
- **Alternative 2** – this is formerly known as the Project Study Report alternative from the earlier public workshop process. Like the proposed alternative, this alternative proposed widening Route 101 from four to six lanes for HOV lanes. This alternative would shift and realign Route 101 farther west between SR-12 and 3rd Street and would include grade separated ramps between SR-12 and northbound Route 101 and between northbound Route 101 and 3rd Street. However, this alternative and five related variations were eliminated from consideration after consultation with the City of Santa Rosa and/or the SCTA.
- **Alternative 3** – this is formerly known as the Depressed Freeway alternative from the earlier public workshop process. In response to a request from the Santa Rosa

City Council, Caltrans prepared a proposal to lower the level of Route 101 below the ground surface in downtown Santa Rosa. The proposed depressed freeway section would replace the existing elevated section of Route 101 between 3rd Street and College Avenue. Both open cut and fully covered freeway variations were considered. However, this alternative was eliminated from consideration after consultation with the City of Santa Rosa and the SCTA.

As a result of the alternatives analysis process, Alternatives 1 through 3 were eliminated from detailed environmental study either due to policy considerations or design/construction restrictions. Therefore, only the No-Build and the proposed project were selected for further detailed environmental study. The anticipated impacts and mitigation measures for both the No-Build and the proposed project are described in Chapter 3 (Affected Environment, Environmental Consequences, and Mitigation Measures) of this document.

S.4 Potential Environmental Consequences and Mitigation Measures

Table S-1 summarizes the potential impacts of and mitigation measures for both the No-Build and proposed project scenarios. Details for each environmental category are presented in Chapter 3 (Affected Environment, Environmental Consequences, and Mitigation Measures) of this document.

Table S-1. Summary of Potential Environmental Consequences and Proposed Mitigation Measures by Alternative

Potential Impacts	No-Build	Proposed Alternative	Proposed Mitigation Measures	See Section
Water Quality	No Impact	Decrease in groundwater reinfiltration, increased stormwater and pollutant runoff from increase in freeway surface	Bioswale and infiltration basins to maximize reinfiltration and to prevent or remove contamination	3.1.3.1 3.1.3.2
Floodplain Encroachment	No Impact	No Impact	None Required	3.1.2.3
Potential Hazardous Materials Sites	No Impact	Potential for aerially deposited lead and for petroleum contaminated sites	Sampling and analysis, followed by compliance with state and federal laws	3.3.3.1 3.3.3.2 3.3.3.3
Air Quality	No Impact	Potential construction related air pollutants and dust during construction; however, project conforms with State Implementation Plan and Carbon Monoxide (CO) comparison analysis meets air quality standards	Implementation of Caltrans Special Provisions and Standard Specifications to minimize construction related air pollutants and dust	3.4.3
Noise	No Impact	14 out of 20 noise receptors approach or exceed Leq (h) 67 dBA	Consideration of soundwall construction	3.5.2.4

Table S-1. Summary of Potential Environmental Consequences and Proposed Mitigation Measures by Alternative, cont.

Potential Impacts		No-Build	Proposed Alternative	Proposed Mitigation Measures	See Section
Total Wetlands and Waters of the U.S. area		No Impact	Less than one-twentieth of a hectare (one-tenth of an acre) temporary impacts to Waters of the U.S. during construction	Seasonal work windows, fish captures, and stream enhancements	3.6.2.1
Vegetation		No Impact	Removal of about 300 mature trees, 220 non-mature trees and various bushes, and shrubs; removal of Valley/Coast Live Oak woodlands is a concern	Caltrans would comply with California Senate Resolution No. 17 dealing with Valley/Coast Live Oak woodlands as well as provide replacement tree/bush/shrub plantings	3.6.3.2
Threatened and Endangered Species		No Impact	Potential impacts to listed salmonids in Santa Rosa Creek	Seasonal work windows, fish captures, and habitat enhancements	3.6.3.4
Consistent with Santa Rosa General Plan		Not Consistent	Yes, consistent with Santa Rosa General Plan	None Required	3.7.1.6
Business Displacements		No Impact	2 commercial businesses displaced	Implementation of Caltrans relocation assistance	3.7.3.1
Housing Displacements		No Impact	4 residential properties displaced	Implementation of Caltrans relocation assistance	3.7.3.1
Growth Inducement		No Impact	Not substantial	None Required	3.7.1.4
Agricultural Displacements		No Impact	No Impact	N/A	3.8
Farmland Converted	**Prime**	No Impact	No Impact	N/A	3.8
	Unique	No Impact	No Impact	N/A	3.8
Environmental Justice		No Impact	Presence of low income and minority and low income populations throughout study area	No disproportionate impact found	3.9.2.3
Utility Service Relocation		No Impact	Potential relocation of overhead electrical and telephone lines, and subsurface water pipes	Accommodated during design process	3.10.1.3
Visual/ Aesthetics		No Impact	Removal of redwood trees, oleander, and pedestrian over crossing; soundwall construction	Replacement tree/bush/ shrub plantings; lighting for new bike/pedestrian facilities; treatments to structures aesthetics	3.12.3
Cultural Resources		No Impact	No adverse effects on architectural historical resources	Any unexpected discovery will be addressed in consultation with State Historic Preservation Officer	3.13.3.1
Cumulative Impacts		No Impact	Not substantial	None Required	4.4.1

S.5 Areas of Potential Controversy

No areas of controversy were identified during project scoping or through the alternatives analysis and environmental assessment.

S.6 Issues To Be Resolved

Issues to be resolved before construction of the proposed project are listed below:

- Identification of areas for oak tree replacement, which is pending consultation with resource agencies.
- Final project design and approval.
- Right-of-way acquisition.
- Utility relocation.
- Agency permits and approvals.

S.7 Agency Permits and Approvals

A number of discretionary permits and approvals would be required for the proposed project, including:

- Streambed Alteration Agreement (Section 1601) from the California Department of Fish and Game;
- Nationwide Permits 14 and 33 for impacts to Wetlands or Waters of the U.S. under Section 404 of the Clean Water Act from the U.S. Army Corps of Engineers; and
- Section 401 Water Quality Certification or Waiver from the Regional Water Quality Control Board.

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List of Abbreviated Terms

AAQS	Ambient Air Quality Standards
ABAG	Association of Bay Area Governments
ACHP	Advisory Council on Historic Preservation
ACOE	U.S. Army Corps of Engineers
ADL	Aerially Deposited Lead
APE	Area of Potential Effect
ASC	Anthropological Studies Center, Sonoma State University
ASR	Archaeological Survey Report
BA	Biological Assessment
BAAQMD	Bay Area Air Quality Management District
BG	Block Group
BMP	Best Management Practice(s)
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
Caltrans	California Department of Transportation
CCAA	California Clean Air Act
CDMG	California Division of Mines and Geology
CEQA	California Environmental Quality Act
CMA	Congestion Management Agency
CMP	Congestion Management Program
CNDD	California Natural Diversity Database
CTC	California Transportation Commission
dB	Decibels
dBA	A-Weighted Sound Decibel Level
DTSC	Department of Toxic Substances Control
EA	Environmental Assessment
EIS	Environmental Impact Statement
EIR	Environmental Impact Report
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FHWA	Federal Highway Administration
ft	foot/feet
HASR	Historic Archaeological Survey Report
HCS	Highway Capacity Software
HOV	High Occupancy Vehicle
in	inch(es)
IS	Initial Study
ISA	Initial Site Assessment
km	kilometer(s)
kp	kilometer post
Leq(h)	Hourly Equivalent Sound Level
LOS	Level of Service
m	meter(s)
MBTA	Migratory Bird Treaty Act
MCE	Maximum Credible Earthquake
mi	mile(s)
mm	millimeter(s)
MTC	Metropolitan Transportation Commission
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NAHC	Native American Heritage Commission
NES	Natural Environmental Study

NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
PM	post mile
PSR	Project Study Report
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SCSD	Sonoma County Sheriff's Department
SCTA	Sonoma County Transportation Authority
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SMP	System Management Plan
sq ft	square foot/feet
sq m	square meter(s)
SR	State Route
SRFD	Santa Rosa Fire Department
SRPD	Santa Rosa Police Department
STIP	State Transportation Improvement Program
SWCA	Sonoma County Water Agency
SWDR	Storm Water Data Report
SWPPP	Storm Water Pollution Prevention Program
TASAS	Traffic Accident Surveillance and Analysis System
TCM	Traffic Control Measures
TNAP	Traffic Noise Analysis Protocol
TIP	Transportation Improvement Program
UGB	Urban Growth Boundary
U.S.	United States
USDOT	U.S. Department of Transportation
USGS	U.S. Geological Service
UST	Underground Storage Tank
WTP	Water Treatment Plant

Chapter 1 Project Purpose and Need

1.1 Introduction

1.1.1 Scope of this Environmental Assessment/Environmental Impact Report

This document contains environmental analyses pertaining to the Route 101 high occupancy vehicle (HOV) widening project from SR-12 to north of the Steele Lane interchange in Santa Rosa, California. This document satisfies requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The Federal Highway Administration (FHWA) is the lead agency for NEPA and the California Department of Transportation (Caltrans) is the lead agency for CEQA.

This Environmental Assessment/Environmental Impact Report (EA/EIR) is an informational document that: 1) informs the public agency decision-makers and the public of the environmental effects of the proposed project; and 2) identifies potential mitigation measures to minimize any adverse impacts.

Both a Notice of Intent (NOI) and a Notice of Preparation (NOP) to prepare a joint Environmental Impact Statement/Environmental Impact Report (EIS/R) were released in October 2000. Ensuing environmental studies did not identify any significant impacts, so FHWA determined that an Environmental Assessment, rather than EIS, would be an appropriate environmental document for the project, and in May 2003 FHWA issued a Notice of Withdrawal for the earlier NOI.

Caltrans released the draft EA/EIR on July 21, 2003, and held a public meeting on August 7, 2003 to give the public an opportunity to review and comment on the document and the proposed soundwalls. The public comment period closed on September 3, 2003. A total of 24 people or agencies commented on the document. Caltrans' responses to comments are located in Appendix L of this document.. The commenters included one Federal Agency, two State Agencies, and 21 organizations or individuals. This Final EA/EIR takes into account comments received on the Draft EA/EIR. Text that is newly added to the Final EA/EIR is marked with a vertical line on the outside margin of the page.

1.1.2 Project Location

Caltrans proposes to upgrade existing Route 101 within the City of Santa Rosa to include an HOV lane from SR-12 to immediately north of Steele Lane, a distance of 4.3 km (2.7 mi). The general project vicinity is shown on Figure 1-1, while the project

location and limits are depicted on Figure 1-2. To the south, the project begins at the southernmost Route 101 on and off-ramps to SR-12. To the north, the project ends immediately north of the Steele Lane Interchange. The project area is part of the regional Route 101 corridor that links San Francisco with Northern California and the Pacific Northwest.

Residential uses are concentrated at the southern and central portions of the project area, while commercial/industrial uses are generally located in the downtown area between 3rd Street and 8th Street on the south and adjacent to Steele Lane in the north. Burbank Elementary School is located on the east side of Route 101 and north of SR-12. Santa Rosa High School and the Santa Rosa Junior College are located south of Elliot Avenue, off of Mendocino Avenue.

1.2 Purpose Of and Need For the Proposed Project

1.2.1 Purpose

The purpose of the proposed project is three-fold:

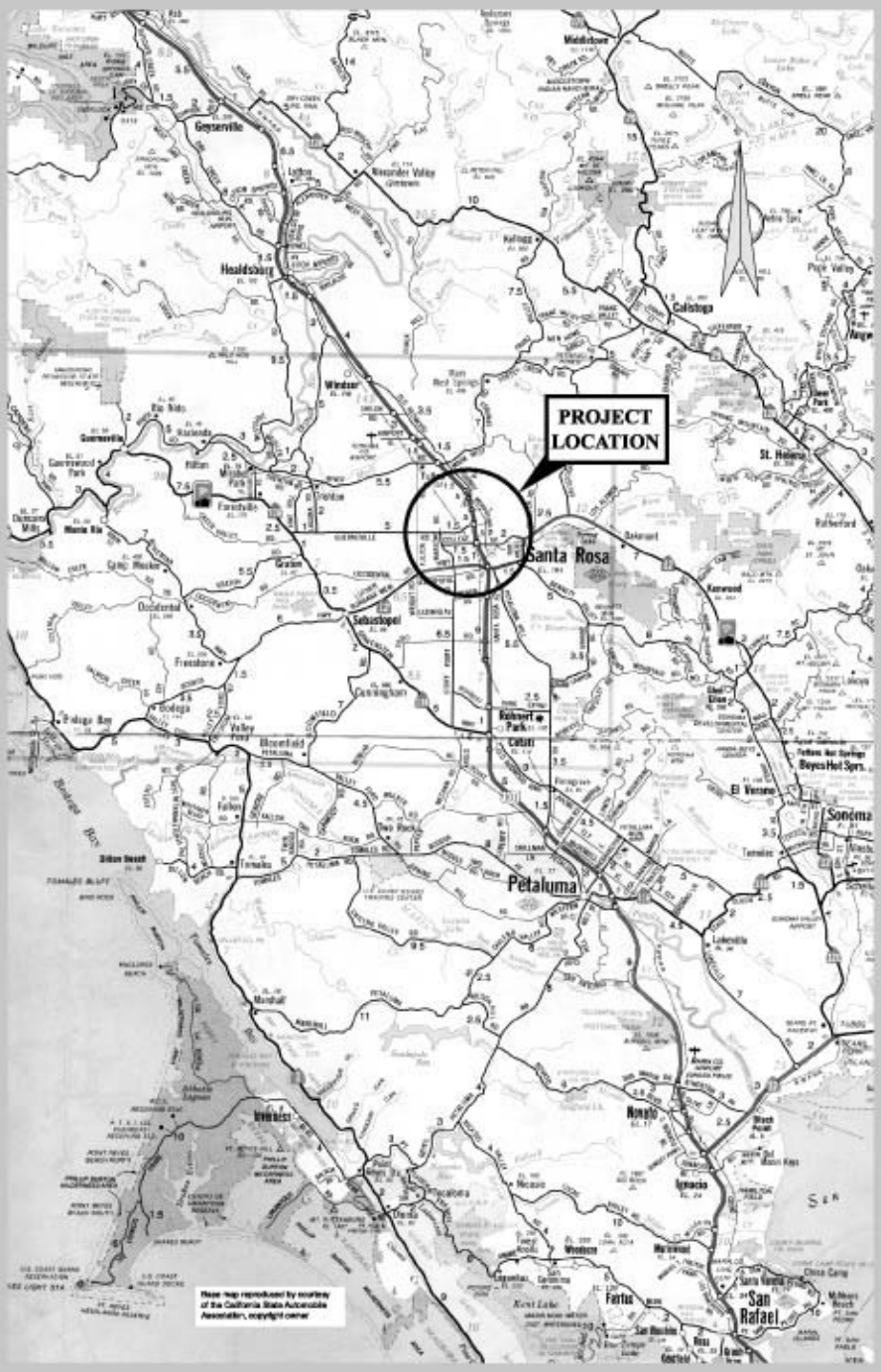
Reduce Congestion on Route 101 in Santa Rosa.

Route 101 is the primary north/south traffic corridor in Sonoma County as well as one of the few primary north/south roads within Santa Rosa. The increase in traffic volumes on Route 101 within the City over recent years has increased congestion and extended the duration of the peak traffic period within and through Santa Rosa. Congestion is commonplace during non-peak traffic periods, such as weekends, and vehicle breakdowns and accidents further exacerbate congestion.

Maintain and Improve Transportation Linkages in Santa Rosa.

Through three resolutions adopted by the City Council (see Appendix E), Santa Rosa requested the proposed 6th Street undercrossing of Route 101 and bicycle/pedestrian enhancements at 3rd Street and College Avenue be incorporated into the proposed project. When Route 101 was initially constructed through the City, many local streets were split by the freeway. Reconnecting 6th Street under Route 101 and improving the bicycle/pedestrian facilities at 3rd Street and College Avenue would improve east/west travel within the downtown area.

SONOMA 101 WIDENING


PROJECT LOCATION
Santa Rosa
Petaluma
Sonoma
San Rafael
Healdsburg
Cloverdale
Windsor
Sebastopol
Cotati
Rohnert Park
Novato
Ignacio
Fairfax
Geyserville
Calistoga
St. Helena
Kenwood
Forestville
Graton
Occidental
Bodega
Bloomfield
Tomales
Lakeville
Marshall
Inverness
Nicasio
Sleepy Hollow
Kent Lake
Bodega Bay
Stinson Beach
Middletown
Kelseyville
Lytton
Alexander Valley
Guerneville
Rio Nido
Cloverdale
Healdsburg
Fulton
Forestville
Graton
Sebastopol
Cotati
Rohnert Park
Petaluma
Novato
Ignacio
Fairfax
San Rafael
Sonoma
Kenwood
Rutherford
St. Helena
Calistoga
Windsor
Geyserville
Middletown
Kelseyville
Lakeville
Tomales
Bodega
Bodega Bay
Stinson Beach
Inverness
Nicasio
Sleepy Hollow
Kent Lake
Marshall
Bloomfield
Freestone
Cloverdale
Guerneville
Rio Nido

SONOMA 101 WIDENING

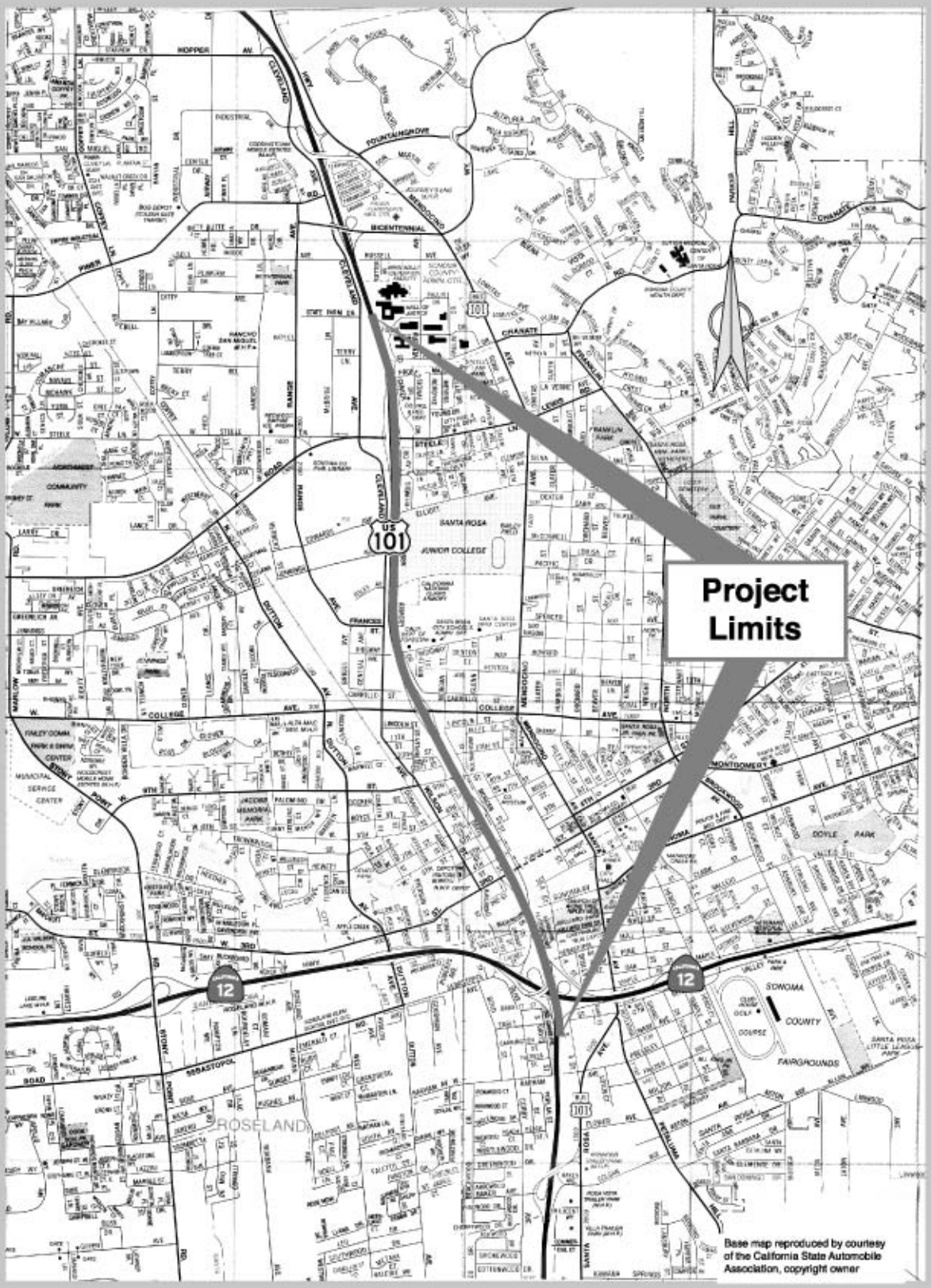


Figure 1-2: Project Location

Caltrans

SR -12 is an east/west State highway that connects with Route 101 in downtown Santa Rosa, on the southern end of the proposed project. Over the next 10 years, traffic demand at this very busy interchange is anticipated to increase, adding further to the congestion and delay that is already experienced. Improving the transportation link between SR-12 and Route 101 and maintaining existing access points to downtown Santa Rosa is a vital component of preserving efficient traffic movement in this part of Santa Rosa.

Improve Safety of Route 101 Corridor in Santa Rosa.

Due the increasing number of vehicles traveling on Route 101 and through the busy College Avenue and Steele Lane interchange areas, accident rates have risen. Many of the accidents have been attributed to inadequate vehicle storage lengths at the on and off-ramps to Route 101 as well as vehicles blocking the through lanes of College Avenue and Steele Lane. The proposed project should reduce the overall accident rates along Route 101 and at the interchange areas because of the proposed improvements.

1.2.2 Need

Caltrans developed the proposed project in response to the following needs: reducing Route 101 congestion, maintaining and improving transportation linkages in Santa Rosa, and improving safety of the Route 101 corridor in Santa Rosa.

Needs Associated With Reducing Route 101 Congestion and Providing High Occupancy Vehicle Lanes on Route 101 in Santa Rosa.

Efficient movement of people, goods, and services, is being hindered by recurrent congestion. When a freeway is being used to transport people, in contrast to transporting goods, efficiency increases when the number of people per vehicle increases. Field measurements obtained during the 1999 Congestion Monitoring Studies provide a snapshot of current congestion. In the area of the project, the monitoring studies observed that northbound traffic congestion typically occurs between 6:30 a.m. and 9:30 a.m. and between 2:30 p.m. and 7:00 p.m., while southbound traffic congestion generally develops between 6:00 a.m. and 9:30 a.m. and between 3:00 p.m. and 6:30 p.m. Numerous congestion areas regularly develop and often shift along the freeway. (Caltrans 2001a).

<u>Southbound Route 101 Locations of Congestion, A.M. Peak Period:</u>

- Between the Shiloh Road interchange and the River Road on-ramp.
- From the Bicentennial Way interchange to the Steele Lane on-ramp.
- The area of the SR-12 interchange.

Southbound Route 101 Locations of Congestion, P.M. Peak Period

- Between the Bicentennial Way interchange and the SR-12 on-ramp.
- The area of the Wilfred Avenue interchange.

Northbound Route 101 Locations of Congestion, A.M. Peak Period:

- Between the SR-116 and Rohnert Park Expressway on-ramps.
- Between the Santa Rosa Avenue interchange and the Baker Avenue on-ramp.
- Between the SR-12 interchange and the College Avenue on-ramp.

Northbound Route 101 Locations of Congestion, P.M. Peak Period

- Between the Santa Rosa Avenue interchange and the Baker Avenue on-ramp.
- In the vicinities of the College Avenue and Mendocino Avenue interchanges.

In 1999, observed delays to southbound traffic between Route 116 West in Cotati and River Road in Fulton were about 7.0 minutes during the AM peak period and about 9.0 minutes during the PM peak period. For northbound traffic, a delay of about 9.0 minutes was measured in the AM peak period and about 12 minutes during the PM peak period (Figure 1-3).

Caltrans estimated traffic delays in the study area for two future years: 2010 and 2030. Estimated delays as well as the associated areas of congestion for Year 2010 are shown in Figure 1-4, and for Year 2030 in Figure 1-5.

Table 1-1 shows calculated future year travel delays in 2010 on northbound and southbound Route 101 for the No-Build scenario in 2010. The delays are those which would theoretically result from bottlenecks identified between SR-116 in Cotati and River Road in Fulton. Separate calculations are shown for vehicles in the HOV lanes and for vehicles in the "Mixed Flow Lanes" (lanes used by a mixture of cars, trucks, and buses). The model calculations assume that completion of additional Route 101 projects have resulted in continuous HOV lanes between the Rohnert Park Expressway and the interchange with SR-12. The Year 2010 No-Build roadway network also reflects the existing conditions, plus completion of all projects currently under construction and local projects that are listed in the 2001 Regional Transportation Plan (RTP) with committed funding status and projects listed in the 2001 Transportation Improvement Program (TIP). Below is the list of these projects (Caltrans 2003a).

- Rohnert Park Expressway interchange modification
- Stony Point Road widening
- Farmers Lane interchange modification/reconstruction
- Route 101 HOV gap closure project in from Corte Madera to San Rafael in Marin County
- Wilfred Avenue interchange modification and Route 101 HOV widening from Rohnert Park Expressway north to Wilfred Avenue

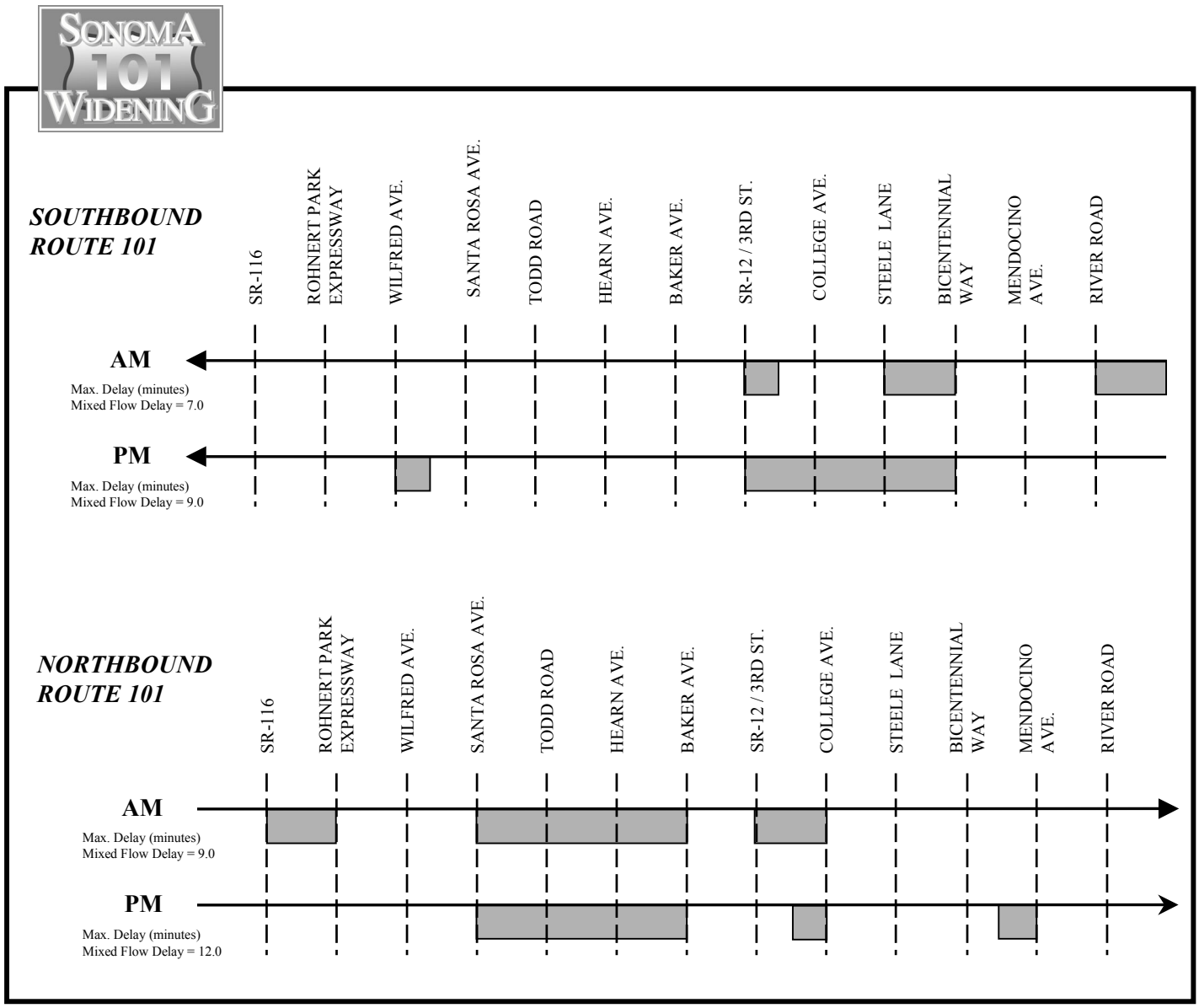


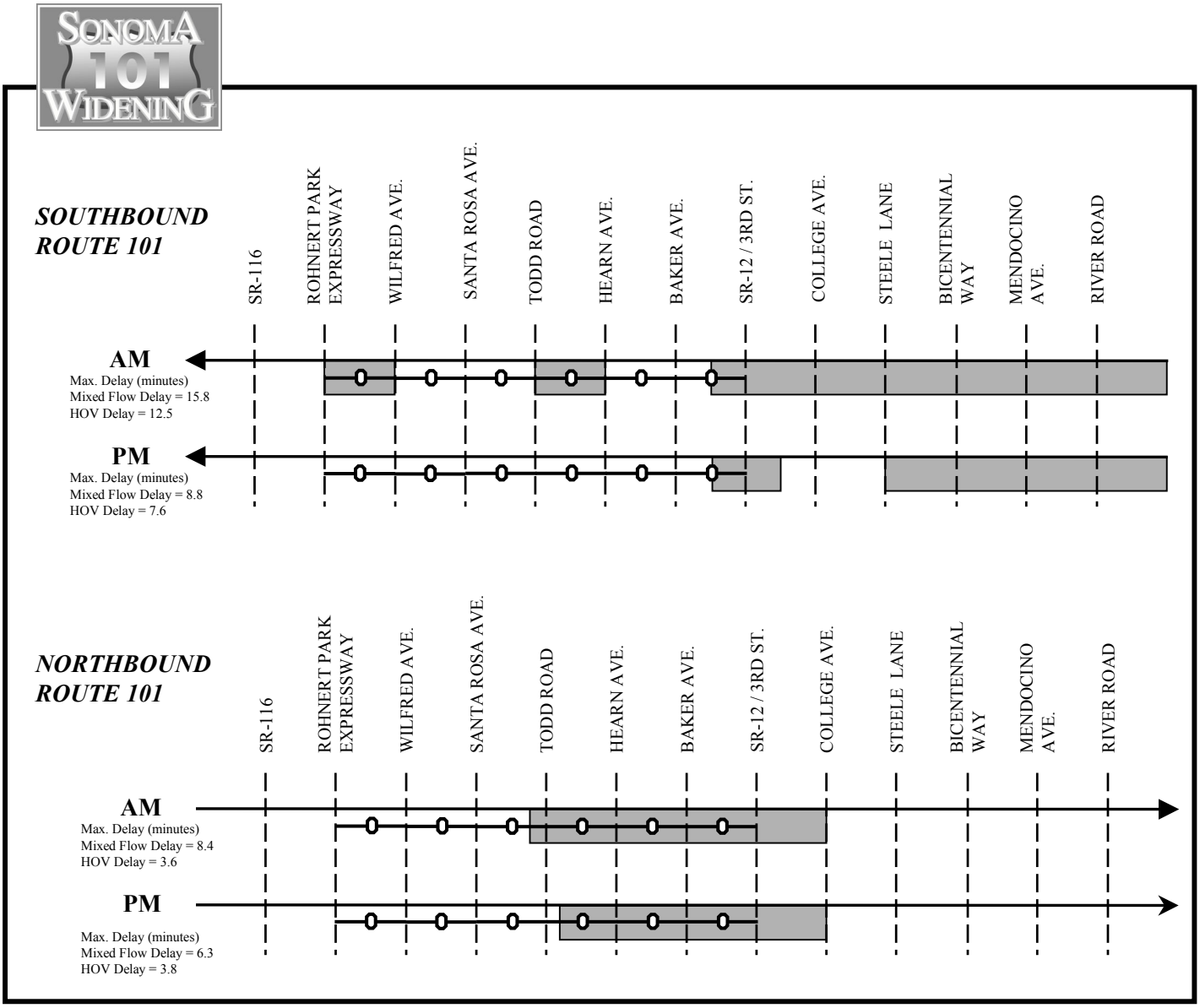
Figure 1-3
1999 Existing Scenario
Route 101 Observed Congestion

Drawing not to Scale

LEGEND

Congestion Area*

* For congestion observations, congestion is defined as a condition where the average speed drops below 35 mph for 15 minutes or more.



Drawing not to Scale

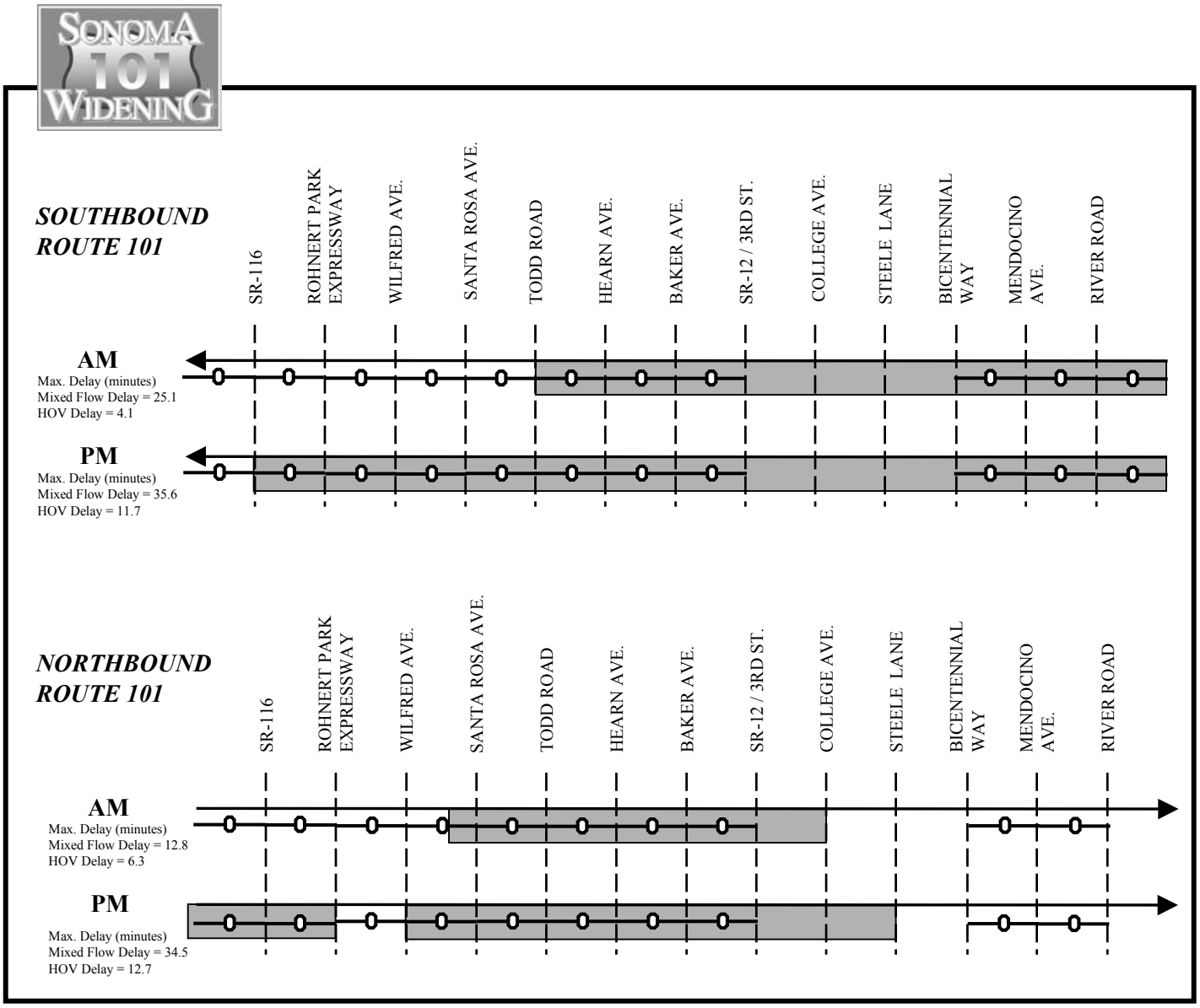
LEGEND

Congestion Area*

High Occupancy Vehicle Lane

Figure 1-4
2010 Without Proposed Project Scenario
Route 101 Congestion Analysis

* For congestion analysis, the congestion threshold is reached when demand volumes exceed capacity of 2100 vehicles per hour per lane.



Drawing not to Scale

LEGEND

Congestion Area*

High Occupancy Vehicle Lane

Figure 1-5
2030 No-Build Scenario
Route 101 Congestion Analysis

* For congestion analysis, the congestion threshold is reached when demand volumes exceed capacity of 2100 vehicles per hour per lane.

Table 1-1. Theoretical Year 2010 Travel Delay on Route 101 for No-Build Scenario

Scenario	Maximum AM Delay (in min.)		Maximum PM Delay (in min.)	
	Mixed Flow	HOV Lane Users	Mixed Flow Lane	HOV Lane Users
Southbound				
Year 2010	15.8	12.5	8.8	7.6
Northbound				
Year 2010	8.4	3.6	6.3	3.8

Note: The table reflects the time savings for HOV users in the HOV lanes assumed to exist in 2010: from Rohnert Park Expressway to Highway 12.

Without the project, southbound delay on the two existing mixed flow lanes would approach 16 minutes during the AM peak hour and nearly nine minutes during the PM peak hour by Year 2010. Southbound carpools and buses can use the HOV lanes where they would be available from the interchange with SR-12 to the Rohnert Park Expressway. Northbound mixed flow lanes are projected to have nearly eight and one half minutes delay during the AM peak hour and more than 6 minutes delay in the PM peak hour by 2010. Little delay is anticipated in the HOV lane. However, neither the north end nor the south end of the study area would have HOV lanes. Therefore, HOVs might experience delays prior to reaching the HOV lanes . The maximum delay calculated for southbound HOVs approaches 13 minutes during the AM peak hour and 8 minutes during the PM peak hour by Year 2010, while the northbound HOV delays are expected to be less than 4 minutes during both the AM and PM peak hours (Caltrans 2003b).

[A note about theoretical delay calculations: because “peak hour analyses” do not account for congestion accumulated during previous hours, the calculated delays reflect only operations from a peak-hour demand assuming free-flow conditions during preceding hours. The traffic congestion over a cumulative multi-hour peak period would be higher than indicated by the peak hour analysis. Thus, the results cannot be directly compared to existing observed congestion.]

Table 1-2 lists the expected future Year 2030 travel delays for the No Build scenario resulting from bottlenecks in the traffic study area, corresponding to the queues shown graphically in Figure 1-5. The highway operations analysis assumed that the projects in the 2001 Regional Transportation Plan with committed funding status or in Track 1, and the projects listed in the 2001 TIP are complete, meaning that additional HOV lane projects in the traffic study area will result in continuous HOV lanes from Highway 116 in Cotati to the Route 12 interchange, and from the Bicentennial Way interchange to Windsor River Road. Projects which are expected to have some effect on 2030 congestion in the traffic study area follow.

- Rohnert Park Expressway interchange modification;
- Stony Point Road widening;
- Farmers Lane interchange modification/reconstruction;
- Route 101 HOV gap closure project in Marin County;
- Wilfred Avenue interchange modification and Route 101 HOV widening from Rohnert Park Expressway north to Wilfred Avenue;
- Widen Route 101 from 4 lanes to 6 lanes (including HOV lanes) from Route 37 in Marin County to Old Redwood Highway in Petaluma;
- HOV widening from Old Redwood Highway in Petaluma to the Rohnert Park Expressway interchange; and
- HOV widening from the Bicentennial Way interchange to Windsor River Road.

Table 1-2. Theoretical Year 2030 Travel Delay on Route 101 for the No-Build Scenario

Scenario	Maximum AM Delay (in min.)		Maximum PM Delay (in min.)	
	Mixed Flow	HOV Lane Users	Mixed Flow Lane	HOV Lane Users
Southbound				
Year 2030	25.1	4.1	35.6	11.7
Northbound				
Year 2030	12.8	6.3	34.5	12.7

Note: The analysis assumes that, in 2030, HOV lanes will already exist from interchange with Route 116 in Cotati and Route 12, and between Bicentennial Way and the Mark West / River Road interchange. The table reflects the time savings for HOV users in those segments.

Table 1-2 shows maximum anticipated delays in Year 2030. Southbound mixed-flow lane users would encounter up to 25 minutes of delay, with HOV lane users encountering about 4 minutes of delay. AM northbound travelers would experience up to 12.8 minutes of delay in the mixed-flow lanes and 6 minutes of delay in the HOV lane. All travelers could expect longer delays during the afternoon peak hour. Southbound vehicles using mixed flow lanes during the afternoon peak hour are expected to face up to 35.6 minutes of delay. Southbound HOV lane users, who can take advantage of the assumed HOV lanes, could experience up to 11.7 minutes of delay during the P.M. peak hour. In the northbound direction, afternoon peak hour traffic would experience up to 34.5 minutes of delay for mixed-flow lane users and up to 12.7 minutes of delay for HOV lane users.

Need Associated With Improving and Maintaining Transportation Linkages in Santa Rosa.

When Route 101 was initially constructed through the Santa Rosa area in the late 1950s and early 1960s, many local City streets were split, forcing vehicles and bicycles/pedestrians to take alternative routes to their destinations. Route 101 divided

several residential areas and one historic district (Railroad Square) from downtown Santa Rosa. As a result, Route 101 acts as a barrier to bicycle/pedestrian movements and in some respects to vehicle movement within the City. Also, congestion is often experienced throughout the entire day and on weekends at both College Avenue and Steele Lane due to the amount of traffic demand at these interchanges. By providing one additional roadway (6th Street under crossing) and two improved bicycle/pedestrian connections (3rd Street and College Avenue) under Route 101 in the downtown, and interchange/intersection improvements at College Avenue and Steele Lane, east/west flow through Santa Rosa would improve.

Needs Associated With Improving Route 101 Corridor Safety in Santa Rosa. Another primary concern for most freeway related projects is safety. Accident data for Route 101, College Avenue, and Steele Lane are presented below. The number of accidents that have occurred on Route 101 are a direct result of the level of congestion on the road, which has caused accident rates to increase.

Accident data was collected from April 1, 1999 through March 31, 2002 on Route 101 and the portions of College Avenue and Steele Lane within State owned right-of-way. Table 1-4 shows the number of accidents by type, while Table 1-5 shows the accident rates for the fatalities, fatalities plus injury accidents, and the total accidents per million vehicle miles traveled. Statewide average accident rates are developed by comparing the averages of similar freeway facilities and compares this rate to the accident rates experienced within the project area.

The majority of the accidents during the three year time period were attributed to driver inattention, speeding, and improper turn movements. Often, accidents occurred when vehicles blocked the through traffic lanes on College Avenue and Steele Lane as well as local intersections trying to access Route 101.

The overall accident rate for the section of Route 101 within the project area was nearly 36 percent higher than the Statewide average accident rate for similar type facilities. Increasing the capacity of Route 101 in Santa Rosa with the addition of HOV lanes and auxiliary lanes between the interchanges should help reduce the accident rates by allowing a more efficient movement of traffic onto and off of the freeway.

Table 1-3. Accidents by Type

Type of Accident	Route 101	College Avenue	Steele Lane
Broadside	6	11	37
Rear-End	493	13	29
Hit Object	63	4	6
Sideswipe	53	9	9
Head-On	0	1	0
Overturn	8	0	0
Auto Pedestrian	3	1	1
Other	4	2	1
Total	630	41	83
Accidents Involving Fatality	2	0	0
Accidents Involving Injury	214	14	34

Table 1-4. Accident Rates

Location	Total Accidents			Actual Accident Rate			Statewide Average Accident Rate		
	Total	FAT	INJ	Total	Fatal	F+I	Total	Fatal	F+I
Route 101	630	2	214	1.97	0.006	0.68	1.45	0.015	0.52
Northbound off-ramp to College Avenue	15	0	7	1.57	0.000	0.73	1.50	0.005	0.61
Southbound on-ramp from College Avenue	11	0	2	0.98	0.000	0.18	0.80	0.002	0.32
Northbound on-ramp from College Avenue	6	0	3	0.90	0.000	0.45	0.80	0.002	0.32
Southbound off-ramp to College Avenue	9	0	2	1.39	0.000	0.31	1.50	0.005	0.61
Southbound on-ramp from Steele Lane	9	0	4	0.71	0.000	0.31	0.80	0.002	0.32
Northbound off-ramp to Steele Lane	28	0	10	2.13	0.000	0.76	1.50	0.005	0.61
Northbound on-ramp from Steele Lane	8	0	4	1.20	0.000	0.60	0.80	0.002	0.32
Southbound off-ramp to Steele Lane	38	0	16	5.03	0.000	2.12	1.50	0.005	0.61

Notes: FAT = Fatality
INJ = Injury
F+I = Fatality plus injury accidents

The overall accident rates for the College Avenue interchange ramps were higher than the Statewide average at three of the four locations analyzed. The most prominent accident locations at this interchange are the southbound on-ramp and northbound on-ramp onto College Avenue. The accident rates for these locations were nearly 23 percent higher and 13 percent higher, respectively, than the Statewide average accident rate for on-ramps to freeway facilities. The overall accident rates for the Steele Lane interchange ramps were higher than the Statewide average at three of the four locations analyzed. The most prominent accident location at this interchange is the southbound off-ramp to Steele Lane, at nearly 235 percent higher than the Statewide average accident rate for similar off-ramp facilities. The accident rates for the

northbound on-ramp from Steele Lane and the northbound off-ramp onto Steele Lane were 50 percent higher and 42 percent higher, respectively, than the Statewide average accident rate for on-ramps and off-ramps. Increasing the storage capacity of the on and off-ramps to Route 101 as well as widening College Avenue and Steele lane under Route 101 should help reduce the accident rates by allowing a more efficient movement of traffic onto and off of the freeway.

1.3 Project Background

Route 101 through the project area was constructed between 1948 and 1968. Only minor operational and safety improvements have been implemented since. Currently, the freeway has four mixed-flow traffic lanes, two in each direction. Due to the lack of north/south parallel routes in the region, Route 101 continues to be a heavily traveled route in the Bay Area linking Sonoma County with San Francisco and the rest of the Bay Area to the south as well as Northern California and the Pacific Northwest to the north.

In the early 1980s, Caltrans began exploring the process of improving Route 101 to serve increased traffic. In 1989, the Route 101 Corridor Study Concept recommended a continuous 83-km (52-mi) HOV lane system on existing freeways from Marin County through Sonoma County to Windsor. The HOV system concept was not implemented at the time due to lack of funding. At about the same time, a study analyzed the feasibility of widening Highway 101 from four to eight lanes in Sonoma County from the Marin County line. This concept would have required substantial relocation of parallel City streets, commercial businesses, and residences. The combination of high cost and environmental and engineering constraints prevented the option from being pursued (Caltrans 1997a).

The Sonoma County Transportation Authority (SCTA) acts as Sonoma County's planning and programming agency for transportation projects. In 1993, the Sonoma County Congestion Management Program (CMP) Update was completed. In its seven year capital improvement program for roadway projects, widening Route 101 to six lanes for HOV capacity was outlined. As recommended by SCTA, the CMP indicated that HOV lanes should be constructed between Shiloh Road in Windsor south to the Sonoma/Marin County line.

In 1997, the Sonoma Marin Multi-Modal Transportation and Land Use Study, known as the Calthorpe study, expanded upon the results of the previous Route 101 Corridor

Study Concept Reports that were produced in the 1980s, and analyzed new alternatives to determine the most cost effective mix of transportation projects. The Calthorpe study concluded that construction of a HOV lane system along the freeway from SR-116 West in Cotati north to Windsor River Road in Windsor in conjunction with the creation of a rail transit system with complementary regional and feeder bus service would create a balanced transportation network. Passenger train service was analyzed on the existing NorthWestern Pacific rail line with 12 primary stations identified for potential use near the Route 101 corridor, including one in Santa Rosa (Calthorpe et al. 1997). Presently, planning for passenger rail service in the Marin-Sonoma Highway 101 Corridor is focused on the Sonoma-Marin Area Rail Transit (SMART) Rail District, which plans to provide service by 2007. Public scoping for the environmental process began in November of 2002. According to the Calthorpe study, SMART's passenger rail service would complement a regional system of HOV lanes on Route 101.

In 1997, the MTC published a report outlining and updating the Bay Area HOV lane program. This report identified the segment of Route 101 through Santa Rosa as often experiencing substantial and unpredictable peak period congestion. This report predicted the traffic situation to deteriorate in the future. HOV lane segments were proposed in Santa Rosa to combat the existing and anticipated congestion (Metropolitan Transportation Commission [MTC] 1997).

In 2000, Caltrans completed the environmental process for adding HOV lanes on Route 101 from Wilfred Avenue in Rohnert Park to SR-12 in Santa Rosa. Opened to traffic in November 2002, this project provided the first HOV lanes in Sonoma County.

Chapter 2 Alternatives Analysis

2.1 Introduction

The development of project alternatives for the Route 101 EA/EIR began with an initial evaluation of a wide array of transportation strategies to solve the existing and anticipated traffic problems in the project area. Several criteria were considered, including cost; feasibility (policy, engineering, construction); means of minimizing environmental or social impacts; addressing the goals of the Sonoma County Transportation Authority (SCTA), the City of Santa Rosa, the Metropolitan Transportation Commission (MTC) and Caltrans; and best serving public interest.

The following alternatives were selected for further detailed study: 1) the No-Build Alternative; and 2) the proposed project considered for implementation, consisting of the Caltrans high occupancy vehicle (HOV) widening project. Those project specific alternatives removed from further consideration are also explained below. The alternative examination process ensures that any one particular alternative has not been prematurely discarded from consideration.

2.2 Alternatives Development Process

As a result of the alternatives analysis process described in Chapter 2.4, three alternatives were eliminated from further consideration. Due to policy considerations or design/construction restrictions, only the No-Build and the proposed project were selected for further detailed environmental study.

All alternatives that received an appreciable amount of analysis involved adding lanes for High Occupancy Vehicles (HOVs). HOV lanes were identified as the appropriate project strategy because of their emphasis as a superior mobility solution, both regionally and locally. Since at least 1990, capacity-increasing highway projects in the Bay Area have typically incorporated HOV elements. The Metropolitan Transportation Commission (MTC), the Bay Area's regional transportation planning agency, adopted the region's first HOV Master Plan in 1990. In that year, there were 64 lane miles of HOVs in the Bay Area. The HOV Master Plan identified 470 potential new miles of HOV lanes. The HOV Master Plan has become the system blueprint for identifying and funding HOV lanes in the region. By 1996 there were 270 miles of HOV lanes in the Bay Area. The 1997 HOV Master Plan Update

proposed 149 additional HOV lane miles, including HOV lanes on Route 101 from Route 12 to Steele Lane in Santa Rosa.

The region's planning and funding documents identify the Route 101 widening project from Route 12 to Steele Lane as an HOV project as well. The 2001 Regional Transportation Plan (RTP) (amended November 2002) identifies the project as "US 101 northbound and southbound HOV lanes from Route 12 to Steele Lane in Santa Rosa." The 2003 Transportation Improvement Program (TIP), which documents funding commitments, identifies the project as "including HOV lanes." The 2002 HOV Master Plan Update shows the project as funded. According to the 2002 HOV Lane Master Plan Update, it is MTC's long term goal to eventually develop a continuous HOV system on Route 101 from Santa Rosa to Mill Valley.

Sonoma County supports HOV projects on the 101 corridor as well. Sonoma County's General Plan Circulation and Transit Element (1989) policy CT-2n is to "Develop the planned additional travel lanes on Highway 101 to allow for high occupancy vehicles (HOV) and transit use during peak commute periods."

Air Quality Benefits of HOV Lanes. HOV lane alternatives show lower regional emissions of air pollutants than mixed flow lane alternatives. MTC's studies have related HOV lanes to reductions in emissions of Reactive Organic Gases and oxides of nitrogen. The Bay Area Air Quality Management District's Clean Air Plan includes a list of Transportation Control Measures to be implemented to reduce vehicle emissions. TCM 8 in the Bay Area 2000 Clean Air Plan is to "Construct Carpool / Express Bus Lanes on Freeways."

Mobility Benefits of HOV Lanes. Carpooling, vanpooling, and express bus services have become increasingly important to meeting the mobility needs of the Bay Area as the decentralization of population and employment has occurred. It is sometimes overlooked that buses are allowed in HOV lanes, but buses have high potential for providing mobility to a large number of people.

According the the MTC HOV Master Plan, the value of the HOV lane system is demonstrated by an evaluation of how well the HOV lane segments perform in carrying people when compared to the mixed-flow lanes on the same freeway segments. MTC evaluated "productivity" of HOV lanes using the ratio of people per hour carried in the HOV lane to the average number of people per hour in the adjacent mixed-flow lanes. In observations conducted in peak traffic hours in 2001, MTC found that ten out of the eleven Bay Area HOV lanes carried more people per

lane than the adjacent mixed flow lanes. There were no HOV lanes in Sonoma County in 2001, so no Sonoma HOV lane productivity measure is available from this study, but the observation for neighboring Marin County for the HOV lane on US Highway 101 found that the HOV lane carried three times as many people per lane as the adjacent mixed-flow lanes. If HOV policies are intended to promote highways transporting "people, not cars," then the 2001 MTC productivity evaluation shows HOV lanes' potential for carrying a high number of people.

2.3 Alternatives Considered

2.3.1 No-Build Alternative

The No-Build Alternative is a no-action alternative. Under this alternative, Route 101 would retain its present configuration and location. It would receive only minor operational and safety improvements that would support the continuing operation of the existing freeway within the project area, when needed. The No-Build Alternative would produce no immediate environmental impacts and, consequently, no mitigation measures would be required. The existing local access ramps would remain unchanged at 3rd and 6th Streets (within downtown Santa Rosa), at College Avenue, and at Steele Lane. Southbound Route 101 would retain its collector-distributor road between SR-12 and 3rd Street. The auxiliary lanes between College Avenue and 6th Street as well as between Steele Lane and Bicentennial Way would remain in their current configuration. Northbound Route 101 would also keep its auxiliary lane between SR-12 and 3rd Street. Also under this alternative, current freeway management activities would be maintained.

2.3.2 Proposed Alternative

Caltrans proposes to widen Route 101 in the City of Santa Rosa from four lanes to six lanes between SR-12 and immediately north of Steele Lane. The additional lanes would be operated as HOV lanes during peak periods. Most of the widening would be in the median. In addition, the proposed alternative would make the following improvements that are listed beginning at the southern end of the project progressing north.

- Widen the eastbound SR-12 connector ramp to southbound Route 101 from one to two lanes.
- Widen the westbound SR-12 connector ramp to southbound Route 101 from one to two lanes.

- Construct a collector-distributor road on northbound Route 101 between SR-12 and the 3rd Street off-ramp on the outside (right hand side) of the existing roadway. This road would collect traffic from the connector ramp from eastbound SR-12, the connector ramp from westbound SR-12, and traffic exiting from northbound Route 101. The road would then distribute traffic to the 3rd Street exit in downtown Santa Rosa or to northbound Route 101 farther down the road. A raised curb would extend between much of the collector-distributor road between itself and mainline Route 101.
- Replace the Santa Rosa Creek Bridge in order to accommodate the additional lanes.
- Replace the existing northern pedestrian over crossing with a new pedestrian under crossing at the Santa Rosa Creek Bridge consistent with the design of the City of Santa Rosa's Prince Memorial Greenway Project.
- Enhance bicycle/pedestrian facilities at 3rd Street by widening north sidewalk to 10 ft (3 m) wide and relocating to north of columns away from traffic lanes. South sidewalk would be removed. Expanded shoulder area would allow for addition of bicycle lanes in both directions.
- Widen the existing 4th Street viaduct structure on Route 101, between 3rd and 5th Streets. Both the outside and the inside of the structure will be widened, eliminating the gap between northbound and southbound travel lanes and providing a single, eight-lane bridge with six through-lanes and two auxiliary lanes.
- Construct a new City under crossing at 6th Street. Connect 6th Street as a four-lane local street between Morgan Street and Davis Street. Also, provide 10-ft (3-m) wide sidewalks and bicycle lanes under Route 101 as part of the new 6th Street under crossing.
- Widen the Route 101 bridge over 9th Street. Widening would occur on the inside only, eliminating the gap between northbound and southbound travel lanes and providing a single, eight-lane bridge with six through-lanes and two auxiliary lanes.
- Extend the existing southbound auxiliary lane between College Avenue and the 6th Street off-ramp to SR-12.
- Widen both the northbound and southbound College Avenue off-ramps to increase traffic storage capacity at the intersection with College Avenue, constructing one additional left-turn storage lane at each location.
- Replace the Route 101 bridge at the College Avenue under crossing. The replacement bridge would be a wider single bridge (providing six through lanes) than the existing two two-lane bridges.
- Widen College Avenue and construct one additional through lane in each direction between Morgan Street and Cleveland Avenue. Also, provide 10 ft (3m) wide sidewalks (where not constrained by ROW needs) and bicycle lanes.
- Add an auxiliary lane in each direction between College Avenue and Steele Lane.
- Realign the southbound Steele Lane on-ramp to accommodate Route 101 widening, and increase the ramp capacity. Also widen northbound Steele Lane on-ramp from two to three lanes to increase capacity and widen the northbound off-ramp from one to two lanes to match added auxiliary lane. On eastbound Steele Lane, construct an additional left turn lane onto northbound Route 101.
- Replace the Route 101 bridge at the Steele Lane under crossing. The replacement bridge would be a wider single bridge (providing six through lanes) than the two existing two-lane bridges.

- Construct a standard concrete median barrier 910 mm (36 in) high which would replace both the existing metal beam guardrail in the median between SR-12 and Steele Lane as well as the existing concrete barrier in the median between Steele Lane and Bicentennial Way.
- Install ramp-metering equipment.
- Install traffic operation/information system equipment.

Right of Way would need to be acquired at:
- Burbank Elementary School, in order to accommodate the new collector-distributor road from SR-12 to 3rd Street on northbound Route 101.
- At both 6th Street and Davis Street in order to accommodate the new 6th Street under crossing.
- Along College Avenue for widening purposes.

Soundwalls would be constructed at locations warranted by the Caltrans Noise Study, where reasonableness and feasibility criteria are met and the proposed soundwalls are desired by the affected property owners. See Sections 3.5.2.1 and 3.5.2.3 for a more detailed discussion of the decision-making process for noise wall on the project. All soundwalls would be approximately 4.3 m (14 ft) high and would be placed adjacent to the edge of the roadway pavement. Based on the results of the Caltrans Noise Study, soundwalls may be constructed within the project limits at the following locations:
- Along northbound Route 101 near Burbank Elementary School.
- Along northbound Route 101 between 5th Street and 8th Street.
- Along northbound Route 101 between 8th Street and Lincoln Street.
- Along southbound Route 101 just north of Paulin Creek.
- Along southbound Route 101 between Ridgeway Avenue and College Avenue.
- Along southbound Route 101 between College Avenue and 7th Street.
- Along southbound Route 101 between Santa Rosa Creek and Laurel Street.

Widening the freeway on the outside margin would require the construction of retaining walls to contain areas that would must be filled with soil. Retaining wall heights would range between approximately 1.0 and 5.0 m (3.0 and 16 ft) and could be as long as 50 m (approximately 165 ft). They might be needed at the following locations:

- Along the connector ramp from eastbound SR-12 to southbound Route 101.
- Along the northbound collector ramp from the SR-12 connector to the northbound off-ramp at 3rd Street.
- At the southbound on-ramp at College Avenue.

Figures 2-1 and 2-2A-C show an aerial photograph of the proposed alternative and the location of the items described above. Figure 2-3 shows a typical cross section for the proposed alternative.

2.4 Alternatives Considered But Removed From Further Consideration

The alternatives analysis process initially considered a broad range of alternatives to address the transportation problems on Route 101 in Santa Rosa. The following alternatives were evaluated and eliminated from further consideration based on their feasibility, impacts to environmental resources, and cost.

2.4.1 Mixed Flow Concept Removed Due to Policy Considerations

When considering ways to reduce freeway congestion, adding mixed flow traffic lanes is an obvious approach. While construction of mixed flow traffic lanes on Route 101 in Santa Rosa would help satisfy the purposes of the project outlined in Chapter 1 (Project Purpose and Need), from the beginning of the project's planning, the initiating agencies proposed it as an HOV lane project, as discussed in Section 2.2. The 2002 MTC HOV Master Plan Update identified HOV lane alternatives as having both superior air quality benefits and superior mobility benefits. For these compelling public policy reasons, a mixed flow alternative was not fully evaluated.

2.4.2 Alternatives Removed Due to Design/Construction Restrictions

The following alternatives were removed from consideration due to design and/or construction restrictions.

2.4.2.1 Alternative 1

Alternative 1 is formerly known as the Full Build Out alternative from the earlier public workshop process. This alternative proposed widening Route 101 from four to six lanes with major operational improvements at 9th Street and College Avenue. The two additional lanes would be used as HOV lanes. This alternative reconfigured local access to allow improved traffic flow on the freeway. Other differences between this alternative and the proposed alternative include:

- Provide a grade separated off-ramp between SR-12 and 3rd Street and northbound Route 101. The new separated ramp would not provide access to the 3rd Street off-ramp from SR-12, connect directly to northbound Route 101 without accessing 3rd Street.

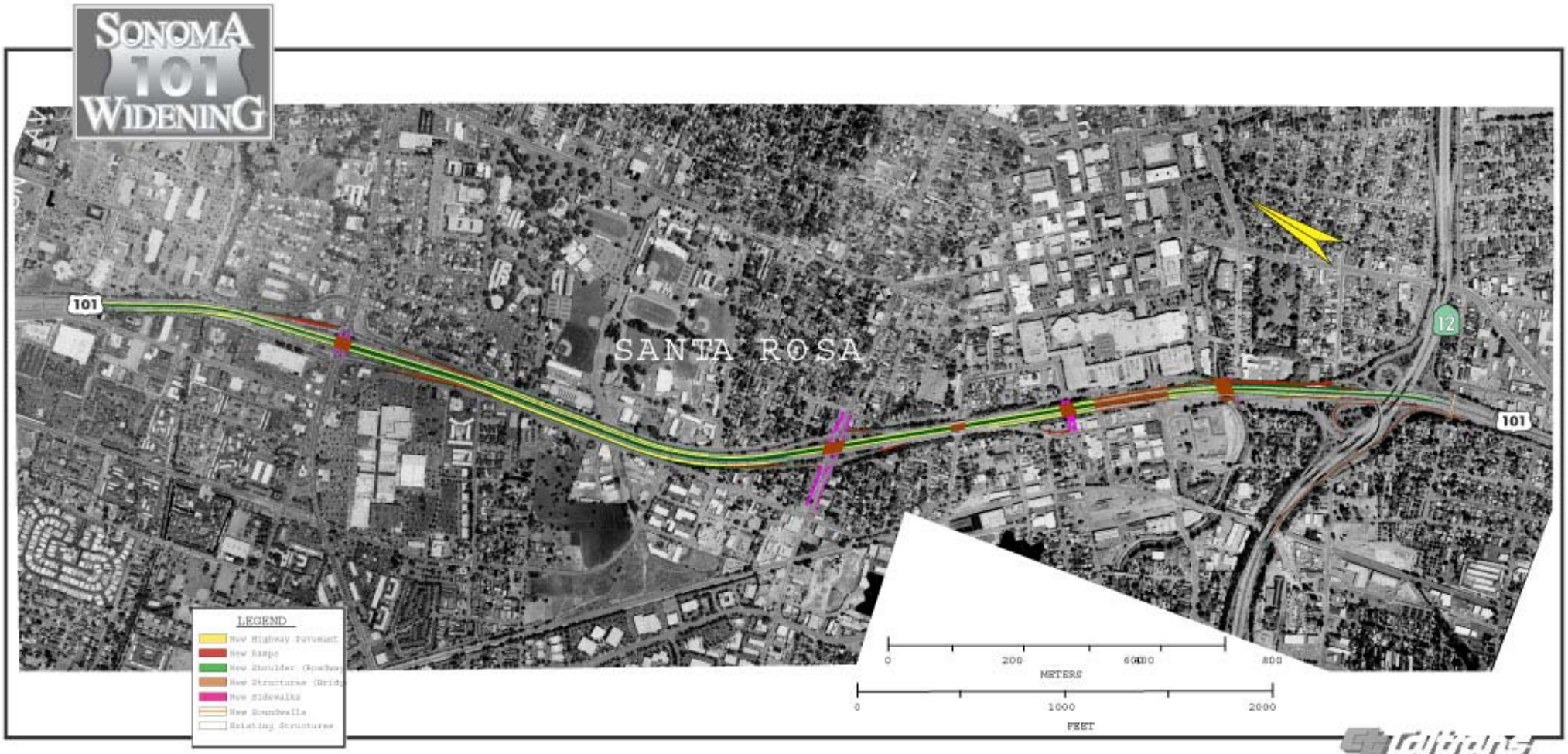


Figure 2-1: Proposed Alternative

SONOMA 101 WIDENING

0 100 200 300
METERS

0 500 1000
FEET

LEGEND

- New Highway Pavement
- New Ramps
- New Shoulder (Roadway)
- New Structures (Bridges)
- New Sidewalks
- New Soundwalls
- Existing Structures

Figure 2-2A Close-up of Proposed Alternative - Southern Section

Caltrans

AudioVisual Multimedia Graphics CT1179 060002

SONOMA 101 WIDENING

0 100 200 300
METERS

0 500 1000
FEET

LEGEND

- New Highway Pavement
- New Ramps
- New Shoulder (Roadway)
- New Structures (Bridges)
- New Sidewalks
- New Soundwalls
- Existing Structures

Figure 2-2B Close-up of Proposed Alternative - Middle Section

Caltrans

Audio/Visual Multimedia Graphics CT1179 08/2002

SONOMA 101 WIDENING

0 100 200 300
METERS

0 500 1000
FEET

LEGEND

- New Highway Pavement
- New Ramps
- New Shoulder (Roadway)
- New Structures (Bridges)
- New Sidewalks
- New Soundwalls
- Existing Structures

Figure 2-2C Close-up of Proposed Alternative - Northern Section

Caltrans

Audio/Visual Multimedia Graphics CT1179 08/2002

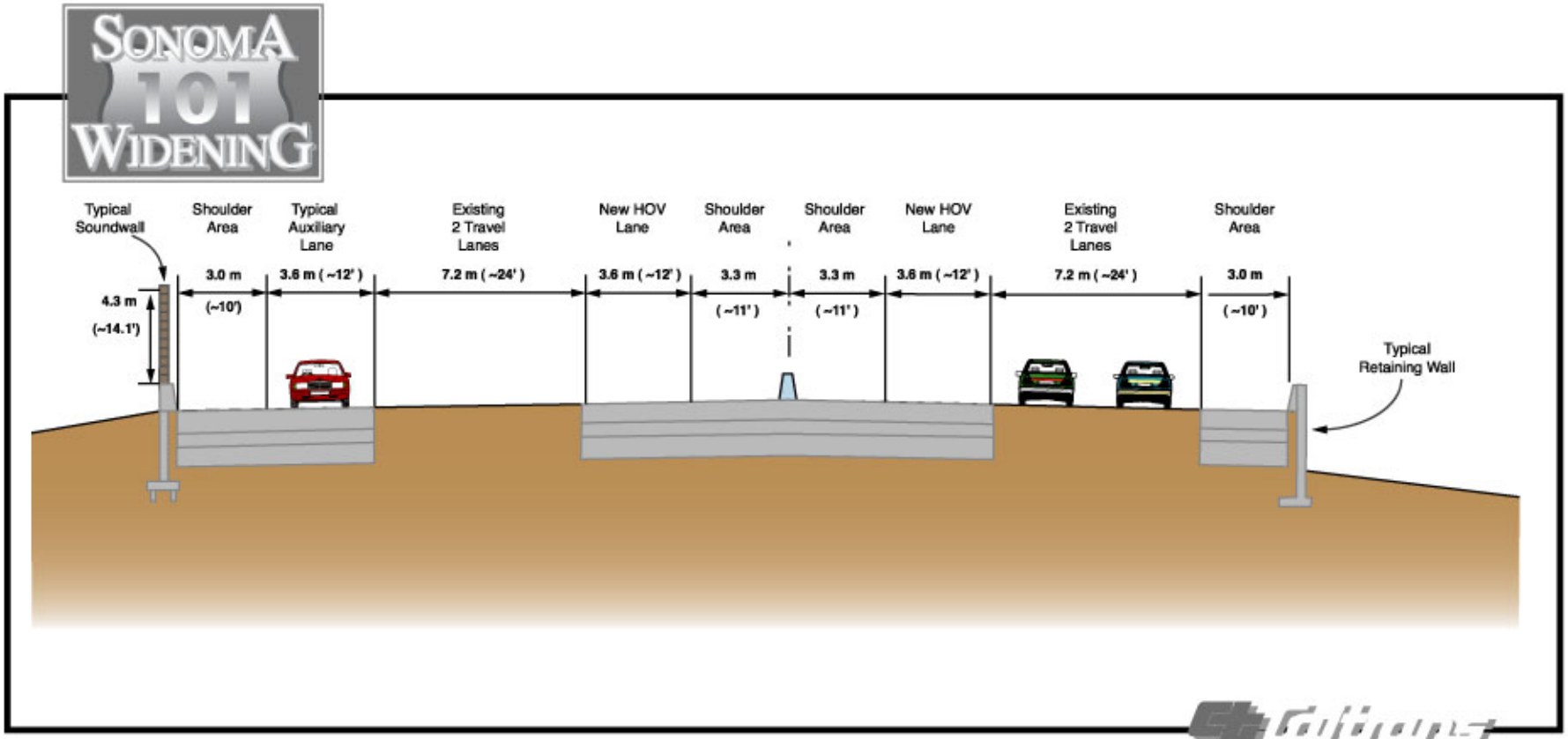


Figure 2-3: Route 101 Typical Cross Section

AudioVisual Multimedia Graphics CT1179 08/2002

- Provide a grade-separated on-ramp between SR-12 and 3rd Street and southbound Route 101. The new separated ramp would not provide access to Route 12 from the 3rd Street on-ramp, but would connect directly to southbound Route 101 without accessing SR-12.
- Construct a southbound on-ramp from 9th Street to connect with SR-12. The southbound on-ramp from 9th Street to SR-12 would pass separately above the 3rd Street on-ramp to Route 101, thereby not providing access to SR-12 from the 3rd Street on-ramp. The 9th Street on-ramp would provide the closest access to SR-12 in the absence of the 3rd Street on-ramp.
- Construct a northbound off-ramp from SR-12 to connect with 9th Street. The northbound off-ramp from SR-12 to 9th Street would pass separately above the 3rd Street off-ramp coming from Route 101, thereby not providing access to 3rd Street from SR-12. The 9th Street off-ramp would provide the closest access to 3rd Street in the absence of the 3rd Street off-ramp.
- Eliminate the northbound off-ramp to and the southbound on-ramp from College Avenue.
- Widen the existing frontage roads between 9th Street and College Avenue. These frontage roads would cross 9th Street and connect to the proposed 9th Street on and off-ramps.

Similarities between this alternative and the proposed alternative include:

- Construct soundwalls, where appropriate.
- Construct retaining walls, where appropriate.

This alternative met current State design standards and provided the best improvement to Route 101 traffic flow among all of the alternatives evaluated. However, this alternative was withdrawn from consideration because it would substantially impair accessibility in downtown Santa Rosa. This alternative would remove access to SR-12 from the 3rd Street on-ramp as well as remove access to 3rd Street from the SR-12 connector ramp connecting with northbound Route 101. As expressed in Santa Rosa Resolutions 24128, 24219, and 24551 (see Appendix E), maintaining accessibility and existing access points is a primary component of the project's purpose. Recognizing that this alternative would harm, rather than promote connectivity, and that the project's needs associated with maintaining and improving transportation linkages in Santa Rosa would not be met, the City of Santa Rosa and SCTA asked that this alternative be removed from further consideration.

2.4.2.2 Alternative 2

Alternative 2 is formerly known as the Project Study Report (PSR) alternative from the earlier public workshop process. Like the proposed alternative, this alternative

proposed widening Route 101 from four to six lanes for HOV lanes. Differences between this alternative and the proposed alternative include:

- Shift and realign Route 101 farther west between SR-12 and 3rd Street.
- Construct a grade separated ramp connecting SR-12 to northbound Route 101 and a grade separated ramp connecting northbound Route 101 and 3rd Street.
- Construct a northbound off-ramp to and a southbound on-ramp from 9th Street with auxiliary lanes connecting to SR-12.
- Providing one frontage road on either side of the Route 101 between 9th Street and College Avenue by widening the existing frontage roads and extending the existing roads.

Similarities between this alternative and the proposed alternative include:

- Maintain the southbound Route 101 collector-distributor road from 3rd Street to SR-12, which would collect traffic from the 3rd Street on-ramp and from southbound Route 101, and distribute that traffic to SR-12 or southbound Route 101 further down the road.
- Constructing auxiliary lanes between College Avenue and Steele Lane on Route 101.
- Construct soundwalls, where appropriate.
- Construct retaining walls, where appropriate

Unlike Alternative 1 listed above, the 3rd Street on-ramp would maintain access to both southbound Route 101 and SR-12. However, because the SR-12 to northbound Route 101 on-ramp would be separate from the northbound Route 101 off-ramp to 3rd Street, SR-12 traffic would be prevented from exiting at 3rd Street. This alternative was withdrawn from further study at the request of the City of Santa Rosa and SCTA because it would impair, rather than maintain, accessibility and existing access points in Santa Rosa. Alternative 2 does not fulfill a primary project purpose of promoting connectivity as described in Santa Rosa Resolutions 24128, 24219, and 24551 and does not solve the project's needs associated with maintaining and improving transportation linkages in Santa Rosa.

Five additional variations of Alternative 2 were developed in an effort to further explore this concept. After evaluation and consultation with the City and SCTA, all of these variations were eliminated from consideration.

2.4.2.3 Alternative 3

Alternative 3 is formerly known as the Depressed Freeway alternative from the earlier public workshop process. In response to a request from the Santa Rosa City Council, Caltrans prepared a proposal to depress the section of Route 101 in downtown Santa

Rosa. The proposed depressed freeway section would replace the existing elevated section of Route 101 between 3rd Street and College Avenue. Both an open cut freeway and a fully covered freeway with a new roadway over the covered portion of Route 101 were considered.

The main drawbacks to this alternative are cost as well as the lengthy construction staging period of the depressed freeway. It was estimated that costs for the depressed freeway option would approach four times the cost of the proposed alternative. A major re-routing of local traffic, lasting approximately one year, would be required during construction of a temporary freeway facility. Once the temporary facility was constructed, access across the freeway would be restricted or closed during the three year construction period of the depressed section. Construction would require the removal of approximately 1.1 million cubic yards (841,000 cubic meters) of excavated soils. For these reasons, this alternative was withdrawn from further study with the mutual agreement of the City of Santa Rosa, the SCTA, and Caltrans.

2.5 Project Costs

The preliminary cost estimate of the proposed alternative includes the following major items of grading, drainage, surfacing, bridges, right-of-way, and landscaping.

Estimated Roadway Items:	$ 29,989,000
Estimated Bridge/Structure Items:	$ 27,011,000
Estimated Right-of-Way Items:	$ 4,600,000
Estimated Project Costs:	$ 61,600,000

2.6 Project Schedule

The current project schedule is as follows: the DEA/EIR has completed the public comment period. Assuming the approval of the Final EA/EIR and Federal Highway Administration issuance of the Finding of No Significant Impact (FONSI) by December 2003, construction of the proposed project could begin in late 2004 or early 2005, with completion in 2008.

Chapter 3 Affected Environment, Environmental Consequences, and Mitigation Measures

The following sections describe the affected environment, environmental consequences, and mitigation measures for each environmental resource area for the proposed project. The environmental analyses are based on technical reports and memoranda (see following list) which are available for review in the Caltrans District 4, Office of Environmental Analysis, 111 Grand Avenue, Oakland, California.

List of Technical Studies/Memorandum Prepared in Support of this EA/EIR

Water Quality Comments for Environmental Document Review Memorandum – prepared February 18, 2000

Hydraulic Study Memorandum – prepared June 7, 2001.

Regional Geology and Seismic Sections Memorandum – prepared June 26, 2001

Air Quality Impact Report, Route 101 From Route 12 to Steele Lane in Sonoma County – prepared December 6, 2000

Noise Impact Report for the Proposed Widening Project on Route 101 in Sonoma County From Route 12 to Just North of Steele Lane – prepared June 4, 2001

Natural Environment Study/Preconstruction Notification for Route 101 Widening, City of Santa Rosa, Sonoma Co., From Junction of SON-12 to Steele Lane – prepared September 24, 2001

Biological Assessment, Sonoma 101 Widening Project From SR-12 to Steele Lane – prepared April 4, 2003 (prepared with support from Entrix, Inc.)

Initial Site Assessment, Route 101 Between Route 12 and Steele Lane, Sonoma County, California – prepared August 2000 (prepared by Geocon for Caltrans District 4)

Relocation Impact Statement – prepared October 11, 2001.

Traffic Operations Analysis Report, SON-101 Widening Project – prepared June 2001

Traffic Technical Memorandum #1 – Revised Year 2010 Traffic Analyses – prepared January 13, 2003

Visual Resources Assessment Memorandum, Route 101 – SR-12 to Steele Lane – prepared August 14, 2002

Historic Architectural Survey Report (HASR) – prepared July 2002

Historic Property Survey Report and Finding of Effect for a Proposed Project in Sonoma County in Santa Rosa on Route SON-101 From the State Route 12 Interchange to Just North of Steele Lane – prepared September, 2003

Archaeological Survey Report and Discovery Plan for a Proposed Project in Sonoma County in Santa Rosa on Route SON-101 From the State Route 12 Interchange to Just North of Steele Lane – prepared September, 2003

3.1 Hydrology, Stormwater Runoff, and Floodplains

3.1.1 Affected Environment

3.1.1.1 Hydrology

The city of Santa Rosa is situated on the alluvial fan of perennial Santa Rosa Creek, whose headwaters are east of the city in the Mayacamas Mountains, a rugged range that separates Sonoma and Napa Counties. About 1 km (0.6 mi.) east of the project area, Santa Rosa Creek meets Matanzas Creek, another perennial watercourse, which originates in the mountains surrounding Bennett Valley. The combined watercourse crosses the project area near its southern end. Another perennial stream, Paulin Creek, is located on the northern end of the project area. A few kilometers to the west, Santa Rosa Creek joins lesser watercourses to create the Laguna de Santa Rosa, a network of waterways that form a vast seasonal lake throughout the winter months. The Laguna is drained north into the Russian River, which continues west for about 30 km (18 mi) to meet the Pacific Ocean near the town of Jenner. South of Cotati is the Petaluma River drainage basin, which flows into San Pablo Bay.

Groundwater. Groundwater depths in the project area vary between approximately 1 and 4 m (3 and 13 ft) below the ground surface, with the exception of the vicinity of the Santa Rosa Creek Bridge, which has an observed groundwater depth at approximately 7 m (24 ft) (Caltrans 2001c). The groundwater in the region generally flows to the west although local groundwater conditions can be affected by nearby streams and channels, as well as by seasonal rains.

3.1.1.2 Stormwater Runoff

The proposed project is located within the jurisdiction of the North Coast Region (Region 1) of the California Regional Water Quality Control Board (RWQCB). The California Porter-Cologne Water Quality Control Act of 1969 requires that each RWQCB within the State formulate and adopt water quality control plans or basin plans for all areas in the region. The Clean Water Act, as amended in 1972, imposes similar requirements. The project occurs within the footprint of the Santa Rosa Basin Plan, which lists many beneficial uses for streams and springs in the vicinity of the

project including municipal, agricultural, industrial, recreation, warm and cold freshwater habitat, migration, spawning and wildlife habitat, and navigation.

The Clean Water Act establishes a "303d list" of water bodies that have pollutants which cannot completely be managed. In the project vicinity, the 303d water bodies include Santa Rosa Creek, which crosses the project area, and Laguna de Santa Rosa, into which Santa Rosa Creek empties about 8 km (5 miles) west of the project area . Santa Rosa Creek is listed for pathogens and the Laguna de Santa Rosa is listed because it contains excessive sediment, nitrogen, potassium, phosphorous, and dissolved oxygen (Caltrans 2001c).

The California Water Resources Control Board implements the National Pollutant Discharge Elimination System (NPDES) program, which was established by the U.S. Environmental Protection Agency (EPA) to regulate stormwater runoff. There are three categories of NPDES permits: construction (over 0.4 hectares or 1.0 acres of disturbance), municipal, and industrial.

3.1.1.3 Floodplains

According to the Federal Emergency Management Agency, the entire project is in an area of minimal flooding (Caltrans 2001d). For purposes of federal Executive Order 11988, which requires projects with federal involvement to determine whether the project would take place in a floodplain, FHWA has determined that the proposed project would not take place in a floodplain.

3.1.2 Environmental Consequences

3.1.2.1 Hydrology

Widening Route 101 would increase the impervious area occupied by the freeway by 65-70%, with an increase in new paved area of about 8 hectares (20 acres). Within the larger context of the Santa Rosa basin, this increase is negligible and would not alter existing drainage patterns. With the increase in impervious surface area, the potential exists for a minor decrease in groundwater infiltration and for effects on nearby streams and rivers that are fed by groundwater.

The proposed project could also affect surface water quality due to siltation. The project could cause erosion in the project area, and could cause erosion or scour in creeks that receive drainage from the project area. During construction, groundwater

could be encountered in excavations. If this groundwater is discharged into Santa Rosa Creek, water quality in the creek could be affected.

3.1.2.2 Stormwater Runoff

Since the proposed project would have a soil disturbance of 0.4 or more hectares (1 acre), this project is subject to the conditions of the NPDES Permit for construction activities (Order No. 99-08-DWQ, NPDES No. CAS000002), which is incorporated by reference to the Caltrans NPDES Permit, Stormwater Discharges for the State of California, Caltrans properties, facilities, and activities (Order No. 99-06-DWQ, NPDES No. CAS000003). Copies of these permits can be obtained for the State Water Resources Control Board web site at http://www.swrcb.ca.gov.

Of the "303d list" water bodies and pollutants of concern listed in Section 3.1.1.2, the only pollutant associated with the construction or operation of highways is sediment. Because of the effectiveness of available measures to avoid and minimize sediment generation, the project would not be likely to contribute to sediment concentrations in the Laguna de Santa Rosa.

The proposed freeway widening project would result in more paved area, and therefore, generate a slightly greater amount of runoff than the existing facility. This additional runoff would cause a slight increase in the amount of stormwater runoff to roadside ditches, Santa Rosa Creek, and Paulin Creek from the freeway during rain events. However, the additional runoff would be negligible and would not substantially change the amount of surface water running into these local receiving waters. There would also not be a noticeable effect on the peak flows in nearby streams. Please refer to the mitigation measures section below for more detail on decreasing stormwater runoff.

Effects to groundwater reinfiltration would be minimal because standard drainage features such as unlined ditches would promote percolation.

Construction activities associated with the new Santa Rosa Creek Bridge would be regulated under the federal Clean Water Act, so Caltrans must obtain permits from both the U.S. Army Corps of Engineers (ACOE) and the Regional Water Quality Control Board. These permits include requirements for protecting surface water quality. The ACOE permit is required for any temporary impact to Wetlands or Waters of the U.S. under Section 404 of the Clean Water Act. As a result of needing to obtain a Nationwide Permit, Caltrans must also obtain a Section 401 Water Quality Certification or Waiver from the Regional Water Quality Control Board before final

design of the project is completed. The Section 401 Certification or Waiver would describe all activities to be performed within the creek that could impact water quality. It would also include all the Best Management Practices (BMPs) to be implemented to minimize or eliminate water quality impacts.

3.1.2.3 Floodplains

Because the project area is not susceptible to flooding, the project would not cause or aggravate any flooding problems.

3.1.3 Mitigation Measures

3.1.3.1 Hydrology

Several steps would be taken during the design of the facility drainage system to mitigate or limit the effects on groundwater reinfiltration. Hydraulic models would be used to assess the performance of various drainage systems. Based upon the assessment, the preferred drainage system would be designed to take advantage of opportunities for groundwater recharge . Given the existing drainage shed patterns in the project area, highway runoff could be spread in a sheet flow that is filtered by shoulder vegetation. Also, the drainage system would maximize the use of unlined ditches and detention basins, which promote groundwater reinfiltration.

Caltrans would require the construction contractor to prepare a Storm Water Pollution Prevention Plan, which covers not just storm water, but all discharges. Measures to improve the quality of non-storm water discharges include preventing heavy equipment from distributing mud via their tires, establishing contained areas for rinsing out concrete mixing and forming areas, and implementing provisions for any discharges associated with excavation activities.

During the construction phase of the proposed project, groundwater may be encountered during bridge structure excavations, especially near Santa Rosa Creek. Extracted groundwater could potentially be discharged into the storm drain system or Santa Rosa Creek. The Region 1 RWQCB requires submittal of a permit application to discharge into the storm drain system within their region. As such, Caltrans would apply for the right to discharge under the de-watering permit prior to construction. Groundwater would be tested for contamination before being discharged. Clean water could be discharged directly into the storm drain. If the testing revealed the presence of contaminants that the RWQCB regulates, the water would be treated

before being discharged. Also, as part of the project's hazardous materials site investigation efforts, Caltrans would prepare a Site Investigation Report that identifies potential groundwater pollutants and that includes the appropriate contract provisions for properly handling contaminated groundwater.

Final project plans would include measures to control pollution during and after construction. During construction, construction site BMPs including, but not limited to, silt fences, plastic cover, stabilized construction entrances / exits, temporary soil stabilizers and other measures would be specified in the contract. In addition to what Caltrans provides for in the contract, the construction contractor would also be responsible for identifying any additional measures needed for site-specific requirements that are not presently identifiable. Permanent erosion control would be required for all construction slopes and all other soil disturbed areas, by using both mechanical means (organic nettings, blankets and mulches) and revegetation with native grasses and shrubs.

3.1.3.2 Stormwater Runoff

In planning to design and operate a highway facility in a way that protects water quality, Caltrans prepares a Storm Water Data Report in order to choose project features known as Permanent Control Measures (PCMs).

PCMs to be constructed for this project include energy dissipater structures at outlet locations in order to prevent scouring. The drainage features used for hydrologic purposes, such as unlined ditches and detention basins, would also enhance removal of particulate material such as sediment, reducing the amount of pollutants discharged to local receiving waters via stormwater runoff from the freeway. The locations of the unlined ditches, detention basins, and energy dissipater structures would be finalized during the final design process.

The Regional Water Quality Control Board (RWQCB) would require Caltrans to submit a Notice of Construction at least 30 days before the beginning of construction. As part of the requirements, the construction contractor must prepare a project-specific Storm Water Pollution Prevention Program, and amend it as necessary to reflect changing conditions for the duration of the construction project.

3.1.3.3 Floodplains

None required.

3.2 Geology, Soils, and Seismicity

3.2.1 Affected Environment

3.2.1.1 Regional Geology

The City of Santa Rosa is situated on the alluvial fan of perennial Santa Rosa Creek, whose headwaters are east of the City in the Mayacamas Mountains, a rugged range that separates Sonoma County and Napa County. The project area maintains a relatively level elevation of about 45 m (approximately 150 ft) above mean sea level along the western edge of the gently sloping fan. The adjoining hills to the east and southeast rise relatively abruptly to as much as 610 m (2,000 ft) in elevation. The Santa Rosa Plain continues north to the Town of Windsor and south to the Town of Cotati.

Bedrock in the Santa Rosa area is recognized as Petaluma Formation of Pliocene age in regional cross sections at the Route 101/SR-12 interchange area. The depth to the top of the Petaluma Formation near the interchange is 84 m (276 ft). The Petaluma Formation is described as clay and shale with minor amounts of sandstone (California Department of Water Resources 1975).

3.2.1.2 Soils and Sediments

Most of the project area is covered by soils of the Zomora series, followed by the Yolo and Clear Lake series, and alluvial sediments.

3.2.1.3 Seismicity

The project corridor is situated between the San Andreas and the Healdsburg-Rodgers Creek Fault Zones, which have been seismically active during the Holocene. The San Andreas Fault Zone is located more than 32 km (20 mi) west of the project area along the Pacific coast, while the Healdsburg-Rodgers Creek Fault Zone is located about 2.1 km (3.4 mi) east of the project area. Numerous earthquakes and ground failures have been generated along these fault zones in prehistoric and historic times (Budding et al. 1991; Huffman and Armstrong 1980; Lawson 1908, Schwartz 1992; Youd and Hoose 1978; and Cloud et al. 1970). The Santa Rosa area has been subject to at least six damaging earthquakes since 1865, as summarized in Table 3.2-2.

Table 3.2-2. Seismic History in the Santa Rosa Area

Date	Magnitude	Fault	Reported Damage
8 March 1865	4.7	Rodgers Creek	Severe in Bennett Valley
9 September 1893	5.1	Rodgers Creek	Many chimneys damaged
12 December 1899	N/A	Rodgers Creek	Some chimneys down
18 April 1906 *	~8.0	San Andreas	Severe damage in downtown Santa Rosa and surrounding area (including portions of the project area). At least 61 dead and 12 missing. Ground cracking and settlement along Santa Rosa Creek.
25 April 1968	4.6	Rodgers Creek	Chimneys and plaster damaged.
1 October 1969 *	5.6 & 5.7	Rodgers Creek	Approximately six million dollars in damage. Several old brick and frame buildings damaged beyond repair. Water lines severed. Ground cracking and settlement along Santa Rosa Creek. Earth-fill approaches to the SR-12 bridge over Route 101 subsided several inches.

Note: * Known to have caused some damage in the project area
Source: Budding, 1991; Huffman, 1980; Lawson, 1908; Schwartz, 1992; Youd, 1978; Cloud, 1970.

Downtown Santa Rosa suffered tremendous damage as a result of an earthquake and subsequent fire in April 1906 (Lawson 1908). Within the project area, the earthquake destroyed scores of buildings, including the County courthouse and the fire destroyed many more. Portions of the project area experienced less severe damage as a result of the 1969 earthquake.

3.2.2 Environmental Consequences

3.2.2.1 Site Geology

The proposed project lies within two different fan deposits. The older deposits are Late Pleistocene, which is classified as having very low liquefaction susceptibility. The younger deposits are Holocene and classified as having moderate to high liquefaction susceptibility where groundwater is within 3 m (10 ft). Groundwater depths in the project area vary between approximately 1 and 4 m (3 and 13 ft) below the ground surface, with the exception of the vicinity of the Santa Rosa Creek Bridge, which has an observed groundwater depth at approximately 7 m (24 ft) (Caltrans 2001c). The groundwater in the region generally flows to the west although local groundwater conditions can be affected by nearby streams and channels, as well as by seasonal rains. The potential impact of constructing the proposed project on soils having high liquefaction susceptibility is roadway segments buckling. Buckling can occur when sandy or silty roadbed materials laterally spread from ground oscillation causing earthen material to settle in a different pattern. Solutions for this potential problem are described in Section 3.2.3.1 (Mitigation Measures).

3.2.2.2 Soils and Sediments

All soil units contained in the project area exhibit slow runoff characteristics and erosion potential is slight except for the Zomora Series, which has slight to moderate erosion potential (Miller 1972). The proposed project would not create situations associated with erosion, such as steep slopes, areas of bare soil, or surface water flows.

3.2.2.3 Seismicity

Route 101 is located approximately 2.1 km (3.4 mi) west of the Healdsburg-Rodgers Creek Fault. A concealed splay of this fault has been mapped near the project area, immediately south of SR-12. Another concealed splay of this fault has also been mapped crossing Route 101 near Bellevue Avenue (Bortugno 1999). There has been no evidence of fault movement along these fault splays across the project area during the Quarternary Period. Therefore, these fault splays are not considered active and have not been listed on the Alquist-Priolo Fault Rupture Hazard Zones in California. Given these conditions the potential for fault rupture within the proposed project area is low, but more study may be required depending what is planned to be constructed at these locations. The project area also has the potential to be affected by large earthquakes from the San Andreas Fault Zone depending on the location and magnitude. The design solutions for seismic activity are explained in the next section.

Liquefaction susceptibility from seismic related ground failure for the Pleistocene fan deposits is very low. However, for Holocene alluvium deposits liquefaction susceptibility is moderate to high (Sowers et al. 1998). Therefore, Route 101 from 6th Street to Steele Lane has a low to moderate liquefaction susceptibility rating. Further detailed information regarding liquefaction potential would be determined during the construction process when subsurface investigations, borings, and field mapping would be performed.

Landslides from earthquake activities are considered of low probability due to the project area being classified as an area of greatest relative stability due to slope inclination, predominantly less than 15 percent (California Division of Mines and Geology 1980). Also, the proposed project does not include substantial cuts or fills, therefore no additional adverse effects are anticipated.

3.2.3 Mitigation Measures

3.2.3.1 Site Geology

In order to minimize any potential liquefaction impacts associated with the proposed project, stone columns, sub-excavation, dynamic compaction, or de-watering methods could be implemented during construction. The most suitable method would be selected after subsurface investigations take place and the potential for liquifaction is identified.

3.2.3.2 Soils and Sediments

Potential treatment actions for impacted expansive soils include the use of lime, cement, fly ash, compaction control measures, moisture control measures, and/or removal and replacement with non-expansive backfill. Implementation of these actions or a combination of these actions would help to reduce the effects of high shrink-swell soils by controlling the harsh effects of earthen materials that expand and contract. These measures would be explored during the design/ construction process when subsurface investigations, borings, and field mapping would be performed.

3.2.3.3 Seismicity

The Maximum Credible Earthquake (MCE) is used to define the safety evaluation for freeway design. The MCE is defined as the largest earthquake reasonably capable of occurring under the conditions presently known (Maulchin 1996).

Construction of the Route 101 widening project utilizing a flexible system (embankment or mechanically stabilized embankment) as opposed to a rigid system (bridge, viaduct, or retaining wall), where possible, should minimize the potential damage from earthquakes. Construction of new structures associated with this project must meet the standards of the Caltrans Office of Earthquake Engineering for the MCE.

3.3 Hazardous Materials

Hazardous materials have been historically used, stored, and disposed of in the project vicinity and are known to be present in areas of surface and/or subsurface soils and groundwater as a result of historical releases. Protective measures to reduce or eliminate hazardous materials related impacts are described, as necessary.

3.3.1 Affected Environment

3.3.1.1 Overview

Caltrans conducted an Initial Site Assessment (ISA) to identify the location of known hazardous material sites in the project vicinity. The ISA included a visual site inspection of the project area as well as reviews of Sanborn Fire Insurance Maps in the project vicinity, Vista Information Systems "Site Assessment Plus Reports," regulatory files from the California Environmental Protection Agency, regulatory files from the North Coast Regional Water Quality Control Board, the 1993 Munger Map Book, aerial photography of Santa Rosa, and topographic maps of the Santa Rosa area. All of these data sources helped in the identification of previous and current land uses that could contribute to the contamination of the project area.

3.3.1.2 Identified Hazardous Material Sites

The ISA located 27 sites in the project vicinity. Of the 27 potential hazardous material sites identified by the file search, 18 are leaking underground storage tanks (USTs) that are within 0.4 km (0.25 mi) of the proposed construction site, but none of these is anticipated to be affected by construction. All 27 sites are currently under regulatory oversight for monitoring and remediation, insuring the protection of human health and the environment. Table 3.3-1 identifies each site, its location, the type of hazardous material found, and its potential risk to the proposed project's scope and schedule. Caltrans' risk classifications are as follows: High risk hazardous materials issues could cause project costs to rise more than 20% for remediation, could cause long-term project schedule delays, or could require a large commitment of staff time to handle long term responsibilities caused by acquisition and becoming a responsible party to a remediation. Moderate risk issues are somewhat routine and would require investigation, but would not be anticipated to impact the schedule or scope of the project. Low risk issues are mainly related to contractor worker safety issues and disposal of materials generated during the construction phase of the project and would not impact the schedule, cost, or scope of the project.

Figure 3.3-1 depicts the approximate location of the 27 sites in the study area and shows their relative proximity to Route 101. Only one of the identified hazardous materials sites was found to exhibit a high potential risk of impacting the project's scope, cost, and schedule: the Shell Service Station located at 266 College Avenue. Four other identified sites were found to exhibit a moderate to high potential risk of impacting the project scope, cost and schedule. Three of the 27 sites listed have been

identified as sites that might be partially acquired for the project. The other sites might impact deep excavations within current State right of way planned for the project. These excavation areas might produce soil and groundwater contaminated by these nearby sites.

3.3.1.3 Aerially Deposited Lead

When Route 101 was first constructed, leaded gasoline was used by most vehicles. One of the results of burning leaded gasoline is the potential for aerially deposited lead (ADL) from leaded fuel exhaust to come to rest near the surface of soils, particularly the unpaved shoulders and median. This potentially results in the contamination of soils adjacent to older freeways. Typically, ADL exists within the top 0.15 m (six in) of soil in unpaved shoulder areas of many freeway corridors. ADL soil testing would occur after final design of the proposed project has been approved.

Table 3.3-1. Identified Hazardous Materials Sites

Map I.D.	Site Name	Site Address	Type of Hazardous Material Found	Potential Risk of Impacting Site
1	Phil Hirsch (Former Paris Cleaners)	230 South A Street	TPH, VOCs	Moderate
2	Former Grace Brothers Brewery	230 2nd Street	TPH	Low
3	Former Redwood Oil	130 3rd Street	Unavailable	Unknown
4	Former Shell Service Station	200 4th Street	TPH, MTBE	Low to Moderate
5	Texaco Service Station	210 5th Street	Unavailable	Moderate
6	Herbert Kurlander	123 4th Street	TPH, MTBE	Very Low
7	Former Texaco Service Station (La Rose Hotel Annex)	101 5th Street	TPH	Very Low
8	Shell Service Station	266 College Avenue	TPH, MTBE	High
9	Beacon (Former PB) Service Station	300 College Avenue	MTBE	Moderate to High
10	Former Unocal Service Station	College Avenue	Unavailable	Unknown
11	Crystal Clear Car Wash (Former Mobile Station)	257 College Avenue	Unavailable	Moderate to High
12	Former Service Station	College Avenue	Unavailable	Unknown
13	Chevron Service Station	136 College Avenue	TPH, MTBE	Low to Moderate
14	Suspected Former Service Station	College Avenue	Unavailable	Unknown
15	City of Santa Rosa "Freeway" Well W-3	1304 Cleveland Avenue	VOCs	Low
16	CDF Santa Rosa	135 Ridgeway Avenue	TPH, MTBE	Low
17	California National Guard Armory	1500 Armory Drive	Oil and Grease	Moderate to High
18	West Coast Welding Supply	1377 Cleveland Avenue	Unavailable	Unknown
19	Suspected Former Service Station	Cleveland Avenue	Unavailable	Unknown
20	Suspected Former Service Station	Armory Drive	Unavailable	Unknown
21	Shell Service Station	777 Steele Lane	TPH, MTBE	Moderate to High
22	Exxon Service Station	100 Coddington Center	TPH	Very Low
23	Former Texaco Service Station	Cleveland Avenue	Unavailable	Low
24	Chevron Service Station	2225 Cleveland Avenue	Unavailable	Low
25	Southern Pacific (Union Pacific) Railroad	99 Frances Avenue	Unavailable	Unknown
26	Purity Chemical Products Company	1005 Cleveland Avenue	Unavailable	Low
27	Argonaut Constructors	1236 Central Avenue	Unavailable	Low

TPH = Total Petroleum Hydrocarbons VOC = Volatile Organic Compound MTBE = Methyl tert-butyl ether
High Risk = high potential to impact the project's cost, scope and schedule by more than 20%
Moderate Risk = potential to impact the project's cost, scope and schedule
Low Risk = minimal risk to project's cost, scope and schedule

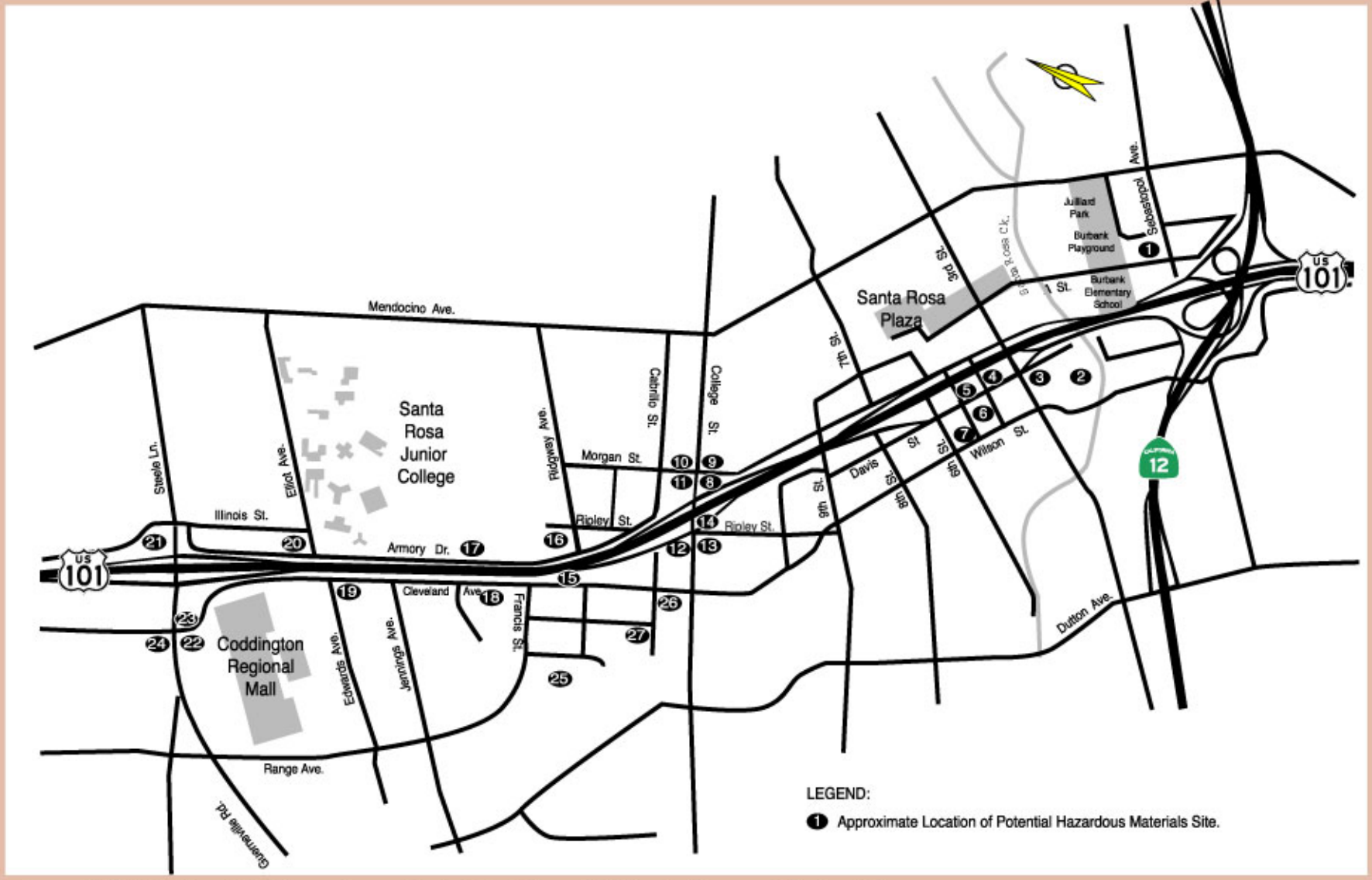


Figure 3.3-1: Potential Hazardous Materials Sites Within 0.4 km of Project Area

AudioVisual Multimedia Graphics CT1179 08/2002

3.3.1.4 Lead Based Paint and Asbestos

Because of the age of the freeway, bridge structures on this portion of Route 101 and buildings near the freeway, lead-based paint and/or asbestos-containing materials may be present. Asbestos was commonly used in building materials until the early 1980's, when its use was phased out. Lead oxide and lead chromate were commonly used in paints until 1978, when regulations limited the allowable lead content in paint. Lead-based paint and asbestos in good condition do not present an immediate health risk, but asbestos fibers and lead particles could be emitted to the air during demolition or renovation activities.

3.3.2 Environmental Consequences

3.3.2.1 Hazardous Material Sites

The ISA determined that the lone high potential risk site in the project vicinity is the Shell Service Station located at 266 College Avenue. Though the proposed project would acquire part of this facility, it is not anticipated that the proposed right-of-way would encroach upon the gasoline island where the fuel pumps are located, nor the USTs for gasoline. After the project's final design has been approved, surveying may be necessary to determine the exact location of the proposed right-of-way acquired in relation to the USTs and gasoline island at 266 College Avenue. After the approval of the environmental document and prior to right of way acquisition and construction, soil testing in the surveyed area would determine whether there had been a hazardous materials release, and assess what action, if any, is appropriate for remediation of this site with respect to acquisition and construction purposes.

Two other sites listed on Table 3.3-1 are anticipated to be partially acquired for the project. Crystal Clear Car Wash at 257 College Avenue is identified as a medium to high risk site and Chevron Service Station at 136 College Avenue is identified as a low risk site. Along with the service station at 266 College Avenue, these sites will also have soil testing for acquisition purposes.

The rest of the sites listed in Table 3.3-1 will not be acquired for the project but might impact soil and groundwater within State right of way at locations of excavation for this project. The excavation areas will also be tested to determine the presence of contamination in the soil and groundwater that might be encountered during construction. Based on the test results, appropriate contract specifications and plans

will be written to instruct the contractor to properly dispose of the soil and groundwater contaminated by the nearby sites.

If the proposed project is approved to proceed with design, Caltrans would determine where specific features would be located. When specific locations of excavation, groundwater contact, or right of way acquisition are known, proper methods for investigating hazardous materials contamination would be determined and conducted as soon as possible in the design phase of the project. Hazardous materials would be avoided wherever possible. Caltrans policy for land acquisition dictates that hazardous materials should be remediated before purchase. If this is not possible, the estimated cost of cleanup would be deducted from the cost of acquiring the property. Remediation of hazardous materials would be done in accordance with appropriate laws, regulations, rules, and policies, as further discussed in Section 3.3.3.1 (Mitigation Measures).

3.3.2.2 Aerially Deposited Lead

Lead contamination due to vehicle exhaust of leaded gasoline may exist in materials next to freeways constructed prior to the ban on such fuels. After the project's design has been approved, site investigations would be conducted in the unpaved shoulder areas in Caltrans right-of-way along the project to determine existing lead concentrations and, if appropriate, control measures would be included in the plans and specifications for the project.

3.3.2.3 Lead Based Paint and Asbestos

Demolition or renovation of existing bridge structures or buildings for the proposed project could result in the release of lead dust or asbestos fibers, potentially affecting construction workers and/or nearby residents. The proposed project calls for the full acquisition of seven properties and demolition of their structures Also, the proposed project details the replacement and renovation of several bridge structures on Route 101 within the project area. Based on the ages of all these structures, lead-based paint and/or asbestos-containing materials may be present. State and Federal regulations require the abatement of all lead-based paint and asbestos-containing materials prior to demolition or renovation activities that would disturb them.

3.3.3 Mitigation Measures

3.3.3.1 Hazardous Material Sites

As described in Section 3.3.2.1, sampling conducted in locations of proposed soil disturbance would characterize any areas of contamination. This information would be used to determine what actions, if any, are necessary to protect public health and the environment. If appropriate, precautions would be taken to ensure that hazardous materials do not come in contact with people or the environment. When hazardous materials are excavated, they must be transferred directly to containment, which could consist of a storage container, the containment area of a truck, or a stockpiling area. A stockpiling area must include a plastic liner and must be covered at the end of each workday. All excavated materials must be managed properly. If an excavation in a location of suspected groundwater contamination encounters water, the water must be contained and sampled, then managed in compliance with state and federal environmental laws. Also, dust must be controlled during excavations in contaminated locations.

Contract special provisions will be written and construction plans prepared so that contaminated soil to be excavated during construction for the purposes of the project would be handled and disposed of in accordance with the appropriate laws, regulations, rules, and policies. Any contaminated groundwater that is encountered during construction would be handled in accordance with the water quality provisions outlined in Chapter 3.1 of this document.

In the event a previously undocumented hazardous material site or UST is uncovered during construction of the proposed project, Caltrans would consult with the appropriate state and federal regulatory agencies to determine what action, if any, is appropriate.

3.3.3.2 Aerially Deposited Lead

Materials found to contain lead at concentrations that are considered potentially hazardous to either human health or the environment would be handled in accordance with all local, State, and Federal regulations. If regulatory requirements for soil re-use were met, a remediation plan would be prepared for proper reuse of the ADL material within the project limits, which would be at least 1.5 m (5.0 ft) above the maximum groundwater table and with an asphalt or soil cover. If the lead levels in the soil exceed the threshold authorized by the California Department of Toxic

Substances Control (DTSC), then ADL soils would be hauled to a permitted landfill. If the daily air monitoring results indicated that the lead levels in air exceeded 1.5 mg/cubic meter of air per day, then the contractor would stop work and modify the operations to prevent any further release of lead that exceeds the required limit. Air monitoring would be conducted under the direction of a Certified Industrial Hygenist.

3.3.3.3 Lead Based Paint and Asbestos

During the course of demolition or renovation activities, construction contractors and/or Caltrans would follow regulations requiring the abatement of lead-based paint and asbestos-containing materials to prevent exposure to both nearby residents and workers.

3.4 Air Quality

3.4.1 Affected Environment

3.4.1.1 Air Quality Standards

Air quality in the Bay Area has been determined to be a health problem by the U.S. EPA, the California Air Resources Board (CARB), and the Bay Area Air Quality Management District (BAAQMD). Federal law has imposed several sets of deadlines for attaining national standards. Geographic areas with measured pollutant levels that violate the national ambient air standards are called nonattainment areas. The 1990 Clean Air Act amendments require that nonattainment areas be classified as serious, severe, or extreme based on the severity of pollution problems, and different standards and deadlines apply to various situations. In addition, areas must develop control plans or strategies for each nonattainment pollutant. These plans are generally referred to as clean air plans and are compiled by each state into a State Implementation Plan (SIP). A nonattainment area's transportation plans must be consistent with the SIP.

California has adopted its own standards for ambient air pollutant concentrations, which are more stringent than the Federal standards. The California Clean Air Act (CCAA) requires non-attainment areas (geographic areas that do not meet one or more Federal ambient air quality standards) to develop plans aimed at reducing emissions of non-attainment pollutants or their precursors by five percent per year. For the purposes of this document, the geographic non-attainment area coincides with the BAAQMD jurisdiction area listed above. Alternatively, if an air district is unable

to achieve a five percent reduction, the adoption of all feasible measures on an expeditious schedule is acceptable. The California Legislature, when it passed the CCAA in 1988 (amended in 1997), recognized that suspended particulate matter (PM_{10}) attainment was not easily obtained and excluded it from the requirements of CCAA.

Both the State and Federal governments have established health based Ambient Air Quality Standards (AAQS) for seven air pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), lead (Pb), suspended particulate matter ($PM_{2.5}$ and PM_{10})[1,2], and sulfur dioxide (SO_2). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. These standards are designed to protect the health and welfare of the populace within a reasonable margin of safety. Both the California Ambient Air Quality Standards and National Ambient Air Quality Standards are listed in Table 3.4-1.

Table 3.4-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards		Federal Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Ozone (O_3)	1-hour	0.09 ppm	N	0.12 ppm	N
	8-hour	-	-	0.08 ppm	U
Carbon Monoxide (CO)	8-hour	9.0 ppm	A	9 ppm	A
	1-hour	20 ppm	A	35 ppm	A
Nitrogen Dioxide(NO_2)	Annual Mean	-	-	0.053 ppm	A
	1-hour	0.25 ppm	A	-	-
Particulate Matter (PM_{10})	Annual Geometric Mean	30 ug/m^3	N	-	-
	24-hour	50 ug/m^3	N	150 ug/m^3	U
	Annual Arithmetic Mean	20ug/m^3	-	50 ug/m^3	-
Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12ug/m^3	-	15 ug/m^3	U
	24-hour	-	-	65 ug/m^3	U
Sulfur Dioxide(SO_2)	Annual Mean	-	-	0.03 ppm	A
	24-hour	0.04 ppm	A	0.14 ppm	A
	1-hour	0.25 ppm	A	-	-

Notes: ppm = parts per million
ug/m^3 = micrograms per cubic meter
A = attainment
N = non-attainment
U = unclassified

1 P $M_{2.5}$ is defined as tiny solid or liquid particles, generally soot or aerosols. The size of the particles (2.5 microns or smaller) allows them to easily enter the air sacs deep in the lungs where they may cause adverse health effects. Small particles can also cause visibility reduction. http://www.baaqmd.gov/pie/aqgloss.htm.

2 PM_{10} is defined as tiny solid or liquid particles of soot, dust, smoke, fumes, or aerosols. The size of the particles (10 microns or smaller) allows them to easily enter the air sacs deep in the lungs where they may be deposited, resulting in adverse health effects. The size of the particles can also cause visibility reduction and is a criteria air pollutant. http://www.baaqmd.gov/pie/aqgloss.htm.

An area's air quality is categorized as attainment, non-attainment or unclassified for the ambient air pollutants listed in Table 3.4-1. An "attainment" designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A "non-attainment" designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An "unclassified" designation signifies that data do not support either an attainment or non-attainment status.

3.4.1.2 Regional Air Quality

The proposed project is located in the San Francisco Bay Area, a large shallow air basin ringed by hills that taper into a number of sheltered valleys around its perimeter. Two primary atmospheric outlets exist: 1) through the strait known as the Golden Gate, which is a direct outlet to the ocean; and 2) extending to the northeast, along the west Delta region of the Sacramento and San Joaquin Rivers. The San Francisco Bay Area Air Basin has been designated as a non-attainment area for ozone (O_3) and suspended particulate matter (PM_{10}) under California state standards.

Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen in recent years. In June 1995, the Bay Area was re-designated as an attainment area for the Federal ozone standard. However, the Bay Area returned to non-attainment status in August 1998 because the region exceeded Federal ozone standards in 1995 and 1996. BAAQMD submitted an Ozone Attainment Plan (1999 Plan) to EPA in August of 1999 to set policies and guidelines aimed at reducing ozone in the Bay Area by November 15, 2000. EPA approved parts and disapproved parts of the 1999 Bay Area Ozone Attainment Plan for failure to reach attainment status for ozone. BAAQMD developed the 2001 Plan to correct the deficiencies of the 1999 Plan and respond to the finding of failure to achieve attainment status for ozone. Levels of suspended matter in the Bay Area currently exceed California air quality standards and therefore the area is considered a non-attainment area for this pollutant. BAAQMD, MTC and ABAG are currently working on a revision to the 2001 Plan. BAAQMD expects to submit the plan to the EPA in early 2004.

The region's monitoring stations have not recorded the exceedance of state or federal carbon monoxide (CO) standards since 1991. In April 1998, the Bay Area was re-

designated by the U.S. EPA as an attainment area for the federal carbon monoxide standard.

The Bay Area is currently in attainment for nitrogen oxides (NO_x), nitrogen dioxide (NO_2), lead (Pb), and sulfur dioxide (SO_2).

BAAQMD's 1991, 1994, 1997 and 2000 Clean Air Plans contain district-wide control measures to reduce carbon monoxide and ozone precursor emissions. The state standards for these pollutants are more stringent than the national standards.

Exceedance of air quality standards occurs primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

3.4.1.3 Local Air Quality

Air quality is a function of both local climate and local sources of air pollution. The balance between the natural dispersal capacity of the local atmosphere and human-generated air pollutant emission sources also affects air quality. The Santa Rosa Plain, which encompasses central Sonoma County including the city of Santa Rosa, is bordered by hills on the east and west sides. Terrain can influence air quality in Santa Rosa as much as it does in other parts of the Bay Area because the area topography can provide shelter or restrict the dilution of pollutants.

Pollutant monitoring results for the Years 1996 to 2001 at the Santa Rosa ambient air quality monitoring station indicate that air quality in the project area has generally been good. Table 3.4-2 summarizes the last six years of published data from this monitoring station. Sulfur dioxide (SO_2) data were not listed because no exceedance has been recorded in the past 10 years. Two or fewer violations per year of the state suspended particulate matter standard in the past six years were recorded, while no violation of federal suspended particulate matter standard was recorded. Only the state ozone standards have been exceeded, once in 1999, while no federal ozone standard was exceeded during the six year time period. Carbon monoxide and nitrogen dioxide standards were not exceeded in Santa Rosa during the six year period.

3.4.1.4 Effects of Pollutants

Ozone. Ozone (O_3) is the primary constituent of photochemical smog. Photochemical smog is produced when hydrocarbons and oxides of nitrogen combine in the presence of sunlight to form ozone. It is not emitted directly into the atmosphere, but is produced through a complex series of chemical reactions involving

hydrocarbons (HC) and oxides of nitrogen (NOx) in the presence of sunlight. Vehicle exhaust emissions contribute slightly less than half of the pollutants that form ozone. High ozone levels, which occur primarily in the summer and early fall, aggravate asthma, bronchitis, and other respiratory ailments, as well as cardiovascular disease. High concentrations of ozone may also cause dizziness, headaches, burning of eyes and throat, and nausea. EPA is phasing out and replacing the previous one-hour primary ozone standards with a new eight-hour standard to protect against longer exposure.

Carbon Monoxide. Carbon monoxide (CO) is almost exclusively emitted by motor vehicles. This pollutant binds to hemoglobin, the oxygen-carrying protein in blood, reducing the amount of the oxygen reaching the heart and brain. Exposure to carbon monoxide, even at low levels, can endanger people with coronary artery disease. It can also cause headaches, fatigue, and slow reflexes, even among healthy people.

Table 3.4-2. Ambient Air Quality at the Santa Rosa Air Monitoring Station

Pollutant	Averaging Time	1996	1997	1998	1999	2000	2001
Ozone (O_3)	**Max 1-hour Concentration**	0.08 ppm	0.09 ppm	0.07 ppm	0.10 ppm	0.08 ppm	0.09 ppm
	Number of Days Exceeded 1-Hour Federal Standard	0	0	0	0	0	0
	Number of Days Exceeded 1-Hour State Standard	0	0	0	1	0	0
	Max 8-hour Concentration	-	-	-	0.08 ppm	0.06 ppm	0.06 ppm
	Number of Days Exceeded 8-Hour Federal Standard	-	-	-	0	0	0
Carbon Monoxide (CO)	**Max 8-hour Concentration**	3.0 ppm	3.3 ppm	3.2 ppm	3.5 ppm	3.1 ppm	2.4 ppm
	Number of Days Exceeded 8-Hour Federal Standard	0	0	0	0	0	0
	Max 1-hour Concentration	-	-	-	5.7 ppm	4.5 ppm	4.8 ppm
	Number of Days Exceeded 1-Hour Federal Standard	-	-	-	0	0	0
Nitrogen Dioxide (NO_2)	**Max 1-hour Concentration**	0.06 ppm	0.06 ppm	0.06 ppm	0.07 ppm	0.05 ppm	0.06 ppm
	Number of Days Exceeded 1-Hour State Standard	0	0	0	0	0	0
Particulate Matter (PM_{10})	**Max 24-hour Concentration**	-	-	-	54 ug/m^3	46 ug/m^3	74 ug/m^3
	Annual Geometric Mean	15.3 ug/m^3	16.5 ug/m^3	16.6 ug/m^3	16.9 ug/m^3	15.9 ug/m^3	18.4 ug/m^3
	Number of Days Exceeded 24-Hour Federal Standard	0	0	0	0	0	0
	Number of Days Exceeded 24-Hour State Standard	0	2	1	1	0	2
Particulate Matter ($PM_{2.5}$)	**Max 24-hour Concentration**	-	-	-	54.9 ug/m^3	40.1 ug/m^3	75.9 ug/m^3
	Number of Days Exceeded 24-Hour Federal Standard	-	-	-	0	0	1

Notes: ppm = parts per million
ug/m^3 = micrograms per cubic meter
PM_{10} is sampled every 6th day. Actual days over standard can be estimated as six times the number shown.

Oxides of Nitrogen. Nitrogen Oxides (NOx) are produced by motor vehicles (particularly heavy duty vehicles) and high temperature industrial operations, but have not posed a separate, serious health problem in the Bay Area in the past several years.

Suspended Particulate Matter. Ambient air quality standards for suspended particulate matter (PM_{10}) took effect July 31, 1987. Suspended particulate matter (PM_{10}) is the term used to describe the small particles, of any composition and origin, with nominal size of 10 micrometers or less. Such particles are so small that, individually, they would not be visible. The fine particles are a threat to health, however, because they penetrate deep into the lungs during breathing and lodge there. Large particles, by contrast, are filtered out in the upper respiratory passages, or are cleared by coughing, sneezing, etc.

Air Toxics. The California Air Resources Board (CARB) has found that diesel particulate matter (PM) poses the greatest cancer risks among all identified air toxics. Diesel trucks contribute more than half of the total diesel PM emissions, with the remainder coming from stationary and other diesel combustion sources. However, the CARB has adopted a Diesel Risk Reduction Plan (DRRP) with control measures that would reduce the overall diesel PM emissions by about 85% from 2000 to 2020.

3.4.2 Environmental Consequences

3.4.2.1 Methodology

The air quality analysis for this document utilizes a protocol developed jointly by Caltrans and the University of California at Davis, Institute of Transportation and approved by EPA for use in the Bay Area. The protocol is based on the Bay Area's attainment status for carbon monoxide (CO). It permits a qualitative approach to determine if a given project would have a detrimental impact on air quality.

3.4.2.2 Conformity With the State Implementation Plan

On March 15, 2002, the Metropolitan Transportation Commission (MTC) made the finding that the 2001 Regional Transportation Plan (RTP) was in conformity. FHWA and FTA adopted the air quality conformity finding for the RTP on March 18, 2002. (MTC adopted the 2003 TIP on January 22, 2003. FHWA/FTA found the TIP in conformity on February 3, 2003). The project is also included in MTC's 2003 Transportation Improvement Program, TIP identification numbers SON990001 and

SON010001. The design concept and scope of the proposed project is consistent with the project description in the 2001 RTP, the TIPs for 2001 and 2003, and the assumptions in MTC's regional emissions analysis. The RTP and TIP listings for this project can be found in Appendix H.

The project is located in an attainment area for the federal PM_{10} standard, but in a non-attainment area for the stricter state PM_{10} standard. In this situation, the project is not subject to the federal transportation conformity rules for PM_{10}, but state rules prohibit it from contributing to the further degradation of the PM_{10} air quality. The Bay Area Air Basin, like other urbanized parts of California, does not meet the state's stringent standard for Maximum 24-Hour Concentration of PM_{10}, which is 30 ug/m^3. However, the Annual Geometric Mean for PM_{10} concentrations at the monitoring station closest to the project area, the Santa Rosa Air Quality Monitoring Station, for years 1999-2001 showed no violations and, as shown in Table 3.4-2, were well below the state standard of 30 ug/m^3.

3.4.2.3 Carbon Monoxide Analysis

The proposed project would be expected to experience conditions similar to another freeway location with comparable traffic characteristics. Comparisons were made between the Year 2007 Build conditions of Route 101 and the existing conditions on Interstate 880 in Alameda County from SR-92 to SR-84. The Year 2007 is the "build" condition when the facility is fully operational. This is the worst case scenario for CO since improved emission factors would yield lower CO levels for subsequent years. In order to effectively analyze the local Santa Rosa intersections along Route 101, comparisons were made to the Foothill Boulevard/Mission Boulevard intersection in Alameda County. Air quality at this compared site has been directly measured by air sampling. Since the air quality at the compared site is acceptable, the "analysis by comparison" method concludes that the proposed project would also result in acceptable air quality. Table 3.4-3 compares pertinent factors between the proposed project and the project on Interstate 880 in Alameda County.

Table 3.4-3. Carbon Monoxide Comparison Analysis

Parameters	Build Route 101	Existing Interstate 880
Receptor Distance	15.3 m (50 ft)	7.6 m (25 ft)
Roadway Configuration	6 lanes	8 lanes
Worst Case Meteorology	Coastal Valley	Coastal Valley
Peak Hourly Volumes	12,800 vph	15,000 vph
Hot / Cold Starts	50/10 northbound 50/10 southbound	50/10 northbound 50/10 southbound
Percent Trucks	0.9 to 2.9	7.6 to 8.3
Background Carbon Monoxide	3.2 ppm	3.2 ppm

Notes: vph = vehicles per hour ppm = parts per million

Caltrans also studied the anticipated air quality at intersections near the project area. Forecast projections for future years of 2010 indicate that traffic would be similar to existing levels. Most intersections would experience a less than 10 percent difference in future predicted traffic volumes between the project's Build and No Build conditions. Because of the complexity of predicting future air quality, the predictive method cannot conclude whether a 10 percent increase would have a measurable effect on air quality. The largest intersection within the project area, Steele Lane/Route 101, is considerably smaller than the Foothill Boulevard/Mission Boulevard intersection, which was used as the point of comparison. The Route 101 ramps were analyzed as a two-lane road, while Steele Lane was analyzed as a four-lane road (two lanes in each direction). The Foothill Boulevard/Mission Boulevard intersection is in Hayward, and represents the joining of two major State routes, plus a connector to the downtown area. This five-legged intersection consists of three-lane/three-lane/two-lane/three-lane approaches. Receptor distances are comparable at both intersections [4.5 to 6 m (15 to 20 ft)]. Traffic volumes and delays are greater at the Foothill Boulevard/Mission Boulevard intersection.

The proposed project would result in a facility that would be smaller and less congested than comparable facilities within the same Air District (Interstate 880 and Foothill Boulevard/Mission Boulevard intersection). Since the comparable facilities are in an area that meets air quality standards (a maintenance area), this project would also meet the microscale air quality requirements and would therefore not cause exceedances of state or federal carbon monoxide standards.

3.4.2.4 Suspended Particulate Matter

Because the state standards for PM_{10} are stricter than federal standards, the following discussions of suspended particulate matter and air toxics are for purposes of compliance with CEQA.

The proposed project would not be expected to generate an appreciable amount of new traffic in terms of vehicle miles traveled, but rather to transfer traffic from local streets to freeways. Freeways have lower silt loadings than local streets, and would be expected to have less re-entrained road emissions for the same amount of vehicle miles traveled. The project would also pave the 11.6-meter unpaved median and portions of the outside shoulders, reducing this source of dust including PM_{10}. The project is not located in an area where it could promote activities associated with generating considerable PM_{10}, such as an agricultural area or area of frequent snowfall. Because PM_{10} exceedances are not a problem in the project vicinity and

because project features are not expected to induce increased PM_{10} generation, the project would not be expected to have adverse effects on PM_{10} levels.

3.4.2.5 Air Toxics

While there are currently no quantitative tools available to assess the project's air toxics impact, a qualitative approach is to compare the Build scenario with the No Build scenario. We conclude that the project would not have a negative air toxic impact, based on the following comparisons:

(a) There would not be a substantial increase in truck traffic in the Build scenario compared to the No Build scenario.

(b) The Build scenario would reduce congestion with its stop-and-go conditions and change them into more free-flow conditions, and should therefore decrease the acceleration events that cause the highest per-vehicle exhaust emissions.

3.4.2.6 Construction Impacts

The proposed project would generate air pollutants during construction. Trucks and construction equipment emit hydrocarbons, oxides of nitrogen (NOx), carbon monoxide (CO), and suspended particulate matter (PM_{10} and $PM_{2.5}$). Most pollution would consist of wind-blown dust generated by excavation, grading, hauling, and various other activities. The impacts from the above activities vary from day to day as construction progresses.

If construction activities disturb materials that contain asbestos fibers, construction could cause human exposures to airborne asbestos in the immediate area. Asbestos does not occur naturally in the proposed project's local geology, but structures in the project area might contain asbestos.

3.4.3 Mitigation Measures

The Special Provisions and Standard Specifications in the construction contract for the proposed project would include requirements to minimize or eliminate construction related dust through the application of water or dust palliatives. Caltrans and its contractors would comply with "fugitive dust" emissions rules and policies to minimize construction dust impacts.

Additional requirements apply to potential sources of airborne asbestos. The Bay Area Air Quality Management District must be notified prior to any demolition in its jurisdiction. The notification must include evidence of inspection and determination

of the types and amounts of asbestos-containing materials present. Standard measures are available to manage any asbestos encountered, including the use of asbestos-certified contractors to handle removal of certain types of asbestos materials. The project proposal includes demolition both of buildings and of freeway structures. Up to four residential properties and up to three commercial buildings could be demolished for the proposed project. Caltrans would conduct investigations for asbestos materials in the buildings after acquiring them, which would would only happen if the environmental process is completed and the project is approved. Highway structures such as bridges and overcrossings could also contain asbestos materials. It is standard Caltrans procedure to conduct asbestos surveys on bridges and overcrossings during the design phase once it is determined that the bridge would be demolished or if load bearing members of the bridge would be renovated. Construction contract special provisions would outline which bridge structures contain asbestos and would require the contractor to comply with all applicable BAAQMD regulations for demolition and/or renovation of the bridge structures. The asbestos surveys would be provided to the construction contractor to attach to the demolition/renovation notification he/she submits to BAAQMD.

3.5 Noise

This noise analysis evaluates the implementation of the proposed project on the noise environment of Santa Rosa and discusses noise abatement measures for impacted areas.

3.5.1 Affected Environment

3.5.1.1 Overview

Noise is perceived subjectively by each individual. Acceptance of a certain type of noise or noise level varies among neighborhoods, individuals, and time of day. Physically, sound pressure magnitude is measured and quantified in terms of a logarithmic scale in units of decibels (dB).

Sounds heard in the everyday environment consist of a range of frequencies or pitches at different levels. Human hearing is not equally sensitive to sound in all frequencies. A frequency dependent adjustment, called A-weighting, has been devised to measure sound in a manner similar to the way the human hearing system responds. The A-weighted sound level decibel is abbreviated dBA. The A-weighted sound level is adequate for describing the noise at a particular location and instant in

time. However, the average level of environmental noise changes with the cycle of human activities. The sound level descriptor used in this document is the hourly energy equivalent sound level [Leq(h)]. It is a particularly stable and predictable unit for description of traffic noise and at the same time is well correlated to people's reaction to noise.

Noise can be classified into three categories. The first category is audible sounds that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3.0 dB or more. The other two categories refer to noise not audible to the human ear. Figure 3.5-1 shows what kind of experience or event might typically generate a certain amount of decibels.

3.5.1.2 Existing Noise Environment

Land adjacent to Route 101 is primarily residential and commercial. Commercial developments are considered noise sensitive if there are areas of frequent human use and lowered noise levels would be of benefit. (See Table 3-5.1 for a list of activity categories and the average level of noise allowable.) There are no known libraries or hospitals adjacent to Route 101. However, there are three schools located on the east side of the freeway and three community parks located in the southern portion of the study area. Burbank Elementary School is located in the southern portion of the study area off of Sonoma Avenue, while Santa Rosa High School and Santa Rosa Junior College are located in the northern portion of the study area off of Mendocino Avenue. Julliard Park is located on the east side of Route 101 off of Sonoma Avenue, Olive Park is located on the west side of Route 101 and off of Olive Street, while Railroad Square Park is also located on the west side of Route 101 off of Wilson Street.

Table 3.5-1. Activity Categories and Noise Abatement Criteria (NAC)

Activity Category	NAC,Hourly A-Weighted Noise Level, dBA L eq (h)	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 Exterior	Developed lands, properties, or activities not included in Categories A or B above.
D	–	Undeveloped lands
E	52 Interior	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Caltrans measured and estimated noise levels at 20 noise receptors in various locations throughout the study area. The noise receptors were generally situated in residential yards as well as the Burbank Elementary School where noise sensitive activities take place. These sites were chosen from the first row of residences close to Route 101 and were used to model traffic characteristics which yield the worst hour noise. Existing peak hour noise is the highest noise level in the 24-hour noise level spectrum. Existing peak hour noise levels range from 59 to 74 dBA Leq(h) (Caltrans 2000f). The following section will detail the existing and future noise levels by receptor. Generally, ambient noise levels in the project area are higher south of College Avenue. This is attributable to the types of land uses located in this area, primarily commercial developments with high activity levels in close proximity to Route 101. At the present time, most residences near Route 101 are receiving noise levels that approach or exceed the Federal/State Noise Abatement Criteria (NAC) of 67 dBA Leq(h) (See Table 3.5-2 and Figure 3.5-2A-C)(Caltrans 2000f).

3.5.2 Environmental Consequences

3.5.2.1 Methodology

The future noise levels referred to in this document are predicted by means of the SOUND32 computer model. This program is the Caltrans version of the FHWA Highway Traffic Noise Prediction Model (Report No. FHWA-RD-77-108) and Noise Barrier Cost Reduction procedure STAMINA2/OPTIMA using the California Vehicle Noise (CALVENO) reference energy mean emission level curves (Caltrans 2000f).

In order to project the worst-case noise levels for the proposed project, SOUND32 assumes traffic speeds of 105 km/hour (65 mi/hour); traffic volumes of 2000 vehicles per lane per hour; and a vehicle mix that includes 7.2 percent medium trucks and 7.8 percent heavy trucks with automobile traffic accounting for the remaining 85 percent (Caltrans 2000f). Projected noise levels are described for both the No-Build and the proposed project in Section 3.5.2.3, below.

Under FHWA and Caltrans policy, noise barriers would be considered at locations that meet the following criteria:

- Predicted worst-case noise that approaches or exceeds Federal NAC. Category (B) is 67 dBA Leq(h).
- Predicted future noise levels substantially exceed existing noise levels (determined as 12 dBA Leq(h)).

- At least a five dBA reduction can be achieved and the noise barrier should intercept the line of sight from the exhaust stack of a truck to the receptor.
- The noise barrier to be provided is deemed reasonable and feasible. (The final determination of reasonableness would be made only after a careful and thorough consideration of appropriate factors, such as cost effectiveness, noise reduction and development along the freeway. Regard should be given for the individual circumstances of each particular project.). Feasibility is defined with regard to engineering considerations. A 5 dBA noise reduction must be achieved in order for the proposed noise barrier to be considered feasible. Ability to achieve an adequate noise reduction may be limited by: (1) topography; (2) access requirements for driveways, ramps, etc.; (3) the presence of local cross streets; or (4) other noise sources in the area (See Appendix I, for Calculation of Reasonable Allowance).

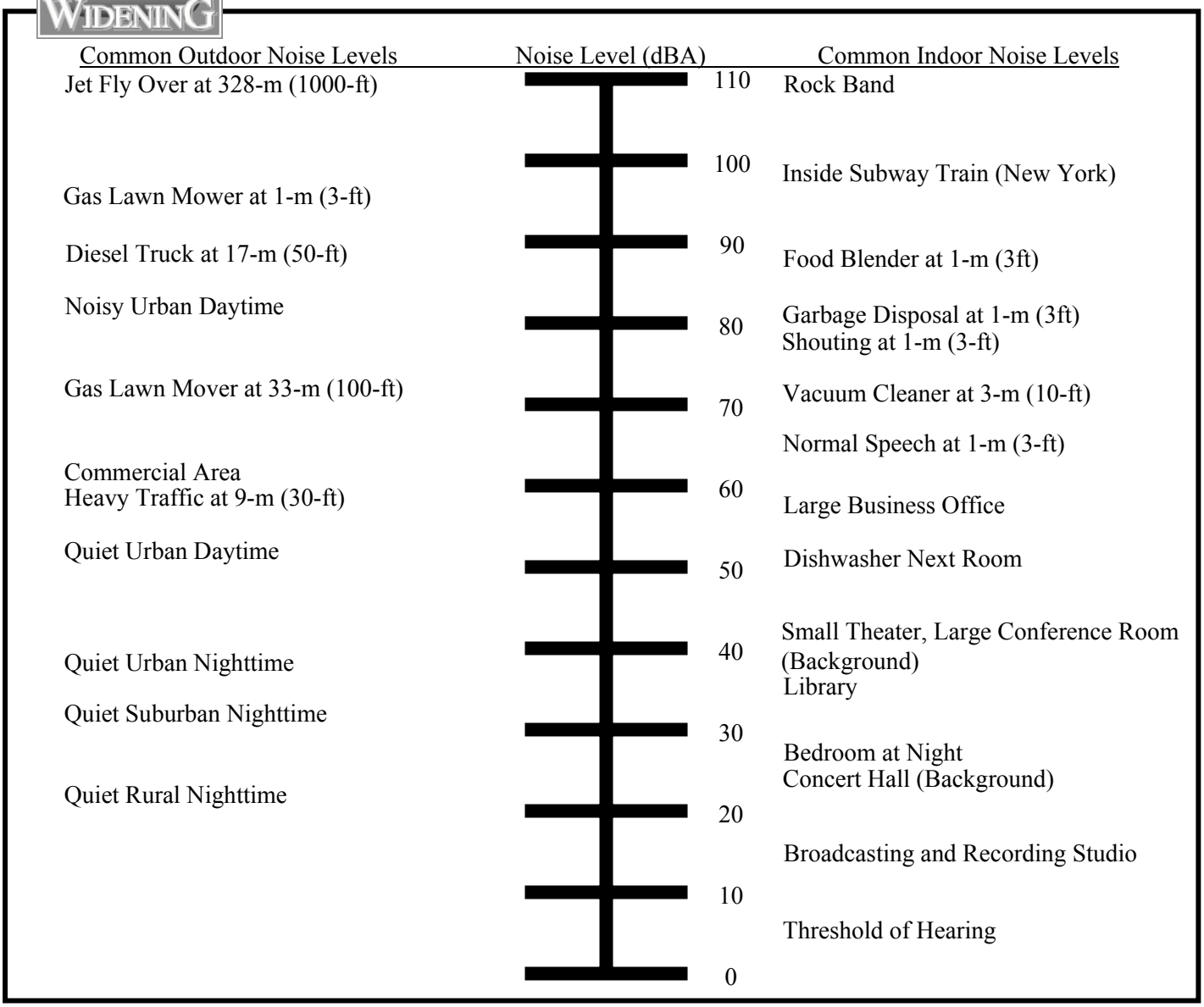
Noise thresholds for State freeway projects are defined in the Traffic Noise Analysis Protocol (TNAP). Caltrans policy requires a cost effectiveness calculation for recommended sound barriers as outlined in the TNAP and the Highway Traffic Noise Abatement of the Project Development Procedures Manual (Caltrans 2000f).

3.5.2.2 Construction Impacts

Construction activities including, but not limited to, pile driving operations, would be required to conform to latest Standard Specifications listed in Section 7-1.01I of Caltrans Sound Control Requirements. These requirements are meant to minimize the impact from construction noise yet in no way relieve the contractor from complying with local noise ordinances. It is possible that the high levels of noise generated by construction equipment may annoy residents, but it would likely be short-lived at each location. When practical, construction operations that generate noise in sensitive areas would be prohibited on weekends and holidays and limited to between the hours of 7:00 a.m. and 7:00 p.m. on weekdays. Also, where feasible, noise barriers would be constructed as the first order of work to minimize construction noise impacts.

3.5.2.3 Projected Future Noise Levels

No-Build Alternative. Noise levels for the No-Build alternative were estimated to be the same as the measurements for existing noise. Comparing existing noise levels to future no project noise levels shows that residents along Route 101 would not experience a substantial increase in noise if the freeway was not widened.



Relationships Between Decibels (dBA), Energy, and Loudness

Sound Level Change	Human Perception	Relative Energy Change
+ 10 dBA	Twice as Loud	10
+ 5 dBA	Readily Perceptible	3.16
+ 3 dBA	Barely Perceptible	2
+ 0 dBA	Reference	0
- 3 dBA	Barely Perceptible	1/2
- 5 dBA	Readily Perceptible	1/3
- 10 dBA	Half as Loud	1/10
- 20 dBA	1/4 as Loud	1/100
- 30 dBA	1/8 as Loud	1/,1000
- 40 dBA	1/16 as Loud	1/10,000

Figure 3.5-1
Typical Noise Levels for Human Perception

Proposed Alternative. Future peak noise levels are projected as if the project were constructed. The projected future peak noise levels along Route 101with the proposed project without sound barriers would range from 61 to 79 dBA Leq(h) within the residential and school areas, which reflects an estimated increase ranging between one and nine dBA Leq(h). On the other hand, the projected future peak noise levels along Route 101 with the proposed sound barriers of 4.3 m (14 ft) high would range from 62 to 70 dBA Leq(h) within residential and school areas, which reflects an estimated noise reduction of between five and eleven dBA Leq(h). Table 3.5-2 shows the 20 different receptor sites that have been examined for noise impacts by location. For each site, the table shows the existing measured noise levels, the computer projected worst-case noise level under the proposed alternative without a noise barrier, and the computer projected worst-case noise level under the proposed alternative with proposed soundwalls in place. Soundwalls of several different heights are reviewed at each location in order to compare the projected reduction in noise they would have on their respective noise receptors. In each case, the estimated length of the proposed or existing soundwall is shown.

Figure 3.5-2A, Figure 3.5-2B, and Figure 3.5-2C depict each of seven different soundwalls that are recommended to reduce noise levels for each of the receptor sites, as well as the one existing soundwall that would continue to reduce noise levels. At Luther Burbank Elementary School, interior noise was not measured because the exterior “frequent human use” area (playground adjacent to existing soundwall) qualified for noise abatement using the NAC listed above. Soundwalls that are used for exterior noise abatement generally provide a minimum of 20 dBA noise reduction to interior human use spaces such as schools. The Santa Rosa Junior College (SRJC) campus did not qualify for abatement upon initial field inspection because there is a road, landscaping, a wall and a car port between the school and the freeway. The administration at SRJC specifically requested that Lounibus Trade Technical Center be tested for noise. Upon subsequent inspection, it was determined that a soundwall constructed at the exterior area facing the freeway would not yield a minimum required 5-dBA reduction, and therefore would not meet the criteria for a reasonable and feasible attenuation wall. The final determination of reasonable and feasible soundwall construction at recommended locations would be made only after careful and thorough consideration of the appropriate factors by the project engineer, as defined in the Project Development Procedures Manual (PDPM) (Caltrans 1999d). The preliminary noise abatement decision involves two criteria: reasonableness and feasibility. Feasibility is defined as an engineering consideration: a minimum of 5

Table 3.5-2. Existing and Future Worst Case Traffic Noise Levels

Receptor Number	Location	Existing Peak Noise (dBA)	Future Build Worst Case Noise Level (dBA)				Recommended Barrier Details		
			Without Barrier (dBA)	Estimated Barrier Height			Barrier Number	Barrier Height	Barrier Length
				3.0-m (~10-ft) (dBA)	3.7-m (~12-ft) (dBA)	4.3-m (~14-ft) (dBA)			
R 1	Burbank Elementary School Tennis Court	74 (E)	79	71	70	68	1	4.3 m (~14 ft)	335 m (~1,100 ft)
R 2	Burbank Elementary School Playground	73 (E)	79	74	72	70			
R 3	Burbank Elementary School Playground	70 (E)	79	74	72	70			
R 4	608 Morgan Street	69 (E)	71	69	67	66	2	4.3 m (~14 ft)	280 m (~919 ft)
R 5	748 Morgan Street	66 (E)	68	65	64	62	3	4.3 m (~14 ft)	410 m (~1,345 ft)
R 6	831 Washington Street	67 (M)	68	64	63	62			
R 7	228 Carrillo Street	64 (E)	-	-	-	-	4	4.9 m (~16 ft) Existing Barrier	
R 8	1214 Ripley Street	66 (E)	-	-	-	-			
R 9	1253 Ripley Street	66 (E)	-	-	-	-			
R 10	1975 Illinois Street	59 (M)	61	-	-	-	No Wall		
R 11	2021 Illinois Street	62 (M)	64	-	-	-			
R 12	2760 Cleveland Avenue (Motel 6)	53 (E, I)	56 (I)	50 (I)	48 (I)	47 (I)	5	4.3 m (~14 ft)	110 m (~361 ft)
R 13	2632 Cleveland Avenue (Super 8)	70 (E)	73	70	68	67			
R 14	108 Ridgeway Avenue	73 (M)	74	68	66	65	6	4.3 m (~14 ft)	320 m (~1,050 ft)
R 15	132 Carrillo Street	68 (E)	69	67	66	64			
R 16	211 Lincoln Street	71 (E)	72	71	68	66	7	4.3 m (~14 ft)	705 m (~2,313 ft)
R 17	137 10th Street	68 (E)	69	65	64	63			
R 18	742 Davis Street	67 (M)	70	65	65	64			
R 19	616 Davis Street	72 (E)	73	68	66	65			
R 20	138 Hazel Street	67 (E)	70	68	67	65	8	4.3 m (~14 ft)	240 m (~787 ft)

Source: Caltrans District 4

Notes: dBA = Noise Decibel Level M = Measured E = Estimated Noise Level I = Interior Noise Level

dBA reduction must be achieved. It may also be affected by non-acoustical factors: safety considerations access requirements, or overall constructability. The preliminary determination of reasonableness is based on the following:

- Cost of abatement, absolute noise levels, change in noise levels, abatement benefits;
- Date of development of affected residents; and
- Life cycle of abatement measures.

A preliminary noise abatement decision is reached based on the above criteria and is reported in this EA/EIR. The final abatement decision incorporates factors of the preliminary reasonableness determination addressed in this document and the public input process as well as a multitude of additional factors including, but not limited to the following:

- Other environmental impacts of abatement construction;
- Social, economic, environmental, legal, and technological factors; and
- Input and comments from residents and local/public agencies.

3.5.2.4 Noise Reduction

Since projected future noise levels at most receptor locations approach or exceed NAC, noise abatement measures must be considered and implemented if found feasible and reasonable. To this end, soundwalls are recommended where they are appropriate. In each case where a soundwall is proposed, it is justified because it reduces noise levels at receptor sites by at least five dBA compared to the future noise levels at these same receptor sites without a soundwall (Caltrans 1998a). Noise barriers must be cost effective as well. Cost effectiveness, final barrier heights and lengths and exact location of noise barriers would be determined during final design.

FHWA stipulates that the views of the impacted residents can be a major consideration in reaching a decision on the reasonableness of abatement measures to be provided. Caltrans would conduct a public meeting during project design to obtain input from impacted residents before construction of noise barriers.

3.5.3 Mitigation Measures

Because predicted future noise levels are anticipated to exceed State/Federal standards, soundwalls are recommended. Soundwall recommendations are preliminary, and are subject to change during the final design phase of the project. The views of agencies with jurisdiction and of the affected residents would be a major consideration in reaching a decision on the reasonableness of recommended abatement measures.

SONOMA 101 WIDENING

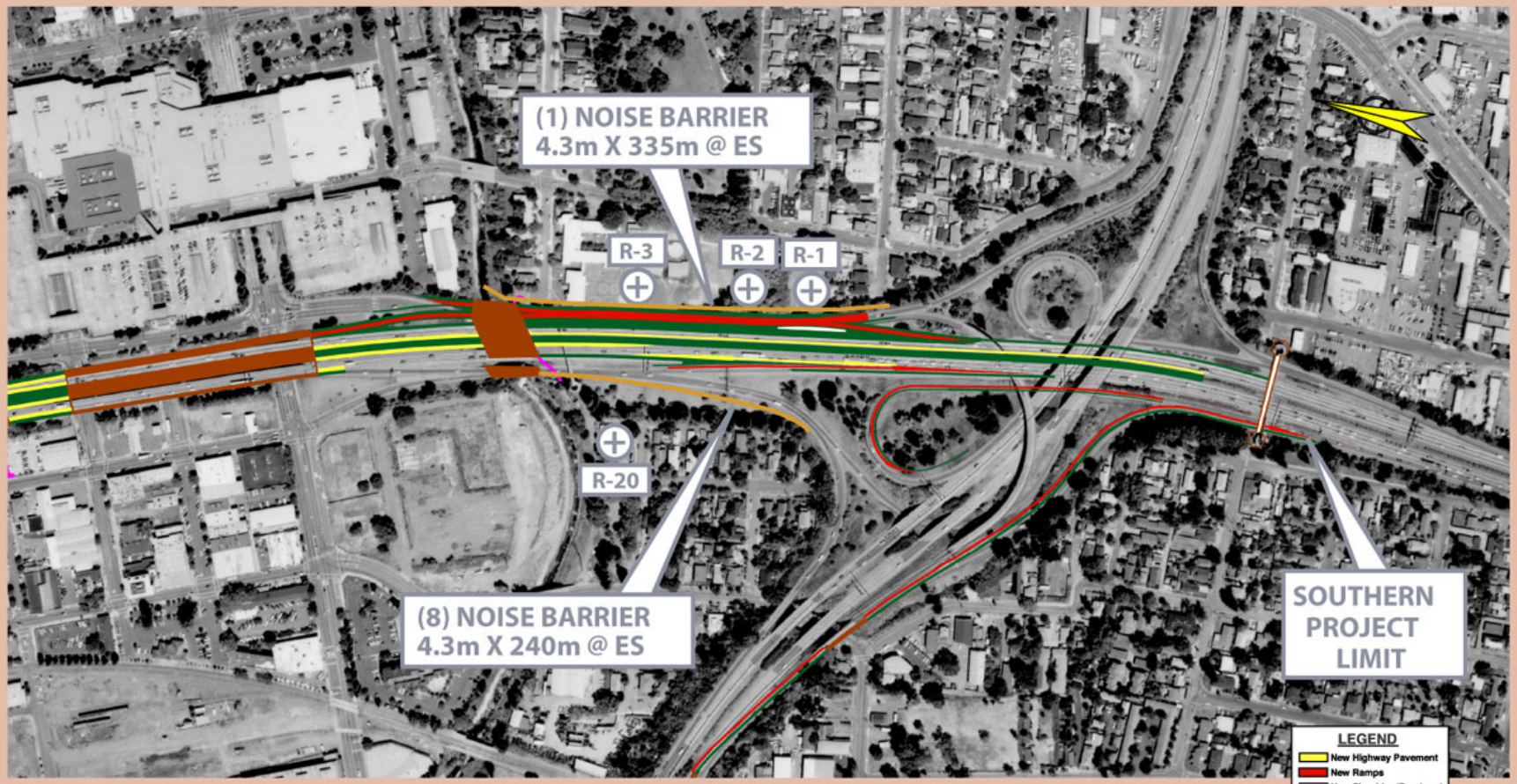


Figure 3.5-2A: Receptor and Proposed Barrier Locations

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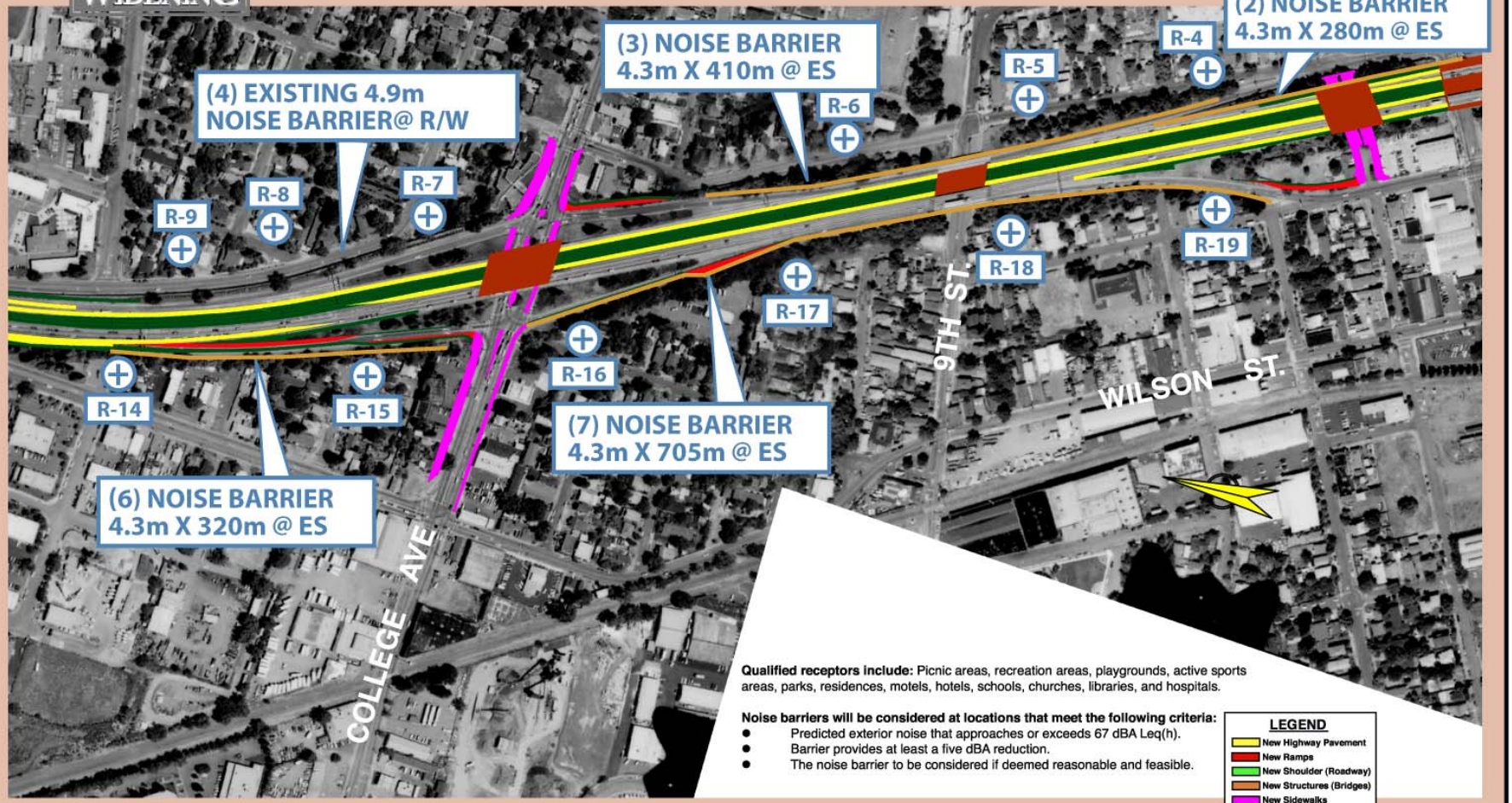

Figure 3.5-2B: Receptor and Proposed Barrier Locations

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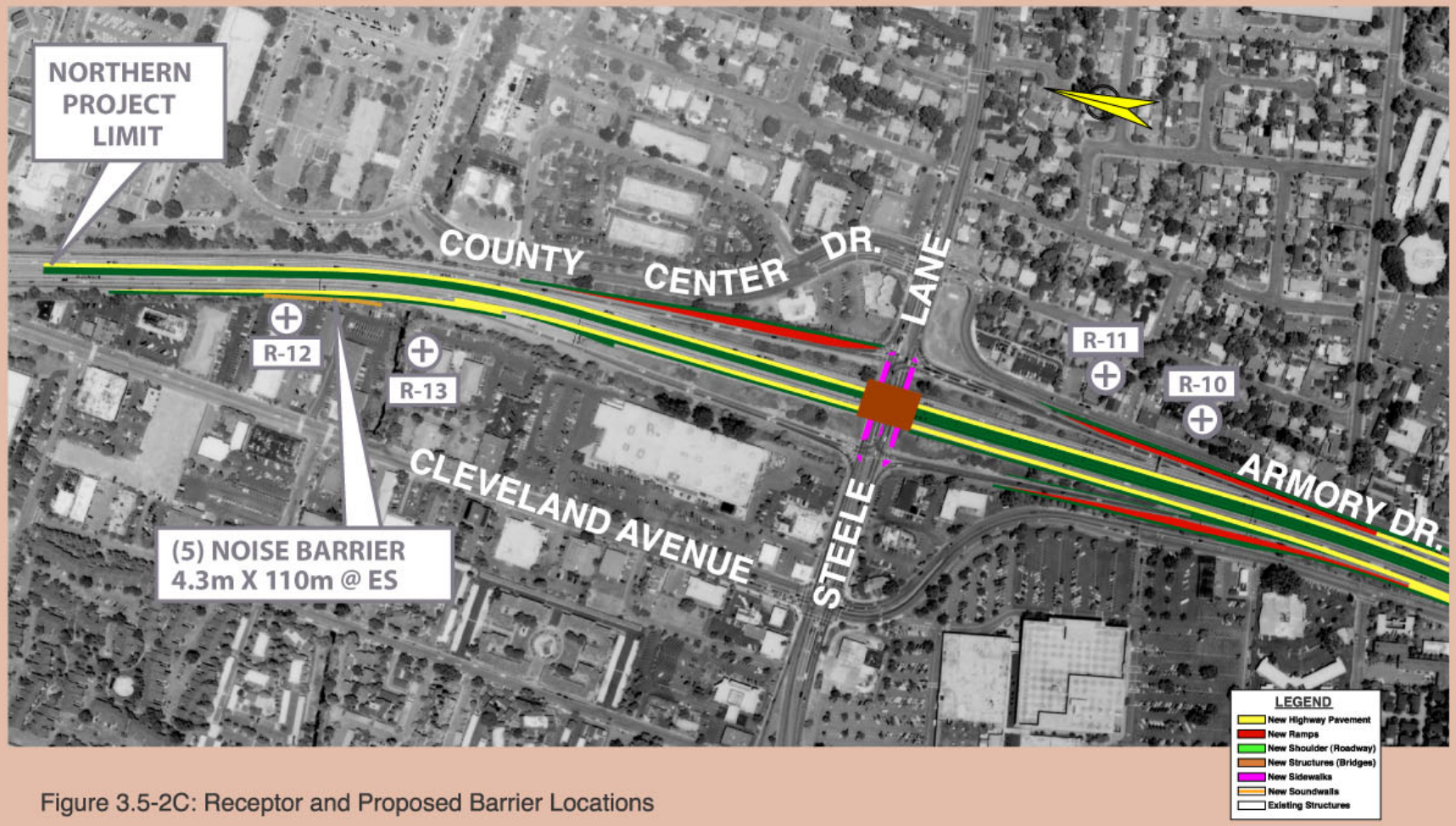

Figure 3.5-2C: Receptor and Proposed Barrier Locations

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3.6 Biology

The following discussion describes various biological resources in the project vicinity, including Wetlands and Waters of the United States, vegetation, general wildlife, and both threatened and endangered species.

3.6.1 Affected Environment

3.6.1.1 Overview

The Caltrans proposed project evaluated in this environmental document is completely within Santa Rosa, and on the Santa Rosa Plain, in Sonoma County. At one time, the Santa Rosa Plain was covered with native perennial grasslands that have been eliminated by development and urbanization (EIP Associates 1993). Today, the proposed project site is surrounded by roadways, residential buildings, and commercial properties. Therefore, the habitat value of the project area is limited to natural resources described here.

Vegetation throughout the project limits in the Route 101 corridor, its interchanges, and off-ramps can be grouped into several classifications:

- Landscape oleanders -- large flowering shrubs -- that exist in the median;
- Mature trees, which have trunks greater than 25 cm (10 in) in diameter, along the edge of the freeway; and
- Trees of relatively small size, which have trunks from 2.5 cm to 25 cm (one to 10 in) in diameter.

The oleanders extend in a tightly spaced row in the Route 101 median for approximately 3.2 linear km (2.0 linear mi) and occupy a total of approximately 1.2 hectares (2.9 acres). The mature trees consist of redwoods, oak trees, several Morraine locusts, Monterey pines, and sycamores. The small oaks are naturally occurring, growing from self-sown acorns. These smaller oaks form a loose group of shrub-like vegetation among the larger trees adjacent to Route 101 from College Avenue to 5th Street, primarily in the southbound direction.

Caltrans biologists used field surveys and records searches to determine which wildlife species make use of the project area. The Caltrans biologists did not observe any high-quality wildlife habitat in the project area. Also, Caltrans biologists consulted records of wildlife sightings in the area, known as the California Natural

Diversity Database (CNDDB), maintained by the California Department of Fish and Game, and species lists of endangered and threatened species provided by the Fish and Wildlife Service (FWS), U.S. Department of the Interior. The CNDDB and the FWS species lists did not reveal records of sensitive or listed wildlife species within the project area (Caltrans 2002a). FWS correspondence and species lists are provided in Appendix A.

At its southern end, the proposed project crosses Santa Rosa Creek. Construction of the Prince Memorial Greenway by the City of Santa Rosa, which runs adjacent to Santa Rosa Creek, has shaped the natural resource characteristics of this creek. The Prince Memorial Greenway connects the Vineyard Creek Hotel and Conference Center with Olive Park on the west side of Route 101. At upstream and downstream locations, Santa Rosa Creek contains natural substrates and supports riparian vegetation (vegetation that grows along river or creek banks). The vegetation found on the restored bank slopes of the Santa Rosa Creek consists of recently-planted trees with little canopy cover. The creek provides passage and potential food and water for California Coastal Chinook Salmon, Central California Coast Coho Salmon, and Central Coast Steelhead Trout, which are all classified as "threatened" under the federal Endangered Species Act. The north end of the proposed project crosses Paulin Creek. Both creeks fall under ACOE jurisdiction and have been confirmed by ACOE to be Waters of the U.S. that are not wetlands (Caltrans 2001g) (see Appendix A for ACOE correspondence).

3.6.1.2 Wetland Identification Process

Wetlands are defined by the ACOE as areas inundated and saturated by surface or groundwater at a frequency sufficient to support (under normal conditions) a prevalence of vegetation typically adapted for life in saturated soil conditions. The term "Waters of the U.S." has an elaborate and technical legal definition. Those water bodies defined as Waters of the U.S. in this project include Santa Rosa Creek and Paulin Creek.

Potential wetlands were mapped during intensive wetland delineation surveys, which included vegetation sampling and an assessment of soil and hydraulic conditions at points within each potential wetland (ACOE 1997). No ACOE jurisdictional wetlands were identified through these surveys and delineations.

3.6.1.3 Applicable Policies

California State Senate Concurrent Resolution No. 17 was filed with the Secretary of State on September 1, 1989. This resolution discusses the protection of native Valley/Coast Live oak woodlands with respect to land use/transportation planning projects that result in the loss of Valley/Coast Live oak woodland areas. Resolution No. 17 specifically calls for State agencies to "preserve and protect native oak woodlands to the maximum extent feasible," or "provide for replacement plantings where designated oak species are removed from oak woodlands."

To date, no other type of native tree species is protected or given similar special status (from a biological perspective) with regard to loss that is associated with any land use/transportation planning project.

3.6.2 Environmental Consequences

3.6.2.1 Wetlands and Waters of the U.S.

The proposed project includes the replacement and widening of the existing Route 101 structure that crosses over Santa Rosa Creek with a clear span structure. There would be no construction in Paulin Creek. Figure 3.6-1 shows the area of Santa Rosa Creek that is anticipated to be impacted by the proposed project, while Figure 3.6-2 shows the location of Paulin Creek in relation to Route 101.

The proposed project would not impact any ACOE jurisdictional wetlands. The construction activities associated with the new Santa Rosa Creek Bridge would require Nationwide Permits 14 and 33 from the ACOE. This permit is required for any temporary impact to Wetlands or Waters of the U.S. under Section 404 of the Clean Water Act. Caltrans must also obtain a Section 401 Water Quality Certification or Waiver from the Regional Water Quality Control Board before final design of the project would be completed. The Section 401 Certification or Waiver would describe all activities to be performed within the creek that could impact water quality. The Section 401 Certification or Waiver would also include all the Best Management Practices to be implemented to minimize or eliminate such impacts.

3.6.2.2 Vegetation

Of a total of approximately 550 trees in the project area, up to 295 mature trees [trunks greater than 25 cm (10 in) in diameter at breast height] could be lost. Of these 295 trees, about 65 trees would be lost due to temporary construction disturbance, and

another 230 would be removed to make way for the widened freeway. In addition, approximately 220 oaks of relatively small size [trunks from 2.5 to 25 cm (one to 10 in) in diameter at breast height growing from self-sown acorns] could be lost.

Of the estimated 295 mature trees to be removed, about 100 are redwoods. These 100 or so redwoods constitute approximately one third of an estimated total of 330 redwood trees inside the State right-of-way in the project area.

Additionally, due to widening in the median, the strip of oleanders extending for approximately 3.2 linear km (2.0 linear mi) and occupying a total of about 1.2 hectares (2.9 acres) would be removed.

Other landscaping plants such as shrubs and groundcover would also be lost. The breakdown of the loss of vegetation to permanent freeway features and to temporary construction disturbance is as follows:

- Approximately 2.2 to 2.4 hectares (5.5 to 6 acres) of vegetation would be permanently lost as a result of the widened freeway, reconstructed ramps, and soundwall construction. A preliminary estimate indicates that disturbance in these areas would result in the loss of approximately 230 trees of mature size including about 85 redwoods, 80 oaks, 11 Moraine locusts, and 10 sycamores, as well as ornamental shrubs and ground covers.
- In the southern segment of the proposed project at the Route 101/ SR-12 interchange, less than 1.2 hectares (3 acres) of landscape vegetation would be disturbed during construction of interchange improvements. Disturbance in this area would result in the loss of approximately 65 trees of mature size including 13 redwoods and 22 Monterey pines. Most of these are located along the connector ramp from eastbound SR-12 to southbound Route 101.

The proposed project is planned to prevent the introduction of invasive plant species pursuant to Executive Order 13112. Erosion control, landscaping, and habitat restoration features would not include the planting of any species from the California Department of Food and Agriculture's list of noxious weed species.

SONOMA 101 WIDENING

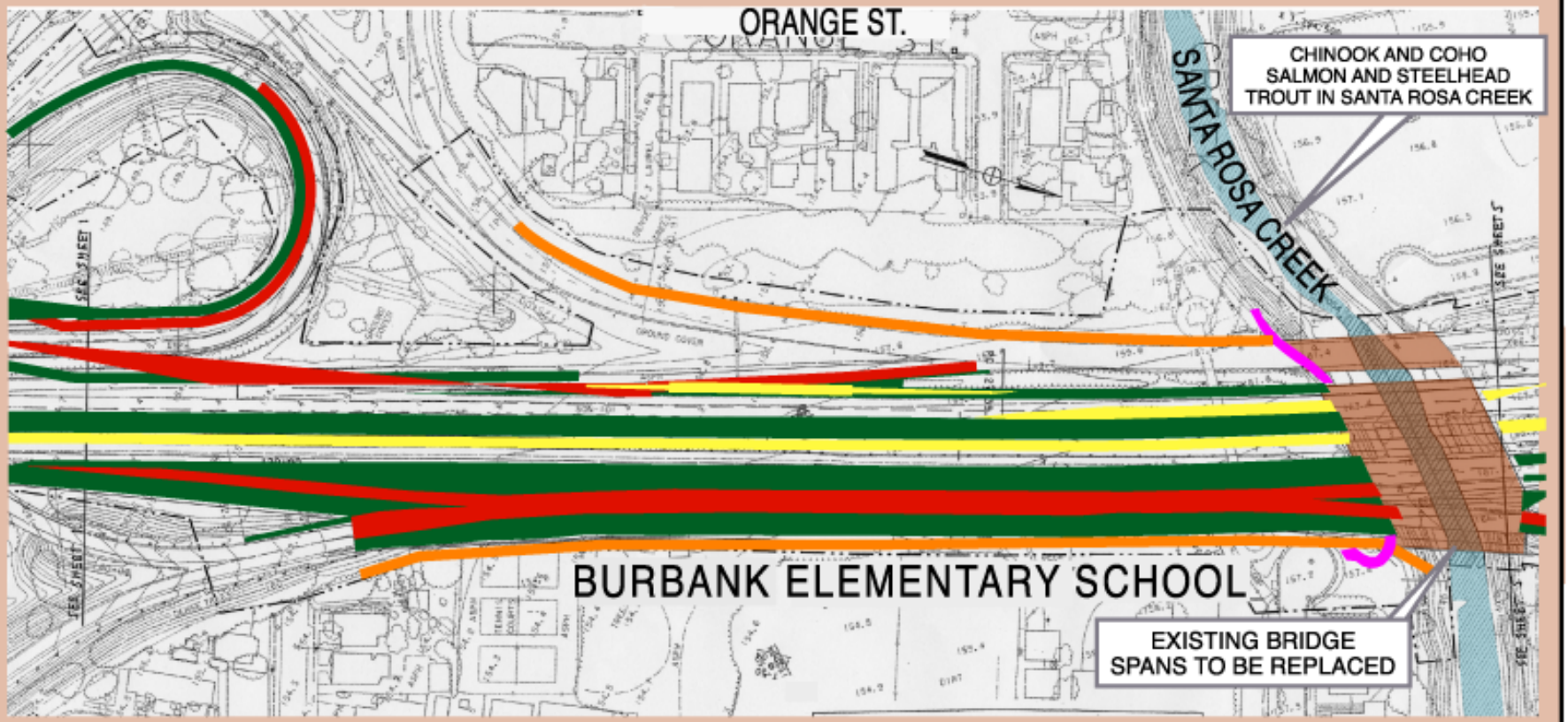

Figure 3.6-1: Waters of the U.S. and Federally Listed Species Associated wth Santa Rosa Creek

LEGEND

Project Boundary

Waters of the US [Non-wetlands] (Sec. 404 of the CWA)

Scale 1:2400

- Highway Pavement
- Ramps
- Shoulder (Roadway)
- Structures (Bridges)
- Pedestrian/Bike Path
- Proposed Soundwall

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SONOMA 101 WIDENING

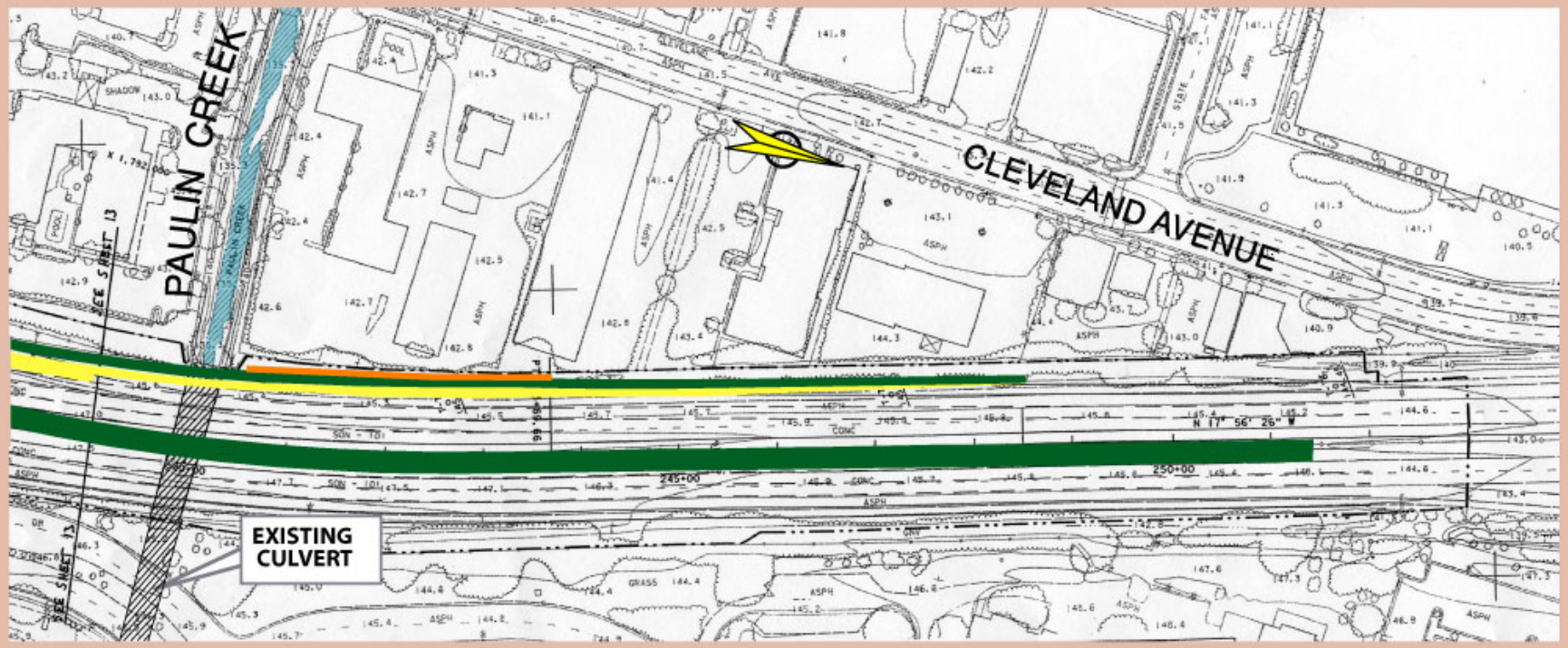

Figure 3.6-2: Waters of the U.S. Associated With Paulin Creek

LEGEND

Project Boundary

Waters of the US
[Non-wetlands]
(Sec. 404 of the CWA)

Scale 1:2400

- Highway Pavement
- Ramps
- Shoulder (Roadway)
- Structures (Bridges)
- Pedestrian/Bike Path
- Proposed Soundwall

Caltrans

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3.6.2.3 Wildlife

Wildlife habitat is limited within the developed highway right-of-way, but nesting birds were observed during biological surveys. Birds use trees in the project area for nesting in the spring. Removing trees with active nests has potentially fatal results to the nestlings.

The proposed project is planned to prevent the introduction of invasive animal species pursuant to Executive Order 13112. No invasive animal species were identified that might be introduced through any project-related activities.

3.6.2.4 Threatened and Endangered Species

Three salmonid species -- California Coastal Chinook Salmon, Central California Coast Coho Salmon, and Central Coast Steelhead Trout -- are the only species found in the project area that are listed as either endangered or threatened (Caltrans 2002a). All three species are federally listed as "threatened." Under Section 7 of the Endangered Species Act, FHWA consulted with NOAA Fisheries to examine potential project impacts. Because dewatering during replacement of the Santa Rosa Creek bridge spans may may result in the need to relocate stranded salmonids, NOAA Fisheries prepared a Biological Opinion and issued an Incidental Take Statement for the project on December 11, 2003 (see Appendix K). Mitigation measures incorporated into the Biological Opinion are detailed in Section 3.6.3.4.

The project includes elements which will have positive effects on salmonid habitat. The bridge replacement over Santa Rosa Creek will create an increased shaded area in the creek that should prove beneficial to any fish species. In particular, the shading should cool the summer water temperature of Santa Rosa Creek, improving the creek as salmonid habitat. Caltrans also proposes to install several boulder weir habitat enhancement structures within Santa Rosa Creek. Installation of the weirs will improve conditions for fish migration a well as minimize the potential detrimental effects to the banks by keeping the flow in the center of the channel.

3.6.3 Mitigation Measures

3.6.3.1 Wetlands and Waters of the U.S.

Caltrans would comply with all conditions included in the Nationwide Permit to be obtained from the ACOE as well as conditions included in the Section 401 Water Quality Certification or Waiver from the Regional Water Quality Control Board.

3.6.3.2 Vegetation

Valley/Coast Live Oak Woodlands. Based upon consultation with the DFG, mitigation for impacts to oak woodlands would consist of finding a large enough parcel to accommodate oak replacement, replacing lost oaks at a ratio of one to one (one oak tree planted for each oak lost as a result of the proposed project). Caltrans would identify an open parcel at least 0.8 hectares (two acres), thereby providing for approximately 150 oaks to be planted on each acre. The parcel would be a natural area along, or within the immediate vicinity of, the proposed project alignment. The parcel would be selected only after concurrence from a Caltrans landscape architect, a Caltrans biologist, and DFG about its suitability for oak planting.

The new oak trees would be monitored annually for three years. For mitigation to be successful, at least 70 percent of the replacement oaks should survive after the first three years. If less than 70 percent of the oaks survive, additional oaks must be replanted and monitored for another three years in order to make up 70 percent of the oak trees lost due to the proposed project. If the cause of oak tree deaths could not be identified, Caltrans would consult with DFG to select appropriate native species for replacement. After the monitoring period, the mitigation site would be protected in perpetuity and preferably turned over to a land management organization.

Caltrans is currently investigating potential mitigation sites typically located within the historic range of oak woodland. Greater emphasis would be placed on areas connected to a wildlife migration corridor or riparian corridor. Areas commonly disturbed by fire, agriculture, or other activities should be avoided as potential replanting sites.

3.6.3.3 Wildlife

Measures to avoid impacts to nesting birds protected under the Migratory Bird Treaty Act (MBTA) would be implemented in consultation with DFG. Measures may include exclusion techniques as well as seasonal work windows. Caltrans shall not destroy active nests or living migratory birds of any age, and shall not take nests necessary to the well being of nestlings.

3.6.3.4 Threatened and Endangered Species

Requirements developed in consultation with DFG, ACOE, and NOAA Fisheries for work within Santa Rosa Creek would be followed before, throughout, and following construction of the new bridge and removal of the old bridge. The following Best Management Practices and project features included in NOAA Fisheries' Biological

Opinion will minimize impacts to salmonids and their habitat during construction of the proposed project:

- Central Coast steelhead migration occurs mainly between November and April. To minimize project impacts to sensitive fish species, the in-stream construction period will be limited to June 15 through October 31. All coffer dams, pipes, and construction materials/equipment will be removed from the creek corridor before October 31 with the creek bed in ready condition for winter storm flows.
- Any dewatering during the bridge construction will be temporary. The creek bed and creek banks will be restored to their pre-construction condition.
- At the very outset of work in Santa Rosa Creek, a high visibility construction fence outlining the limits of the work area will be installed. No work, storage, or other activities will occur outside the limits marked by the fence. The area outside the fence will be considered as an Environmentally Sensitive Area.
- A coffer dam will be utilized to act as a groundwater barrier that isolates the construction area from water running in Santa Rosa Creek. The coffer dam is designed to dramatically reduce the amount of groundwater getting into the construction site and therefore to reduce the amount of water that has to be pumped away. In addition to the coffer dam, a 61 cm (24 in) corrugated steel pipe will run through the work area and continue downstream of the construction zone. Together, the coffer dam and corrugated steel pipe ensure that water flow through the creek will not be impeded, while keeping the construction area dry. The coffer dam and corrugated steel pipe will be removed from the creek bed after completion of the project.
- A filter fabric will be placed in Santa Rosa Creek at locations where a coffer dam and corrugated steel pipe will be installed. After the fabric is placed, the coffer dam and pipe will be placed on top of it. The fabric ensures that sediments are caught and to remove as much material and sediment from the creek as possible. The fabric will extend above and below impacted areas and should be held down with properly sealed and tied sandbags.
- To improve Central Coast steelhead habitat, Caltrans will install three boulder weirs in Santa Rosa Creek between Route 101 and the A Street Bridge. The “V” shaped weirs will improve habitat complexity in the previously barren grouted reaches of the creek, improve conditions for fish migration, and minimize bank scouring by keeping flow in the center of the channel.
- Excess materials such as soil will be disposed of at an approved disposal site.
- Caltrans will provide a qualified fisheries biologist approved by NOAA Fisheries to capture and transport any Central Coast steelhead present within the project area to a safe location downstream of the project site. The biologist will document the findings in a short report for review by NOAA Fisheries staff.

3.7 Land Use, Planning, and Growth

In this section, the project study area land use and planning characteristics are briefly described. Potential impacts are discussed as well as mitigation measures, as necessary.

3.7.1 Affected Environment

3.7.1.1 Overview

The proposed project is located in downtown Santa Rosa and approximately 55 miles north of San Francisco, as shown on Figure 1-1. The project site is within the city limits of Santa Rosa in Sonoma County and is accessible via Route 101 and SR-12 as well as 3rd Street, 6th Street, College Avenue, and Steele Lane. Santa Rosa Creek and Paulin Creek traverse the project area from west to east, with Santa Rosa Creek at the southern end of the project area and Paulin Creek at the northern end.

Santa Rosa was incorporated in 1868 and has evolved into an active commercial, financial, medical, and industrial center within the San Francisco Bay Area. The traditional downtown area and the nearby Santa Rosa Junior College comprise approximately one-quarter of the commercial/office space within the City's Urban Growth Boundary (UGB). Approximately one half of Santa Rosa's commercial acreage is located in strip retail developments. A majority of the commercial land uses are located along Santa Rosa Avenue, Mendocino Avenue, Cleveland Avenue, Montgomery Drive, and Sebastopol Road. The industrial uses within the City are scattered along the edges, with the largest concentrations located southwest of downtown and northeast of downtown. The City's residential neighborhoods range from low density hillside development, to moderately high density development, to mixed-use development, with many of the new areas developed to meet the needs of the diversified population that has recently moved into the Santa Rosa area. Several large open space/parkland areas are located along the eastern edge of the City, in the hillside areas of Sonoma County, with Annadel State Park as the dominant feature. The Sonoma County Fairgrounds are located south of the downtown area and approximately one mile east of the Route 101/SR-12 interchange. The Charles M. Schulz Sonoma County Airport is located approximately seven miles northwest of the downtown area and is accessed off of Route 101. Within the immediate project area, the varied land uses adjacent to Route 101 are described below.

3.7.1.2 Existing Land Use in the Vicinity of the Proposed Project

Areas to the West. Cleveland Avenue and Davis Street lie immediately west of Route 101. The Railroad Square Historic Preservation District (which contains a collection of architecturally/historically significant buildings housing businesses adjacent to the existing NorthWestern Pacific Railroad tracks as well as a small community park) is located between 3rd Street and 6th Street. Assorted collections of light industrial/office land uses are between 9th Street and Range Avenue. Coddingtown Mall is located south of Steele Lane/Guerneville road.

Areas to the East. Morgan Street/Armory Drive/County Center Drive delineates the eastern border of the project site. Burbank Elementary School and Julliard Park are off of Sonoma Avenue. The 2nd Street Transit Mall is located in the downtown center of Santa Rosa, off of 2nd Street. The Santa Rosa Plaza Shopping Center and downtown area are located between 1st Street and 5th Street. The Saint Rose Historic Preservation District, located between Lincoln Street and 7th Street, contains a collection of residential homes that are considered architecturally/historically significant to the City. Santa Rosa Junior College and Santa Rosa High School are between Ridgeway Avenue and Elliot Avenue. North of Administration Drive, resides the Sonoma County Administration Center as well as Sonoma County Courthouse.

Areas to the North. Between Bicentennial Avenue and Mendocino Avenue exists the Kaiser Medical Center. North of Piner Road, light industrial/office/commercial land uses are located off of Airway Drive, Cleveland Avenue, and Fountain Grove Road.

Areas to the South. Residential areas are located south of SR-12 and west of Route 101, while commercial strip centers are located off of Santa Rosa Avenue. Adjacent to Sebastopol Road, between Stony Point Road and South Dutton Avenue, is a mixed use development.

3.7.1.3 Specific Projects Planned for the Proposed Project Area

As of August 2002, no substantial developments or specific projects are either under construction or review in close proximity to Route 101 (Ken MacNab, Santa Rosa City Planner, personal communication 2002). However, the new Vineyard Creek Hotel and Conference Center, located immediately north of the Santa Rosa Creek and adjacent to southbound Route 101, was completed in July 2002.

3.7.1.4 Growth Trends

In 1990, Santa Rosa voters passed a five year UGB around the City, while a similar 20 year UGB measure was approved in 1996. Both measures ensure that the current UGB will not drastically change by Year 2016. The UGB encompasses approximately 11,776 hectares (29,100 acres) of both incorporated and unincorporated land that could be potentially annexed into the City. Santa Rosa's current city limits contain approximately 11,534 hectares (25,800 acres). The UGB was established to gain control on the types and quantities of land uses constructed near Santa Rosa. To aid the UGB, Santa Rosa adopted a Growth Management Ordinance in 1992 to allow for the expansion of necessary public facilities to protect the City's social and economic values in existing and future residential and commercial development. The 1992 ordinance does not restrict employment growth; it does however establish a jobs/employed residents ratio of not to exceed 1:3. The jobs/employed residents ratio compares the number of jobs available within the City versus the number of employed residents who may fill jobs within or outside the City. The 1:3 ratio limit indicates that Santa Rosa will experience a net in-commuting (i.e., more jobs than employed residents) for the foreseeable future (Dyett & Bhatia 2001).

The 2000 Census shows that Sonoma County grew more than any other county in the Bay Area during the 1990s, with 18.1% increase in population from 388,222 in 1990 to 458,614 in 2000. By the year 2020 the population is expected to grow an additional 25% to 571,200. Santa Rosa is projected to grow by 72,505 people to 222,100 by Year 2025, a growth rate second among all Bay Area cities. Should the City approach 220,100 people by Year 2025, Santa Rosa will become the fifth most populous city in the nine county Bay Area region. Among mid-sized cities in the Bay Area (with populations between 100,000 and 300,000), Santa Rosa is expected to lead the region in overall job growth, adding 50,560 more jobs by Year 2025 for a total of 161,450 jobs (ABAG 2001). The town of Windsor, incorporated in 1992 making it a city, increased its population 70% from 13,371 residents in 1990 to 22,744 in 2000. The total number of people in Windsor is expected to increase 96% by the year 2020 to 40,500. It is important to note that the growth rates to present have occurred absent any significant highway improvements.

ABAG states that the North Bay counties (Sonoma, Marin, Napa, Solano) as well as Contra Costa County are predicted to face the highest percentage of growth in population and jobs between Year 2000 and Year 2025. With increases in both jobs and population, Sonoma County is anticipated to experience a large increase in the number of work trips staying within the County as well as an increase in the number

of trips out of the County by Year 2025 (ABAG 2001). Between Year 2000 and Year 2025, it is anticipated that the County population will increase 28.6 percent, an addition of 131,186 residents. An even larger increase in the number of jobs is forecast during the same time period. By Year 2025, 311,000 jobs are anticipated, an increase of 105,780 (a 51.4 percent increase) (ABAG 2001). Table 3.9-4 shows the anticipated increases in population, housing, and jobs from Year 2000 through Year 2025 for both the City and the County.

Table 3.9-4. Future Growth

Year	Population		Households		Total Jobs	
	Santa Rosa	Sonoma County	Santa Rosa	Sonoma County	Santa Rosa	Sonoma County
2000	147,595	458,614	56,036	172,403	110,890	205,220
2010	193,100	527,200	71,940	196,980	134,040	245,620
2025	220,100	589,800	82,860	222,410	161,450	311,000
% Change 2000 to 2010	30.8	15.0	28.4	14.3	20.9	19.7
% Change 2000 to 2025	49.1	28.6	47.9	29.0	45.6	51.4

Source: Association of Bay Area Governments, 2001

3.7.1.5 Growth Inducement

Growth inducement in terms of transportation projects can be defined as the relationship between the proposed transportation project and growth within the project area. The impacts are difficult to quantify with a high degree of accuracy since the growth that happens after the project is constructed is usually indirect and occurs over a period of time. The relationship is frequently characterized as either one of facilitating planned growth or inducing unplanned growth.

Under CEQA, a project is considered growth inducing if it would directly or indirectly foster economic or population growth or the construction of additional housing (CEQA Guidelines §15126.2(d)). Examples of projects likely to have significant growth inducing impacts include extensions or expansions of public infrastructure systems beyond what is needed to serve project specific demand as well as development of new residential subdivisions or industrial parks in areas that are currently only sparsely developed or are undeveloped.

Widening Route 101 from four to six lanes to construct a high occupancy vehicle (HOV) lane system within the City is included in the Regional Transportation Plan, the Sonoma County General Plan, and the Draft 2001 Santa Rosa General Plan. This is mainly due to the record growth that occurred in Santa Rosa from the mid 1980's until now. Between 1980 and 2000, Santa Rosa's population grew from 101,700 to 158,600, an increase of nearly 56 percent. By 2020, Santa Rosa is anticipating to gain another 36,700 residents. Similar percentage increases are also anticipated with the number of households within the City. From 1980 to 2000, the number of households increased by approximately 48 percent. The Draft 2001 Santa Rosa General plan anticipates the addition of 18,340 households or another 31 percent by Year 2020. Jobs within Santa Rosa have grown at an even faster rate than population or households according to the Draft 2001 General Plan. From 1980 to 2000, the number of jobs within Santa Rosa grew from 55,930 to 109,980, an increase of nearly 97 percent. By Year 2020, another 29,420 jobs are anticipated to be added within the City (For additional information on projected growth in Sonoma County and its sub-areas, please see Chapter 3.9.1.4).

The regional growth projections would presumably be realized with or without the proposed project. The above projections are in recognition of broad, social/economic policies and trends that are anticipated to occur throughout this part of the Bay Area. The growth induced by the Route 101 widening project can be defined as the portion of projected growth within the project area and surrounding community that would occur should the proposed project be built, which would not occur absent the project. None of the approved or pending developments within the City are conditioned upon the construction of the proposed project. Also, both Sonoma County and Santa Rosa have growth management policies (such as the City's adopted Urban Growth Boundary) in place in order to avoid the potential for unplanned growth and the adverse affects associated with it. The UGB is viewed as a long-term strategy employed by the City and County to manage growth and development patterns. Additionally, the cities of Santa Rosa and Windsor and the County of Sonoma have specific plans and policies to protect agricultural lands and sensetive resources.

The proposed project would support future development closer to established areas given the fact that minimal right-of-way would be required for the proposed project. In-fill development would be facilitated due to the fact that this project enhances the existing freeway infrastructure versus constructing a similar facility elsewhere. Nevertheless, the magnitude and timing of future regional growth would be influenced by many variables including local, State, and national social/economic

factors as well as the presence of adequate infrastructure to support future planned growth. The proposed project would only increase roadway capacity. No increase in sewer capacity, water supply, or drainage capacity is associated with the proposed project. The 1989 Sonoma County General Plan, the 2002 Santa Rosa General Plan and the Windsor General Plan and their supporting environmental documents address the impacts of all areas of future growth. Before future growth could occur, proposed developments would have to obtain the appropriate environmental clearances addressing potential transportation, social, economic, physical, and biological impacts.

Should the traffic impacts from any other development project be determined to result in a negative impact, the City of Santa Rosa has the ability to exact impact fees from the developer in order to enhance the City's transportation system based on the proportional impact (Ken MacNab, Santa Rosa City Planner, personal communication 2002). Similar fees can also be imposed in the City of Windsor (http://ordlink.com/codes/windsor/index.htm.).

The proposed project would largely be constructed on land that is adjacent to Route 101, with the exception of a few parcels of land adjacent to College Avenue. The proposed project has been designed to respond to and accommodate the anticipated congestion on Route 101 over the next 20 years. Any development that results from construction of the proposed project would not directly or indirectly foster substantial economic or population growth, as development would not result in an expansion of existing urban services beyond what is needed for the proposed project.

3.7.1.6 Community Cohesion

According to Caltrans guidelines, community cohesion is the degree to which residents have a "sense of belonging" to their neighborhood, a level of commitment to the community, or a strong attachment to neighbors, groups, or institutions, usually as a result of continued association over time. Physical barriers such as major roadways or large open space areas often delineate communities. Cohesive communities are indicated by specific social characteristics such as long average lengths of residency, home ownership, frequent personal contact, ethnic homogeneity, high levels of community activity, and shared goals. Transportation projects may divide cohesive neighborhoods when they act as physical barriers or when residents perceive them as psychological barriers. A transportation project that is perceived as a physical or psychological barrier may isolate one portion of a homogeneous neighborhood

(Caltrans 1997a). The proposed project is located within the established and easily distinguishable Santa Rosa community.

Given the historical compact development of Santa Rosa, there are no easily identifiable neighborhoods within the City. The closest identifiable neighborhoods within the City are the historical preservation districts of McDonald, Cherry Street, Saint Rose, West-End, Railroad Square, and Olive Park. However, these districts were established to protect and preserve buildings of historical significance, not create identifiable sub-units of Santa Rosa (Dyett and Bhatia 2001). The primary activity node is the downtown area, with several mixed-use developments along several corridors leading to downtown. The mixed-use development corridors exist along Mendocino Avenue, Santa Rosa Avenue, Sebastopol Avenue, and North Dutton Avenue. Small scale commercial centers are located throughout the City to provide daily shopping needs for residents.

3.7.1.7 Applicable Policies

According to both the Transportation Element of the 1989 Sonoma County General Plan and the Transportation Element of the Draft 2001 Santa Rosa General Plan, the County/City has identified the need for securing local, regional, State, and Federal funding to widen Route 101. The City's Transportation Element goes on to state the need for improving cross-town (east/west) traffic as well as improving bicycle/pedestrian facilities. The proposed project is consistent with the goals and policies of the 1989 Sonoma County General Plan/Draft 2001 Santa Rosa General Plan.

3.7.2 Environmental Consequences

3.7.2.1 Displacements and Relocations

The proposed project would affect a total of 20 individual properties. The proposed project would require additional right-of-way at three locations: 1) The Burbank Elementary School for the construction of a new collector-distributor road on northbound Route 101 between the SR-12 on-ramp and the 3rd Street downtown off-ramp; 2) the area of 6th Street where it intersects Route 101 for the new under crossing; and 3) along College Avenue between Davis Street and Cleveland Avenue for the construction of new traffic lanes as well as bicycle/pedestrian facilities. The

proposed project would impact two unimproved tracts of land, four residential properties, four school related parcels at the Burbank Elementary School, and 10 commercial properties (Caltrans 2001b).

As a result of the proposed project a total of seven properties (four residential and three commercial) would need to be fully acquired. The three commercial lots and three of the four residential parcels are located along College Avenue, while the remaining property is on 6th Street (Caltrans 2001b).

People living in the four properties to be acquired for this project would need to relocate. Using the Year 2000 U.S. Census figure of 2.897 average persons per household within Santa Rosa, the project would result in the displacement of an estimated 12 persons. There is adequate housing stock available in Santa Rosa to accommodate the relocation of the displaced residents.

Three commercial businesses totaling 890 sq m (9,580 sq ft) would be fully displaced by this project (Caltrans 2001b). The businesses housed there are a pest control service, the administrative offices for the pest control service, and a cabinet supply store. These businesses employ about 20 people. In 1995, Santa Rosa had an estimated 2.072 million sq m (22.3 million sq ft) of commercial floor area (Ken MacNab, Santa Rosa City Planner, personal communication 2001). The anticipated loss in commercial space as a result of this project would be approximately 0.0004 percent of the total commercial stock in the City.

Portions of an additional 14 properties (two vacant, four school related, seven commercial, and one residence) would need to be acquired. One of the vacant lots is situated along 5th Street, while the other is located along Davis Street. Four parcels are part of the Burbank Elementary School and adjacent to northbound Route 101. All seven of the commercial properties as well as the one residence are located along College Avenue. The partial takes would not require any residential or commercial structures to be demolished. However, several business signs, outdoor lighting, landscaping, and one public restroom would have to be relocated (Caltrans 2001b).

3.7.2.2 Community Facilities

The proposed project would remove the northern pedestrian over crossing at the Route 101/SR-12 interchange, which is adjacent to Santa Rosa Creek and the Burbank Elementary School. A new bicycle/pedestrian facility would be constructed under the new Santa Rosa Creek Bridge to be incorporated with the existing Prince Memorial Greenway. The pedestrian over crossing would be left in place until the

new bicycle/pedestrian under crossing was completed. Within Chapter 3 (Traffic/Transportation), Sections 3.11.2.2 and 3.11.3.2 contain a more detailed discussion of this aspect of the proposed project.

Also, a small portion of the Burbank Elementary School playground would be acquired to accommodate construction of a new northbound collector-distributor road. See Appendix C (Section 4(f) Evaluation) of this document for more details about impacts on the school. The new collector-distributor road would require approximately 8.0 m (25 ft) of the existing playground surface at its widest point. A soundwall is proposed at the edge of the new State right-of-way to attenuate noise at the school.

3.7.2.3 Community Cohesion

Because the proposed project primarily widens an existing freeway within its median, the project would not reduce the cohesiveness of the Santa Rosa community. Connectivity within the city would be improved with the addition of a new 6th Street undercrossing of Route 101. The new under crossing would improve traffic and bicycle/pedestrian circulation through this area of the community. Chapter 3, Section 11 (Traffic/Transportation) contains a more detailed discussion of this aspect of the proposed project.

3.7.3 Mitigation Measures

3.7.3.1 Displacements and Relocations

All relocations associated with this project would be in conformance with the Federal Uniform Relocation Assistance and Real Estate Property Acquisition Act of 1970, as amended. Caltrans will provide relocation advisory assistance to any person, business, farm, or non-profit organization that is displaced. Caltrans will assist displacees in obtaining a comparable replacement by providing current and continuing information on the availability and prices of both for sale and rental units that are decent, safe, and sanitary. Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice.

Relocation assistance payments and counseling will be provided to persons and businesses in accordance with the Federal Uniform Relocation Assistance and Real Properties Acquisition Policies Act, as Amended, to ensure adequate relocation and a

decent, safe, and sanitary home for displaced residents. All eligible displacees will be entitled to moving expenses. All benefits and services will be provided equitably to all residential and business relocatees without regard to race, color, religion, age, national origins and disability as specified under Title VI of the Civil Rights Act of 1964.

Given the small number of full displacements as a result of the proposed project combined with the size and diversity of the Santa Rosa community, adequate residential and commercial space is available within general proximity of the site for relocations (See Appendix F for a description of Caltrans' relocation policies).

3.7.3.2 Community Facilities

None required.

3.7.3.3 Community Cohesion

None required.

3.8 Farmlands/Agricultural Lands

There is no land zoned for agricultural use within the project.

3.9 Community Impacts (Social, Economic) and Environmental Justice

3.9.1 Affected Environment

3.9.1.1 Population and Ethnicity

Data on population and ethnicity are based on the Year 2000 U.S. Census. There are 15 block groups (a standard geographical unit of measurement defined by the U.S. Census Bureau) adjacent to the project study area, which are depicted on Figure 3.9-1 and listed in Table 3.9-1. Data for Sonoma County and the City of Santa Rosa are listed on the table for analysis and comparative purposes. The study area is urbanized and entirely within the City, with land uses consisting of office, commercial, light industrial, and residential related uses surrounding the project site.

As shown in Table 3.9-1, the predominant racial group within the immediate study area is White at 49.5 percent in Year 2000. Tract 1514.02 BG 1 and Tract 1531.01

BG 5 had the lowest percentages of White population, at seven percent, while Tract 1528.02 BG 3 had the highest percentage of White persons at 87.4. For the Census block groups within the study area, the percentages of African American populations ranged from 1.1 percent to a high of nearly 24 percent. The block group with the largest percentage of African Americans in Year 2000 was Tract 1530.03 BG 2 (at 23.9 percent). Most other block groups averaged around two percent African American. The block group with the largest percentage of Latino population was Tract 1531.01 BG 5 (at 50.4 percent), while the largest concentration of Asian/Pacific Islander persons occurred in Tract 1521 BG 3 (at 9.6 percent). Within the 15 block groups studied, other populations (American Indian, Alaska Native, etc.) accounted for approximately 15.9 percent in Year 2000. The largest percentage of other races occurred in Tract 1531.01 BG 5 at 38.1 percent with Tract 1514.02 BG 1 following at 36.7 percent.

3.9.1.2 Housing and Economics

The housing and economic data presented in Table 3.9-2 are based on the Year 2000 U.S. Census. Data for Sonoma County and the City of Santa Rosa are listed in the table for analysis and comparative purposes. Figure 3.9-1 shows the15 block groups adjacent to the project area.

In Year 2000, the study area combined block groups contained 7,789 housing units out of a City total of 57,514. Also in Year 2000, the median household income levels for the 15 study area block groups ranged from a low of $20,571 (Tract 1519 BG 4) to a high of $55,369 (Tract 1530.01 BG 3). However, 14 of the 15 study area block groups were below both the City and County median household income figures for Year 2000. The lone exception was Tract 1530.01 BG 3 with a median household income of $55,369.

SONOMA 101 WIDENING

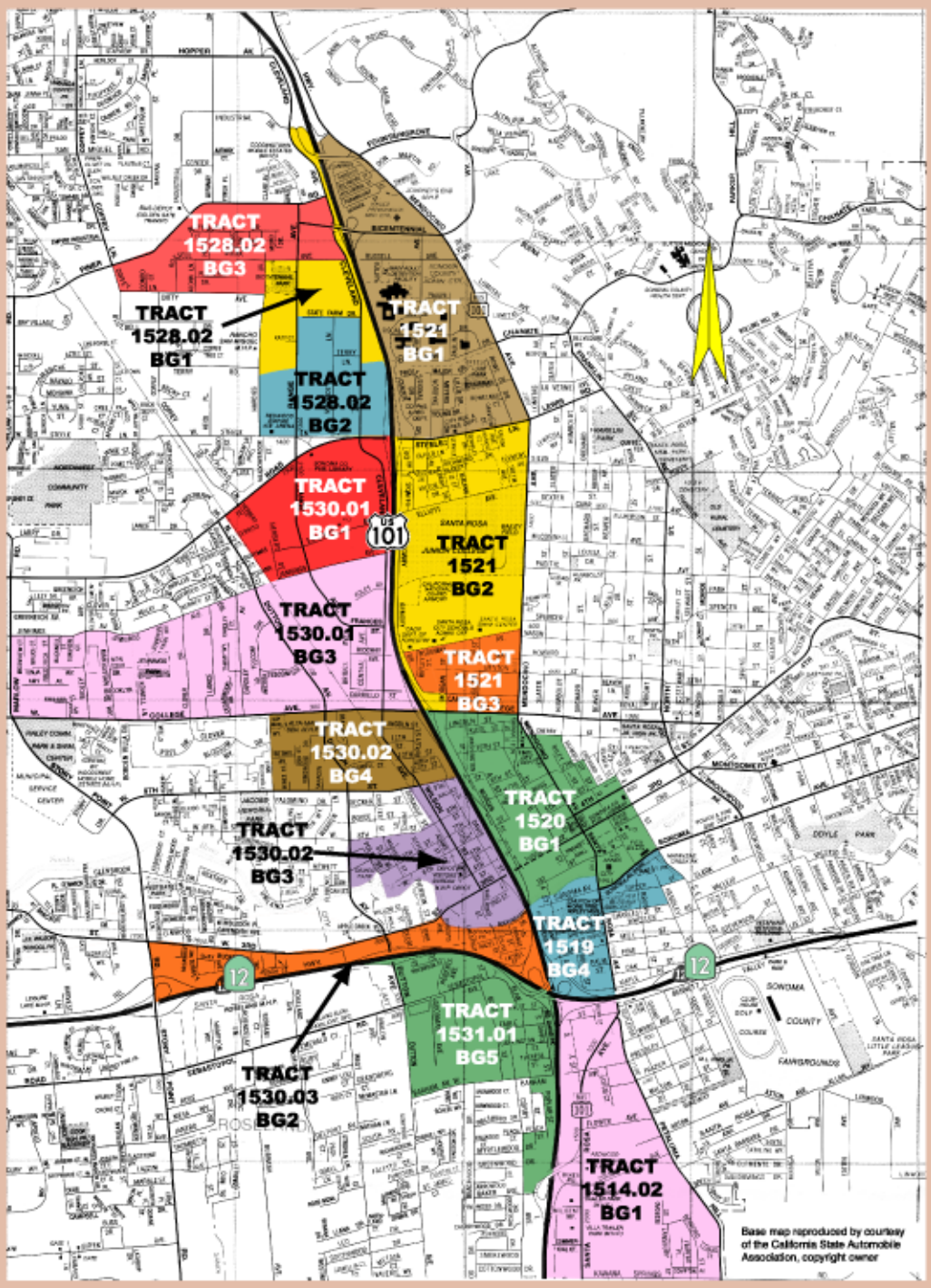


Figure 3.9-1: Year 2000 Census Tract Block Group Boundaries

Caltrans

AudioVisual Multimedia Graphics CT1179 08/2002

Table 3.9-1. Population and Ethnic Characteristics

	Total	%	White	%	African American	%	Latino	%	Asian/ Pacific Islander	%	Other	%
Tract 1514.02 BG 1	2,232	100.0	156	7.0	25	1.1	1,062	47.6	169	7.6	820	36.7
Tract 1519 BG 4	965	100.0	719	74.5	36	3.7	177	18.4	0	0.0	33	3.4
Tract 1520 BG 1	1,454	100.0	927	63.7	75	5.2	264	18.1	30	2.1	158	10.9
Tract 1521 BG 1	1,389	100.0	740	53.3	72	5.2	363	26.1	24	1.7	190	13.7
Tract 1521 BG 2	922	100.0	609	66.0	10	1.1	136	14.8	37	4.0	130	14.1
Tract 1521 BG 3	907	100.0	561	61.9	23	2.5	107	11.8	87	9.6	129	14.2
Tract 1528.02 BG 1	868	100.0	427	49.2	64	7.4	215	24.8	82	9.4	80	9.2
Tract 1528.02 BG 2	1,538	100.0	823	53.5	28	1.8	438	28.5	67	4.4	182	11.8
Tract 1528.02 BG 3	1,004	100.0	878	87.4	19	1.9	58	5.8	40	4.0	9	0.9
Tract 1530.01 BG 1	1,174	100.0	805	68.6	19	1.6	180	15.3	46	3.9	124	10.6
Tract 1530.01 BG 3	2,167	100.0	1,208	55.7	42	2.0	535	24.7	91	4.2	291	13.4
Tract 1530.02 BG 4	918	100.0	714	77.7	21	2.3	96	10.5	0	0.0	87	9.5
Tract 1530.02 BG 3	949	100.0	672	70.8	26	2.7	204	21.5	22	2.4	25	2.6
Tract 1530.03 BG 2	1,085	100.0	357	32.9	260	23.9	388	35.8	0	0.0	80	7.4
Tract 1531.01 BG 5	2,049	100.0	143	7.0	51	2.5	1,034	50.4	41	2.0	780	38.1
Combined Block Groups	19,621	100.0	9,721	49.5	771	3.9	5,275	26.9	736	3.8	3,118	15.9
City of Santa Rosa	147,532	100.0	92,855	62.9	3,421	2.3	27,991	19.0	5,789	3.9	17,476	11.9
Sonoma County	458,614	100.0	313,202	68.3	6,486	1.4	79,624	17.4	14,820	3.2	44,482	9.7

Notes: BG = Block Group Source: U.S. Census Bureau 2000.

During the 1980's, Sonoma County experienced strong job growth. With the recession of the early 1990's, Sonoma County saw minimal job losses in the first half of the decade and actually experienced an increase in jobs mostly in the telecommunications and wine making industries. The Association of Bay Area Governments (ABAG) has summarized employment trends in its *Projections 2002, Forecasts for the San Francisco Bay Area to the Year 2025*. Between Year 1990 and Year 2000, Santa Rosa experienced an increase of 16,920 jobs, a 17 percent increase.

Table 3.9-2. Housing and Economic Characteristics

	Housing Units	1999 Median Household Income
Tract 1514.02 BG 1	826	$37,212
Tract 1519 BG 4	525	$20,571
Tract 1520 BG 1	491	$29,722
Tract 1521 BG 1	401	$23,333
Tract 1521 BG 2	338	$41,000
Tract 1521 BG 3	381	$43,606
Tract 1528.02 BG 1	481	$30,750
Tract 1528.02 BG 2	958	$31,883
Tract 1528.02 BG 3	399	$41,577
Tract 1530.01 BG 1	755	$26,125
Tract 1530.01 BG 3	702	$55,369
Tract 1530.02 BG 4	262	$41,136
Tract 1530.02 BG 3	376	$46,250
Tract 1530.03 BG 2	328	$44,583
Tract 1531.01 BG 5	566	$37,847
Combined Block Groups	7,789	$36,731
City of Santa Rosa	57,514	$50,931
Sonoma County	183,153	$53,076

Notes: BG = Block Group Source: U.S. Census Bureau 2000.

Between Year 1990 and Year 2000, the number of employed residents in the City of Santa Rosa increased by 15,081, an addition of nearly 23 percent. Over the same time period, jobs in Sonoma County grew by 20 percent. The proportion of employed residents in Sonoma County during that decade was slightly less than the City at 18 percent.

According to ABAG, the Santa Rosa area and Sonoma County are projected to be high job growth areas within the region, with the services sector experiencing the largest percentage of growth (Association of Bay Area Governments [ABAG] 2001).

Over the last several years, the San Francisco Bay Area has produced substantially more jobs than housing units, leading to higher costs for renting or buying a home. A key factor in home choice is the location of affordable housing in relation to the place of work or amenities. People seeking affordable housing must often commute great distances to and from work. The Santa Rosa area is no exception. At the present time, ABAG estimates the number of jobs anticipated to be produced in the Santa Rosa area will outnumber the homes constructed (ABAG 2001).

3.9.1.3 Summary of Social and Economic Factors

The Census data in Table 3.9-1 indicate that minority populations were primarily found in the northernmost and southernmost portions of the study area, either north of Steele Lane or south of College Avenue. Specifically, African American persons were most likely to live just north of SR-12 east of Route 101, while Latino persons were fairly evenly distributed throughout the study area, with heavier concentrations in the southern portion of the study area. Asian/Pacific Islander persons were likely to live between College Avenue and Steele Lane in the northern and northwestern portions of the study area. Other ethnic populations identified as in the Year 2000 Census were most likely to live south of SR-12 on both sides of Route 101.

The poverty level is defined by the U.S. Department of Health and Human Services for Year 1999 as $16,700 for a family of four living in the lower 48 states. The U.S. Census Bureau used a poverty-level income of $17,029 for a family of four for 1999. Table 3.9-2 shows that, when income of the neighborhood is considered as a whole, none of the project area block groups have a median household income under either of those poverty level definitions. When families are looked at individually, rather than as part of a block group, Table 3.9-3 shows that hundreds of families near the project area have incomes below the poverty level. (Since Table 3.9-3's data comes from the U.S. Census, it uses the Census Bureau's definition of the poverty level.)

Table 3.9-3. Poverty Status for Families and Individuals

	Total Number Of Families	1999 Median Family Income	Percentage of Families Below Poverty Level	Percentage of Persons Below Poverty Level
Tract 1514.02 BG 1	403	$47,386	15.1	13.5
Tract 1519 BG 4	158	$42,143	15.8	15.3
Tract 1520 BG 1	119	$44,306	12.6	32.7
Tract 1521 BG 1	213	$38,021	18.8	21.4
Tract 1521 BG 2	170	$56,563	8.8	19.3
Tract 1521 BG 3	197	$42,917	0	5.9
Tract 1528.02 BG 1	175	$43,021	9.7	13.1
Tract 1528.02 BG 2	285	$45,129	2.8	10.7
Tract 1528.02 BG 3	268	$41,667	4.1	4.4
Tract 1530.01 BG 1	215	$43,472	0	6.4
Tract 1530.01 BG 3	442	$56,852	8.4	10.6
Tract 1530.02 BG 4	207	$58,125	0	3.3
Tract 1530.02 BG 3	150	$41,818	11.3	27.0
Tract 1530.03 BG 2	257	$44,750	9.7	13.2
Tract 1531.01 BG 5	407	$39,353	13.0	10.9
Combined Block Groups	3,666	$45,702	8.8	13.5
City of Santa Rosa	35,420	$59,659	5.1	8.5
Sonoma County	113,645	$61,921	4.7	8.1

Notes: BG = Block Group

Source: U.S. Census Bureau 2000.

3.9.1.4 Environmental Justice

On February 11, 1994, President William J. Clinton signed Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority and Low Income Populations (59 FR 7629). EO 12898 requires all federal agencies to identify and address disproportionately high and adverse human health or environmental effects of federal programs on minority or low-income populations. The general purpose of EO 12898 is to foster non-discrimination in federal programs and to provide minority and low-income communities greater opportunities for public participation in and access to public information regarding human health and environmental issues (United States Department of Transportation [USDOT] 1994). Potential environmental justice areas are identified in the screening process to ensure that these communities have access to concise and clear information sufficient to effectively participate in the public involvement process. This helps to ensure that these communities are not disproportionately affected by a project.

EO 12898 was designed to supplement Title VI of the Civil Rights Act of 1964 and the resulting regulations for the U.S. Department of Transportation (USDOT) implementing this Act; Title VI prohibits discriminatory practices in programs receiving federal funding (USDOT 1994). In addition, EO 12898 is supplemented by

more than 30 federal statutes, regulations, executive orders, and directives regarding nondiscrimination. Appendix B contains a copy of the California Department of Transportation (Caltrans) Title VI policy statement.

A general screening to identify potential areas having disproportionate minority and low-income population characteristics was conducted for this EA/EIR. For this report, U.S. Census data for Year 2000 was used to identify minority populations (see Table 3.9-1: Population and Ethnic Characteristics) and data for Year 2000 was used to identify low-income populations (see Table 3.9-2 and Table 3.9-3). Supplemental data was used from both the Draft Santa Rosa 2000 General Plan as well as *Projections 2002, Forecasts for the San Francisco Bay Area to the Year 2025* to augment the Year 2000 Census data. The Census block group level data, instead of the census tract or block level, was used because it provides the best combination of demographic accuracy and data accessibility for the project site and study area associated with this proposed project.

Minority Populations. According to the U.S. Bureau of Census, minority populations are those groups that include African Americans, American Indians, Asians, Pacific Islanders, Latinos, Eskimos, Aleuts, and other races. These population categories were used to determine the minority percentage for each block group in the study area as well as the City and County.

In Year 2000, members of minority groups comprised about 32% of Sonoma County residents and about 37% of Santa Rosa residents. According to Table 3.9-1, four of the 15 Census tract block groups had minority group member populations of more than 50%. They are Tract 1514.02 BG 1 and Tract 1528.02 BG 1 near the north end of the project, and Tract 1530.03 BG 2and Tract 1531.01 BG 5 near the south end of the project. Minority populations are present in the project area, and EO 12898 directs the project's government sponsors to determine whether the project could subject the populations to disporportionate adverse impacts.

Low-Income Populations. While the median block group incomes shown in Section 3.9.1.3 do not fall below federal definitions of the poverty level, there are families and individuals in the project area with incomes under the poverty level, as shown in Table 3.9-3.

Public Involvement. The proposed project has had wide-based and continual public participation activities throughout its life. Two public meetings have already been held as a part of this project, the first in November 2000 and the second in November

2001. Both of these meetings were well received and meaningful input was taken from the participants. Information flyers were also distributed at both meetings. A special meeting was held with both the City and the Santa Rosa School District in July 1999 to discuss the impacts at the Burbank Elementary School from the proposed project. Also, Caltrans has positioned a mobile display unit at numerous locations throughout Santa Rosa from May 2001 through July 2002 to display general information about the project. Caltrans has also developed a web page link off of the District 4 home page where citizens can obtain the latest information about the project. Public involvement efforts are discussed in greater detail of Chapter 6 (Public Involvement Summary).

3.9.2 Environmental Consequences

3.9.2.1 Population and Ethnicity

The proposed project would widen Route 101 to accommodate HOV lanes as well as increasing the capacity of the College Avenue and Steele Lane interchanges to improve overall freeway operations. This project could have the potential to attract new residential and commercial development near the project vicinity, which could lead to a small increase in the local population. However, because of the relatively small scale of the improvements, it is unlikely that they would lead to substantial population growth in the area.

Four residential structures with about 12 occupants would be displaced by the proposed project and no adverse effect on minority populations is expected to occur Displacement impacts are discussed in greater detail in Chapter 3, Section 6 (Land Use and Planning).

3.9.2.2 Housing and Economics

No established or planned development would be disrupted by the proposed project. No appreciable change in employment is forecast other than during the construction period when a beneficial effect would occur.

3.9.2.3 Environmental Justice

As was discussed in Section 3.9.1.5, low-income and minority populations are found in the project area. Because the proposed project would alter an existing freeway, it does not have the potential to cause many kinds of local impacts. For instance, it would not divide an established community. Potential impacts to neighboring

populations include noise and air quality impacts and displacement and relocation impacts. (Displacement and relocation impacts in general are discussed in Sections 3.7.2.1 and 3.7.3.1. Caltrans' Relocation Assistance Program and Benefits are described in Appendix F.)

Noise and air quality impacts are distributed evenly through the project area and are not concentrated in any area of minority or low-income residents. Noise abatement measures in particular are recommended and would be expected to prevent disproportionate impacts to any area. The anticipated business displacements and three of the four residential displacements are in areas that are not identified as low-income or minority neighborhoods. The fourth anticipated residential displacement would be on 6th Street, in a block group with a high proportion of low-income individuals. Still, one out of four residential displacements occurring in a low-income block group does not represent a disproportionate impact.

Specific businesses that might be displaced, according to the draft project design, include a cabinet supply shop and a pest control service with its associated administrative offices. The businesses employ about 20 people. These businesses are not known to be connected to any identified community.

Based on the above discussion, the proposed project would not cause disproportionately high and adverse effects on on any minority or low-income populations as discussed in E.O. 12898 regarding environmental justice.

3.9.3 Mitigation Measures

3.9.3.1 Population and Ethnicity

None required.

3.9.3.2 Housing and Economics

None required.

3.9.3.3 Environmental Justice

None required.

3.10 Utilities/Emergency Services

3.10.1 Affected Environment

3.10.1.1 Utilities

Water Supply. Santa Rosa's drinking water is drawn from the nearby Russian River watershed area and is delivered to the City by the Sonoma County Water Agency (SCWA) and the City of Santa Rosa Utilities Department.

Wastewater. The Laguna Subregional Wastewater Treatment Plant (WTP) provides collection, treatment, and disposal to the City of Santa Rosa as well as Rohnert Park, Cotati, Sebastopol, and the South Park Sanitation District.

Solid Waste. Empire Waste Management, Inc. provides non-hazardous solid waste removal for the City of Santa Rosa. Santa Rosa disposes of its solid waste in the Sonoma County Central Landfill. Currently, the Central Landfill has enough capacity to meet the County's needs through May 2006. Sonoma County is in the process of obtaining the necessary permits to expand the landfill to accommodate waste through 2014 (Dyett & Bhatia 2001).

Stormwater Management. The City of Santa Rosa Utilities Department manages the integrated system of curbside gutters, underground pipelines, drainage ditches, and creeks that storm water is deposited in. Several storm water detention facilities are utilized to reduce potential downstream impact from erosion and flooding. Santa Rosa's storm water drains through six drainage basins into the Laguna de Santa Rosa. Santa Rosa Creek serves as the largest drainage basin for the City through a system of six major creeks and several smaller tributaries. The City's storm water discharge and maintenance activities are regulated and monitored through a NPDES Permit.

Gas and Electricity. Natural gas and electric service is provided to Santa Rosa by Pacific Gas and Electric, a publicly owned corporation regulated by the California Public Utilities Commission.

Telecommunications and Cable. Southwestern Bell and Verizon provide telecommunications to the Santa Rosa area, while AT&T Broadband provides cable television services.

3.10.1.2 Emergency Services

Police Protection. The Santa Rosa Police Department (SRPD) provides protection for life and property within the City. SRPD operates one main station located on Sonoma Avenue approximately 1.6 km (1 mile) from Route 101 and one sub-station at the Santa Rosa Plaza.

The Sonoma County Sheriff's Department (SCSD) provides protection for life and property in approximately 1,500 square miles of unincorporated Sonoma County. The main Sonoma County Sheriff's office is located off of Ventura Avenue, approximately 2.5 km (1.5 miles) north of the Route 101/Steele Lane interchange. The Roseland Sub-Station is located off of Sebastopol Road, approximately 3 km (1.9 miles) from the Route 101/SR-12 interchange.

Fire Protection. The Santa Rosa Fire Department (SRFD) provides emergency first responder services within the City. SRFP operates eight stations, with the main station located on Sonoma Avenue approximately 1.6 km (1 mile) from Route 101.

Ambulance Service. Sonoma Life Support provides emergency medical service in Santa Rosa.

3.10.1.3 Utilities

The project might affect overhead utilities with joint power and telecommunication lines; underground gas, electric, and telecommunication lines; and underground sewer and water lines. The majority of these utilities are located in and around the interchange areas on Route 101 through Santa Rosa.

The proposed project would not require new water supplies to service the project and would not require additional wastewater treatment services or additional storm water services. Replacement of the existing freeway drainage system may be required.

3.10.1.4 Emergency Services

No negative impacts to Santa Rosa police, fire, or emergency services as well as Sonoma County Sheriff services are anticipated with the proposed project. The addition of a new 6th Street under crossing and the increase in capacity of the College Avenue and Steele Lane interchanges would provide additional pathways for emergency vehicles to reach their destinations, resulting in lower response times.

3.10.2 Mitigation Measures

3.10.2.1 Utilities

Utilities would be relocated without interruption of service.

3.10.2.2 Emergency Services

No mitigation required.

3.11 Traffic/Transportation

This section provides a description of the transportation setting and assesses the potential circulation impacts associated with the implementation of the proposed project.

3.11.1 Affected Environment

3.11.1.1 Transit Operations

The Golden Gate Transit Authority is one of the primary providers of local and commuter transit service in the project area, with local and express buses that link Santa Rosa with other points in Sonoma County, with Marin County, and with San Francisco. Sonoma County Transit and the Santa Rosa City Bus system provide other local transit within the project area. Greyhound buses and AMTRAK buses provide interregional service. Greyhound provides transit service both within and outside of the Route 101 corridor. AMTRAK provides access to train service through a feeder bus that collects passengers at stops along the Route 101 corridor, including Santa Rosa, then connects to the Martinez train station in Contra Costa County.

Currently, there is no passenger train service within Sonoma County. However, providing train service on the existing NorthWestern Pacific rail line has been evaluated in several reports, for instance in the June 1997 Sonoma/Marin Multi-Modal Transportation and Land Use Study produced by Calthorpe Associates. Within the project area, the NorthWestern Pacific Rail line runs parallel to the west side of Route 101. The rail line currently has limited goods freight service between Healdsburg in Sonoma County and Novato in Marin County (Caltrans 1999b).

3.11.1.2 Bicycle and Pedestrian Facilities

Bicycle/pedestrian facilities in the project vicinity are on Veterans Avenue, 9th Street, 7th Street, 3rd Street and on Route 12 west of Route 101, as well as adjacent to Santa Rosa Creek along the Prince Memorial Greenway. There are also two pedestrian over crossings near the project area. Both are located adjacent to the Route 101/SR-12 interchange. One is located over the northern Route 101/SR-12 ramps and connects the Burbank Elementary School with a residential area. The other, just south of the project limits, is located over the southern Route 101/SR-12 ramps and connects South Davis Park with a residential and commercial development area.

Future bicycle/pedestrian facilities are planned for 3rd Street, Santa Rosa Avenue, College Avenue, Steele Lane, Cleveland Avenue, Morgan Street, and Armory Drive (Dyett & Bhatia 2001). Also, both the Marin County and Sonoma County Bicycle Coalitions have initiated the process of consolidating a bicycle/ pedestrian trail adjacent to the existing NorthWestern Pacific rail line from San Rafael in Marin County north to Cloverdale in Sonoma County. There are no bicycle or pedestrian designations along Route 101 in the project area as both are not permitted activities along this very busy freeway.

3.11.1.3 Parking

There is a Park and Ride lot in the project vicinity near Brookwood Avenue and SR-12 (east of Route 101). Also, approximately 145 parking spaces are located under the viaduct section of Route 101 in downtown Santa Rosa. This parking area is leased to the City by Caltrans for use by patrons of the Railroad Square area.

3.11.1.4 Existing Traffic Conditions

Route 101 is the primary north/south freeway in Santa Rosa and Sonoma County. Currently, Route 101 within the project area is a four-lane divided freeway with 3.6 m (12 ft) lanes, an inside shoulder width of 1.5 m (5 ft), and an outside shoulder width of 2.4 m (8 ft). The median is unpaved and partially landscaped.

Route 101 Operations. Existing travel delay resulting from bottlenecks on southbound Route 101 between River Road in Fulton and Route 116 in Cotati is approximately seven minutes during the AM peak period and approximately nine minutes during the PM peak period, according to 1999 studies. The 1999 Congestion Monitoring Studies also show congestion north of River Road in the morning peak period. Northbound, existing travel delay on Route 101resulting from bottlenecks in the same limits is approximately nine minutes during the AM peak period and approximately 12 minutes during the PM peak period (Caltrans 2001a).

Intersection Operations. The City of Santa Rosa strives to keep the delay experienced by vehicles at less than 55 seconds per vehicle along all major corridors. Intersection traffic congestion is expressed in terms of Level of Service (LOS), and a delay of 55 seconds or less corresponds to LOS D or better. All study area intersections were at LOS D or better as of Year 2000 (Caltrans 2001a).

3.11.1.5 Roadway Network Assumption

To predict highway operations in Year 2010, Caltrans assumed that existing highway facilities would still be in place, supplemented by all the highway projects currently

under construction and local projects that are listed in the most recent (2001) Regional Transportation Plan (RTP) as committed funding status and projects listed in the 2001 Transportation Improvement Program (TIP). Below is the list of projects that may affect traffic flow within the project area (Caltrans 2001a).

- Rohnert Park Expressway interchange modification
- Stony Point Road widening
- Farmers Lane interchange modification/reconstruction
- Route 101 HOV widening from Wilfred Avenue north to SR-12, opened to traffic November 2002
- Route 101 HOV gap closure project from Corte Madera to San Rafael in Marin County
- Wilfred Avenue interchange modification and Route 101 HOV widening from Rohnert Park Expressway north to Wilfred Avenue

Predictions of traffic conditions both on the freeway and in the intersections are based on the assumption that these highway projects are completed.

For Year 2030 highway operations analyses, Caltrans assumed that all the same facilities from the Year 2010 roadway network assumption are in place. Additional projects within the traffic study area assumed to be in place by 2030 are:

- Widen Route 101 from 4 lanes to 6 lanes (including HOV lanes) from Route 37 in Marin County to Old Redwood Highway in Petaluma;
- Route 101 HOV widening from the Rohnert Park Expressway interchange to Old Redwood Highway north of Petaluma; and
- Route 101 HOV widening from north of the Steele Lane interchange to Windsor River Road.

3.11.1.6 Future Traffic Conditions Without Addition of HOV Lanes in Project Area: Year 2010

Route 101 Operations. Southbound travel delay on the two existing mixed flow lanes would approach 16 minutes during the AM peak period and nearly nine minutes during the PM peak period by Year 2010. The maximum delay calculated for HOV vehicles would exceed 12 minutes during the AM peak period and approach 8 minutes during the PM peak period by Year 2010 (Caltrans 2003b). Figure 3.11-1 shows locations of traffic congestion and the extent of delays in 2010 if the highway capacity in the project area remains the same.

Intersection Operations. The intersections between freeway ramps and Steele Lane and between freeway ramps and College Avenue are forecast to have control delays of less than 55 seconds per vehicle in Year 2010, which corresponds to Level of Service D or better.

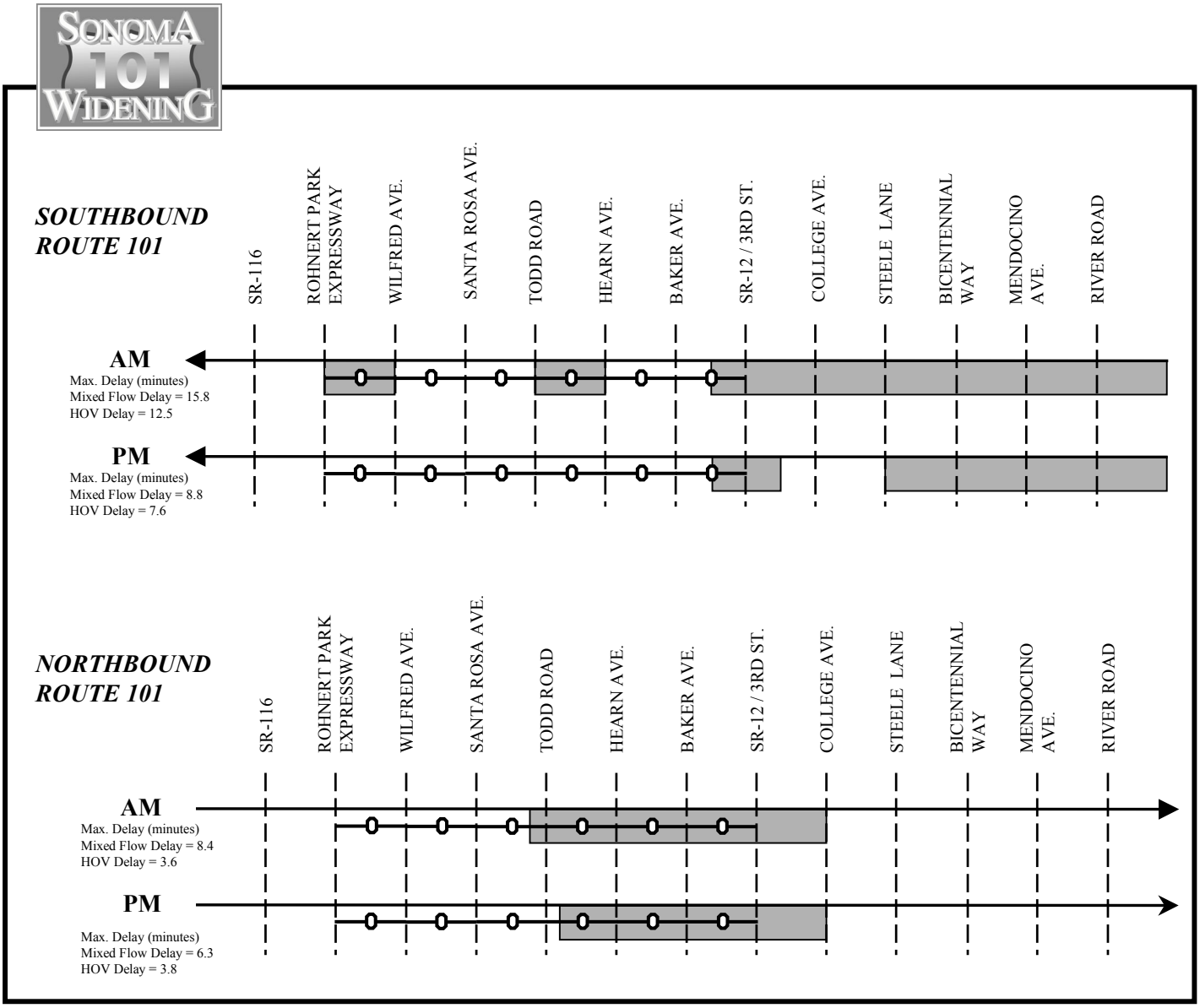
3.11.1.7 Future Traffic Conditions Without Addition of HOV Lanes in Project Area: Year 2030

Route 101 Traffic Congestion. Traffic is expected to increase noticeably in the project area between Years 2010 and 2030 and would result in heavier congestion and higher Year 2030 delays for mixed-flow lane traffic. In any segments where HOV lanes did not exist, High Occupancy Vehicles would also suffer longer delays in 2030.

According to the assumptions that went into predicting traffic conditions if the HOV lanes are not added, the project area, which extends between the Route 12 and Steele Lane interchanges, would be the only segment of Route 101 within the study limits that would not have an HOV lane constructed by the Year 2030. HOV lane users in the study area would be able to bypass most congestion in the Santa Rosa area, except between Route 12 and Steele Lane. In the P.M. peak hour, southbound HOV lane users would experience maximum delays of about 12 minutes. During the same P.M. peak hour, southbound mixed-flow lane vehicles would experience delays up to 36 minutes. Motorists travelling southbound in the A.M. peak hour could expect shorter maximum delays, with about 4 minutes for HOV –lane users and about 25 minutes for mixed-flow traffic.

Northbound travellers in the A.M. peak hour would experience maximum delays of 13 minutes for mixed-flow lane users and about 6 minutes for HOV-lane users. In the P.M. peak hour, the maximum delays for northbound mixed-flow lane users would be 35 minutes, and for HOV lane users, about 13 minutes.

Figure 3.11-2 shows locations of expected traffic congestion and the extent of delays in 2030 if the highway capacity remains as assumed.



Drawing not to Scale

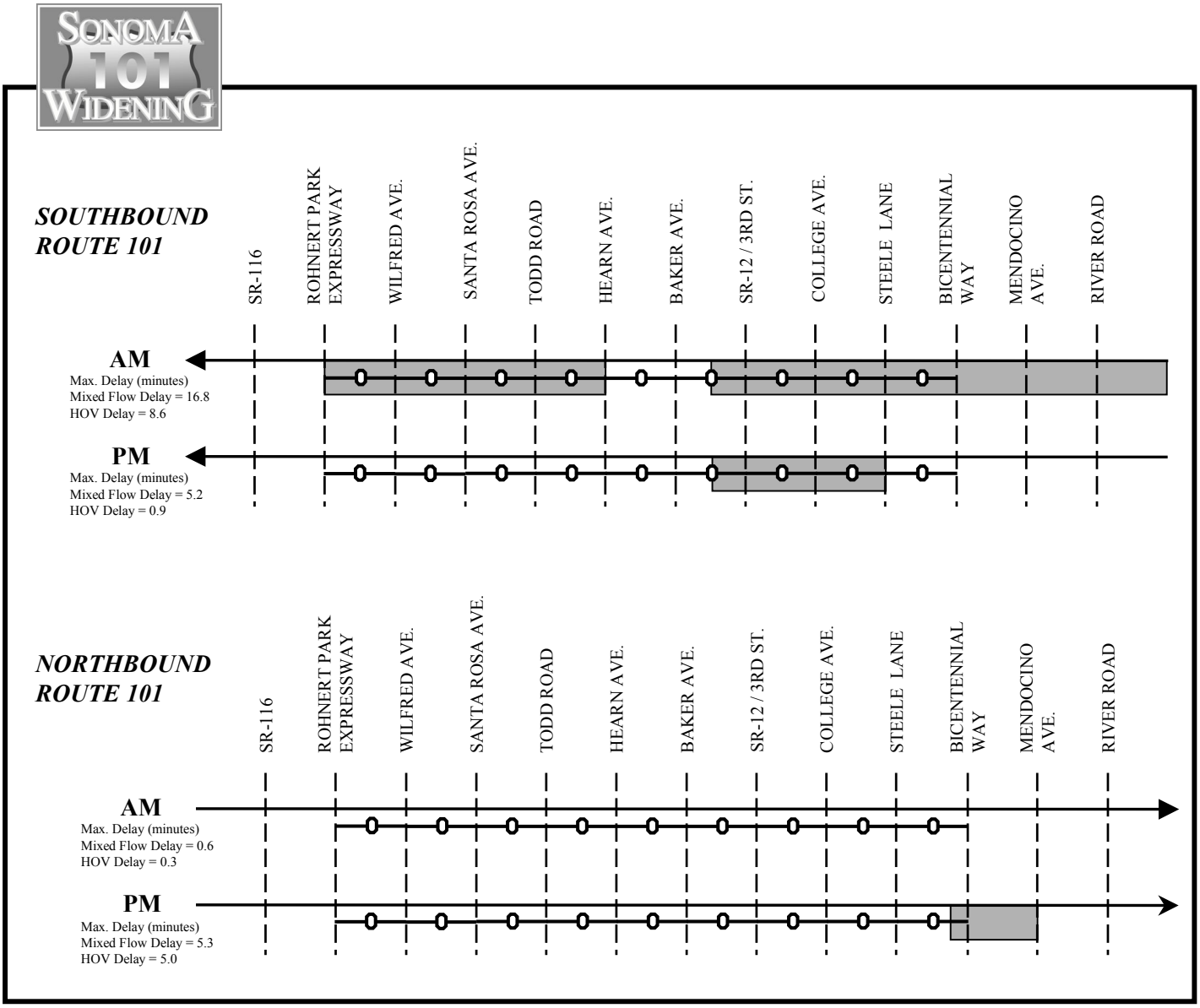
LEGEND

Congestion Area*

High Occupancy Vehicle Lane

Figure 3.11-1
2010 No Build Scenario
Route 101 Congestion Analysis

* For congestion analysis, the congestion threshold is reached when demand volumes exceed capacity of 2100 vehicles per hour per lane.



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LEGEND

Congestion Area*

High Occupancy Vehicle Lane

Figure 3.11-2
2010 With Proposed Project Scenario
Route 101 Congestion Analysis

* For congestion analysis, the congestion threshold is reached when demand volumes exceed capacity of 2100 vehicles per hour per lane.

Intersection Operations. The Year 2030 analysis of the Steele Lane and College Avenue interchanges for this scenario assume that the interchanges are configured as they exist now. With Year 2030 traffic demand, motorists would experience Level of Service F, indicating a delay of greater than 80 seconds per vehicle, in two scenarios; during the P.M. peak at the intersection of College Avenue and the ramps to and from southbound Route 101, and during the P.M. peak at the intersection of Steele Lane and the northbound 101 ramps. Level of Service E, with delays between 36 and 55 seconds per vehicle, would be experienced in three scenarios: A.M. and P.M. peak periods at the intersection between College Avenue and the ramps to and from northbound Route 101, and in the morning peak at the intersection of Steele Lane and the southbound Route 101 ramps.

3.11.2 Environmental Consequences

3.11.2.1 Transit Operations

Implementation of the proposed project would not impact transit service within the project area. In fact, bus transit service would be enhanced by the proposed project, especially during the busy AM and PM peak commuting periods, by providing more freely-flowing HOV lanes. Implementation of HOV lanes on Route 101 would allow buses and carpools to bypass congested mixed flow traffic lanes through Santa Rosa, resulting in an improvement in travel times during the peak commuting periods.

3.11.2.2 Bicycle and Pedestrian Facilities

The proposed project would leave the pedestrian overcrossing at Burbank School in place until the new bicycle/pedestrian under crossing adjacent to the Santa Rosa Creek is completed. Still, it is likely that some construction activities would temporarily impact pedestrians' access to the overcrossing or under crossing. Route

101 currently crosses Santa Rosa Creek using separate bridges for the northbound and the southbound lanes, which allows light to pass through the gap between the two parallel bridges. If the proposed project is constructed, the gap would be closed when the two bridges are replaced with one unified bridge. This would make it darker under the new, wider bridge. Caltrans is addressing concerns about safety for users of the bicycle/pedestrian path under the bridge with design features to improve visibility, as described in Section 3.11.3.2.

When Route 101 was made into a freeway through Santa Rosa, bicycle/pedestrian access from the west side residential areas to the downtown area was severed at

multiple locations. As part of the proposed project, the bicycle/pedestrian facilities at 3rd Street are proposed to be enhanced and new bicycle/pedestrian facilities are scheduled to be added at 6th Street, College Avenue, and Steele Lane to provide better connectivity within the downtown Santa Rosa area. The enhancement/construction of these bicycle/pedestrian facilities would provide additional pathways for City residents to reach the downtown area.

3.11.2.3 Parking

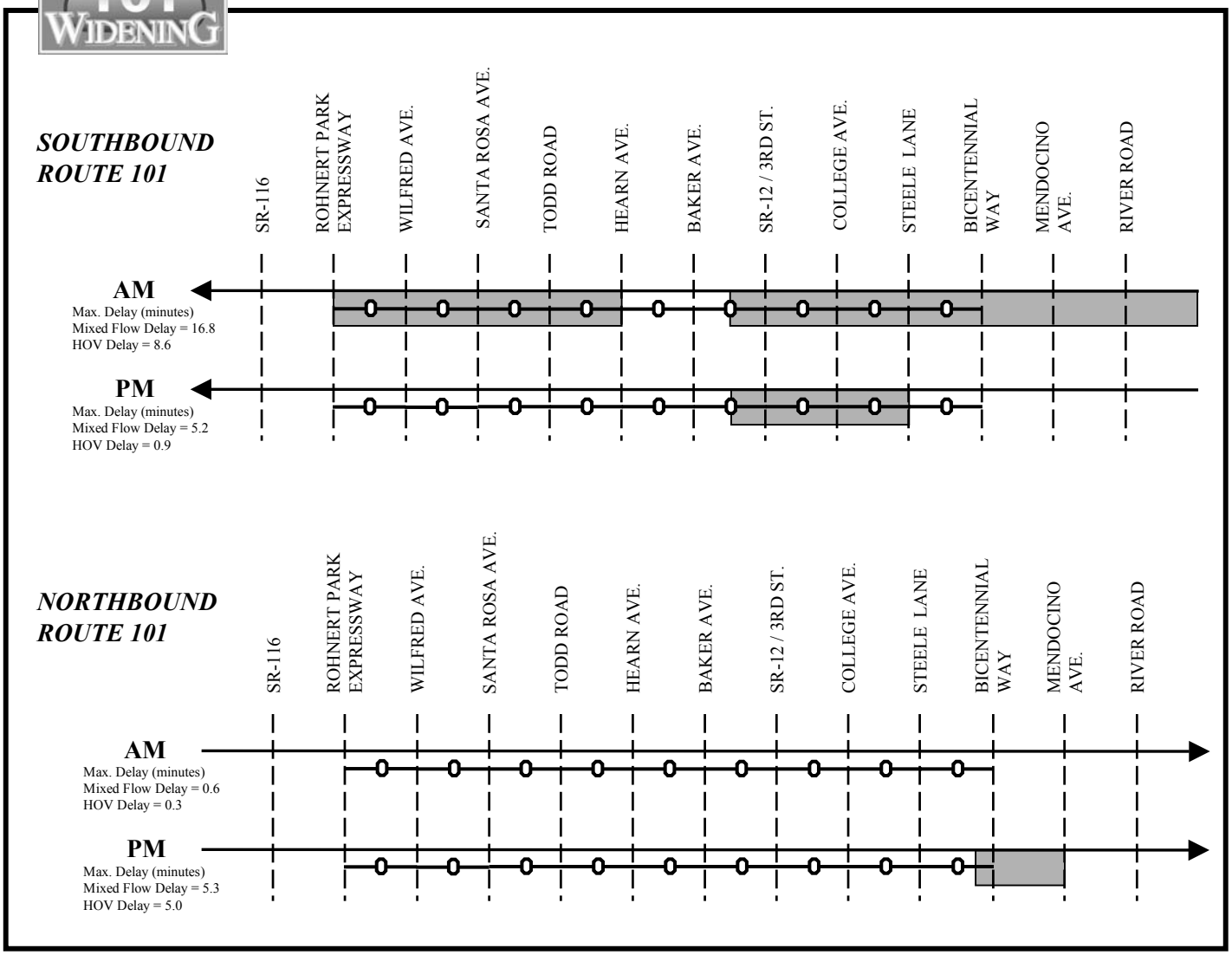
The parking area currently located under the viaduct section of Route 101 would be temporarily impacted by construction of the proposed project. The widening of the viaduct bridge structure would force the temporary closing of this surface parking lot for safety reasons. When construction of the proposed project is completed, the parking area under the viaduct would be reopened. Caltrans is working with the City of Santa Rosa to identify an alternative parking area during construction. As much parking as possible would be maintained during the construction period.

In the long term, the project would add parking spaces along the west side of Morgan Street. The project would remove some office and commercial buildings there and expand the existing parking areas in their place.

3.11.2.4 Future Traffic Conditions on Route 101 if the Proposed Project is Constructed: Year 2010

In 2010, overall travel delay on Route 101would be expected to be lower if HOV lanes were added than if they were not. Some congested areas are anticipated to persist at certain locations on Route 101 due to the sheer volume of vehicles using the facility as well as development that is expected to occur in Sonoma County by Year 2010. Figure 3.11-3 shows the expected locations and extent of delay in 2010 if HOV lanes are added.

The future-year traffic predictions in Table 3.11-1 show a substantial time savings improvement for the HOV traffic, with a maximum saving of 6.7 minutes (from 7.6 to 0.9) on southbound Route 101 during the PM peak hour when comparing the No-Build and Add HOV Lane scenarios. The table also shows a one-minute increase (from 15.8 to 16.8) in travel delay on the mixed flow traffic lanes during the AM peak hour on southbound Route 101 when comparing the No-Build and Add HOV Lane scenarios. The reason for this minor increase is the increased traffic demand due to the presence of the additional HOV lane. The traffic forecasting model assumes that increased capacity would attract additional traffic from alternative routes, which could lead to increased congestion for the mixed flow lanes



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LEGEND

Congestion Area*

High Occupancy Vehicle Lane

Figure 3.11-3
2010 With Proposed Project Scenario
Route 101 Congestion Analysis

* For congestion analysis, the congestion threshold is reached when demand volumes exceed capacity of 2100 vehicles per hour per lane.

Table 3.11-1. Year 2010 Theoretical Travel Delay on Route 101 Between Route 116 and River Road With and Without HOV Lanes Added in Project Area

Scenario	Maximum AM Delay (in min.)		Maximum PM Delay (in min.)	
	Mixed Flow Traffic	HOV Traffic	Mixed Flow Traffic	HOV Traffic
Year 2010				
Southbound No-Build Scenario	15.8	12.5	8.8	7.6
Southbound with HOV lane added	16.8	8.6	5.2	0.9
Northbound No-Build Scenario	8.4	3.6	6.3	3.8
Northbound with HOV lane added	0.6	0.3	5.3	5.0

Note: HOV lanes already exist between the Wilfred Avenue interchange and the interchange with Highway 12. In this segment, HOV users would benefit from time savings compared to mixed flow traffic in this segment, whether or not the proposed project is built.

For northbound PM travelers, Table 3.11-1 also shows that mixed-flow lanes would benefit if the HOV lane is added. Travel delay is expected to decrease by 7.8 minutes (from 8.4 to 0.6) during the AM peak period for the mixed flow traffic lanes when comparing the No-Build and the proposed project scenarios. On the other hand, northbound delays would be greater for HOV lane users if the additional HOV lane is constructed. The rightmost column of Table 3.11-1 shows that delay is expected to increase by 1.2 minutes (from 3.8 to 5.0) with the additional HOV lane. This minor increase would result from a larger number of vehicles using the freeway because of the increased capacity. The increased travel demand on Route 101 is anticipated to create a traffic bottleneck north of the Mendocino Avenue on-ramp. Congestion associated with this new bottleneck is expected to extend only as far south as the end of the proposed northbound HOV lane.

3.11.2.5 Future Traffic Conditions on Route 101 if the Proposed Project is Constructed: Year 2030

To consider the Build Alternative, Figure 3.11-4 shows the expected locations and extent of delay in 2030 if HOV lanes are added between Route 12 and Bicentennial Way. The future-year predictions in Table 3-11-2 indicate that HOV-lane users could expect no delay between Route 116 and River Road if the proposed project is constructed (assuming all other HOV lane segments in that study area are built). Mixed-lane users could expect a maximum delay ranging from 3.8 minutes,

for northbound travelers in the A.M. peak hour, to 24.5 minutes, experienced by southbound travelers in the P.M. peak.

Table 3.11-2. Year 2030Theoretical Travel Delay on Route 101 Between Route 116 and River Road With and Without HOV Lanes Added

Scenario	Maximum AM Delay (in min.)		Maximum PM Delay (in min.)	
	Mixed Flow Traffic	HOV Traffic	Mixed Flow Traffic	HOV Traffic
Year 2030				
Southbound without added HOV lane	25.1	4.1	35.6	11.7
Southbound with HOV lane added	24.2	0	24.5	0
Northbound without added HOV lane	12.8	6.3	34.5	12.7
Northbound with HOV lane added	3.8	0	20.1	0

Note: Predictions for Year 2030 assume that HOV lanes will exist between the interchange with Route 116 in Cotati and the interchange with Highway 12, and between the Bicentennial Way interchange and the Mark West / River Road interchange. HOV users would benefit from time savings compared to mixed flow traffic in segments with HOV lanes, whether or not the proposed project is built.

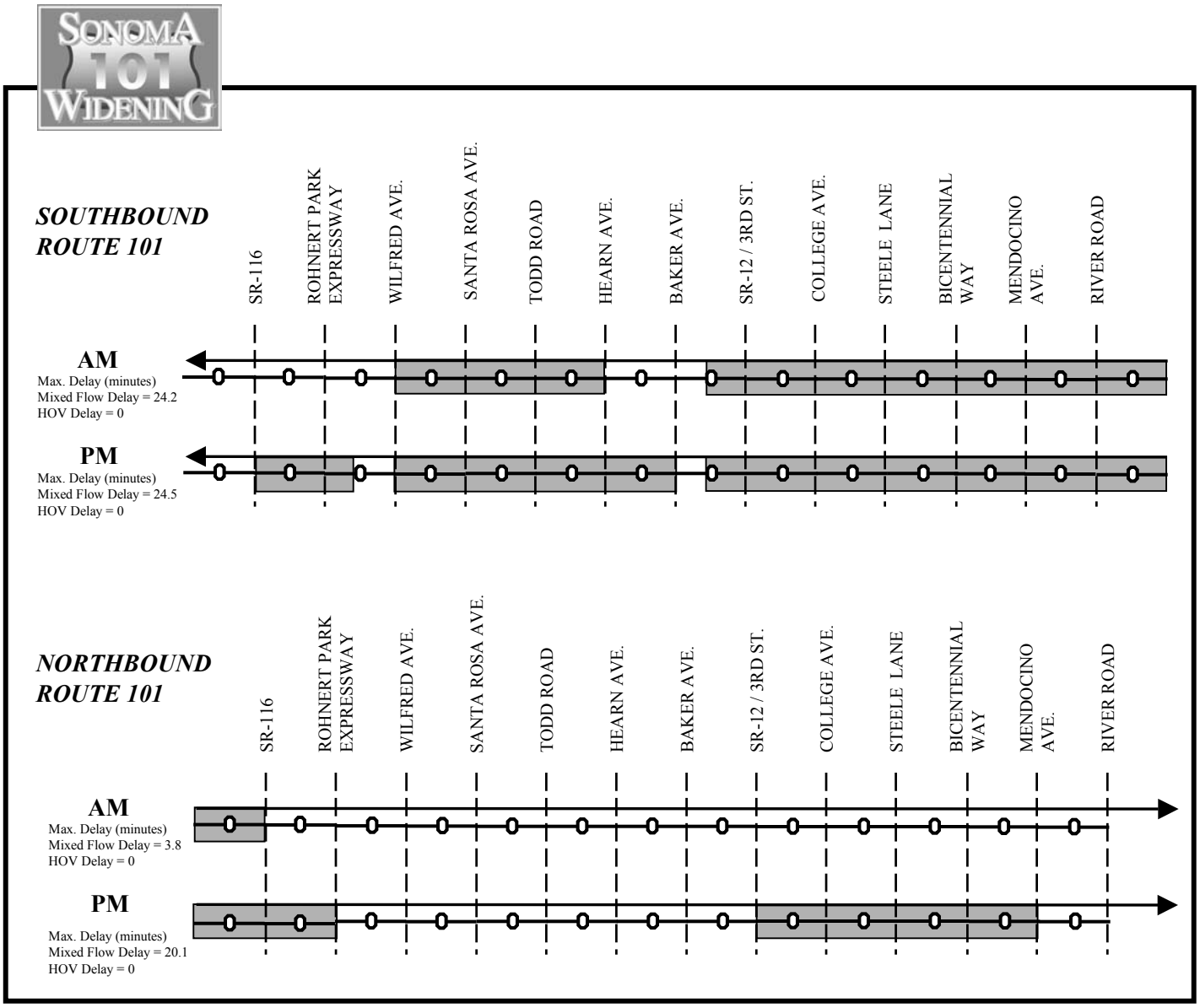
3.11.2.6 Future Intersection Operations

Quality of operation at intersections is expressed as "level of service," or LOS, defined in terms of delay experienced by vehicles. Table 3.11-3 shows LOS definitions for signalized and unsignalized intersections.

Table 3.11-3. Level of Service Definitions

LOS	Unsignalized Intersection Control Delay (seconds/vehicle)	Signalized Intersection Control Delay (seconds/vehicle)
A	Less than 10	Less than 10
B	10 to 15	10 to 20
C	16 to 25	21 to 35
D	26 to 35	36 to 55
E	36 to 50	56 to 80
F	Greater than 50	Greater than 80

Caltrans performed LOS analyses for the selected project area intersections for Year 2000, Year 2010, and Year 2030. The Year 2010 estimates assume completion of the 2001 TIP and 2001 RTP projects, not including the proposed HOV addition between Route 12 and Steele Lane. The Year 2030 estimates assume that those projects are complete, and also that HOV lanes have been added between Rohnert Park Expressway and Old Redwood Highway in Petaluma, and between Windsor River Road and the north end of the proposed project, which is north of the Steele Lane interchange.



Drawing not to Scale

LEGEND

Congestion Area*

High Occupancy Vehicle Lane

Figure 3.11-4
2030 With Proposed Project Scenario
Route 101 Congestion Analysis

* For congestion analysis, the congestion threshold is reached when demand volumes exceed capacity of 2100 vehicles per hour per lane.

According to the transportation section of the 2020 Santa Rosa General Plan, the City strives to maintain LOS D or better along all major corridors. As Table 3.11-4 shows, all study area intersections are currently at LOS D or better. Table 3.11-4 also indicates that Year 2010 LOS at the two intersections would tend to be better if the proposed project is built than for the No Build scenario.

Table 3.11-5 Shows anticipated intersection operations in 2030. As previously discussed, traffic volumes are expected to increase through year 2030, leading to poorer intersection LOS. However, LOS would generally be better if the proposed project is built than for the no build scenario.

Table 3.11-4. Theoretical Year 2010 Peak Hour Intersection LOS With and Without the Proposed Project

Intersection Location	2000 LOS		2010 LOS without Project		2010 LOS with Project	
	AM	PM	AM	PM	AM	PM
College Avenue/northbound Route 101 ramps	C	C	C	C	B	B
College Avenue/southbound Route 101 ramps	C	B	C	B	B	B
Steele Lane/northbound Route 101 ramps	B	D	B	D	C	C
Steele Lane/southbound Route 101 ramps	C	C	C	C	B	C

Table 3.11-5. Theoretical Year 2030 Peak Hour Intersection LOS With and Without the Proposed Project

Intersection Location	2000 LOS		2030 LOS without Project		2030 LOS with Project	
	AM	PM	AM	PM	AM	PM
College Avenue/northbound Route 101 ramps	C	C	E	E	B	B
College Avenue/southbound Route 101 ramps	C	B	D	F	B	D
Steele Lane/northbound Route 101 ramps	B	D	B	F	C	C
Steele Lane/southbound Route 101 ramps	C	C	E	C	D	D

3.11.3 Mitigation Measures

3.11.3.1 Transit Operations

No mitigation required.

3.11.3.2 Bicycle and Pedestrian Facilities

To prevent reduced visibility from affecting safety under the new Santa Rosa Creek Bridge, the pier walls which support the currect bridge structure shortened to near-ground level. The design of the new bridge would provide an obstruction free zone

underneath the bridge, resulting in greater visibility on the proposed bicycle/ pedestrian path. Installation of lighting over the new path would help further promote good visibility.

3.11.3.3 Parking

No mitigation required.

3.12 Visual/Aesthetics

The following discussion describes the visual resources adjacent to Route 101 in the City of Santa Rosa. The project study area includes the freeway right-of-way, areas that are visible from Route 101, and locations outside the freeway right-of-way from which Route 101 can be seen. Buildings and vegetation are the primary factors that control how much of the surrounding area is in view from the freeway and the degree to which Route 101 is visible from adjoining areas of Santa Rosa.

3.12.1 Affected Environment

3.12.1.1 Regional Landscape

The regional landscape traversed by Route 101 is characteristic of the Sonoma Valley area of California. It includes oak-studded hills, vineyards, middle class suburban development, and the urban center of the City of Santa Rosa. Development has increased considerably over the last 25 years, including along the Route 101 corridor, affecting the visual characteristics of the region. Route 101 in Sonoma County is identified as a Scenic Corridor in the Sonoma County General Plan but is not part of the State Scenic Highway system.

Route 101 within the Counties of Marin, Sonoma, Mendocino, Humboldt, and Del Norte became locally known as the “Redwood Highway” as early as the 1920’s and was designated by the State legislature as such in 1957. Reflecting this name, redwood trees have been planted in stretches along many miles of Route 101, including within the project area. Redwood trees are characteristic of the Route 101 corridor north of the Golden Gate Bridge.

3.12.1.2 Landscape Character

The character of the landscape in the immediate vicinity of the project is urban. The urban development features a mix of uses including residential, commercial, and institutional. Residential neighborhoods flank the freeway in the central portion of the project area. The historic Railroad Square Preservation District, which includes mostly commercial and a few residential properties, is one block west of the freeway,

while the Santa Rosa Plaza and downtown core are one block to the east. The Burbank Elementary School is adjacent to the freeway near the south end of the project while the Santa Rosa Junior College and Sonoma County Administration Center occupy areas near the northern end. Near the southern limits of the project, the freeway crosses Santa Rosa Creek. As part of the City of Santa Rosa Greenway Project, the linear zone along the creek is being developed as the Prince Memorial Greenway. This greenway site is briefly visible from Route 101 and provides a contrast to the urban character of the adjacent downtown area. The existing four-lane freeway is among the dominant features of Santa Rosa within the project area.

3.12.1.3 Visual Quality

Moderate levels of visual quality exist within the project area. The dominant urban character of the landscape immediately adjacent to Route 101 and sequences of views that occur while traveling on the freeway through the City are pleasant and generally attractive. However, these views are not as scenic as the more rural or undeveloped areas along Route 101 in other parts of Sonoma County. Within the project limits there are no outstanding scenic views or vistas of renowned features, or specific landscape features that would be considered a Scenic Resource.

3.12.1.4 Existing Conditions

Route 101 through Santa Rosa as it exists today was constructed in the late 1950's and early 1960's. It is a four-lane, divided freeway with two travel lanes in each direction. Numerous interchanges serve the city. Within the proposed project limits, existing local access ramps are located at Downtown Santa Rosa (access to 3rd Street and 6th Street), College Avenue, and Steele Lane.

Three soundwalls exist along the east side of the freeway in the vicinity of the Burbank Elementary School, adjacent to Armory Drive from College Avenue northward, and from Bicentennial Way north to the Mendocino Avenue/Old Redwood Highway interchange. On the west (southbound) side of Route 101, one soundwall exists from SR-12 south to Hearn Avenue. The walls on the east side of the freeway were constructed several years ago, while the one on the west side was built recently. The aesthetic treatment for this newer wall was designed to complement the older walls. The walls are made of masonry blocks. Aesthetic treatment consists of the use of colored blocks with textured surfaces that are arranged so as to create a distinctive pattern.

The section of the freeway within the limits of the proposed project is classified by Caltrans as a Landscaped Freeway. Landscaped Freeways meet the landscaping criteria of the Outdoor Advertising Regulations and are used in the control of outdoor

advertising displays along freeways. Freeway landscaping in the proposed project area includes median planting (large shrubs) and planting along the roadside and within interchanges (groundcovers, shrubs, and trees). A total of approximately 18 hectares (45 acres) of freeway landscaping currently exists within the project limits. Approximately 330 redwood trees plus more than 200 other large, mature trees are inside the freeway right-of-way within the proposed project limits. There are also approximately 220 small volunteer oak trees. The small oak trees appear as a mass of brush. A nearly continuous row of large, ornamental shrubs occupies the median from SR-12 northward for approximately 3.2 km (2.0 mi) to a point north of College Avenue between Francis Street and Jennings Avenue, except for approximately 245 m (800 ft) within the viaduct section between 3rd Street and 5th Street. A metal beam guardrail serves as a safety barrier in the median. The median planting occupies a total area of approximately 1.2 hectares (2.9 acres). Substantial roadside landscaping exists along most of the mainline of Route 101 and on both sides of all freeway on and off-ramps within the project limits. An exception is a segment of the mainline between College Avenue and Steele Lane where Armory Drive and Cleveland Avenue are immediately adjacent to the east and west sides of Route 101, respectively, for approximately 0.8 km (0.5 mi). Roadside landscaping in this area is minimal due to the narrow freeway right-of-way and subsequent lack of room for planting. Landscaping in this area consists mostly of vines growing on the right-of-way fence between Route 101 and Armory Drive and vines on fences with some shrubs and very few trees along Cleveland Avenue. Roadside landscaping within the project limits, excluding the Route 101/SR-12 interchange, occupies a total area of approximately 9.1 hectares (22.5 acres). The Route 101/SR-12 interchange contains approximately 7.7 hectares (19.1 acres) of landscaping.

Trees, shrubs, and vines have been planted in conjunction with development beneath the freeway viaduct between 3rd Street and 5th Street. Vines now grow on a substantial portion of the viaduct structures including several of the columns and parts of the sides and underside of the freeway deck. Trees are located along the outer edges of the viaduct and in the space between the two decks at 3rd Street, 4th Street, and 5th Street. They are now tall enough to extend above the deck of the viaduct where motorists, as well as persons at ground level, can easily view them.

Most of the landscaping within the project area was installed in the 1960's. It plays a large role in the overall visual character of Route 101 and in screening views of the surrounding area from the freeway as well as screening or softening views of Route 101 from nearby areas within the City of Santa Rosa.

3.12.2 Environmental Consequences

3.12.2.1 Methodology

Visual impacts of the proposed project were assessed following FHWA guidelines. Existing visual conditions were first analyzed on a regional scale. The project area itself was then examined within the regional context. A survey of public opinion regarding the visual characteristics of Route 101, including freeway landscaping and median planting, was conducted. The survey provided information about the public's attitudes and concerns regarding the visual presence of Route 101 through the city of Santa Rosa. Landscape character and levels of visual quality within the limits of the proposed project were then examined for both pre and post-project conditions. Visual impacts were assessed in terms of the anticipated changes in landscape character and visual quality caused by the project as well as the public's likely response to such changes. Finally, mitigation measures were then recommended to avoid or reduce the severity of impacts. The visual impact assessment process is supported with photographs showing the landscape setting within the project area and computer-generated visual simulations depicting the same views with the proposed project implemented. These simulations are discussed later in this section.

Several locations were used for assessing the visual impacts of the proposed project including points along freeway itself and areas adjacent to the freeway. Together they represent the full range of visual conditions experienced by the various user groups within the project area.

3.12.2.2 Potentially Affected Viewers

Route 101 is the major transportation route between the greater San Francisco Bay Area and the northern coastal region of California; it is also a major local travel route. Consequently, large numbers of people view the proposed project from the freeway itself. People using the freeway include local residents, commuters, truckers, recreational motorists, and tourists. Because Route 101 runs through the City of Santa Rosa, locations near or adjacent to the freeway right-of-way such as residential and commercial areas, public parks, and local public streets offer certain views of the freeway.

Among the different user groups within the project area, local residents, patrons of downtown businesses, tourists, and recreational motorists are considered to have the highest sensitivity to visual resources. Commuters who make frequent, repeat trips and may have a sense of connection with landmarks within the corridor are considered to have a moderate sensitivity. In general, persons employed in commerce or industry within the corridor are considered to have a lower sensitivity to visual resources than other user groups.

Residents of neighborhoods adjacent to the freeway and persons patronizing businesses in the downtown area are especially sensitive to the presence of Route 101 since it passes directly through this area and limits movement between areas east and west of the freeway. The viaduct between 3rd Street and 5th Street serves as a portal for bicyclists/pedestrians and local traffic between the historic Railroad Square Preservation District west of Route 101 and the current downtown center of Santa Rosa east of the freeway. The experience of crossing beneath the viaduct and its influence on people's movement between these areas is an issue of public concern.

The public opinion survey regarding visual resource issues associated with the project produced several findings. Based on the survey, the majority of respondents feel views of Route 101 from residential or downtown areas have a negative influence on the quality of life and that the freeway detracts from the character of Santa Rosa. They also feel freeway landscaping has a positive influence on the attractiveness of the facility and many respondents expressed a desire to see trees along the freeway preserved or more trees planted. Opinion is roughly split as to whether soundwalls have a positive or negative influence on Route 101's attractiveness. Most respondents feel the freeway should be mostly hidden from view from the surrounding community, but are nearly split on whether motorists should be able to view the surrounding community from the freeway.

The City of Santa Rosa adopted Resolution Number 24219, December 7th, 1999, which requests Caltrans staff to provide a more comfortable environment for the proposed project by maximizing the landscaping along creeks and local streets adjacent to Route 101.

3.12.2.3 Effects of the Proposed Project

Changes in Existing Visual Conditions. Inside widening and construction of a concrete median barrier throughout the project limits would require the removal of 100 percent of the median landscaping that extends for approximately 3.2 linear km (2 linear mi) and occupies a total of approximately 1.2 hectares (2.9 acres). Most of the median landscaping consists of a single, tightly spaced row of oleanders, which are large, flowering shrubs. In place of the oleanders, a contrete barrier approximately 80 to 90 cm (32 to 36 in) high would be constructed. Elimination of the existing center gap between bridges and elevated freeway structures would require the removal of trees and shrubs from beneath the structures since daylight would no longer penetrate this area and room for trees would no longer exist.

It is estimated that as much as 80 percent of roadside landscaping along the mainline of Route 101 and along ramps at 3rd Street, 5th Street, College Avenue, and Steele

Lane would be disturbed during construction of the project. This amounts to about 7.2 of 9.1 hectares (18 of 22.5 acres). Approximately 2.2 to 2.4 hectares (5.5 to 6 acres) of landscaping would be permanently lost as a result of the widened Route 101, reconstructed ramps, and soundwall construction. Disturbance in these areas would result in the loss of approximately 230 trees of mature size [trunks greater than 25 cm (10 in) diameter at breast height] including 95 redwoods, 80 oaks, 11 Moraine locust, and 10 sycamores among others as well as ornamental shrubs and ground covers. Additionally, about 220 volunteer oaks of relatively small size [trunks from 2.5 to 25 cm (one to 10 in) in diameter] would be removed. None of these small oaks are visually striking as individual trees. Instead, they form a loose group of shrub-like vegetation among the larger trees along the freeway from College Avenue to 5thStreet primarily in the southbound direction.

At the Route 101/SR-12 interchange, it is estimated that approximately 15 percent of the landscaped areas [less than 1.2 of 7.7 hectares (3 of 19 acres)] could be disturbed during construction of interchange improvements. Disturbance in this area would result in the loss of approximately 65 trees of mature size including 13 redwoods and 22 Monterey pines. Most of these are located along the connector ramp from eastbound SR-12 to southbound Route 101. Approximately 0.5 hectares (1.2 acres) of landscaping at the interchange would be permanently lost.

Widening of the viaduct between 3rd Street and 5th Street would increase the width of the freeway deck by approximately 23 m (75 ft). Presently, daylight entering through the center space that separates the two parallel viaducts illuminates the area beneath the viaduct. Widening would result in the loss of the center space and create a solid concrete surface approximately 42 m (140 ft) wide. The amount of natural light beneath the structure would be substantially reduced. New concrete columns similar to the existing columns would support the new center section and new outside sections. Office and commercial buildings along the west side of Morgan Street would be removed and the existing parking areas would be expanded in their place.

Retaining walls may be needed in some locations to contain fill areas required for outside widening. The walls would likely range in height from about 1 to 3 meters (3 to 10 ft) and could be up to 50 meters (165 ft) or more in length. They may be constructed along the connector ramp from eastbound Route 12 to southbound Route 101, at the northbound off-ramp at 3rdStreet, at the new 6thStreet under crossing, and at the southbound on-ramp at College Avenue. The retaining walls would be relatively minor features of the highway facility.

Soundwall construction would require the removal of freeway landscaping where the walls would be constructed. Generally, trees and shrubs would be removed to provide a minimum 1.5 m (5.0 ft) of clear space and access for construction of the walls, although in some cases a larger area may require disturbance due to local conditions such as steep slopes. For freeway motorists, new soundwalls would constrain views in the same way as existing soundwalls in the northbound direction at the Burbank Elementary School and north of College Avenue. This effect would be experienced when traveling in either direction on Route 101 for approximately 1.1 km (0.7 mi) between 6th Street and College Avenue and approximately 0.3 km (0.2 mi) between Santa Rosa Creek and SR-12. On the backside of sound walls, views from residential properties are likely to be minimally affected. Most of the existing freeway landscaping behind the sound walls would remain and help screen them from view.

Changes in Landscape Character and Visual Quality. Landscape character would be changed and visual quality would be degraded within the project area as a result of the project. These effects are caused primarily by the following:

- Elimination of freeway landscaping, including the loss of approximately 295 large, mature trees as well as ornamental shrubs and ground cover and the permanent loss of landscaped areas including all landscaping in the median.
- Widening of the viaduct between 3rd Street and 5th Street, and the removal of buildings and landscaping and expansion of parking beneath the structure.
- Construction of new soundwalls along Route 101.

The row of oleanders in the median is an aesthetic feature highly visible to motorists. The shrubs screen out views of the opposing lanes and oncoming traffic, thus reducing the amount of the freeway within view to half. Removal of the oleanders would make the appearance of the freeway less attractive and allow the full width of Route 101 to be seen, as is the case north of Steele Lane where a concrete barrier now occupies the median.

The loss of approximately 295 mature trees and other freeway landscaping and approximately 220 relatively small, volunteer oak trees would alter the character of the Route 101 corridor and make its appearance less attractive. The urban setting of the freeway through the city of Santa Rosa heightens the importance of landscaping in softening Route 101's appearance and improving its aesthetic qualities when viewed both from the freeway and nearby areas of the city.

The City of Santa Rosa has been working to improve the bicycle/pedestrian connection between the downtown area and the historic Railroad Square Preservation District. The City is studying an area that includes the freeway viaduct between 3rd Street and 5th Street in conjunction with a federally-funded Downtown Pedestrian Linkage Project along 4th Street. Widening the viaduct and the resulting loss of daylight beneath it, along with the removal of redwood and locust trees from the gap between the divided lanes will create a less-inviting bicycle/pedestrian passage way, altering the character of the area and degrading its visual quality. This will contribute to the sense that Route 101 is a barrier to bicyclists and pedestrians and is out of keeping with the intent of the City's Downtown Pedestrian Linkage Project.

Construction of soundwalls along Route 101 in conjunction with the proposed project would add approximately 1,025 m (3,360 ft) of new soundwalls in the northbound direction and approximately 1,375 m (4,510 ft) in the southbound direction, representing between one-quarter and one-third of the total length of the project area. The visual presence of new soundwalls would contribute to a change in the existing visual character of the freeway corridor, particularly as experienced from Route 101.

Summary of Visual Impacts. Implementation of the proposed project, including: inside widening to create HOV lanes; outside widening to create auxiliary and collector lanes; the construction of soundwalls and retaining walls; and the removal of freeway landscaping to accommodate these features would change the appearance of the project area. The change would be more evident in some areas than others but overall the magnitude of change would be substantial. The project would not create a new source of substantial light or glare. However, through the disturbance and loss of freeway landscaping, widening the viaduct, and construction of new soundwalls, the project would alter the existing visual character and degrade visual quality within the project area.

The following three figures represent the proposed visual changes associated with this project. Figure 3.12-1 shows the proposed changes of Route 101 south of 3rd Street near Burbank Elementary School and the Prince Memorial Greenway. The top two pictures are representative of the existing conditions on Route 101 near the Burbank Elementary School and at the Prince Memorial Greenway. The bottom two pictures show what Route 101 is anticipated to look like after construction of the project is complete. Figure 3.12-2 shows the anticipated visual changes that motorists would see when traveling on 3rd Street in downtown Santa Rosa. All four pictures show before and after project conditions looking in the easterly direction. The left two show Route 101 from a greater distance, while the right two show Route 101 closer up. Figure 3.12-3 shows representative before and after pictures of the new 6th Street under crossing. The top three pictures show the view from Davis Street looking east, while the bottom three pictures show the view from Morgan Street looking west.

3.12.3 Mitigation Measures

In order to reduce the visual impacts of the proposed project, the following mitigation measures would be implemented

To reduce the visual effects of disturbances to freeway landscaping, replacement planting would be provided according to Caltrans standards. Replanting of trees would be maximized along Route 101 where they can be placed without impairing sight distances or encroaching into clear recovery zones.

To reduce the visual impacts of widening the viaduct and to provide a more attractive and comfortable environment for pedestrians and bicyclists, landscaping along the freeway and local streets where they intersect with State right-of-way would be maximized. Architectural features would be incorporated into the design of the widened viaduct structure, walls, and abutments. Lighting features would be provided in bicycle/pedestrian zones along local streets beneath the viaduct. Uses of the area beneath the viaduct that would make it more attractive for pedestrians and bicyclists would be promoted. Bicycle/pedestrian improvements on 3rd Street and 6th Street beneath the viaduct would be developed and constructed to be compatible with the City's Downtown Pedestrian Linkage Project along 4th Street. At the Route 101/College Avenue interchange, College Avenue would be widened to provide ample room for bicycle lanes and sidewalks.

As a replacement for the pedestrian over crossing that would be removed, a new bicycle/pedestrian path would be constructed along the south side of Santa Rosa Creek and beneath Route 101 in conjunction with the City's Prince Memorial Greenway Project. Also, a new bridge with supporting columns over Santa Rosa Creek would be constructed to provide bicyclists and pedestrians with greater visibility and a safer, more comfortable linkage under Route 101.

To reduce the impact associated with the visual presence of new soundwalls, a design would be developed that is appropriate to and complements the project setting. The final design would be developed in consultation with the City of Santa Rosa and local residents. Also, where feasible, vines would be planted and allowed to grow on the walls to help visually integrate them with the overall landscape and to reduce the incidence of graffiti. New retaining walls would be given aesthetic treatment. Such treatments also reduce glare from reflected natural light and headlights. Consideration would be given to applying aesthetic treatment to the concrete median barrier as well.

SONOMA 101 WIDENING

VIEW FROM NORTHBOUND ROUTE 101 NEAR BURBANK ELEMENTARY SCHOOL

EXISTING CONDITIONS*

SIMULATED FUTURE CONDITIONS*

Simulated image shows proposed additional travel lanes, concrete median barrier, removal of highway landscaping where required, removal of pedestian overcrossing, and reconstruction of existing sound wall.

VIEW FROM PRINCE MEMORIAL GREENWAY PARK LOOKING EAST

EXISTING CONDITIONS*

SIMULATED FUTURE CONDITIONS*

Simulated image shows new highway bridge over Santa Rosa Creek, removal of pedestrian overcrossing and addition of new creekside walkway under the highway bridge, reconstruction of existing sound wall, and addition of new sound wall along the west side of Route 101 south of the creek.

* Photo simulations were developed using information available during the project's environmental review phase. Final architectural and aesthetic treatments of highway structures and sound walls have yet to be determined. Final design of highway landscaping has yet to be determined also.

Figure 3.12-1: Existing and Photosimulated Future Views near Burbank Elementary School and Prince Memorial Greenway

Caltrans

AudioVisual Multimedia Graphics CT1179 08/2002

SONOMA 101 WIDENING

VIEW FROM 3RD STREET AT DAVIS STREET LOOKING (FAR EAST)

EXISTING CONDITIONS*

SIMULATED FUTURE CONDITIONS*

Simulated image shows widening of highway viaduct structures, removal of buildings and landscaping from beneath the viaduct, and addition of new landscaping along 3RD Street and highway on-ramp.

VIEW FROM 3RD STREET AT DAVIS STREET LOOKING (NEAR EAST)

EXISTING CONDITIONS*

SIMULATED FUTURE CONDITIONS*

Simulated image shows widening of highway viaduct structures, removal of buildings and landscaping from beneath the viaduct, and addition of new landscaping along 3RD Street.

* Photo simulations were developed using information available during the proje environmental review phase Final architectural and so treatments of highway structures and sound walls yet to be determined. Fin design of highway landscap has yet to be determined

Figure 3.12-2: Existing and Photosimulated Future Views from 3rd Street at Davis Street.

Caltrans

AudioVisual Multimedia Graphics CT1179 06/2003

SONOMA 101 WIDENING

VIEW FROM 6TH STREET NEAR DAVIS STREET LOOKING EAST

EXISTING CONDITIONS

SIMULATED FUTURE CONDITIONS*

Simulated image shows proposed new 6TH Street undercrossing structure, widening and connection of 6TH Street between Davis and Morgan Streets, bicycle lanes, sidewalks, and landscaping along 6TH Street east of Davis street.

VIEW FROM 6TH STREET NEAR MORGAN STREET LOOKING WEST

EXISTING CONDITIONS

SIMULATED FUTURE CONDITIONS*

Simulated image shows new 6TH Street undercrossing structure, sound wall along east side of Route 101, connection of 6TH Street between Morgan and Davis Streets, bicycle lanes, sidewalks, and landscaping along 6TH Street east of Davis Street

* Photo simulations were developed using information available during the project's environmental review phase. Final architectural and aesthetic treatments of highway structures and sound walls have yet to be determined. Final design of highway landscaping has yet to be determined also.

Figure 3.12-3: Existing and Photosimulated Future Views from 6th Street near Davis and Morgan Streets

Caltrans

Audio/Visual Multimedia Graphics CT1176 06/0065

3.13 Cultural Resources

An Historic Property Survey Report was prepared in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations [36 CFR §800, December 2000] and the California Environmental Quality Act of 1970 (CEQA; PRC §21000 et seq.). An important step in the identification process is the Caltrans consultation with parties with an interest in the effects of the proposed project on historic properties [36 CFR §800.1 (a)]. Consultation was initiated with the State Historic Preservation Officer (SHPO), for the purpose of requesting concurrence on the FHWA deliniation of the Area of Potential Effect (APE), and an inventory of potential historic properties was then conducted. Historic Properties are those cultural resources that meet criteria of eligibility for listing in the National Register of Historic Places (NRHP) (36 CFR §60). Properties eligible for the NRHP are also eligible for nomination to the California Register (PRC §5024.1). FHWA and Caltrans, in consultation with SHPO and interested parties, determined which properties within the APE met eligibility criteria and would be given further consideration regarding project effects. Please see Appendix A for SHPO consultation correspondence.

3.13.1 Affected Environment

3.13.1.1 Public Participation/Native American Consultation

Public participation and Native American consultation are an essential element of the Section 106 compliance process (36 CFR §800.2). The Native American Heritage Commission (NAHC) was contacted for a search of their Sacred Lands files and for a list of interested Native American groups and individuals in October 1999 and again in June 2000. Letters were sent to groups and individuals named on the list received from the NAHC on November 20, 2000 and to the Dry Creek and Federated Indians of Graton Rancherias again on January 2, 2001. Meetings were held with Native American groups in July 2001, August 2001, and February 2002 to solicit views and information regarding the project impacts. In response to concerns voiced at these meetings, Caltrans sent contact letters to the Cloverdale Rancheria of Pomo Indians and to Stewarts Point Rancheria. Follow-up phone calls to all the groups and individuals originally contacted were placed to give the opportunity for verbal comment and to verify receipt of letters. Because consultation is an ongoing exchange of views and information, those groups who have expressed an interest

would be included in future phases of this project. Consultation would continue throughout the project development process. Table 3.13-1 summarizes Native American involvement for the proposed project.

Table 3.13-1. Summary of Native American Involvement

Group/Individual	Letters Sent	Meetings	Follow-Up Phone Calls	Comments
Dry Creek Rancheria of Pomo Indians	11/20/00, 1/2/01		3/22/02	Beverly Rodriguez: No recollection of letters received. Caltrans faxed over copies for their review.
Federated Indians of Graton Rancheria	11/20/00, 1/2/01, 7/16/01	8/15/01, 1/24/02		Interested in being kept informed regarding this project.
Cloverdale Rancheria	3/11/02			Vicki Macias: Santa Rosa is too far south for them, there are other tribes that are closer. She will take letter before Tribal Council in case they're interested. If anything comes up they will write a letter.
Lytton Band of Pomo Indians	8/2/01	7/24/01, 12/05/01, 2/27/02	6/19/01	Tribal Council urges Caltrans to contact all tribes in county regarding this project; any of them could be involved because, where antiquity is concerned, people traveled all across area.
Stewarts Point Rancheria	3/22/02		4/8/02	Otis Parrish: The Kashaya have no concerns outside of their aboriginal tribal territory. (Will send letter to that effect.)
Ya-Ka-Ama	11/20/00		4/5/02	No comment.
Grant Smith	11/20/00		4/5/02	No comment.

On May 15, 2000 Caltrans initiated public outreach for historic resources in the built environment in the project area. A letter was sent to the Northwest Information Center describing the proposed project and Caltrans' efforts to identify historic properties. The letter requested that the Information Center distribute project and survey information to a number of local agencies, community organizations, and other interested parties in an effort to inform said parties and to elicit responses.

On February 14, 2001 Cultural Resource specialists from the Office of Environmental Analysis presented an overview of the historic architectural survey at a meeting of the City of Santa Rosa Cultural Heritage Board. At this meeting, board members inquired about potential impacts of the project on historic structures and districts in the vicinity of the proposed project. Caltrans staff provided clarification on these issues and an explanation of the environmental review process for this project.

3.13.1.2 Archaeology

Cultural resources are nonrenewable, and their scientific, cultural, and aesthetic values can be impaired by disturbance. To deter vandalism, artifact hunting and other activities that can damage cultural resources, only the generalized locations are given herein. The specific site locations are confidential and are restricted to those with a need to know.

For the purposes of the cultural resources investigation, the archaeological APE was delineated as the largest area expected to be affected by the proposed project. For a more complete understanding of the types of resources that may be affected by the project and to assure that adjacent resources are not inadvertently affected, the study area was expanded to include a 0.8-km (0.5-mi) wide area surrounding the APE. SHPO concurred with the adequacy of the APE on February 28, 2003. A literature/record search was conducted that included review of many archival sources such as archaeological site records; historic, geological and soils maps; and several inventories of historic properties and ethnic sites. A sensitivity study was conducted based on the results of the literature search to further predict archaeological site types that might be located within the project area.

Prehistory. The records search indicated that no prehistoric archaeological sites have been formally recorded within the APE to date. Among the nearby sites that have been recorded, is one site (CA-SON-860/H) containing a prehistoric component. Its recorded boundaries are outside the APE, although, research indicates that the prehistoric element of the site may extend under the freeway within the project APE. In addition, numerous prehistoric cultural materials were identified during monitoring of the 3rd Street underpass in the late 1970s (under Santa Rosa Plaza), very near, but outside the APE. The ethnographic Pomo village site of *Hukabetawi* was reported within the study area, near but outside the southwestern portion of the APE.

The findings most specific to the project APE are the presence of archaeological materials in construction excavations for the 3rd Street underpass and the speculation in previous archaeological surveys and by Anthropological Studies Center, Sonoma State University (ASC) archaeologists that CA-SON-860/H appears to extend further west, under the freeway (into the APE).

3.13.1.3 Architectural History

Historical Resources in the Built Environment. There are numerous buildings within the project area that are old enough to merit review (built more than 50 years ago). As was the case with the archaeological review, an architectural history APE was delineated for the project in consultation with FHWA, and takes into account both direct and indirect effects. SHPO concurred with the adequacy of the architectural APE on February 28, 2003. All buildings within the APE were evaluated for National Register eligibility. The following evaluation criteria are the basis for determining inclusion of a property on the NRHP:

A. Association with events that have made a significant contribution to the broad patterns of our history;
B. Association with the lives of persons significant to our past;
C. Resources that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master or that possess high artistic values or that represent a significant and distinguishable entity whose component may lack individual distinction; or
D. Resources that have yielded or may be likely to yield, information important in history or prehistory.

Properties built in 1957 or later were eliminated from formal evaluation using the National Register Criteria (National Parks Service [NPS] 2002).

Of the 194 properties located within the APE for the proposed project, 143 were formally evaluated. The evaluated properties consist of single family residences and commercial structures in an urban setting, including one NRHP listed historic district and two potentially eligible historic districts. The results of the study are as follows:

Seven properties have been determined individually eligible for the NRHP:

- 433 Olive Street (Junius Botts Residence), local level of significance under Criterion C. The period of significance is 1889.
- 35 Sebastopol Avenue (Pacific Tire Sales), local level of significance under Criterion C. The period of significance is 1946-47.
- 203 South A Street (Burbank Elementary School), local level of significance under Criterion C. The period of significance is 1940.
- 120 7th Street/515-521 Davis Street (Residences), local level of significance under Criterion C. The period of significance is 1875-1904.
- 133 7th Street (Residence), local level of significance under Criteria A and C. The period of significance is 1870-76.
- 709 Davis Street (Lincoln School), local level of significance under Criterion C. The period of significance is 1923.
- 560 9th Street (old Saint Rose School), local level of significance under Criterion C. The period of significance is 1931.

One property, the Railroad Square Historic District, is listed on the NRHP under Criterion C; the period of significance is 1888-1923. There are three contributors to the Railroad Square Historic District within the APE:

- 130 4th Street (Whistlestop Antiques)
- 133 4th Street (Mixx)
- 120 5th Street (Tocchini Building)

Two properties, which intersect the APE, have been determined eligible for the NRHP: the Olive Park Historic District and the South Saint Rose Historic District:

- The Olive Park district has been determined eligible at the local level of significance under Criteria A and C. The period of significance is 1891-1926.
    - There are nine contributors to the Olive Park Historic District within the APE:
        - 307 Orange Street (Bollinger House)
        - 306 Orange Street (Residence)
        - 301 Orange Street (Residence)
        - 300 Orange Street (Butler House)
        - 228 Orange Street (Stocking House)
        - 226 Orange Street (William T. Hopper House)
        - 216 Orange Street (Harry Morrow House)
        - 138 Orange Street (John E. Gist House)
        - 310 Buckingham Street (Bertram Bower House)
- One property within the APE has been determined individually eligible for the NRHP and a contributor to the eligible Olive Park Historic District:
    - 331 Orange Street (Pygmalion B&B), local level of significance under Criterion A. The period of significance is 1891.
- The South Street Rose district has been determined eligible at the local level of significance under Criteria A and C. The period of significance is 1890-1920.
    - There are fourteen contributors to the South Saint Rose Historic District within the APE:
        - 700 Morgan Street (Shultz House)
        - 708 Morgan Street (Residence)
        - 714 Morgan Street (Leroy Spooncer House)
        - 722 Morgan Street (Residence)
        - 730 Morgan Street (Residence)
        - 736 Morgan Street (Seymore House)
        - 740 Morgan Street (Residence)
        - 750 Morgan Street (Gibbens House)
        - 511-13 A Street (Residence)
        - 517 A Street (Mary King House)
        - 521 A Street (Residence)

- 525 A Street (Residence)
- 537 A Street (Cornelius Shea House)
- 541 A Street (Residence)

Caltrans has determined that the resources listed above that are eligible for the NRHP are likewise historic resources for the purposes of the CEQA. In addition, 13 resources that do not appear eligible for the NRHP are historic resources under CEQA as contributors to the locally designated Saint Rose "Preservation District":

- 512 Morgan Street
- 516 Morgan Street
- 520 Morgan Street
- 600 Morgan Street
- 608 Morgan Street
- 612 Morgan Street
- 924 Morgan Street
- 940 Morgan Street
- 823 Washington Street
- 831 Washington Street
- 837 Washington Street
- 231 10th Street
- 308 Lincoln Street

The remaining properties within the APE have been determined ineligible for inclusion in the National Register, nor does there appear to be the potential for any other NRHP eligible historic district or historic landscape within the APE. There are 52 properties within the APE, which were constructed in or after 1957 and were treated in accordance with the June 1, 2001 "Interim Policy for the Treatment of Buildings Constructed in 1957 or Later" (Caltrans 2002b). The policy states that "all Caltrans staff who meet the Secretary of the Interior's Professional Qualifications Standards for architectural history are authorized to exclude from study buildings that were constructed in 1957 or later in time, or that appear because of alterations to have been constructed in 1957 or later."

The SHPO has concurred with the above determinations of eligibility, as stated in a letter to FHWA dated February 28, 2003 (see Appendix A of this document).

3.13.2 Environmental Consequences

The implementing regulations for Section 106 of the National Historic Preservation Act (NHPA) identify the following as potential adverse impacts on historic properties that are listed on or eligible for the NRHP:

- Physical destruction of or damage to all or part of the property;
- Alteration of a property that is not consistent with the Secretary of the Interior's Standards and guidelines for the treatment of historic properties (36 CFR 68) (NPS 1983);
- Removal of the property from its historic location;
- Change of the character of the property's use or physical features within the property's setting that contribute to its significance;
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features;
- Neglect of a property which causes its deterioration except where such neglect and deterioration are recognized qualities of a property; and
- Transfer, lease, or sale of the property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance [36 CFR §800.5 (a)(2)].

3.13.2.1 Archaeology

Although no archaeological resources have been recorded within the APE, there is a possibility that they exist below the current ground surface. Much of the APE is covered by pavement, structures, buildings or other such hardscape making the soils and any possible deposits inaccessible at the current time.

On December 11, 2003 SHPO concurred in FHWA's finding of no archaeological properties effected. FHWA submitted a discovery plan that SHPO approved on the same date, for the treatment of any unexpected archaeological resources, in the event that any are uncovered during construction. Any archaeological deposits identified would be evaluated for their ability to address important research questions.

3.13.2.2 Architectural History

The following properties, as shown in Appendix I, have the potential to be affected by the proposed project; however, FHWA and Caltrans have concluded that there either would be no effect, or as in the case of Burbank Elementary School, the effect would not be adverse, as follows:

203 South A Street (Burbank Elementary School), Map Reference #37

Burbank Elementary School is located just east of at-grade Route 101. There is an existing at-grade soundwall 150 m long and 4.3 m high (500 ft by 14 ft) located at the right edge-of-pavement adjacent to the school parcel. The existing soundwall would be removed and a new at-grade soundwall constructed. The new wall would be 4.3 m high (14 ft), constructed on top of a retaining wall 1.2 m (4 ft) high, for a total height of 5.5 m (18 ft). The length would be 335 m (1,100 ft), to accommodate a recent property acquisition by the Santa Rosa school district. The soundwall would be located at the proposed edge-of-pavement along a widened section of Route 101 (see Appendix C, Figure C-2). This would require approximately 7.6 m (25 ft) of new right of way from the historic property: a strip of land paralleling the existing right of way line between the state and school property. The total right of way requirement is roughly 1,560 sq m (16,810 sq ft), or 0.4 acres (0.2 hectares) of land.

In applying the Criteria of Adverse Effect [36 CFR §800.5(a)(1)], the effect to the historic property would not be adverse because the new soundwall would not touch, impinge upon, or physically alter contributing elements of the property, nor would it diminish the integrity of the property's setting, which would remain unchanged. Likewise, the view of the historic property from Route 101 would not change. The new soundwall would be higher than the existing one by 1.2 m (4 ft) and longer by 180 m (about 600 ft), but these differences would not diminish the setting of the historic school building, which faces away from the freeway. Moreover, two non-contributing structures - a multi-purpose room (1955) and a portable classroom building (1967) - are sited between the historic school building and the soundwall. The proposed project would not introduce new audible elements, as the property is currently in an urban setting, next to an existing freeway. The new right of way would be acquired from a non-contributing element of the property, a modern playground at the south end of the parcel and would not diminish the integrity of the school's historic setting, feeling, association, workmanship, design, or materials.

The project would not change the character of the property's use or physical features within the property's setting that contribute to its historic significance [36 CFR §800.5(a)(2)(iv)], nor would it introduce visual, audible or atmospheric elements that diminish the character of the historic property's significant features [36 CFR §800.5(a)(2)(v)]. Therefore, FHWA concludes that the changes associated with the proposed project would result in no adverse effects to characteristics of the historic properties that qualify them for inclusion on the NRHP.

120 7th Street/515 Davis Street (Residences), Map Reference #51
133 7th Street (Residence), Map Reference #53
709 Davis Street (Lincoln School), Map Reference #60

The 7th Street properties are one and two story residential buildings located on the west side of elevated Route 101, and west of Davis Street. They face north and south (away from the freeway); mature vegetation and a modern office building block the view of Route 101 from 7th Street. 515 Davis Street is a two-story residence, overlooking Davis Street and, beyond it, the 9th Street off-ramp terminus. Lincoln School is a two-story building located west of Route 101 between 8th Street and 9th Street. The building faces east, with Davis Street and a row of single-story residences between it and the elevated Route 101.

The proposed project would involve widening elevated north- and southbound Route 101 within the existing state right of way, constructing soundwalls, widening the existing southbound off-ramp at 9th Street, and replacing the existing elevated structure at 6th Street with a bridge/under crossing, thereby opening 6th Street (an east/west arterial) to through traffic. Widening Route 101 may also require the removal of dense, mature vegetation along the freeway alignment between 6th Street and 9th Street on the west side and 8th Street and Lincoln Street on the east side. 6th Street, which currently terminates at Route 101 just east of Davis Street, would be connected to Morgan Street and A Street on the east side of Route 101. A soundwall is proposed for the southbound direction, which would be 4.3 m high by 705 m long (14 ft by 2,300 ft), extending from College Avenue to just south of 6th Street. A soundwall is also proposed in the northbound direction, which would be 4.3 m by 405 m (14 ft by 1,330 ft), extending from 8th Street to just south of Lincoln Street. No new right of way is required from historic properties for this portion of the proposed project.

The proposed project would not introduce new audible elements, as the properties are currently in an urban setting, next to an existing freeway, and the significance of the properties is not based on a quiet setting. While removal of the mature vegetation would make Route 101 more visible from parts of Davis Street and 7th Street than it is under current conditions, this is not a new visual element, and the vegetation, planted in the 1960s for freeway landscaping, does not contribute to the significance of the historic properties' setting. If the removal of the vegetation is necessary, project plans include re-landscaping, where feasible.

The proposed project would not change the character of the properties' use or physical features within the properties' setting that contribute to their historic significance [36 CFR §800.5(a)(2)(iv)], nor would it introduce visual, audible or atmospheric elements that diminish the character of the historic properties' significant features [36 CFR §800.5(a)(2)(v)]. Therefore, FHWA and Caltrans conclude that the changes associated with the proposed project would result in no effect to characteristics of the historic properties that qualify them for inclusion on the NRHP.

Railroad Square Historic District Contributors:
130 4th Street (Whistlestop Antiques), Map Reference #40
133 4th Street (Mixx), Map Reference #41
120 5th Street (Tocchini Building), Map Reference #42

The Railroad Square Historic District is located on the west side of elevated Route 101, along Davis Street between 3rd Street and 6th Street. The district contains 26 contributing properties, three of which are located within the APE. The contributing buildings within the APE face north and south (away from the freeway), and are located approximately 55 to 65 m (180 to 210 ft) west of Route 101. They are separated from the elevated freeway by Davis Street, non-historic commercial buildings on the east side of Davis Street, and a vacant lot. The proposed project would widen elevated Route 101 within the existing right of way. No right of way is required from any contributors to the historic property, and no soundwall is proposed at this location.

Widening Route 101 within the existing right of way does not have the potential to change the character of the property's use or physical features within the property's setting that contribute to its historic significance [36 CFR §800.5(a)(2)(iv)], nor would it introduce visual, audible or atmospheric elements that would diminish the character of the historic property's significant features [36 CFR §800.5(a)(2)(v)]. Therefore, FHWA and Caltrans conclude that the proposed project would result in no effect to the characteristics of the Railroad Square Historic District that qualify it for inclusion on the NRHP.

South Saint Rose Historic District Contributors:
700 Morgan Street (Shultz House), Map Reference #113
708 Morgan Street (Residence), Map Reference #114
714 Morgan Street (Leroy Spooncer House), Map Reference #115
722 Morgan Street (Residence), Map Reference #116
730 Morgan Street (Residence), Map Reference #118
736 Morgan Street (Seymore House), Map Reference #119
740 Morgan Street (Residence), Map Reference #120

750 Morgan Street (Gibbens House), Map Reference #121
511-13 A Street (Residence), Map Reference #122
517 A Street (Mary King House), Map Reference #123
521 A Street (Residence), Map Reference #124
525 A Street (Residence), Map Reference #125
537 A Street (Cornelius Shea House), Map Reference #127
541 A Street (Residence), Map Reference #128

The South Saint Rose Historic District is located on the east side of Route 101 between 8th Street and 9th Street, and Morgan Street and A Street. The district consists of 14 contributing buildings, all located within the APE. The buildings are one and two story residences. The eight Morgan Street buildings are oriented to the west, facing Morgan Street and beyond it, Route 101. They are sited approximately 25 m (80 ft) from Route 101, but the view of the freeway is screened by dense, mature vegetation (see Photos 6 and 7). The six A Street buildings face east, away from the freeway. The proposed project would widen the elevated Route 101 within the existing right of way, and a soundwall 4.3 m high by 280 m long (14 ft by 900 ft) is proposed along elevated Route 101. If the soundwall is constructed, this may require the removal of the mature vegetation between the west side of Morgan Street and Route 101.

The proposed project would not introduce new audible elements, as the district is currently in an urban setting, next to an existing freeway, and the significance of the property is not based on a quiet setting. Removal of the mature vegetation would make Route 101 more visible from the eight contributors on Morgan Street than it is currently. Although the setting of the district would be altered, the vegetation removal would not affect elements of the historic properties' setting that contribute to their significance, nor is the vegetation itself, planted in the 1960s as part of freeway landscaping, a contributor to the district. The freeway is not a new visual element, nor would new audible elements be introduced. The view of the district from Route 101 would not perceptibly change; the properties are not visible from the freeway now; and the properties would not be visible if the proposed soundwall is constructed.

The proposed project would not change the character of the property's use or physical features within the property's setting that contribute to its historic significance [36 CFR §800.5(a)(2)(iv)], nor would it introduce visual, audible or atmospheric elements that diminish the character of the historic property's significant features [36 CFR §800.5(a)(2)(v)]. Therefore, Caltrans and FHWA conclude that the proposed project

would result in no effect to the characteristics of the South Saint Rose Historic District that qualify it for inclusion on the NRHP.

Olive Park Historic District Contributors:
331 Orange Avenue (Pygmalion B&B), Map Reference #18
307 Orange Street (Bollinger House), Map Reference #19
301 Orange Street (Residence), Map Reference #20
306 Orange Street (Residence), Map Reference #21
300 Orange Street (Butler House), Map Reference #22
228 Orange Street (Stocking House), Map Reference #23
226 Orange Street (William T. Hopper House), Map Reference #24
216 Orange Street (Harry Morrow House), Map Reference #25
138 Orange Street (John E. Gist House), Map Reference #26
310 Buckingham Street (Bertram Bower House), Map Reference #27

The Olive Park Historic District is located at the interchange of southbound Route 101 and SR-12. Bounded by Route 101 to the east, SR-12 to the south, Santa Rosa Creek to the north, and Olive Street to the west, the district contains 33 contributing buildings, 10 of which are located within the APE. The contributors within the APE are one and one-and-one-half story residences, located adjacent to the freeway. The contributors at 306, 300, 228, 226, 216 and 138 Orange Street back up to the freeway; 310 Buckingham Street faces north with the freeway to the east; 331, 307 and 301 Orange Street face east with Route 101/SR-12 directly to the south. The proposed project would widen Route 101 within the existing right of way, and an at-grade soundwall 4.3 m high by 240 m long (14 ft by 790 ft) is proposed from Santa Rosa Creek to just south of Laurel Street. If the soundwall is constructed, this may require the removal of some of the dense, mature vegetation between Route 101 and the eastern lot lines of 306, 300, 228, 226, 216 and 138 Orange Street that currently serves as a visual buffer between the Olive Park neighborhood and Route 101.

The proposed project would not introduce new audible elements, as the district is currently in an urban setting, next to an existing freeway, and its historical significance is not based on a quiet setting. Removal of part of the mature vegetation along the district's eastern boundary may cause a visual change to the Olive Park Historic District, in that Route 101 would be more perceptible from the historic buildings than it is under current conditions, and the soundwall would be visible. The view of the district from Route 101 would not perceptibly change. The properties are not visible from the freeway now, and would not be visible if the proposed soundwall is constructed. While the setting of the district would be altered, the vegetation removal would not affect elements of the historic properties' setting that contribute to

their significance, nor is the vegetation itself, planted in the 1960s as part of freeway landscaping, a contributor to the district's significance. The freeway is not a new visual element, nor would new audible elements be introduced. If the removal of the vegetation is necessary, project plans include re-landscaping, where possible.

The proposed project would not change the character of the property's use or physical features within the property's setting that contribute to its historic significance [36 CFR §800.5(a)(2)(iv)], nor would it introduce visual, audible or atmospheric elements that diminish the character of the historic property's significant features [36 CFR 800.5(a)(2)(v)]. Therefore, FHWA and Caltrans conclude that the proposed project would result in no effect to the characteristics of the Olive Park Historic District that qualify it for inclusion on the NRHP.

The following properties would not be affected by theproposed project:

433 Olive Street (Junius Botts Residence), Map Reference #9
35 Sebastopol Avenue (Pacific Tire Sales), Map Reference #15
560 9th Street (old St. Rose School), Map Reference #129

433 Olive Street and 35 Sebastopol Avenue are located west of SR-12, near the Route 101 interchange. Old Saint Rose School is located on the east side of the elevated Route 101, at 9th Street and Morgan Street. 433 Olive Street is separated from the freeway by Olive Street, other buildings, and mature vegetation. Chestnut Street and several commercial buildings separate 35 Sebastopol Avenue from the freeway. The proposed project would widen SR-12 within the existing right of way, which may require the removal of some mature vegetation along the right of way. No soundwall is proposed in this vicinity.

Old Saint Rose School is located roughly 90 m (300 ft) from the freeway, where a soundwall is proposed. The two-story building faces south; there are two surface streets (Washington and Morgan), mature vegetation, and a partial block of residential buildings to the west between the property and Route 101.

The view of or from the buildings would not be perceptibly altered, nor would the proposed project change the character of the properties' use or physical features within the properties' setting that contribute to their historic significance [36 CFR §800.5(a)(2)(iv)]. Likewise, it would not introduce visual, audible or atmospheric elements that diminish the character of the historic properties' significant features [36 CFR §800.5(a)(2)(v)]. Therefore, FHWA and Caltrans find that 433 Olive Street, 35

Sebastopol Avenue, and the Old Saint Rose School (560 9th Street) would not be affected by the proposed project.

3.13.3 Mitigation Measures

3.13.3.1 Archaeology

Should archaeological deposits be discovered during construction , data recovery would be undertaken on any deposits determined to be eligible for the National Register.. If unexpected archaeological deposits are discovered during construction, all ground disturbing activities in the vicinity of the find will cease until the find has been evaluated by a qualified archaeologist. If human remains are discovered, all work will cease in the vicinity of the discovery. Human remains will be treated in compliance with all applicable State and Federal Laws.

3.13.3.2 Architectural History

None required.

3.14 Environmental Consequences of the No-Build Alternative

As noted in Section 2.3.1, under the No-Build Alternative, Route 101 would remain in its current configuration and location with no improvement.

Traffic / Transportation. Caltrans estimated future conditions on Route 101 between Route 116 in Cotati and River Road in Fulton, as well as at intersections adjacent to interchanges in the project area. Traffic delays in both the southbound and northbound directions for mixed flow lane users without the project are estimated to exceed 12 minutes during both the AM and PM peak hours in the year 2010. By the year 2030, delays in the southbound direction are projected to be between 25 and 36 minutes for mixed flow traffic in the AM and PM peak hours. Northbound mixed flow drivers are estimated to experience delays of 13 to 35 minutes in the AM and PM peak hours. HOV users would experience lesser, but still lengthy delays, because HOV lanes would exist north and south of the currently considered project area, but would be absent between Route 12 and Steele lane. Estimated conditions for Year 2010 are more fully described in Section 3.11.1.6. Year 2030 estimated conditions are described in Section 3.11.1.7.

Water Quality. Caltrans projects that without the improvements, the freeway contribution to water quality issues would be the same, but with increased traffic. However, Caltrans has characterized the changes which the project is expected to have on water quality; those effects are described in Section 3.1.2.2.

It is reasonable to state that the project would provide a benefit to stormwater quality.. The proposed project would include features with treatment capacity for more surface area than is being contributed by the project. When it leaves the Caltrans bioswale and infiltration basins, the local stormwater flow would have higher quality if the project were built than without it.

Air Quality. Air quality in 2030 will presumably be protected by laws similar to the State and Federal Clean Air Acts. To date, the implementation and enforcement mechanisms for these laws have been successful at meeting the articulated air quality standards.

Analytical methods for small-sized particulate matter, known as PM 2.5, are likely to be available before 2030. EPA plans to designate nonattainment areas for PM 2.5 in 2005. Therefore, PM 2.5 emission as a factor in air quality is expected to be effectively regulated by 2030.

In addition to these features of the regulatory environment, certain aspects of the transportation-related environment can be predicted.

1. Increased Congestion – Without the proposed project, there would be increased congestion in the existing facility in future years. Congestion causes higher emissions of carbon monoxide (CO), and has the potential to cause locally-high concentrations of carbon monoxide.

2. Traffic Redirection – Worsening congestion conditions on Route 101 can be expected to influence more drivers to revert to surface streets. Increased congestion on the local roads has the potential to increase emissions there, with the possibility of causing locally-high concentrations of carbon monoxide.

Chapter 4 Cumulative Impacts

4.1 Introduction

Cumulative impacts are defined as the effects on the environment resulting from the incremental contribution of the project when added to the environmental effects of the past, present, and reasonably foreseeable future actions regardless of who proposes those actions. The purpose of the cumulative impacts section is to document that the consequences of the proposed project have been considered in combination with those consequences of other projects.

Both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) require a discussion of cumulative impacts. The discussion considers whether a proposed project's incremental effects have the potential to be cumulatively considerable when taken together with those of closely related past, present, and reasonably foreseeable future actions. Cumulative impacts can be difficult to thoroughly assess due to a lack of definitive information on future development projects. This analysis uses the best information available to assess the potential cumulative impacts related to the proposed project.

A significant cumulative impact on the environment means a substantial, or potentially substantial, adverse or beneficial change in any of the physical conditions within the area affected by the project that results from the compounded or incremental individual environmental impacts of a collection of projects when considered together.

4.2 Cumulative Impacts Area

For the proposed project, the area for evaluation of cumulative impacts is the Route 101 corridor between SR 116 in Cotati and River Road in Fulton. This area was selected because it would be most influenced by projects on Route 101.

4.3 Projects Considered in the Cumulative Impacts Evaluation

In order to conduct a review of projects to be considered for a cumulative impact analysis, various sources were consulted.

1. A search of the Governor's Office of Planning and Research Office database of environmental documents was performed to obtain a list of projects within specific geographic areas. A search was completed for Sonoma County, Santa Rosa, Windsor and Rohnert Park (Database can be accessed on the world wide web at www.ceqanet.ca.gov).
2. Projects routed to Caltrans District 04's IGR/CEQA unit were reviewed.
3. Caltrans staff visited the planning department at the city of Santa Rosa.
4. Caltrans staff visited the Sonoma County permit and Resources Management Department.

The following criteria were used to determine which projects should be considered for further analysis:

- Project needed complete, draft environmental document.
- Document received between January 2000 and June 2003 (two projects that directly intersected with the current project area were considered back to 1996).
- Project located within a reasonable distance of SON-101 corridor, between Cotati and Windsor.

Projects that provided no actual development plans were screened out. The geographic boundaries were determined by a combination of the extent of the current document's traffic analysis projections and similar environmental resources that could be affected. Therefore, Cotati is used as the southern boundary because the Cotati grade provides a natural divide between the Santa Rosa Plain and the Petaluma River Basin. Resources that the current project has the potential to affect were used as additional identifiers for projects for inclusion. Thus, projects with impacts to similar resources were chosen to include in the analysis.

The following projects have been included in the cumulative impacts evaluation, as they are located along either Route 101 or SR-12 in the general vicinity of the proposed project:

- HOV Widening Route 101 from SR-12 north to Steele Lane (proposed project)
- HOV Widening Route 101 from Wilfred Avenue north to SR-12 (open to traffic November 2002)
- Wilfred Avenue Interchange Improvements on Route 101
- HOV Widening Route 101 from north of Steele Lane to Windsor River Road
- HOV Widening Route 101 from Old Redwood Highway to Rohnert Park Expressway
- SR-12/Farmer's Lane Interchange Improvements.

- Bellvue Avenue Widening
- Prince Memorial Greenway
- Paulin Creek Estates
- Railroad Square Drainage Improvements
- South Sonoma Business Park
- 3rd and Davis Mixed Use Project
- Santa Rosa Avenue Underground Storm Water Drainage
- Grace Brothers Redevelopment Project

Other projects that would most likely occur in the proposed project area include primarily residential and commercial development. These actions are largely based on build-out and growth patterns outlined in the local General Plans for the region. Land use information used in this analysis includes data from Sonoma County (March 1989, Amended December 1998), City of Santa Rosa (November 2001), and the City of Rohnert Park (July 2000).

4.4 Potential Cumulative Impacts

There is no universally accepted approach to preparing a cumulative impact analysis. Determining the threshold beyond which cumulative impacts significantly degrade the environment is difficult. While cumulative impacts as a result of humankind's actions have compounded in the project area since the time of initial human contact, it is not possible for this document to analyze the cumulative impacts of the proposed project over too great a time period. For a cumulative impacts analysis to be effective, it must be limited through scoping to the effects that can be evaluated meaningfully. Based on historical development patterns in Sonoma County, development projects of any type within the cumulative impacts area are expected to be concentrated around the existing developed communities. Generally, urban uses dominate adjacent to the freeway and agricultural land use exists farther from the freeway. It appears for the foreseeable future, agricultural uses will continue as the primary land use outside the areas identified for planned growth.

4.4.1 Cumulative Effects of the Evaluated Projects

To study the role of the proposed project on cumulative effects in the project area, first the topics of potential concern were identified: environmental factors for which the proposed project might reasonably have the potential to contribute to a cumulative impact. For instance, because noise impacts are very localized, they tend not to accumulate over an area. The proposed project's only potential natural environment

impacts are to oak trees and to salmonid fish, so only those were the only cumulative biological impacts analyzed. Also, environmental factors where the proposed project would have no effect were eliminated from the study. The discussion which follows is summarized in Tables 4-1a and 4-1b.

Hydrology/Water Quality. The proposed project is expected to have a beneficial impact to stormwater quality because of the water treatment features described in Section 3.2. Most of the projects in Tables 4-1a and 4-1b would result in more impervious surface area. Effective measures are available to address many types of impacts to water quality. For instance, design features such as energy dissipater structures can prevent scouring at outlets of drainage features at any site. Furthermore, the projects would also require permits under the National Pollutant Discharge Elimination System. These would require plans and measures to minimize water pollution during construction, and permanent control measures to minimize water pollution afterwards. The Regional Water Quality Control Board could take enforcement action against any project proponent failing to meet the conditions of the NPDES permit. The net effect to water quality of the projects listed in Tables 4-1a and 4-1b would be minor, and in some cases, as with the Prince Memorial Greenway Project, the net effect would be beneficial.

Geology/Soils/Seismicity. Because geologic and soil conditions are highly localized, implementation of any of the projects listed in Tables 4-1a and 4-1b would not result in cumulative geologic or soils impacts. Engineering and design features are available to avoid seismic hazards.

Hazardous Materials. Existing laws for management of hazardous materials are designed to protect human health and the environment. Over the past three decades, these laws have become comprehensive and effective at identifying potential exposures to hazardous materials and regulating them. For instance, demolition activities in general can generate materials contaminated with lead-based paint or asbestos. Regulatory agencies effectively identify and regulate the management and disposal of these materials. No cumulative impacts of concern related to hazardous materials are expected.

Air Quality. Since the federal Clean Air Act was passed in 1970 and amended in 1977 and 1990, air quality in the Bay Area has improved. Emissions levels and ambient concentration for most pollutants are dropping in the San Francisco Bay Area Air Basin despite increases in population and vehicle miles traveled. The one pollutant that has shown an increase in the last 20 years is particulate matter. This increase is due to a growth in area-wide sources, primarily fugitive dust sources.

However, smaller particulate matter (PM_{10}) concentrations, for the most part caused by combustion, are decreasing as a result of emission controls.

Transportation projects such as the proposed HOV widening project are determined to meet transportation air quality conformity requirements if they have been included in the regional air quality analysis conducted by MTC and the Bay Area Air Quality Management District for the Regional Transportation Program (RTP) and Transportation Improvement Plan (TIP) which conforms with the State Implementation Plan. The analysis considers all planned and programmed transportation projects within the San Francisco Bay Area Air Basin, and thus is a cumulative analysis. Transportation projects in Table 4-1a that are included in the RTP have therefore been analyzed and found not to contribute to a cumulatively-considerable impact to air quality.

The non-transportation projects in Table 4-1b are also subject to air quality permitting requirements. Projects that are in conformance with the regional air quality plan and that meet regional air pollutant budgets (based on air quality models and analyses) would not be expected to have a negative cumulative impact.

Natural Resources. Three projects in the cumulative impact study – the proposed project, the Route 101 HOV widening from Wilfred Avenue to SR-12, and the Wilfred Avenue Interchange Improvements on Route 101—would result in the loss of roadside vegetation such as oaks, redwoods, and various shrubs. However, Caltrans habitat replacement policy, as well as requirements of regulatory agencies such as the California Department of Fish and Game, are expected to fully replace the natural resource values of lost vegetation such as oaks.

Similarly, legal requirements as well as state policies to protect wildlife and threatened or endangered species including threatened salmon and trout are expected to prevent those species from suffering any net adverse effect. Projects such as the Prince Memorial Greenway are expected to have net benefit to such species by restoring natural habitat and improving water quality.

Land Use. Although land use changes would result from some of the projects listed in Tables 4-1a and 4-1b, all the changes are consistent with planned growth and development specified in the relevant general plans. No zoning would need to be changed as a result of the projects. The projects that affect land use have mitigation measures that will most likely reduce the impacts to minimal levels. Proportionately, the land use changes are too small to meet the criteria for cumulative importance.

Socioeconomic/Growth Impacts. None of the projects listed in Tables 4-1a and 4-1b would displace a substantial number of people or existing buildings; create a

substantial imbalance between employed residents and jobs; nor create a substantially imbalanced social, economic, or building mix in any area of Sonoma County. No direct increase of population or employment opportunities can be easily determined from implementation of the proposed project or the other projects listed on Tables 4-1a and 4-1b. Any changes in population or employment opportunities as a result of any of the projects would be minimal at most. All of the projects listed in Tables 4.1a and 4-1b are consistent with the respective general plans governing growth and development. No substantial cumulative impacts are expected.

Community Facilities/Services. Construction of any of the projects listed in Tables 4-1a and 4-1b would not cumulatively adversely affect community facilities/services within the Route 101 corridor. In fact, projects that would improve traffic circulation on Route 101 should result in a positive impact to emergency response times. The projects that would entail a noticeable increase in demand for community services also include features to help meet that demand. Additionally, several projects would provide a net benefit to communtiy facilities and services such as parks and sewer improvements. The proposed project would acquire a portion of the Burbank Elementary School playground but this effect is not expected to substantially contribute to a cumulative impact.

Traffic/Transportation. The proposed project would have a positive effect on transportation in the project area. The descriptions of future year traffic consider tranportation projects expected to be in place in the years 2010 and 2030. These analyses are cumulative and show a cumulative improvement in traffic operations in the future, compared to the no project condition.

Visual Resources. Construction of the Route 101 projects listed on Table 4-1a would change the visual character of the Route 101 corridor from the feeling of an open freeway with visible vegetation along a majority of the freeway to that of a closed-in freeway due to the necessary removal of vegetation, additional pavement in the median areas, and the likely construction of soundwalls at various locations. Addition of aesthetic features such as those outlined in the proposed project (revegetation, bridge and soundwall aesthetics) would minimize any cumulative impact. Projects outside of the Route 101 corridor are in a different viewshed.

Cultural Resources. All the projects in Tables 4-1a and 4-1b went through mandatory reviews for cultural resources. No notable resources were identified. Effective mitigation measures are available if cultural resources are discovered later on any of the projects. No cumulative impact is expected.

Table 4-1a. Cumulative Impacts Project List: Transportation Projects

Resources	HOV Widening Route 101 from SR-12 to Steele Lane (Proposed Project)	HOV Widening Route 101 from Wilfred Avenue north to SR-12 (HOV Opened 11/02)	Wilfred Avenue Interchange Improvements on Route 101	HOV Widening Route 101 north of Steele Lane to Windsor River Road	HOV Widening Route 101 from Old Redwood Highway to Rohnert Park Expressway	SR-12/Farmer's Lane Interchange Improvements	Widening of Bellvue Avenue
Hydrology/ Water Quality	Increase in paved area would result in minimal increase in volume of stormwater runoff. Measures to protect water quality would meet RWQCB requirements. Project is not in the 100-year floodplain.	Increase in paved area increased stormwater runoff minimally. Permit requirements from the RWQCB to protect water quality have been implemented. The project was outside the 100-year flood zone.	Increase in paved area but negligible increase in volume of stormwater runoff. The project is outside the 100-year flood plain.	Increase in paved area means that increase in volume of stormwater runoff must be assessed. Applicable water quality standards and permit requirements will be identified. A flood plain evaluation would be conducted to determine extent of impacted flood plain and recommend mitigation measures, if necessary.	Increase in paved area means that increase in volume of stormwater runoff must be assessed. Applicable water quality standards and permit requirements will be identified. A flood plain evaluation would be conducted to determine extent of impacted flood plain and recommend mitigation measures, if necessary.	Small increase in paved area leading to increased stormwater runoff. Water quality impacts prevented by compliance with permit requirements.	No anticipated impacts to hydrologic or water related resources.
Geology/ Soils/ Seismicity	Engineering and design features are being included to prevent increased risks.	The design incorporates protective features.	Protective engineering and design features are available.	Protective engineering and design features are available.	Protective engineering and design features area available.	The design incorporates protective features.	Project has potential to disturb soils during construction. Best management practices to ensure that sediment does not enter Colgan Creek

Table 4-1a. Cumulative Impacts Project List: Transportation Projects, cont.

Resources	HOV Widening Route 101 from SR-12 north to Steele Lane (Proposed Project)	HOV Widening Route 101 from Wilfred Avenue to SR-12 (HOV Opened 11/02)	Wilfred Avenue Interchange Improvements on Route 101	HOV Widening Route 101 north of Steele Lane to Windsor River Road	HOV Widening Route 101 from Old Redwood Highway to Rohnert Park Expressway	SR-12/Farmer's Lane Interchange Improvements	Widening of Bellvue Avenue
Hazardous Materials	Methods to investigate and manage contamination would prevent hazards to human health and the environment.	Encountered contamination was managed according to established procedures and regulatory requirements.	Methods to investigate and manage contamination would protect public health and the environment.	Methods to investigate and manage contamination would protect public health and the environment.	Methods to investigate and manage contamination would protect public health and the environment.	Any contamination encountered would be managed in accordance with local, state, and federal requirements.	Project will not impact hazardous materials.
Air Quality	Project has been included in the regional air quality analysis conducted by MTC and the Bay Area Air Quality Management District for the RTP and TIP, therefore is consistent with air quality planning.	Project has been included in the regional air quality analysis conducted by MTC and the Bay Area Air Quality Management District for the RTP and TIP, therefore is consistent with air quality planning.	Project has been included in the regional air quality analysis conducted by MTC and the Bay Area Air Quality Management District for the RTP and TIP, therefore is consistent with air quality planning.	Project has been included in the regional air quality analysis conducted by MTC and the Bay Area Air Quality Management District for the RTP and TIP, therefore is consistent with air quality planning.	Project has been included in the regional air quality analysis conducted by MTC and the Bay Area Air Quality Management District for the RTP and TIP, therefore is consistent with air quality planning.	Project has been included in the regional air quality analysis conducted by MTC and the Bay Area Air Quality Management District for the RTP and TIP, therefore is consistent with air quality planning.	The project is not capacity increasing. Although the project is not expected to have any impacts to air quality, roadway watering during construction is proposed to control dust, as needed.

Table 4-1a. Cumulative Impacts Project List: Transportation Projects, cont.

Resources	HOV Widening Route 101 from SR-12 north to Steele Lane (Proposed Project)	HOV Widening Route 101 from Wilfred Avenue to SR-12 (HOV Opened 11/02)	Wilfred Avenue Interchange Improvements on Route 101	HOV Widening Route 101 north of Steele Lane to Windsor River Road	HOV Widening Route 101 from Old Redwood Highway to Rohnert Park Expressway	SR-12/Farmer's Lane Interchange Improvements	Widening of Bellvue Avenue
Natural Resources	Widening and sound wall construction would necessitate removal of median landscaping and many roadside trees, which would be replaced in consultation with Department of Fish and Game. Requirements from regulatory agencies would avoid impacts or replace resources. Species of salmon and trout would be protected by project features and construction restrictions.	Loss of some trees, roadside vegetation, and median planting. Roadside habitat was preserved through replacement planting. Construction timing and techniques avoided impacts to wildlife and migratory birds.	Minor removal of roadside vegetation. Opportunities for replacement planting are available.	Minimizing tree removal is a high priority in designing this project. Methods are available to avoid, replace, or compensate for impacts to natural resources likely to be found in the project area. Potential for species of salmon and trout to be found in the project area. Protective measures are available.	Minimizing tree removal is a high priority in designing this project. Methods are available to avoid, replace, or compensate for impacts to natural resources likely to be found in the project area. Potential for species of salmon and trout to be found in the project area. Protective measures are available.	Oversight by regulatory agencies ensured protection of natural resources.	Several species of trees are proposed to be removed by the project. Replanting of trees is expected to mitigate the impact.
Land Use	Changes in use of about 7 parcels.	No impacts on project area land uses.	Project might convert part of an agricultural field to highway uses, depending on alternative chosen.	Project might require acquisition of about eight residences.	Project might require acquisition of more than 20 parcels. The environmental analysis must evaluate this impact and the effectiveness of mitigation measures.	No impacts on project area land uses.	No impacts to project area land uses.
Socio-Economic/ Growth Impacts	Will require purchase of about 7 parcels, that will be acquired at fair market value. Negligible effects on jobs, businesses, and housing.	No impacts were anticipated	No impacts anticipated.	Would require purchase of residences that would be acquired at fair market value. Preliminary assessment identifies no discernable effect on population or employment.	Would require purchase of parcels that would be acquired at fair market value. Preliminary assessment identifies no discernable effect on population or employment.	No socioeconomic or growth inducing impacts.	The project will impact several residential properties front yards. Mitigation in the form of relocation or replacement of fences, mailboxes, and outbuildings

Table 4-1a. Cumulative Impacts Project List: Transportation Projects, cont.

Resources	HOV Widening Route 101 from SR-12 to Steele Lane (Proposed Project)	HOV Widening Route 101 from Wilfred Avenue to SR-12 (HOV Opened 11/02)	Wilfred Avenue Interchange Improvements on Route 101	HOV Widening Route 101 north of Steele Lane to Windsor River Road	HOV Widening Route 101 from Old Redwood Highway to Rohnert Park Expressway	SR-12/Farmer's Lane Interchange Improvements	Widening of Bellvue Avenue
Community Facilities/ Services	Project would require partial acquisition of an elementary school playground.	Project had no permanent impact to community facilities.	No community facilities and/or services would be impacted.	So far, no impacts to community facilities and/or services have been identified.	So far, no impacts to community facilities and/or services have been identified.	No community facilities and/or services will be impacted.	Project proposes to add water mains, fire hydrants, storm water drain improvements and sewer main connections. No mitigation is proposed.
Traffic/ Transport-ation	Implementation of project would improve traffic operation and reduce congestion as well as promote carpooling.	Implementation of project would improve traffic operation and reduce congestion as well as promote carpooling.	Implementation of project would improve traffic operation and reduce congestion as well as promote carpooling.	Implementation of project would improve traffic operation and reduce congestion as well as promote carpooling.	Implementation of project would improve traffic operation and reduce congestion as well as promote carpooling.	Implementation of project would improve traffic operation and reduce congestion.	Project proposes to improve traffic circulation by adding continuous or location specific left turn lanes.
Visual Resources	Removal of existing freeway landscaping and potential construction of sound walls would have an effect on scenic environment. Project features such as aesthetic treatments on structures would minimize impacts.	Construction of sound walls and removal of existing freeway landscaping affected visual resources. Replacement of landscaping minimizes impacts.	Removal of some trees would have a minimal visual effect	Visual impacts will be determined once a project design is proposed.	Visual impacts will be determined once a project design is proposed.	Project includes landscaping replacement and aesthetic treatment of structures.	The project proposes to remove approximately 35 mature trees which will have an impact to the overall character of the roadway. Tree replacement in planting strips along sidewalks is proposed as mitigation.

Table 4-1a. Cumulative Impacts Project List: Transportation Projects, cont.

Resources	HOV Widening Route 101 from SR-12 to Steele Lane (Proposed Project)	HOV Widening Route 101 from Wilfred Avenue to SR-12 (HOV Opened 11/02)	Wilfred Avenue Interchange Improvements on Route 101	HOV Widening Route 101 north of Steele Lane to Windsor River Road	HOV Widening Route 101 from Old Redwood Highway to Rohnert Park Expressway	SR-12/Farmer's Lane Interchange Improvements	Widening of Bellvue Avenue
Cultural Resources	Should archaeological deposits be discovered during construction, data recovery would be undertaken on any deposits determined to be eligible for the National Register of Historic Places.	No known cultural resources will be affected. Studies found no significant cultural resources in the project area.	No known cultural resources will be affected. There are no known cultural resources in the project area.	Project area has not been studied. Potential for impacts must be evaluated later.	Project area has not been studied. Potential for impacts must be evaluated later.	Studies found no significant cultural resources in the project area.	Cultural resources were found adjacent to, but not in project area. .

Table 4-1b. Cumulative Impacts Project List: Non-Transportation Projects

Resources	Prince Memorial Greenway	Paulin Creek Estates	Railroad Square Drainage Improvements	South Sonoma Business Park	3rd and Davis Mixed Use Project	Santa Rosa Ave Underground Storm Water Drainage Project	Grace Brothers Site Redevelopment Project
Hydrology/ Water Quality	The project will have no adverse long-term impacts to hydrology or water quality. Short-term impacts associated with construction of the creek restoration will be mitigated. Project is expected to have a net benefit to hydrology and water quality.	The project is expected to have negligible impacts to water resources. Mitigation measures to ensure this include culvert crossing designed to maintain water flows and minimize creek impacts, revegetation and restoration of all disturbed banks and an erosion control plan to minimize impacts to the creek.	The project is expected to alleviate current flooding in the area by repairing or replacing drainage infrastructure. The project is not expected to have an impact to groundwater, contribute to flooding on or off-site, or contribute additional capacity to existing drainage systems.	Increased runoff caused by the addition of impervious surfaces has the potential to effect water quality. Mitigation measures will be implemented. Project will also impact the existing drainage system. Development and implementation of a drainage master plan is proposed as mitigation.	Project will have no impact to water quality or hydrologic resources.	Water outflow will not exceed the 100 year flood level or the capacity of the existing drainage. A leaking underground storage tank, and nearby septic tanks have the potential to affect the project, but hazardous materials mitigation measures will be implemented.	The project has the potential to affect water quality and hydrology. Project proponent has is accountable for effective mitigation measures.
Geology/ Soils/ Seismicity	A seismic event could impact the creek bank slopes causing debris slides. Mitigation to reinforce the slopes is proposed.	Project is not expected to have risk of fault rupture. The project is expected to have a minimal impact on soil erosion.	Project is located near a special seismic study area but is not expected to have risk of fault rupture. The project is expected to have a minimal impact to soil erosion.	Near surface soils found at the site could lead to unacceptable settlement for building foundations. Mitigation measures will be implemented.	Project will not affect earthquake faults, sensitive soils or geologic features..	Project has the possibility to carry storm water runoff with disturbed backfill material offsite into local storm drains. Soil erosion prevention methods will be employed.	Project has the possibility to affect soil stability and erosion. Mitigation measures to minimize erosion are proposed.

Table 4-1b. Cumulative Impacts Project List: Non-Transportation Projects, cont.

Resources	Prince Memorial Greenway	Paulin Creek Estates	Railroad Square Drainage Improvements	South Sonoma Business Park	3rd and Davis Mixed Use Project	Santa Rosa Ave Underground Storm Water Drainage Project	Grace Brothers Site Redevelopment Project
Hazardous Materials	Project has potential to impact hazardous materials. Mitigation measures to clean up contaminated soils will be implemented.	Project will not impact hazardous materials	Although motor oil contaminated soils were identified in the project area, a disposal plan was developed. The net effect will be minimal.	Project will not impact hazardous materials.	Project will not impact hazardous materials.	A leaking underground storage tank was identified and corrected. The project also identified the potential for hazardous material spills. Mitigation in the form of established emergency reporting procedures is proposed.	A remediation plan was developed by the city of Santa Rosa and Redevelopment Agency for the clean up of hazardous materials on the project site. The site plan was approved by the California Regional Water Quality Board in May 1996.
Air Quality	No impacts to air quality are expected.	Construction of 5 new homes is not expected to impact air quality.	Project identified the potential for dust and emissions impacts during construction. Mitigation in the form of dust control measures will be implemented by the building contractor.	Project is expected to generate new air pollutant emissions that would affect long-term air quality. Mitigation measures are proposed.	Project is not expected to impact air quality.	Project identified the potential for PM10 emissions during construction. Dust reducing measures are proposed.	Project will impact air quality by adding PM10 emissions during construction. Dust reducing mitigation is proposed. The project will also impact air quality with increased vehicle trips generated. No mitigation is proposed.

Table 4-1b. Cumulative Impacts Project List: Non-Transportation Projects, cont.

Resources	Prince Memorial Greenway	Paulin Creek Estates	Railroad Square Drainage Improvements	South Sonoma Business Park	3rd and Davis Mixed Use Project	Santa Rosa Ave Underground Storm Water Drainage Project October 2000	Grace Brothers Site Redevelop ment Project
Natural Resources	Project is expected to have a beneficial impact to biologic resources.	The urban nature of the area and the existence of informal public access along the creek limit the project's potential to affect wildlife. Revegetating all disturbed areas with native plants and prohibiting fencing in creek setback will allow for the movement of wildlife.	The project design avoids effects on natural resources. Alignment of the outfall structure to the creek was modified to preserve two large redwood trees.	Project expects impacts to wetlands, vegetation, including endangered species Sebastopol meadowfoam, and wildlife nesting grounds. Impacts will be mitigated by revegetating trees, replacing Sebastopol meadowfoam offsite, and limiting construction to non-nesting periods.	Project will not affect natural resources.	Potential to impact surface waters was proposed to be mitigated by cordoning off the area below ordinary high water to construction equipment and materials until construction is complete.	No impacts on natural resources.
Land Use	The project could cause the lack of privacy or unauthorized access to private property. Mitigation measures will be implemented.	No impacts to project area land uses that are inconsistent with general plan.	No impacts to project area land uses.	No impacts to proposed land uses of project area that are inconsistent with general plan.	No impacts on project area land uses.	No impacts on project area land uses.	No impacts on project area land uses.
Socio-Economic/ Growth Impacts	No socio-economic or growth inducing impacts.	No socio-economic or growth inducing impacts. The project area is zoned for low-density residential.	No socio-economic or growth inducing impacts.	The project would create up to 2,510 new jobs and could generate need for additional housing. The project will provide on- or off-site housing as mitigation as mitigation.	No socio-economic or growth inducing impacts.	No socio-economic or growth inducing impacts.	No socio-economic or growth inducing impacts

Table 4-1b. Cumulative Impacts Project List: Non-Transportation Projects, cont.

Resources	Prince Memorial Greenway	Paulin Creek Estates	Railroad Square Drainage Improvements	South Sonoma Business Park	3rd and Davis Mixed Use Project	Santa Rosa Ave Underground Storm Water Drainage	Grace Brothers Site Redevelopment Project
Community Facilities/ Services	The project will have beneficial impacts to community facilities by creating a linear park/bicycle/pedestrian path. PMG will not affect	The project will have no impacts to community facilities or services.	The project will have no impacts to community facilities or services.	The project will increase demand for public services such as police and fire protection. The project proposes a fire management plan and private security patrol.	The project will have no impacts to community facilities or services.	The project will have no impacts to community facilities or services	The project will have no impacts to community facilities or services.
Traffic/ Transport-ation	The project is expected to have beneficial impacts to traffic and transportation facilities.	Traffic impacts are expected to be negligible due to the small size of the project.	Although the project could affect parking capacity in the immediate vicinity of construction, the effects are temporary and negligible.	The proposed project would contribute to increased traffic volumes along Route 101.	Traffic impacts are expected to be negligible.	Short term impacts in the form of lane closures and incompatible uses are expected during construction.	The project is expected to add traffic to freeway, exacerbating already unacceptable peak periods. Widening Route 101 is identified as a mitigation measure to alleviate the problem.
Visual Resources	The project has the potential to conflict with existing design standards. Net visual impacts from the project are expected to be beneficial.	The project will have no impacts to visual or aesthetic resources.	The project will have no impacts to visual or aesthetic resources.	The project is expected to impact visual resources by irreversibly altering the character of the project area. Landscape screening will be installed as mitigation.	The project will be reviewed by the Cultural Heritage Board and the Design Review Board to ensure compatibility with the adjacent Railroad Square Historic District and surrounding buildings.	The project will have no impacts to aesthetic or visual resources.	The project's architectural design has the potential to conflict with the Santa Rosa Creek Master Plan. Lighting of the parking area at night also has the potential to impact views of the surrounding area, and vision of motorists on Route 101. However, these effects can be minimized with planning and integration of the design with the Santa Rosa Waterways Plan policies..

Table 4-1b. Cumulative Impacts Project List: Non-Transportation Projects, cont.

Resources	Prince Memorial Greenway	Paulin Creek Estates	Railroad Square Drainage Improvements	South Sonoma Business Park	3rd and Davis Mixed Use Project	Santa Rosa Ave Underground Storm Water Drainage Project	Grace Brothers Site Redevelopment Project
Cultural Resources	Project has the potential to impact several cultural resources along the reaches of Santa Rosa Creek, but effective mitigation measures will be implemented.	No impacts are anticipated.	No impacts are anticipated.	Buried cultural resources are present, but proposed mitigation measures will reduce any impact	No impacts are anticipated.	No impacts are anticipated.	Implementation of a small archaeological recovery plan prevented impacts to cultural resources.

Chapter 5 California Environmental Quality Act Evaluation

5.1 The Relationship between NEPA and CEQA

The proposed project could have an adverse impact on the environment, and must satisfy the requirements of both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) because both a federal agency – the Federal Highway Adminstration – and a state agency – Caltrans – must make project decisions. A combined Environmental Assessment (EA)/ Environmental Impact Report (EIR) has been prepared in accordance with NEPA and CEQA.

CEQA requires that specific significant impacts be identified in an EIR. Under Section 15382 of the CEQA *Guidelines*, "significant effect" is defined as "a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change my be considered in determining whether the physical change is significant."

NEPA does not require significant effects to be identified in the environmental document. The decision to prepare an Environmental Impact Statement is an acknowledgement that the project would result in significant environmental effects. In contrast, the NEPA document for this project is an Environmental Assessment because the environmental studies led to the conclusion that the project would not result in significant environmental effects. Still, other federal laws use the term "significant," including the Department of Transportation Act to describe Section 4(f) resources, the National Historic Preservation Act to describe Section 106 properties, and Executive Order 11988 to describe floodplain impacts.

5.2 Significance of the Proposed Project's Impacts under CEQA

After an analysis of a proposed project's environmental effects, an EIR might conclude that the project would have significant environmental effects. If the environmental impacts were identified as significant and unavoidable, the project

could still be approved if the lead agency concluded that social, economic, or other public benefits outweigh the unavoidable impacts. The analysis for the draft EIR that you are reading, for the proposed HOV widening project, supports the conclusion that the project would not have unavoidable significant environmental impacts.

5.3 Mitigation Measures for Potentially Significant Impacts Under CEQA

Aesthetics. In order to reduce the visual impacts of the proposed project, the following measures would be implemented. They include measures identified by the City of Santa Rosa and adopted by the City Council by Resolution 24219 in December 1999.

To reduce the impact associated with the visual presence of new soundwalls, the color and texture of materials would be chosen to produce a design that is appropriate to and complements the project setting. The final design would be developed in consultation with the City of Santa Rosa and local residents. Also, where feasible, vines would be planted and allowed to grow on the walls to help visually integrate them with the overall landscape and to reduce the incidence of graffiti. New retaining walls would be given aesthetic treatment consisting of surface texturing and color. Such treatments also reduce glare from reflected natural light and headlights.

To reduce the visual effects of disturbances to freeway landscaping, replacement planting would be provided according to Caltrans standards. Replanting of trees would be maximized along Route 101 where trees can be placed without impairing sight distances or encroaching into clear recovery zones.

To reduce the visual impacts of widening the viaduct and to provide a more attractive and comfortable environment for pedestrians and bicyclists, landscaping along Route 101 and local streets, where they intersect with the State right-of-way, would be maximized. Architectural features would be incorporated into the design of the widened viaduct structure, walls, and abutments. Lighting features would be provided in pedestrian zones along local streets beneath the viaduct. Uses of the area beneath the viaduct that would make it more attractive for pedestrians and bicyclists would be promoted. Pedestrian/bicycle improvements on 3rd Street and 5th Street beneath the viaduct would be developed and constructed to be compatible with the City's Downtown Pedestrian Linkage Project along 4th Street. At the Route

101/College Avenue interchange, a new freeway bridge would be constructed that would provide room for bicycle lanes and sidewalks along College Avenue.

As a replacement for the northern pedestrian over-crossing that would be removed, a pedestrian/bicycle path would be constructed along the south side of Santa Rosa Creek and beneath the freeway bridge in conjunction with the City's Prince Memorial Greenway Project. Also, a new bridge over Santa Rosa Creek would be constructed that would provide pedestrians and bicyclists with more visibility and a safer, more comfortable linkage beneath Route 101. The new bridge would incorporate architectural features approved by the City.

While some residual impacts would remain, incorporation of the measures described above would reduce visual impacts of the proposed project toa level that is less than significant.

Biological Resources. The loss of mature oak trees would be compensated through replacement planting. The project proposal includes the removal of about 80 mature roadside oak trees. The location and methods of replanting, as well as the ratio of replacement trees to removed trees, would be developed in consultation with the California Department of Fish and Game.

Cultural Resources – As a state agency, Caltrans considers the project's impact on resources in accordance with CEQA. Caltrans has determined that the project will result in no substantial adverse change to archaeological resources. Further, Caltrans has determined that the historic architectural resources identified in Section 3.13 which are eligible for the National Register of Historic Places are likewise historic resources for the purposes of CEQA. Finally, although not eligble for the National Register, thirteen buildings in the St. Rose Preservation District have been identified as historical resources under CEQA as contributors to the district. These Are 512, 516, 520, 600, 612, 924 and 940 Morgan Street; 823, 831, and 837 Washington Street; 231 Tenth Street; and 308 Lincoln Street. In compliance with CEQA, the project will not result in a substantial adverse change, such as demolition, destruction, relocation, or alteration of the contributing components of the local preservation district, such that significance of these historical properties would be impaired. Therefore, there would be no significant effect to the above-noted historical resources.

Chapter 6 Summary of Public Involvement and Tribal Coordination

6.1 Public Involvement

To inform and involve the public on the proposed project, Caltrans staff have taken the following actions:

Notice of Intent/Notice of Preparation. The public and interested agencies were asked to comment on the subjects to be discussed in the joint Environmental Impact Statement/ Environmental Impact Report for this proposed project via a joint Notice of Intent/Notice of Preparation that was prepared and released October 30th, 2000.

In early 2003, the project's environmental analysis concluded that the project would not be likely to result in significant environmental impacts. In view of this conclusion, FHWA determined that the appropriate NEPA document for the project would be an Environmental Assessment rather than an Environmental Impact Statement. On Monday, May 5, 2003, the Federal Register published FHWA's Notice of Withdrawal of its earlier intent to prepare an Environmental Impact Statement.

Information/Coordination Meetings. Caltrans held public information meetings on October 27, 1999 and November 29, 2000, where attendees could view project related information on large display boards and receive data sheets. On January 10, 2001, Caltrans held an informational meeting for public agencies at the District 4 offices in Oakland. The Draft EA/EIR was released for public review on July 21, 2003 and was available for comment until September 3, 2003. A public meeting to review the document and proposed soundwalls was held on August 7, 2003.

Caltrans Mobile Display. A mobile display showing general information about the project, including a description of the proposed project, an overview map showing the limits of the project, photographs of typical soundwalls located adjacent to highways, a typical cross-section of the proposed project, and other general information, was at the following locations on the following dates:

Location of Display	Date/Time
Sonoma County Transportation Authority Meeting	May 14, 2001
Burbank Elementary School	May 15, 2001

Prince Memorial Greenway Dedication	May 19, 2001
Santa Rosa City Council Chambers	May 21 to 30, 2001
Santa Rosa Plaza	May 30 to June 11, 2001
Coddingtown Mall	June 11 to 17, 2001
Central Santa Rosa Library	June 20 to July 3, 2001
Santa Rosa Visitors Bureau	July 3 to 17, 2001
Santa Rosa Junior College, Fall Faculty Seminar	August 16 to 17, 2001

Visual simulations to show the appearance of the proposed new features of Route 101 were added to the mobile display in 2002. The mobile display was then recirculated at the following places:

Location of Display	Date/Time
Santa Rosa City Council Chambers	June 24 to 28, 2002
Central Sonoma County Library	July 1 to 12, 2002
Santa Rosa Visitor's Bureau	August 15 to 18, 2002
Santa Rosa Plaza	August 19 to 26, 2002

Caltrans Website. A publically-accessible website was developed to provide a variety of information about the proposed project. The web address is http://www.dot.ca.gov/dist4/route12wpg.htm.

Coordination with Local Governments and Stakeholders. Since 1998, Caltrans staff have met regularly with the City Department of Public Works, the Sonoma County Transportation Authority, and other stakeholders to refine the proposed project. Caltrans continues to meet regularly with a City Council representative, members of the Santa Rosa Design Review Board, Main Street, and Santa Rosa Public Works officials in order to develop aesthetic treatments for the improved freeway.

On November 6, 2001, December 3, 2002, and March 3, 2003, Caltrans staff presented current photos and future visual simulations of the proposed project to the Santa Rosa City Council. Caltrans staff then received input from the City Council on the visual simulations. Also present at these presentations were staff members from the City of Santa Rosa Department of Public Works.

Coordination with Santa Rosa School District. The Santa Rosa School District has been working with Caltrans with respect to changes at Luther Burbank School, where the proposed project would have impacts to part of the playground. Caltrans met with

the Santa Rosa School Board on July 25, 1999 with respect to minimizing impacts to the playground, and with parents and Burbank students on September 9, 1999.

Native American Coordination/Meetings. The Native American Heritage Commission (NAHC) was contacted for a search of their Sacred Lands files and for a list of interested Native American groups and individuals in October 1999 and again in June 2000. Letters were sent to groups and individuals named on the list received (see Table 3.13-1 in Section 3.13.1.1) from the NAHC on November 20, 2000 and to the Dry Creek and Federated Indians of Graton Rancherias again on January 2, 2001. In July 2001 a meeting was held with the Lytton Rancheria of Pomo Indians, later a meeting with the Federated Indians of Graton Rancheria occurred in August 2001. Another meeting with representatives of both the Graton and Lytton rancherias further explored the tribes' interest on February 27, 2002. An address to the Lytton Tribal Council was also arranged on February 27, 2002 to explain the project in detail and to solicit views and information regarding the project impacts. The Lytton Tribal Council expressed concern regarding Caltrans' efforts to contact other tribes and suggested that additional effort should be made. As a result Caltrans sent contact letters to the Cloverdale Rancheria of Pomo Indians and to Stewarts Point Rancheria. Follow-up phone calls to all the groups and individuals originally contacted were placed to give the opportunity for verbal comment and to verify receipt of letters. Because consultation is an ongoing exchange of views and information, those groups who have expressed an interest would be included in future phases of this project. Please see Table 3.13-1 in Section 3.13.1.1 for a summary of Native American Involvement to date.

Historic Properties Coordination. On May 15, 2000, Caltrans initiated public outreach for historical resources of the built environment in the project area. A letter was sent to Ms. Leigh Jordan of the Northwest Information Center describing the proposed project and Caltrans' efforts to identify historic properties. The letter requested Ms. Jordan to distribute project and survey information to a number of local agencies, community organizations, and other interested parties in an effort to inform said parties and to elicit responses.

On February 14, 2001, Cultural Resource specialists from the Office of Environmental Assessment presented an overview of the historic architectural survey at a meeting with the City of Santa Rosa Cultural Heritage Board. At this meeting, board members inquired about potential impacts of the project on historic structures and districts in the vicinity of the proposed project. Caltrans staff provided clarification on these issues and an explanation of the environmental review process for this project.

Chapter 7 List of Preparers

This EA/EIR was prepared by the California Department of Transportation, District 4 Office of Environmental Analysis. The following staff and consultants contributed to the preparation of this EA/EIR:

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Gene Benton, Deputy Director – Traffic, Public Works Department

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Evan Dilks, Ambulance Supervisor

Involvement of Those No Longer With Caltrans
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Fiona van Ammers, Caltrans Associate Hazardous Materials Engineer

Chapter 8 Distribution List - Draft EA/EIR

Federal Agencies

U.S. Environmental Protection Agency
Region 9, EIS Coordinator
Federal Activities Office, CMD-2
75 Hawthorne Street
San Francisco, CA 94105

National Marine Fisheries Service
Bay Area Office
777 Sonoma Avenue, Room 325
Santa Rosa, CA 94502

U.S. Army Corps of Engineers
Regulatory Branch
San Francisco District
Attention: CESPN-CO-R
333 Market Street, 8th Floor
San Francisco, CA 94105

U.S. Department of Agriculture
Natural Resources Conservation Service
430 G Street, #4164
Davis, CA 95616

U.S. Fish and Wildlife Service
U.S. Department of Interior
2800 Cottage Way, Room W-2605
Sacramento, CA 95825

U.S. Department of Interior
Office of Environmental Policy and Compliance
1849 C Street NW, Room 2340
Washington, D.C. 20240

State Agencies

Executive Director
Office of Planning and Research
State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

Calif. Department of Conservation
801 K Street, MS 24-01
Sacramento, CA 95814

Calif. Department of Fish and Game
Fisheries, Wildlife, and Environmental Programs
P.O. Box 47
Yountville, CA 94599

Calif. Department of Fish and Game
Habitat Conservation Planning Branch
1416 9th Street, Suite 1341
Sacramento, CA 94296

Office of Historic Preservation
P.O. Box 942896
Sacramento, CA 94296

Calif. Department of Parks and Recreation
Resources Management Division
P.O. Box 942896
Sacramento, CA 94296

Calif. Department of Water Resources
Reclamation Board
1416 Ninth Street, Room 1601
Sacramento, CA 95814

Calif. Department of Water Resources
Environmental Services Office
3251 S Street, Room 111
Sacramento, CA 95816

California Highway Patrol
Office of Special Projects
2555 1st Avenue
Sacramento, CA 95818

Calif. Department of General Services
Environmental Services Section
1325 J Street, Suite 1910
Sacramento, CA 95814

California Air Resources Board
Transportation Projects
1102 Q Street
Sacramento, CA 95812

Integrated Waste Management Board
P.O. Box 4025
Sacramento, CA 95812

Calif. State Water Resources Control Board
Division of Water Quality
P.O. Bow 100
Sacramento, CA 95812

Calif. Department of Toxic Substances Control
1000 I Street
Sacramento, CA 95814

California Energy Commission
1516 Ninth Street, MS-29
Sacramento, CA 95814

Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814

Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825

Regional

Executive Officer, Susan A Warner
Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd
Santa Rosa, CA 95403

Executive Director, Eugene Leong
Association of Bay Area Governments
101 8th Street
Oakland, CA 94604

Executive Director, Steve Heminger
Metropolitan Transportation Commission
101 8th Street
Oakland, CA 94604

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Sierra Club
6014 College Avenue
Oakland, CA 94618

Local

Executive Director
Rick Moshier
Santa Rosa Public Works Dept.
69 Stony Circle
Santa Rosa, CA 95401

Community Development
City of Santa Rosa
100 Santa Rosa Avenue, Rm. 3
Building and Planning Divisions
Santa Rosa, CA 95402

Executive Director, Suzanne Wilford
Sonoma County Transportation Authority
520 Mendocino Avenue, #240
Santa Rosa, CA 95401

County Administrator, Michael Chrystal
Sonoma County
575 Administration Drive, Room 100A
Santa Rosa, CA 95403

Sonoma County Bicycle Coalition
P.O. Box 3088
Santa Rosa, CA 95402
Attn: Gary Wysocky

Community Development – Planning Division
Deputy Director of Planning Services, Brian C. Crawford
Marin County
3501 Civic Center Drive, #308
San Rafael, CA 94903

County Administrator, Mark J. Reisenfeld
Marin County
3501 Civic Center Drive, #325
San Rafael, CA 94903

Golden Gate Bridge Highway and Transportation District
General Manager, Celia M. Kupersmith
1011 Anderson Drive
San Rafael, Ca 94901

Santa Rosa City School District
Superintendent, Mel Solie
211 Ridgway Avenue
Santa Rosa, CA 95401

Luther Burbank Elementary School
Principal, Marty Cassity
203 A Street
Santa Rosa, CA 95401

President, W. Terry Lindley
Santa Rosa Junior College
1501 Mendocino Avenue
Santa Rosa, CA 95401

Federal Elected Officials

Honorable Barbara Boxer
United States Senator
1700 Montgomery Street, #240
San Francisco, CA 94111

Honorable Diane Feinstein
United States Senator
1700 Montgomery Street, #305
San Francisco, CA 94111

Honorable Mike Thompson
Representative in Congress, 1st District
1040 Main Street, #101
Napa, CA 94559

Honorable Lynn Woolsey
Representative in Congress, 6th District
1101 College Avenue, #200
Santa Rosa, CA 95404

State Elected Officials

Honorable Wes Chesbro
California Senator, 2nd District
50 D Street, #102A
Santa Rosa, CA 95404

Honorable John Burton
California Senator, 3rd District
3501 Civic Center, Room 425
San Rafael, CA 94903

Honorable Virginia Strom-Martin
California Assembly, 1st District
50 D Street, #305
Santa Rosa, CA 95404

Honorable Joseph Nation
California Assembly, 6th District
50 D Street, #450
Santa Rosa, CA 95404

Honorable Patricia Wiggins
California Assembly, 7th District
50 D Street, #301
Santa Rosa, CA 95404

Local Elected Officials

Mayor, Sharon Wright
City of Santa Rosa
P.O. Box 1678
Santa Rosa, CA 95402

City Council
City of Santa Rosa
P.O. Box 1678
Santa Rosa, CA 95402

Board of Supervisors
Sonoma County
575 Administration Drive, Room 100A
Santa Rosa, CA 95403

Board of Supervisors
Marin County
3501 Civic Center Drive, #325
San Rafael, CA 94903

Chapter 9 References

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Association of Bay Area Governments (ABAG)
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Appendix A Coordination and Consultation – Agency Correspondence

1. Fish and Wildlife Service Species Lists for Sonoma County and the Santa Rosa USGS 7.5' Quadrangle

2. National Oceanic and Atmospheric Administration - Marine Fisheries Service Letter: July, 2002

3. Army Corps of Engineers Jurisdiction Correspondence: January, 2002

4. State Historic Preservation Officer Concurrence Letters:

   a) February, 2003

   b) December, 2003

5. Department of the Interior Section 4(f) Comments Letter: December, 2003

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

IN REPLY REFER TO:
1-1-03-SP-0048

October 16, 2002

Mr. Chuck Morton
District Branch Chief
Office of Environmental Planning North
Department of Transportation
P.O. Box 23660
Oakland, California 94623-0660

Subject: Species List for Proposed Caltrans Project on State Route 101, Sonoma County, California

Dear Mr. Morton:

We are sending the enclosed list in response to your October 10, 2002, request for information about endangered and threatened species (Enclosure A). This list fulfills the requirement of the Fish and Wildlife Service (Service) to provide species lists under section 7(c) of the Endangered Species Act of 1973, as amended (Act).

The animal species on the Enclosure A quad list are those species we believe may occur within, *or be affected by projects within*, the following USGS quads, where your project is planned: Santa Rosa Quad.

Any plants on the quad list are ones *that have actually been observed* in the project quad(s). Plants may occur in a quad without having been observed there. Therefore we have included a species list for the whole county in which your project occurs. We recommend that you survey for any relevant plants shown on this list.

Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them. Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.

Executive Order 13186, January 17, 2001, directs Federal agencies to take specific steps to conserve migratory birds. *Species of Concern* (see below) are specifically included in this Executive Order. (The Order can be found at www.nara.gov/fedreg/eo.html) Birds are shown on

our species lists regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

If a species has been listed as threatened or endangered by the State of California, but not by us nor by the National Marine Fisheries Service, it will appear on your list as a Species of Concern.

However you must contact the California Department of Fish and Game for official information about these species. Call (916) 322-2493 or write Marketing Manager, California Department of Fish and Game, Natural Diversity Data Base, 1416 Ninth Street, Sacramento, California 95814.

Some of the species listed in Enclosure A may not be affected by the proposed action. A trained biologist or botanist, familiar with the habitat requirements of the listed species, should determine whether these species or habitats suitable for them may be affected. For plants, we recommend using the enclosed Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Species (Enclosure C).

Some pertinent information concerning the distribution, life history, habitat requirements, and published references for the listed species is available upon request. This information may be helpful in preparing the biological assessment for this project, if one is required. Please see Enclosure B for a discussion of the responsibilities Federal agencies have under section 7(c) of the Act and the conditions under which a biological assessment must be prepared by the lead Federal agency or its designated non-Federal representative.

Formal consultation, under 50 CFR § 402.14, should be initiated if you determine that a listed species may be affected by the proposed project. If you determine that a proposed species may be adversely affected, you should consider requesting a conference with our office under 50 CFR § 402.10. Informal consultation may be utilized prior to a written request for formal consultation to exchange information and resolve conflicts with respect to a listed species. If a biological assessment is required, and it is not initiated within 90 days of your receipt of this letter, you should informally verify the accuracy of this list with our office.

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as *critical habitat*. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal. Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, this will be noted on the species list. Maps and boundary descriptions of the critical habitat may be found in the *Federal Register*. The information is also reprinted in the *Code of Federal Regulations* (50 CFR 17.95).

Candidate species are being reviewed for possible listing. Contact our office if your biological assessment reveals any candidate species that might be adversely affected. Although they currently have no protection under the Endangered Species Act, one or more of them could be proposed and listed before your project is completed. By considering them from the beginning, you could avoid problems later.

Your list may contain a section called *Species of Concern*. This term includes former *category 2 candidate species* and other plants and animals of concern to the Service and other Federal, State and private conservation agencies and organizations. Some of these species may become candidate species in the future.

If the proposed project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by the U.S. Army Corps of Engineers (Corps), a Corps permit will be required, under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act. Impacts to wetland habitats require site specific mitigation and monitoring. You may request a copy of the Service's General Mitigation and Monitoring Guidelines or submit a detailed description of the proposed impacts for specific comments and recommendations. If you have any questions regarding wetlands, contact Mark Littlefield at (916) 414-6580.

Please contact Dan Buford at (916) 414-6625, if you have any questions about the attached list or your responsibilities under the Endangered Species Act. For the fastest response to species list requests, address them to the attention of Species Lists at this address. You may fax requests to 414-6712 or 414-6713. You may also email them to harry_mossman@fws.gov.

Sincerely,

James A. Bo
For
Jan C. Knight
Chief, Endangered Species Division

Enclosures

ENCLOSURE A

Endangered and Threatened Species that May Occur in or be Affected by

PROJECTS IN SONOMA COUNTY

Reference File No. 1-1-03-0048

October 16, 2002

Listed Species

Mammals

sei whale, *Balaenoptera borealis* (E) NMFS

blue whale, *Balaenoptera musculus* (E) NMFS

finback (=fin) whale, *Balaenoptera physalus* (E) NMFS

right whale, *Eubalaena glacialis* (E) NMFS

humpback whale, *Megaptera novaeangliae* (E) NMFS

sperm whale, *Physeter catodon (=macrocephalus)* (E) NMFS

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

Guadalupe fur seal, *Arctocephalus townsendi* (T) NMFS

Steller (=northern) sea-lion, *Eumetopias jubatus* (T) NMFS

Birds

short-tailed albatross, *Diomedea albatrus* (E)

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus* (E)

Critical habitat, marbled murrelet, *Brachyramphus marmoratus* (T)

marbled murrelet, *Brachyramphus marmoratus* (T)

Critical habitat, western snowy plover, *Charadrius alexandrinus nivosus* (T)

western snowy plover, *Charadrius alexandrinus nivosus* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

northern spotted owl, *Strix occidentalis caurina* (T)

Reptiles

leatherback turtle, *Dermochelys coriacea* (E) NMFS

loggerhead turtle, *Caretta caretta* (T) NMFS

green turtle, *Chelonia mydas (incl. agassizi)* (T) NMFS

olive (=Pacific) ridley sea turtle, *Lepidochelys olivacea* (T) NMFS

Amphibians

California tiger salamander, *Ambystoma californiense* (C/E)

California red-legged frog, *Rana aurora draytonii* (T)

Critical habitat, California red-legged frog, *Rana aurora draytonii* (T)

Fish

tidewater goby, *Eucyclogobius newberryi* (E)

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Critical habitat, coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS

coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS

Central California Coastal steelhead, *Oncorhynchus mykiss* (T) NMFS

Northern California steelhead, *Oncorhynchus mykiss* (T) NMFS

California coastal chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

Invertebrates

white abalone, *Haliotes sorenseni* (E) NMFS

Behren's silverspot butterfly, *Speyeria zerene behrensii* (E)

Myrtle's silverspot butterfly, *Speyeria zerene myrtleae* (E)

California freshwater shrimp, *Syncaris pacifica* (E)

Plants

Sonoma alopecurus, *Alopecurus aequalis var. sonomensis* (E)

Clara Hunt's milk-vetch, *Astragalus clarianus* (E)

Baker's stickyseed, *Blennosperma bakeri* (E)

white sedge, *Carex albida* (E)

Vine Hill clarkia, *Clarkia imbricata* (E)

Pennell's bird's-beak, *Cordylanthus tenuis ssp. capillaris* (E)

yellow larkspur, *Delphinium luteum* (E)

Loch Lomond coyote-thistle (=button-celery), *Eryngium constancei* (E)

Burke's goldfields, *Lasthenia burkei* (E)

Pitkin Marsh lily, *Lilium pardalinum ssp. pitkinense* (E)

Sebastopol meadowfoam, *Limnanthes vinculans* (E)

clover lupine [Tidestrom's lupine], *Lupinus tidestromii* (E)

many-flowered navarretia, *Navarretia leucocephala ssp. pilosantha* (E)

Kenwood Marsh checkermallow (=checkerbloom), *Sidalcea oregana ssp. valida* (E)

Sonoma spineflower, *Chorizanthe valida* (E) *

soft bird's-beak, *Cordylanthus mollis ssp. mollis* (E) *

Baker's larkspur, *Delphinium bakeri* (E) *

Hickman's potentilla (=cinquefoil), *Potentilla hickmanii* (E) *

showy Indian clover, *Trifolium amoenum* (E) *

Proposed Species

Plants

Critical habitat, Baker's larkspur, *Delphinium bakeri* (PX)

Critical habitat, yellow larkspur, *Delphinium luteum* (PX)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Invertebrates

black abalone, *Haliotes cracherodii* (C) NMFS

Species of Concern

Mammals

gray whale, *Eschrichtius robustus* (D) NMFS

California red tree vole, *Arborimus pomo* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

Suisun ornate shrew, *Sorex ornatus sinuosus* (SC)

Birds

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

black rail, *Laterallus jamaicensis coturniculus* (CA)

bank swallow, *Riparia riparia* (CA)

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American peregrine falcon, *Falco peregrinus anatum* (D)

tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

American bittern, *Botaurus lentiginosus* (SC)

ferruginous hawk, *Buteo regalis* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

olive-sided flycatcher, *Contopus cooperi* (SC)

black swift, *Cypseloides niger* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

common loon, *Gavia immer* (SC)

saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)

Harlequin duck, *Histrionicus histrionicus* (SC)

loggerhead shrike, *Lanius ludovicianus* (SC)

San Pablo song sparrow, *Melospiza melodia samuelis* (SC)

long-billed curlew, *Numenius americanus* (SC)

ashy storm-petrel, *Oceanodroma homochroa* (SC)

rufous hummingbird, *Selasphorus rufus* (SC)

Allen's hummingbird, *Selasphorus sasin* (SC)

Xantus' murrelet, *Synthliboramphus hypoleucus* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

Northern red-legged frog, *Rana aurora aurora* (SC)

foothill yellow-legged frog, *Rana boylii* (SC)

western spadefoot toad, *Spea hammondii* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)

Russian River tule perch, *Hysterocarpus traski pomo* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

Gualala roach, *Lavinia symmetricus parvipinnis* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Sonoma arctic skipper, *Carterocephalus palaemon ssp.* (SC)

sandy beach tiger beetle, *Cicindela hirticollis gravida* (SC)

globose dune beetle, *Coelus globosus* (SC)

brownish dubiraphian riffle beetle, *Dubiraphia brunnescens* (SC)

Ricksecker's water scavenger beetle, *Hydrochara ricksecker* (SC)

Leech's skyline diving beetle, *Hydroporus leechi* (SC)

bumblebee scarab beetle, *Lichnanthe ursina* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Plants

North Coast sand-verbena, *Abronia umbellata ssp. breviflora* (SC)

Blasdale's bentgrass, *Agrostis blasdalei var. blasdalei* (SC)

Baker's manzanita, *Arctostaphylos bakeri ssp. bakeri* (SC)

Vine Hill manzanita, *Arctostaphylos densiflora* (SC)

Rincon manzanita, *Arctostaphylos stanfordiana ssp. decumbens* (SC)

Thurber's reed grass, *Calamagrostis crassiglumis* (SC)

The Cedars globe-lily (=fairy-lantern), *Calochortus raichei* (SC)

swamp harebell, *Campanula californica* (SC)

Rincon Ridge ceanothus, *Ceanothus confusus* (SC)

Calistoga ceanothus, *Ceanothus divergens* (SC)

Vine Hill ceanothus, *Ceanothus foliosus var. vineatus* (SC)

Sonoma ceanothus, *Ceanothus sonomensis* (SC)

woolly-headed (=San Francisco) spineflower, *Chorizanthe cuspidata var villosa* (SC)

Round-headed Chinese houses, *Collinsia corymbosa* (SC)

northcoast (=Point Reyes) bird's-beak, *Cordylanthus maritimus ssp. palustris* (SC)

Mendocino (=pygmy) cypress, *Cupressus goveniana ssp. pigmaea* (SC)

supple daisy, *Erigeron supplex* (SC)

Snow Mountain buckwheat, *Eriogonum nervulosum* (SC)

San Francisco wallflower, *Erysimum franciscanum* (SC)

fragrant fritillary (= prairie bells), *Fritillaria liliacea* (SC)

San Francisco (=bluehead, Chamisso's, dune) gilia, *Gilia capitata ssp. chamissonis* (SC)

two-carpeled dwarf-flax (=western flax), *Hesperolinon bicarpellatum* (SC)

coast lily, *Lilium maritimum* (SC)

large-flowered (=flower) linanthus, *Linanthus grandiflorus* (SC)

Baker's navarretia, *Navarretia leucocephala ssp. bakeri* (SC)

Gairdner's yampah, *Perideridia gairdneri ssp. gairdneri* (SC)

northcoast semaphore grass, *Pleuropogon hooverianus* (SC)

California beaked-rush, *Rhynchospora californica* (SC)

seashore (=coast, =beach) starwort, *Stellaria littoralis* (SC)

Contact (Socrates) Mine jewelflower, *Streptanthus brachiatus ssp. brachiatus* (SC)

Freed's jewelflower, *Streptanthus brachiatus ssp. hoffmanii* (SC)

secund jewelflower, *Streptanthus glandulosus var. hoffmanii* (SC)

Three Peaks jewelflower, *Streptanthus morrisonii ssp. elatus* (SC)

Dorr's Cabin jewelflower, *Streptanthus morrisonii ssp. hirtiflorus* (SC)

Kruckeberg's jewelflower, *Streptanthus morrisonii ssp. kruckebergii* (SC)

Morrison's jewelflower, *Streptanthus morrisonii ssp. morrisonii* (SC)

beaked tracyina, *Tracyina rostrata* (SC)

water sack (=saline) clover, *Trifolim depauperatum var. hydrophilum* (SC)

Santa Cruz clover, *Trifolium buckwestiorum* (SC)

pink sand-verbena, *Abronia umbellata ssp. umbellata* (SLC)

Franciscan onion, *Allium peninsulare var. franciscanum* (SLC)

Napa false indigo, *Amorpha californica var. napensis* (SLC)

bent-flowered fiddleneck, *Amsinckia lunaris* (SLC)

coast rock-cress, *Arabis blepharophylla* (SLC)

The Cedars manzanita, *Arctostaphylos bakeri ssp subtaevis* (SLC)

Sonoma manzanita, *Arctostaphylos canescens ssp sonomensis* (SLC)

Nuttall's milk-vetch, *Astragalus nuttallii var. virgatus* (SLC)

California saltbush, *Atriplex californica* (SLC)

big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)

narrow-anthered California brodiaea, *Brodiaea californica var leptandra* (SLC)

Bolander's reed grass, *Calamagrostis bolanderi* (SLC)

Mt. Saint Helena morning-glory, *Calystegia collina ssp. oxyphylla* (SLC)

coastal bluff morning-glory, *Calystegia purpurata ssp saxicola* (SLC)

deceiving (=salt) sedge, *Carex saliniformis (=Carex hassei)* (SLC)

salt marsh owl's clover (=johnny-nip), *Castilleja ambigua ssp. ambigua* (SLC)

purple owl's-clover (=wideleaf Indian paintbrush), *Castilleja exserta ssp. latifolia* (SLC)

holly-leaved ceanothus, *Ceanothus purpureus* (SLC)

dwarf soaproot (=wavyleaf soap plant), *Chlorogalum pomeridianum var minus* (SLC)

Davy's clarkia, *Clarkia davyi* (SLC)

serpentine (=Cleveland's) cryptantha, *Cryptantha clevelandii* (SLC)

western leatherwood, *Dirca occidentalis* (SLC)

narrow-leaved daisy (=serpentine fleabane), *Erigeron angustatus* (SLC)

St. Helena fawn lily, *Erythronium helenae* (SLC)

yarrow-leaf (=manyleaf, dark-eyed) gilia, *Gilia millefoliata* (SLC)

thin-lobbed (=Santa Rosa) horkelia, *Horkelia tenuiloba* (SLC)

perennial goldfields, *Lasthenia macrantha ssp macrantha* (SLC)

Colusa layia (=Colusa tidytips), *Layia septentrionalis* (SLC)

Jepson's linanthus, *Linanthus jepsonii* (SLC)

Cobb Mountain lupine, *Lupinus sericatus* (SLC)

marsh microseris (=marsh silverpuffs), *Microseris paludosa* (SLC)

robust monardella (=robust coyote mint), *Monardella villosa ssp globosa* (SLC)

Marin knotweed, *Polygonum marinense* (SLC)

Point Reyes checkerbloom, *Sidalcea calycosa ssp rhizomata* (SLC)

Marin checkermallow (=checkerbloom), *Sidalcea hickmanii ssp. viridis* (SLC)

maple-leaved checkerbloom, *Sidalcea malachroides* (SLC)

purple-stemmed (=dwarf) checkerbloom, *Sidalcea malviflora ssp purpurea* (SLC)

Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SLC)

alkali milk-vetch, *Astragalus tener var. tener* (SC) *

legenere, *Legenere limosa* (SC) *

rose linanthus, *Linanthus rosaceus* (SC) *

Tiburon buckwheat, *Eriogonum caninum* (SLC) *

Baker's goldfields, *Lasthenia macrantha ssp bakeri* (SLC) *

Petaluma popcornflower, *Plagiobothrys mollis var. vestitus* (SC) **

Franciscan thistle, *Cirsium andrewsii* (SC) *

woolly-headed gilia, *Gilia capitata ssp. tomentosa* (SC) *

curly-leaved (=curlyleaf) monardella, *Monardella undulata* (SC) *

San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata* (SC)

Crystal Springs lessingia, *Lessingia arachnoidea* (SC)

San Mateo tree lupine, *Lupinus arboreus var. eximius* (SLC)

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	*Proposed Critical Habitat*	Proposed as an area essential to the conservation of the species.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	Other species of concern to the Service.
(SLC)	*Species of Local Concern*	Species of local or regional concern or conservation significance.
(D)	*Delisted*	Delisted. Status to be monitored for 5 years.
(CA)	*State-Listed*	Listed as threatened or endangered by the State of California.
NMFS	NMFS species	Under the jurisdiction of the National Marine Fisheries Service. Contact them directly.
*	*Extirpated*	Possibly extirpated from the area.
**	*Extinct*	Possibly extinct
	Critical Habitat	Area essential to the conservation of a species.

ATTACHMENT A

Endangered and Threatened Species that May Occur in
or be Affected by Projects in the Selected Quads Listed Below
Reference File No. 1-1-03-SP-0048
October 16, 2002

QUAD: 501B SANTA ROSA

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

northern spotted owl, *Strix occidentalis caurina* (T)

Amphibians

California tiger salamander, *Ambystoma californiense* (C/E)

California red-legged frog, *Rana aurora draytonii* (T)

Fish

coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS

Central California Coastal steelhead, *Oncorhynchus mykiss* (T) NMFS

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

California coastal chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

California freshwater shrimp, *Syncaris pacifica* (E)

Plants

Baker's stickyseed, *Blennosperma bakeri* (E)

Sebastopol meadowfoam, *Limnanthes vinculans* (E)

showy Indian clover, *Trifolium amoenum* (E) *

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *?

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

oak titmouse, *Baeolophus inornatus* (SLC)

Vaux's swift, *Chaetura vauxi* (SC)

black swift, *Cypseloides niger* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

loggerhead shrike, *Lanius ludovicianus* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

long-billed curlew, *Numenius americanus* (SC)

bank swallow, *Riparia riparia* (CA)

rufous hummingbird, *Selasphorus rufus* (SC)

Allen's hummingbird, *Selasphorus sasin* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

Northern red-legged frog, *Rana aurora aurora* (SC)

foothill yellow-legged frog, *Rana boylii* (SC)

Fish

Russian River tule perch, *Hysterocarpus traski pomo* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

Invertebrates

Sonoma arctic skipper, *Carterocephalus palaemon ssp.* (SC)

Ricksecker's water scavenger beetle, *Hydrochara ricksecker* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Plants

Napa false indigo, *Amorpha californica var. napensis* (SLC)

bent-flowered fiddleneck, *Amsinckia lunaris* (SLC)

Sonoma manzanita, *Arctostaphylos canescens ssp sonomensis* (SLC)

Rincon manzanita, *Arctostaphylos stanfordiana ssp. decumbens* (SC)

big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)

narrow-anthered California brodiaea, *Brodiaea californica var leptandra* (SLC)

Rincon Ridge ceanothus, *Ceanothus confusus* (SC)

Calistoga ceanothus, *Ceanothus divergens* (SC)

fragrant fritillary (= prairie bells), *Fritillaria liliacea* (SC)

Jepson's linanthus, *Linanthus jepsonii* (SLC)

Baker's navarretia, *Navarretia leucocephala ssp. bakeri* (SC)

water sack (=saline) clover, *Trifolim depauperatum var. hydrophilum* (SC)

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	*Proposed Critical Habitat*	Proposed as an area essential to the conservation of the species.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	May be endangered or threatened. Not enough biological information has been gathered to support listing at this time.
(SLC)	*Species of Local Concern*	Species of local or regional concern or conservation significance.
(MB)	*Migratory Bird*	Migratory bird
NMFS	NMFS species	Under the jurisdiction of the National Marine Fisheries Service. Contact them directly.
(D)	*Delisted*	Delisted. Status to be monitored for 5 years.
(CA)	*State-Listed*	Listed as threatened or endangered by the State of California.
(*)	*Extirpated*	Possibly extirpated from this quad.
(**)	*Extinct*	Possibly extinct.
	Critical Habitat	Area essential to the conservation of a species.

ENCLOSURE A

Endangered and Threatened Species that May Occur in
or be Affected by Projects in the Selected Quads Listed Below
Reference File No. 1-1-03-SP-0048
October 16, 2002

QUAD: 501B SANTA ROSA

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

northern spotted owl, *Strix occidentalis caurina* (T)

Amphibians

California tiger salamander, *Ambystoma californiense* (C/E)

California red-legged frog, *Rana aurora draytonii* (T)

Fish

coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS

Central California Coastal steelhead, *Oncorhynchus mykiss* (T) NMFS

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

California coastal chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

California freshwater shrimp, *Syncaris pacifica* (E)

Plants

Baker's stickyseed, *Blennosperma bakeri* (E)

Sebastopol meadowfoam, *Limnanthes vinculans* (E)

showy Indian clover, *Trifolium amoenum* (E) *

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *?

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

oak titmouse, *Baeolophus inornatus* (SLC)

Vaux's swift, *Chaetura vauxi* (SC)

black swift, *Cypseloides niger* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

loggerhead shrike, *Lanius ludovicianus* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

long-billed curlew, *Numenius americanus* (SC)

bank swallow, *Riparia riparia* (CA)

rufous hummingbird, *Selasphorus rufus* (SC)

Allen's hummingbird, *Selasphorus sasin* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

Northern red-legged frog, *Rana aurora aurora* (SC)

foothill yellow-legged frog, *Rana boylii* (SC)

Fish

Russian River tule perch, *Hysterocarpus traski pomo* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

Invertebrates

Sonoma arctic skipper, *Carterocephalus palaemon ssp.* (SC)

Ricksecker's water scavenger beetle, *Hydrochara ricksecker* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Plants

Napa false indigo, *Amorpha californica var. napensis* (SLC)

bent-flowered fiddleneck, *Amsinckia lunaris* (SLC)

Sonoma manzanita, *Arctostaphylos canescens ssp sonomensis* (SLC)

Rincon manzanita, *Arctostaphylos stanfordiana ssp. decumbens* (SC)

big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)

narrow-anthered California brodiaea, *Brodiaea californica var leptandra* (SLC)

Rincon Ridge ceanothus, *Ceanothus confusus* (SC)

Calistoga ceanothus, *Ceanothus divergens* (SC)

fragrant fritillary (= prairie bells), *Fritillaria liliacea* (SC)

Jepson's linanthus, *Linanthus jepsonii* (SLC)

Baker's navarretia, *Navarretia leucocephala ssp. bakeri* (SC)

water sack (=saline) clover, *Trifolim depauperatum var. hydrophilum* (SC)

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	*Proposed Critical Habitat*	Proposed as an area essential to the conservation of the species.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	May be endangered or threatened. Not enough biological information has been gathered to support listing at this time.
(SLC)	*Species of Local Concern*	Species of local or regional concern or conservation significance.
(MB)	*Migratory Bird*	Migratory bird
NMFS	NMFS species	Under the jurisdiction of the National Marine Fisheries Service. Contact them directly.
(D)	*Delisted*	Delisted. Status to be monitored for 5 years.
(CA)	*State-Listed*	Listed as threatened or endangered by the State of California.
(*)	*Extirpated*	Possibly extirpated from this quad.
(**)	*Extinct*	Possibly extinct.
	Critical Habitat	Area essential to the conservation of a species.

Enclosure B

FEDERAL AGENCIES' RESPONSIBILITIES UNDER SECTIONS 7(a) and (c) OF THE ENDANGERED SPECIES ACT

SECTION 7(a) Consultation/Conference

Requires: (1) Federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species; (2) Consultation with FWS when a Federal action may affect a listed endangered or threatened species to insure that any action authorized, funded, or carried out by a Federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The process is initiated by the Federal agency after determining the action may affect a listed species; and (3) Conference with FWS when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat.

SECTION 7(c) Biological Assessment-Major Construction Activity[1]

Requires Federal agencies or their designees to prepare a Biological Assessment (BA) for major construction activities. The BA analyzes the effects of the action[2] on listed and proposed species. The process begins with a Federal agency requesting from FWS a list of proposed and listed threatened and endangered species. The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the list, the accuracy of the species list should be informally verified with our Service. No irreversible commitment of resources is to be made during the BA process which would foreclose reasonable and prudent alternatives to protect endangered species. Planning, design, and administrative actions may proceed; however, no construction may begin.

We recommend the following for inclusion in the BA: an on-site inspection of the area affected by the proposal which may include a detailed survey of the area to determine if the species or suitable habitat is present; a review of literature and scientific data to determine species' distribution, habitat needs, and other biological requirement; interviews with experts, including those within FWS, State conservation departments, universities and others who may have data not yet published in scientific literature; an analysis of the effects of the proposal on the species in terms of individuals and populations, including consideration of indirect effects of the proposal on the species and its habitat; an analysis of alternative actions considered. The BA should document the results, including a discussion of study methods used, and problems encountered, and other relevant information. The BA should conclude whether or not a listed or proposed species will be affected. Upon completion, the BA should be forwarded to our office.

---

[1]A construction project (or other undertaking having similar physical impacts) which is a major federal action significantly affecting the quality of the human environment as referred to in NEPA (42 U.S.C. 4332(2)C).

[2]"Effects of the action" refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action.

Federal Endangered and Threatened Species that may be Affected by Projects in the SANTA ROSA 7 1/2 Minute Quad

Database Last Updated: April 15, 2003

Today's Date is: May 27, 2003

Listed Species

Invertebrates

Syncaris pacifica - California freshwater shrimp (E)

Fish

Oncorhynchus kisutch - coho salmon - central CA coast (T) (NMFS)

Oncorhynchus mykiss - Central Valley steelhead (T) (NMFS)

Oncorhynchus tshawytscha - Central Valley spring-run chinook salmon (T). (NMFS)

Pogonichthys macrolepidotus - Sacramento splittail (T)

Amphibians

Ambystoma californiense - California tiger salamander (C/E)

Rana aurora draytonii - California red-legged frog (T)

Birds

Haliaeetus leucocephalus - bald eagle (T)

Strix occidentalis caurina - northern spotted owl (T)

Plants

Blennosperma bakeri - Baker's stickyseed (E)

Limnanthes vinculans - Sebastopol meadowfoam (E)

Trifolium amoenum - showy Indian clover (E)

Candidate Species

Fish

Oncorhynchus tshawytscha - Central Valley fall/late fall-run chinook salmon (C) (NMFS)

Birds

Coccyzus americanus occidentalis - Western yellow-billed cuckoo (C)

Species of Concern

Invertebrates

Carterocephalus palaemon ssp. - Sonoma arctic skipper (SC)

Hydrochara ricksecker - Ricksecker's water scavenger beetle (SC)

Linderiella occidentalis - California linderiella fairy shrimp (SC)

Fish

Hysterocarpus traski pomo - Russian River tule perch (SC)

Lampetra tridentata - Pacific lamprey (SC)

Amphibians

Rana aurora aurora - Northern red-legged frog (SC)

Rana boylii - foothill yellow-legged frog (SC)

Reptiles

Clemmys marmorata marmorata - northwestern pond turtle (SC)

Phrynosoma coronatum frontale - California horned lizard (SC)

Birds

Agelaius tricolor - tricolored blackbird (SC)

Athene cunicularia hypugaea - western burrowing owl (SC)

Baeolophus inornatus - oak titmouse (SLC)

Chaetura vauxi - Vaux's swift (SC)

Cypseloides niger - black swift (SC)

Elanus leucurus - white-tailed (=black shouldered) kite (SC)

Empidonax traillii brewsteri - little willow flycatcher (CA)

Falco peregrinus anatum - American peregrine falcon (D)

Lanius ludovicianus - loggerhead shrike (SC)

Melanerpes lewis - Lewis' woodpecker (SC)

Numenius americanus - long-billed curlew (SC)

Riparia riparia - bank swallow (CA)

Selasphorus rufus - rufous hummingbird (SC)

Selasphorus sasin - Allen's hummingbird (SC)

Toxostoma redivivum - California thrasher (SC)

Mammals

Corynorhinus (=Plecotus) townsendii townsendii - Pacific western big-eared bat (SC)

Eumops perotis californicus - greater western mastiff-bat (SC)

Myotis evotis - long-eared myotis bat (SC)

Myotis thysanodes - fringed myotis bat (SC)

Myotis volans - long-legged myotis bat (SC)

Myotis yumanensis - Yuma myotis bat (SC)

Plants

Amorpha californica var. napensis - Napa false indigo (SLC)

Amsinckia lunaris - bent-flowered fiddleneck (SLC)

Arctostaphylos canescens ssp sonomensis - Sonoma manzanita (SLC)

Arctostaphylos stanfordiana ssp. decumbens - Rincon manzanita (SC)

Balsamorhiza macrolepis var macrolepis - big-scale (=California) balsamroot (SLC)

Brodiaea californica var leptandra - narrow-anthered California brodiaea (SLC)

Ceanothus confusus - Rincon Ridge ceanothus (SC)

Ceanothus divergens - Calistoga ceanothus (SC)

Fritillaria liliacea - fragrant fritillary (= prairie bells) (SC)

Linanthus jepsonii - Jepson's linanthus (SLC)

Navarretia leucocephala ssp. bakeri - Baker's narvarretia (SC)

Trifolim depauperatum var. hydrophilum - water sack (=saline) clover (SC)

Species with Critical Habitat Proposed or Designated in this Quad

Central Valley fall/late fall-run chinook (C)

Key:

(E) Endangered - Listed (in the Federal Register) as being in danger of extinction.

(T) Threatened - Listed as likely to become endangered within the foreseeable future.

(P) Proposed - Officially proposed (in the Federal Register) for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Marine Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.

(C) Candidate - Candidate to become a proposed species.

(CA) Listed by the State of California but not by the Fish & Wildlife Service.

(D) Delisted - Species will be monitored for 5 years.

(SC) Species of Concern/(SLC) Species of Local Concern - Other species of concern to the Sacramento Fish & Wildlife Office.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

This is *not* an official list for formal consultation under the Endangered Species Act. *However, it may be used to update official lists.*

If you have a project that may affect endangered species, please contact the Endangered Species Division, Sacramento Fish and Wildlife Office, U.S. Fish and Wildlife Service.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404

JUL 23 2002

In reference reply to:
151422SWR02SR6254:PJ

RECEIVED
AUG 07 2002
OFFICE OF ENVIRONMENTAL PLANNING - NORTH

Michael G. Ritchie, Division Administrator
U.S. Department of Transportation
Federal Highway Administration
California Division
980 Ninth St., Suite 400
Sacramento, California 95814-2724

Dear Mr. Ritchie:

Thank you for your letter (reference: HDA-CA, File # 04-Son-101 (EA:245400) Document # P38062) requesting informal section 7 consultation under the Endangered Species Act. The consultation concerns the Federal Highway Administration's (FHWA) proposed widening of the State Road (SR)101 freeway between the SR-12/101 separation and the Steel Lane off-ramp in Santa Rosa, Sonoma County, California. Per your request, National Oceanic Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries), will examine the project effects to threatened California Coastal Chinook salmon, threatened Central California Coast coho salmon and threatened Central California Coast steelhead, and designated coho salmon critical habitat.

The bridge widening project requires relocating listed salmonids, an activity that will result in take. Therefore, the project will require a biological opinion and Incidental Take Statement from NOAA Fisheries.

Additional information is necessary to complete formal consultation on the SR 101 road widening. We request the following information per 50 CFR § 402.14:

1. A description of the action to be considered (information supplied thus far lacks sufficient detail);

2. A description of the specific area that may be affected by the action;

3. A description of any listed species or critical habitat that may be affected by the action;

4. A description of the manner in which the action may affect any listed species or critical habitat and an analysis of cumulative effects;

5. Relevant reports, including any environmental impact statement, environmental assessment, or biological assessment prepared; and

6. Any other relevant available on the action, the affected listed species, or critical habitat.

Formal consultation will begin when NOAA Fisheries receives all of the information, or a statement explaining why that information cannot be made available. We will notify you when we receive this additional information; our notification letter will also outline the dates within which formal consultation should be complete and a biological opinion delivered on the proposed action.

If you have questions or concerns about this consultation or the consultation process in general, please contact Mr. Peter Johnsen at (707) 468-4063.

Sincerely,

for Patrick J. Rutten
Northern California Supervisor
Protected Resources Division

cc: [redacted]
James H. Lecky, NOAA Fisheries

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, CORPS OF ENGINEERS
333 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94105-2197

Regulatory Branch JAN 10 2002

Subject: File Number 26468N

Mr. Chuck Morton
Office of Environmental Planning, North
California Department of Transportation
111 Grand Avenue
Oakland, California 94623-0660

Attn: Ahmad Hashimi

Dear Mr. Morton:

Thank you for your submittal of October 12, 2001 requesting confirmation of the extent of Corps of Engineers jurisdiction within the project boundary for the State Route 101 Widening Project between kilo post 31.2 and 35.7 in Sonoma County, California

Enclosed is a map showing the extent and location of Corps of Engineers jurisdiction. A field verification was performed by Victoria Alvarez, of my staff on October 4, 2001. We have based this jurisdictional delineation on the current conditions of the site. A change in those conditions may also change the extent of our jurisdiction. This jurisdictional delineation will expire in five years from the date of this letter. However, if there has been a change in circumstances which affects the extent of Corps jurisdiction, a revision may be done before that date.

All proposed discharges of dredged or fill material into waters of the United States must be authorized by the Corps of Engineers pursuant to Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344). Waters of the United States generally include tidal waters, lakes, ponds, rivers, streams (including intermittent streams), and wetlands.

Your proposed work appears to be within our jurisdiction and a permit may be required. Application for Corps authorization should be made to this office using the application form in the enclosed pamphlet. To avoid delays it is essential that you enter the file number at the top of this letter into Item No. 1. The application must include plans showing the location, extent and character of the proposed activity, prepared in accordance with the requirements contained in this pamphlet. You should note, in planning your work, that upon receipt of a properly completed application and plans, it may be necessary to advertise the proposed work by issuing a public notice for a period of 30 days.

If an individual permit is required, it will be necessary for you to demonstrate to the Corps that your proposed fill is necessary because there are no practicable alternatives, as outlined in the U.S. Environmental Protection Agency's Section 404(b)(1) Guidelines. A copy is enclosed to aid you in preparation of this alternative analysis.

However, our nationwide or regional permits have already authorized certain activities provided specified conditions are met. Your completed application will enable us to determine whether your activity is already authorized. You are advised to refrain from commencement of your proposed activity until a determination has been made that it is covered by an existing permit. Commencement of work before you received our notification may be interpreted as a violation of our regulations.

You are advised that the Corps has established an Administrative Appeal Process, as described in 33 CFR Part 331 (65 FR 16,486; Mar. 28, 2000), and outlined in the enclosed flowchart and "Notification of Administrative Appeal Options, Process, and Request for Appeal" form (NAO-RFA). If you do not intend to accept the approved jurisdictional determination, you may elect to provide new information to the District Engineer for reconsideration or submit a completed NAO-RFA form to the Division Engineer to initiate the appeal process. You will relinquish all rights to appeal, unless new information or a completed NAO-RFA form is received by the Corps within sixty (60) days of the date of the NAO-RFA.

If you have any questions, please call Victoria Alvarez of our Regulatory Branch at telephone 415-977-8472. All correspondence should reference the file number at the head of this letter.

Sincerely,

Calvin C. Fong
Chief, Regulatory Branch

Enclosure

NOTE: The enclosure is not included in this draft EA/EIR. The enclosure, which consists of 14 pages of maps of the project area, is available for viewing during normal business hours at the Caltrans District 4 Office, 111 Grand Avenue, Oakland, California.

STATE OF CALIFORNIA – THE RESOURCES AGENCY

GRAY DAVIS, Governor

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax (916) 653-9824
calshpo@mail2.quiknet.com

February 28, 2003

REPLY TO: FHWA021104A

Gary N. Hamby, Division Administrator
Federal Highway Administration
California Division
980 Ninth Street, Suite 400
SACRAMENTO CA 95814-2724

Re: High Occupancy Vehicle Lane in Median of State Route 101 from State Route 12 to Steele Lane, Santa Rosa, Sonoma County.

Dear Mr. Hamby:

I have received your October 31, 2002 letter, Historic Property Survey Report (HPSR), Historic Architectural Survey Report (HASR), and Archeological Survey Report and Treatment Plan (ASRTP) regarding the proposed construction of a High Occupancy Vehicle (HOV) lane in the median of State Route (SR)101 from SR 12 to Steele Lane in the City of Santa Rosa in Sonoma County. Thank you for submitting this documentation to me and for initiating consultation pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act.

The proposed project would widen SR 101 from four to six lanes, with the new lanes intended for HOV use. The project would encompass approximately 2.75 miles of freeway, with the right-of-way covering 43 former city blocks. Most of the buildings on these blocks were demolished when the freeway was built in 1948, and much of the land is under fill, from a few inches to as much as 15 feet in depth. Although most of the proposed work would be accomplished within the existing state right-of-way, primarily within the median, some new right-of-way may be acquired.

You have delineated and documented an Area of Potential Effects (APE) for this undertaking. You did not specifically request my comments on this APE. In contrast, you did explicitly ask for my concurrence in several determinations of individual National Register eligibility and in determinations of National Register eligibility for two districts. However since you stated in your letter that the HPSR "incorporates consultation steps 36 CFR 800.3 through 800.4(d)(2)", I will assume that with this statement you are implicitly asking me to comment on your APE delineation. The architectural and archaeological Areas of Potential Effects (APE) that you have delineated for this undertaking (given the possibility of the acquisition of new right-of-way) appear adequate and meet the definition set forth in 36 CFR 800.16(d).

You have asked me to comment on your determination of the eligibility of 143 pre-1957 architectural properties for inclusion on the National Register of Historic Places (NRHP) in accordance with 36 CFR 800, regulations implementing Section 106 of the National Historic Preservation Act. One property, the Railroad Square Historic District is listed on the NRHP under Criterion C as defined in 36 CFR 60.4. Three properties within the APE are contributors to this historic district: 130 Fourth Street, 133 Fourth Street, and 120 Fifth Street. These structures remain eligible for listing on the NRHP as contributors to the NRHP historic district. You have also noted 52 properties within the APE, which were constructed in 1957 or after, that will be treated in accordance with the June 1 *2001 "Interim Policy for the Treatment of Buildings Constructed in 1957 or Later."* My review of the submitted documentation leads me to concur in the aforementioned eligibility determination.

- The following properties, all located within the City of Santa Rosa, are individually eligible for inclusion on the NRHP under applicable criteria as defined in 36 CFR 60.4:

  - 433 Olive Street (Junius Botts Residence) - Criterion C
  - 35 Sebastopol Avenue (Pacific Tire Sales) - Criterion C
  - 203 South A Street (Burbank School) - Criterion C
  - 120 Seventh Street - Criteria A and C, and 515-521 Davis Street - Criterion C
  - 133 Seventh Street (Residence) - Criteria A and C
  - 709 Davis Street (Lincoln School) - Criterion C
  - 560 Ninth Street (old Rose Street School) - Criterion C

It would appear that the residences located at 120 Seventh Street and 133 Seventh Street have strong associations with Santa Rosa's early settlement patterns north of the downtown area during the 1860s and 1870s. The remaining individually eligible properties appear to be excellent examples of the architectural styles, designs, and construction methods associated with their respective historical periods of significance.

I concur with FHWA's determination that two properties, which intersect the project APE, appear to be eligible for inclusion on the NRHP as potential historic districts under applicable criteria defined in 36 CFR 60.4. These potential historic districts are identified as:

- The Olive Park Historic District - Criteria A and C
- The South St. Rose Historic District - Criteria A and C

Nine properties within the Project APE appear to be contributors to the potentially eligible Olive Park Historic District. They are identified as:

- 307 Orange Street (Bollinger House)
- 306 Orange Street (Residence)
- 301 Orange Street (Residence)
- 300 Orange Street (Butler House)
- 228 Orange Street (Stocking House)
- 226 Orange Street (William T. Hopper House)
- 216 Orange Street (Harry Morrow House)
- 138 Orange Street (John E. Gist House)
- 310 Buckingham Street (Bertram Bower House)

One property within the APE appears to be eligible for inclusion on the NRHP as an individual property and as a contributor to the potentially eligible Olive Park Historic District:

- 331 Orange Street (Pygmalion B&B) - Criterion A

Fourteen properties within the project APE appear to be contributors to the potentially eligible South St. Rose Historic District. They are identified as:

- 700 Morgan Street (Shultz House)
- 708 Morgan Street (Residence)
- 714 Morgan Street (Leroy Spooncer House)
- 722 Morgan Street (Residence)
- 730 Morgan Street (Residence)
- 736 Morgan Street (Seymore House)
- 740 Morgan Street (Residence)
- 750 Morgan Street (Gibbens House)

- 511-13 A Street (Residence)
- 517 A Street (Mary King Street)
- 521 A Street (Residence)
- 525 A Street (Residence)
- 537 A Street (Cornelius Shea House)
- 541 A Street (Residence)

I also concur with your determination that the remaining architectural properties evaluated in the HPSR and HASR are not eligible for inclusion on the NRHP under any of the criteria established by 36 CFR 60.4. The properties have no strong associations with significant historical events or persons and are not examples of outstanding architectural design or function.

Earlier in this letter, I quoted the following part of a statement from your correspondence: "...the enclosed Historic Property Survey Report which incorporates the consultation steps 36 CFR 800.3 through 800.4(d)(2)". As you know, §800.4(d) addresses findings of "no historic properties affected" and "historic properties affected". I was unable to locate in either the HPSR or in your letter any formal finding of effect that would have been covered under § 800.4(d). I am therefore not sure why your letter included this section of the Part 800 regulation as a consultation step.

You stated in your letter that the archeological survey was constrained by pavement and fill, and that no archeological sites that have been previously determined eligible for inclusion in the National Register were identified. You suggest that archeological materials will be disturbed during construction and are therefore proposing a "Treatment Plan" which was included as part of the documentation submitted. You asked me to comment on this document. I respectfully decline your request. It would be premature to address the "treatment" of archeological materials/properties when FHWA has by its own admission not yet determined, pursuant to 36 CFR § 800.4(b) and (c) whether any of the archeological materials you believe will be disturbed during construction are eligible for inclusion in the National Register.

I look forward to further consultation as FHWA continues its efforts under 36 CFR § 800.4(b) to complete the process of identifying historic properties in the APE that have to date not been identified owing to access constraints.

If you have any questions, please contact staff historian Clarence Caesar at 916.653.8902 or at ccaes@ohp.parks.ca.gov, or staff archaeologist Mike McGuirt at 916.653.8920 or at mmcguirt@ohp.parks.ca.gov.

Sincerely,

Dr. Knox Mellon
State Historic Preservation Officer

STATE OF CALIFORNIA – THE RESOURCES AGENCY

ARNOLD SCHWARZENEGGER, *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax: (916) 653-9824
calshpo@ohp.parks.ca.gov
www.ohp.parks.ca.gov

December 11, 2003

REPLY TO: FHWA021104A

Gary N. Hamby, Division Administrator
Federal Highway Administration
California Division
650 Capitol Mall, Suite 4-100
Sacramento, CA 95814

Re: High Occupancy Vehicle Lane in Median of State Route 101 from State Route 12 to Steele Lane, Santa Rosa, Sonoma County [Continuing Section 106 Consultation]

Dear Mr. Hamby:

Thank you for submitting to our office your October 15, 2003 letter, Revised Historic Property Survey Report (RHPSR), and Finding of Effect (FOE) documentation in response to my letter of February 2003 letter regarding the proposed construction of a High Occupancy Vehicle Lane in the median of State Route 101 from State Route 12 to Steele Lane in Santa Rosa, Sonoma County.

In my previous letter, I concurred with the Federal Highway Administration's (FHWA) APE delineation and its determination that seven individual architectural properties located within the undertaking's Area of Potential Effects (APE) were eligible for inclusion on the National Register of Historic Places (NRHP). I also concurred that two properties that intersect the undertaking's APE appear eligible for inclusion on the NRHP as potential historic districts under applicable criteria defined in 36 CFR 60.4. Those districts and their contributing buildings were identified as:

- The Olive Park Historic District - Criteria A and C
- The South St. Rose Historic District - Criteria A and C

I further concurred with FHWA's determination that the remaining architectural properties evaluated in the HPSR Historic Archeological Survey Report (HASR) were not eligible for inclusion on the NRHP under any of the criteria established by 36 CFR 60.4. I declined comment on FHWA's proposed "Treatment Plan" document since FHWA had not determined whether any of the archeological materials it believed would be disturbed during construction were eligible for inclusion on the NRHP. The Archeological Discovery Plan (ADP) submitted with FHWA's latest FOE documentation resolves this issue.

FHWA proposes to address any post-review archaeological discovery within the undertaking's APE by implementing the Archeological Discovery Plan (ADP) prepared pursuant to 36 CFR § 800.13(a)(2), and submitted as Appendix D of the FOE. I believe that this ADP complies with the requirements of 36 CFR 800.13(a)(2).

FHWA is now requesting my comments on its findings of effect for this undertaking. I have reviewed the submitted FOE pursuant to that section of the Part 800 regulation [36 CFR § 800.5(b)] that I believe applies to the effects of this undertaking on historic properties. On the basis of that review, I concur with FHWA's finding that this undertaking will not adversely affect historic properties.

FHWA's efforts to take historic properties into account in the planning process for this undertaking are appreciated. If you have any questions, please contact staff historian Clarence Caesar by phone at (916) 653-8902, or by email at ccaes@ohp.parks.ca.gov.

Sincerely,

Dr. Knox Mellon
State Historic Preservation Officer

United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240

U.S. Department of the Interior
1849•1999

ER-03/647

DEC 12 2003

Mr. Gary N. Hamby
Federal Highway Administration
650 Capitol Mall, Suite 4-100
Sacramento, California 95814

Dear Mr. Hamby:

As requested, the Department of the Interior (Deparment) has reviewed the June 2003 Environmental Assessment/Draft Environmental Impact Report and Draft Section 4(f) Evaluation for the Route 101 HOV Widening, City of Santa Rosa, Sonoma County, California.

SECTION 4(f) EVALUATION COMMENTS

The proposed project would require permanent right-of-way acquisition and soundwall relocation at the Burbank Elementary School. The project would require a strip of approximately 25 feet of new right-of-way from the school property, as well as construction of a new soundwall. Project effects to the school property's historic qualities are not adverse and impacts from sound appear to be within existing conditions. We concur that there is no feasible and prudent alternative to the proposed use of land at the Burbank Elementary School as described in the above referenced document.

We appreciate the opportunity to provide these comments.

Sincerely,

Willie R. Taylor
Director, Office of Environmental
Policy and Compliance

cc:
Mr. Jeff Morales
Department of Transportation
1120 N Street
Post Office Box 942873
Sacramento, California 94273-0001

Appendix B Title VI Policy Statement

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
1120 N STREET
P. O. BOX 942873
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5267
FAX (916) 654-6608

July 26, 2000

TITLE VI
POLICY STATEMENT

The California State Department of Transportation under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, sex and national origin be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

Jeff Morales

JEFF MORALES
Director

Appendix C Final Section 4(f) Evaluation

C.1 Purpose of This Section 4(f) Evaluation

Section 4(f) of the Department of Transportation Act of 1966, codified in Federal law at 49 USC §303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that "[t]he Secretary [of Transportation] may approve a transportation program or project…requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if:

(1) there is no prudent and feasible alternative to using that land; and
(2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs that use lands protected by section 4(f). FHWA's regulations implementing section 4(f) are found in Title 23 Code of Federal Regulations Part 771.135.

In general, a section 4(f) "use" occurs with a Department of Transportation approved project or program when: (1) section 4(f) land is permanently incorporated into a transportation facility; (2) when there is a temporary occupancy of section 4(f) land that is adverse in terms of the section 4(f) preservationist purposes as determined by specified criteria (3 CFR §771.135[p][7]); and (3) when section 4(f) land is not incorporated into the transportation project, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under section 4(f) are substantially impaired (constructive use) (23 CFR §§771.135[p][1] and [2]).

FHWA, with the assistance of the California Department of Transportation, has prepared this Section 4(f) Evaluation because the project proposes to acquire a portion of an historic property (Burbank Elementary School) which includes a public

playground and recreation area(see Figure C-1). The evaluation describes the proposed action and how it might affect the Section 4(f) property, discusses alternatives that would avoid the use of the Section 4(f) property, and includes measures undertaken to minimize harm to the property.

This evaluation is an update of the Draft Section 4(f) Evaluation which was circulated for public comment as part of the Draft Environmental Assessment/Environmental Impact Report (EA/EIR). No comments have been received on the Draft Section 4(f) Evaluation and no new alternatives or major modifications to existing alternatives are proposed.

C.2 Proposed Action

C.2.1 Description of Project

Caltrans/FHWA are proposing a freeway improvement project on Route 101 in Sonoma County in the City of Santa Rosa. The proposed project would widen Route 101 from four to six lanes (mostly in the median) between State Route (SR)-12 and immediately north of Steele Lane for the construction of high occupancy vehicle (HOV) lanes in each direction of travel. In addition, the proposed project includes interchange modification at the SR-12, College Avenue, and Steele Lane interchanges. The proposed project would reduce the overall travel delay time currently experienced between SR-116 in Cotati and River Road in Fulton during the busy AM and PM peak traffic periods. Other features of the proposed project include:

- On northbound Route 101, construct a collector-distributor road between SR-12 and the 3rd Street off-ramp on the outside (right hand side) of the existing roadway.
- Construct various auxiliary lanes between the interchanges to enhance freeway flow.
- Replace the Santa Rosa Creek Bridges.
- Replace the existing northern pedestrian over crossing with a new pedestrian under crossing at Santa Rosa Creek consistent with the design of the City of Santa Rosa's Prince Memorial Greenway project.
- Construct a new City under crossing at 6th Street. Connect 6th Street as a four-lane local street between Morgan Street and Davis Street.
- Replace College Avenue and Steele Lane under crossings.
- Construct soundwalls at locations warranted by the Caltrans Noise Study.

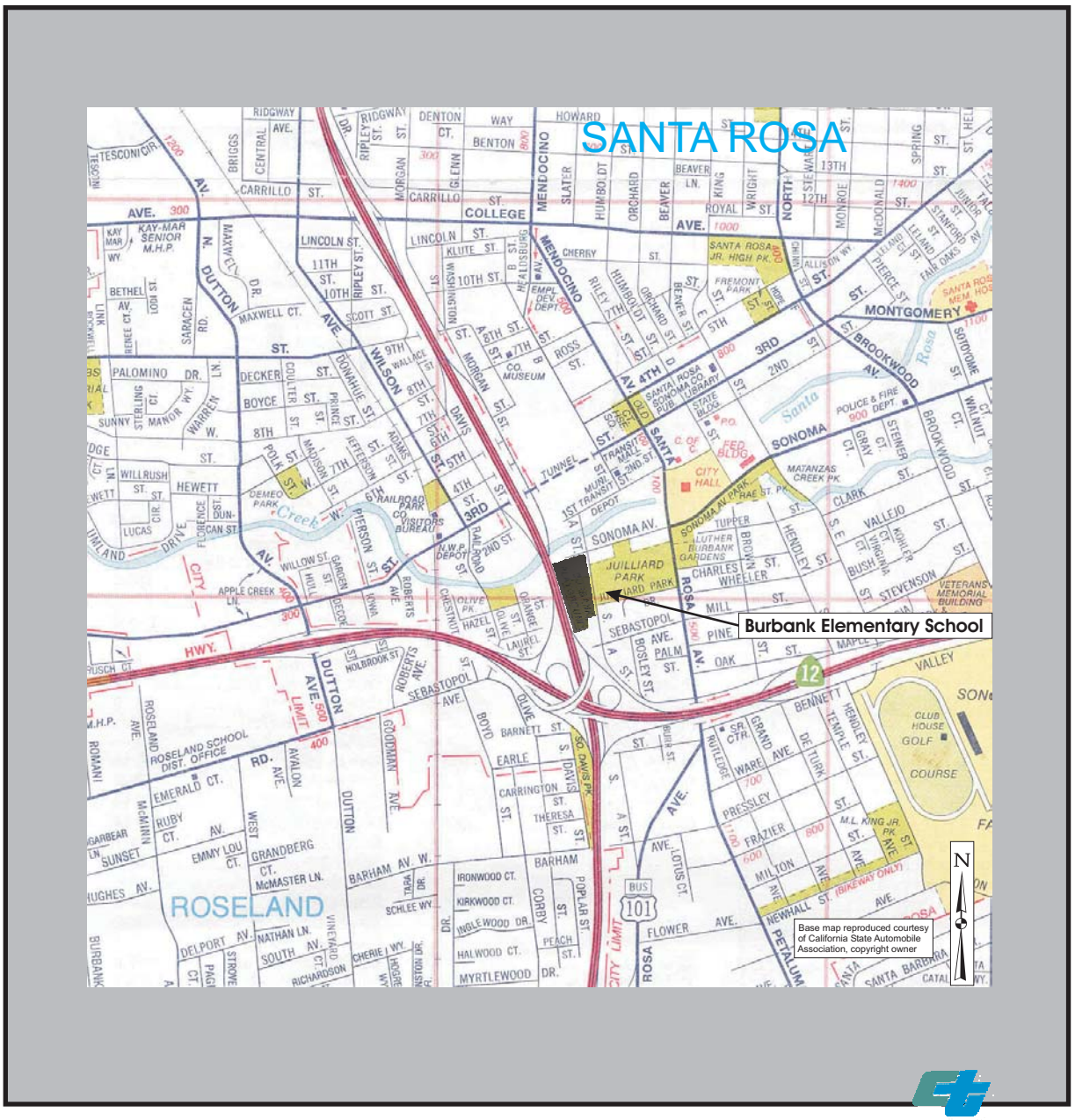

Figure C-1. Location of 4(f) property - Burbank Elementary School

C.2.2 Project Purpose and Need

As described in Chapter 1 (Project Purpose and Need) of the Final EA/EIR, the proposed project would:

- Reduce congestion on Route 101 in Santa Rosa;
- Maintain and improve the transportation linkages in Santa Rosa; and,
- Improve the safety of the Route 101 corridor in Santa Rosa.

Each of the project needs is described in greater detail in Chapter 1 (Project Purpose and Need) of the Final EA/EIR.

C.2.3 Project Alternatives

Four road improvement alternatives and the No-Build alternative were evaluated. The alternatives and the alternatives analysis process are detailed in Chapter 2. As a result of the alternatives analysis process, three alternatives were eliminated from further consideration. Due to policy considerations or design/construction restrictions, only the No-Build and the proposed project were selected for further detailed environmental study. The following is a brief summary of the two alternatives currently under consideration:

- **No-Build Alternative** – under this alternative, Route 101 would retain its present configuration and location. It would receive only minor operational and safety improvements to support the continuing operation of the existing freeway within the project area, when needed.
- **Proposed Alternative** – under this alternative, the proposed project would widen Route 101 from four to six-lanes (mostly in the median) between SR-12 and immediately north of Steele Lane for the construction of HOV lanes in each direction. In addition, the proposed project would entail increasing the capacity of the SR-12, College Avenue, and Steele Lane interchanges.

C.3 Section 4(f) Property

C.3.1 Burbank Elementary School

Located at 203 South A Street in Santa Rosa, Burbank Elementary School is a K-6 grade school owned by the Santa Rosa City School District. The over 2.0 hectare (5.0 acre) grounds include a 1940 school building at the corner of A Street and Sonoma Avenue, more modern classrooms to the south fronting A Street, a multi-purpose room and modular building to the northeast along Sonoma Avenue, and a public playground and open grassy field to the east adjacent to Route 101. The south portion

of the school grounds encompass a remnant of the former Howarth Park, including tennis courts and a restroom building, that were acquired by the school district after the park was moved in 1956.

The school qualifies as a property protected under Section 4(f) in two ways. First, the school parcel is eligible for listing in the the National Register of Historic Places (NRHP). Second, the playground portion and open recreation areas of the school are open to the public and serves as a community recreation area during non-school hours.

The original Burbank Elementary School building is a one-story "U" shaped institutional building built in 1940s that is notable for its original Moderne styling and detailing. As detailed in the 2002 Historic Property Survey Report (HPSR), the school parcel is eligible for listing in the NRHP as an excellent example of the progressive modern prototype of school building that incorporated "child-centered" ideas, and as a fine example of Streamline Moderne architecture by a local master, William Herbert. Although the historic property boundary is defined as the county parcel limits of the school, the HPSR indicates that the multi-purpose room, the portable classroom, the modern classrooms, and the playground area of the school do not contribute to the historic significance of the property.

C.4 Impacts on the Section 4(f) Property

HOV widening and reconfiguration of the SR-12/3rd Street collector-distributor road for the proposed project would require permanent right-of-way acquisition and soundwall relocation at Burbank Elementary School. An existing at-grade noise barrier 152 m long and 4.3 m high (499 ft by 14.1 ft) at the right edge-of-pavement adjacent to the school parcel would be removed and a new at-grade noise barrier would be constructed at the new edge of pavement. The new soundwall would be 4.3-m high (14.1 ft), constructed on top of a retaining wall 1.2 m (4.0 ft) high, for a total height of 5.5 m (18 ft). The length would be 335 m (1,099 ft), extending further south than the existing soundwall in order to provide noise attenuation for the former Howarth Park parcel now owned by the school district. The project would require a strip of approximately 7.6 m (25 ft) of new right-of-way from the school property, paralleling the existing right-of-way line between the State and school properties. The total right-of-way requirement is roughly 1,560 sq m (16,790 sq ft), or 0.16 hectares (0.39 acres). School facilities within the proposed acquisition area include (from north to south) a modular building, a paved playground and grassy field area,

mature landscape trees, and a restroom building and a corner of a tennis court which were formerly part of Howarth Park. Playground and recreation areas total approximately 12,500 sq m (134,549 sq ft) or 1.25 hectares (3.09 acres). Figure C-2 provides a view of the school and depicts the approximate location of the proposed soundwall.

Project effects to the school property relating to its status as a historic property would not be adverse because the proposed soundwall would not alter any characteristics of the school that qualify it for inclusion on the NRHP (see Chapter 3.13 Cultural Resources). The project would not touch, impinge upon, or physically alter contributing elements of the property, nor would it diminish the integrity of the property's setting, which would remain unchanged. Likewise, the view of the historic property from Route 101 would not change. The new soundwall would be higher than the existing one by 1.2 m (4.0 ft) and longer by 183 m (about 600 ft), but these differences would not diminish the setting of the historic school building, which faces away from the freeway. Moreover, two non-contributing structures [a multi-purpose room (1955) and a portable classroom building (1967)] are sited between the historic school building and the soundwall. The proposed project would not introduce new audible elements, since the noise analysis projects that with the new soundwall the future worst case noise levels would be equal to or less than existing peak noise levels (see Chapter 3.5 Noise). The new right-of-way would be acquired from a non-contributing element of the property, a modern playground at the south end of the parcel, and would not diminish the integrity of the school's historic setting, feeling, association, workmanship, design, or materials.

The proposed acquisition would not impair use of the public playground area of the school. Since consultation was initiated in June 1999 with the Santa Rosa City School District (see Appendix C.7 Coordination), the school has developed an expansion and landscape plan that incorporates the proposed acquisition into a new playground configuration. The plan includes turf mounds and shade trees along the proposed soundwall, a relocated play structure area, and a small softball field. The relocated play structure area has already been constructed.

C.5 Avoidance Alternatives

As detailed in Chapter 2 (Alternatives Analysis) of the Draft EA/EIR, Alternatives 1, 2, and 3, and their variations were removed from consideration based on their failure to meet project purpose and need, design or construction staging problems, and/or

cost. Alternative 2, with all its variations, is the only alternative which entirely avoids the need to acquire ROW at Burbank Elementary School while Alternative 1 would require only a narrow strip of airspace easement. Alternative 3, with both of its variations, would require the same amount of ROW as the proposed alternative. Table C-1 provides a summary of how each alternative would use land from Burbank Elementary School as well as how each alternative meets objectives of the project purpose and need.

Alternative 1 would require only a narrow strip of airspace easement at Burbank Elementary School to allow for the grade separated off-ramp from SR-12 and northbound Route 101. Although this alternative met State standards and provided the best improvement to Route 101 traffic flow of all the alternatives, this alternative was not carried forward because it would have substantially impaired downtown accessibility and increased traffic on the local street network. The alternative would remove access to SR-12 from the 3rd Street on-ramp and remove access to 3rd Street from the SR-12 connector ramp connecting with northbound Route 101. This alternative would reduce, rather than maintain, existing access points to downtown Santa Rosa and would not address the project's needs associated with maintaining and improving transportation linkages in Santa Rosa. For these reasons, Alternative 1 is not a feasible and prudent avoidance alternative.

Alternative 2, and all five of its variations, would not require any ROW acquisition at Burbank Elementary School. Alternative 2 was not carried forward primarily because the braided northbound ramps from SR-12 to northbound Route 101 would not provide access to 3rd Street in downtown Santa Rosa and because freeway access would be reduced at College Avenue and 9th Street. Variation 1, which would provide an Urban Interchange at College Avenue, was not carried forward at the request of the City of Santa Rosa and the SCTA because of substantial extra costs associated with constructing a longer and deeper bridge structure and because traffic studies indicated that the Urban Interchange configuration would not provide a sufficient traffic benefit. Variation 2 would reconfigure freeway access at 9th Street, widen Morgan Street, and add a new frontage road on State ROW connecting to Davis Street. This variation was removed from further study at the request of the City and SCTA because it would substantially increase traffic on Davis and Morgan Streets and would not address project needs at College Avenue. Variation 3 would shift the freeway alignment to the west in the vicinity of Burbank Elementary School, would result in an unsafe merging situation within the southbound SR-12/3rd Street collector-distributor road and would constitute a non-standard Caltrans design feature.

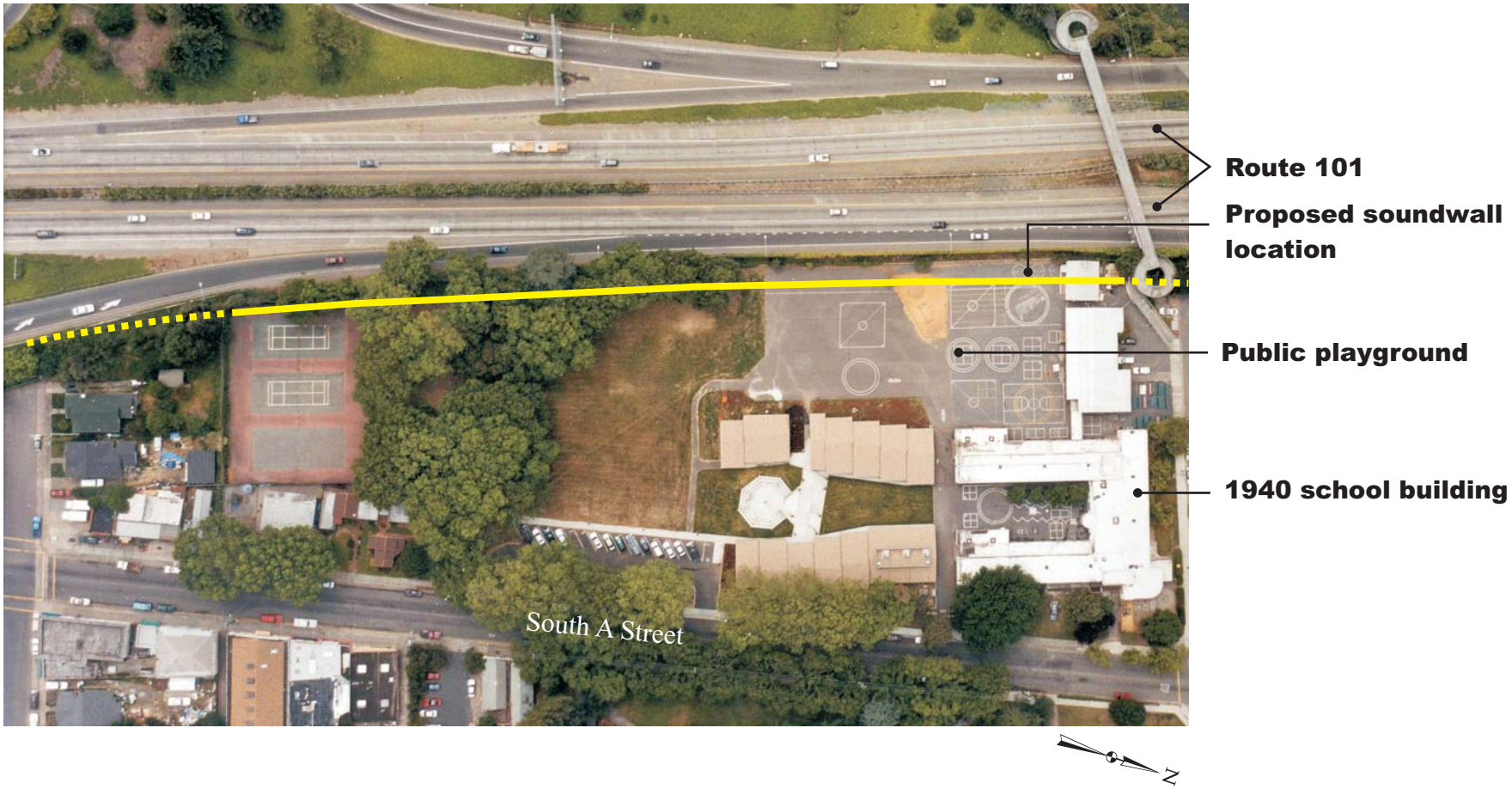

Figure C-2. Aerial view of proposed soundwall location (approximate) at Burbank Elementary School

Table C-1. Summary of ROW Requirements at Burbank Elementary School for Each Project Alternative

Project Alternative	Does the alternative require ROW acquisition at Burbank Elementary School?	How much ROW is required?	Are transportation linkages maintained and improved?	Does the alternative meet Caltrans design standards?	Did City of Santa Rosa or SCTA ask to eliminate alternative from consideration?	Does the alternative meet all the objectives of the purpose and need?
Proposed Alternative	Yes	7.6 m (25 ft) strip 1,560 m^2 (16,790 ft^2) permanent easement	Yes	No	No	Yes
Alternative 1	Yes	Narrow strip - less than 3 m (10 ft) airspace easement	No	Yes	Yes	No
Alternative 2	No	None	No	Yes	Yes	No
Alternative 2 With Variation 1	No	None	No	Yes	Yes	No
Alternative 2 With Variation 2	No	None	No	Yes	Yes	No
Alternative 2 With Variation 3	No	None	No	No	Yes	No
Alternative 2 With Variation 4	No	None	No	Yes	Yes	No
Alternative 2 With Variation 5	No	None	No	Yes	Yes	No
Alternative 3 With Variation 1	Yes	7.6 m (25 ft) strip 1,560 m^2 (16,790 ft^2) permanent easement	Yes	Yes	Yes	No
Alternative 3 With Variation 2	Yes	7.6 m (25 ft) strip 1,560 m^2 (16,790 ft^2) permanent easement	Yes	Yes	Yes	No

Variation 4 of Alternative 2, which would also shift the freeway alignment to the west, would create a grade separated ramp connecting southbound Route 101 to SR-12, but would not allow for access to SR-12 from 3rd Street. This variation would not meet the project purpose of maintaining and improving access to downtown Santa Rosa. Variation 5 would remove access between Route 101 and 3rd Street in order to address Route 101 congestion caused by excessive weaving movements between Route 12 and 3rd Street. This variation was removed from further study since the removal of 3rd Street access from Route 101 would not meet the project purpose of maintaining and improving access to downtown Santa Rosa. Because Alternative 2 and its variations either do not meet the project purpose and need, add substantial cost, or create severe operational or safety problems, they are not prudent and feasible avoidance alternatives.

Alternative 3, with its two variations, would require the same area of ROW acquistion at Burbank Elementary School as the proposed alternative. Alternative 3 would construct a depressed freeway, with open cut and fully covered variations, through the downtown Santa Rosa section of the project. The alternative was withdrawn due to its substantial cost (approximately $225 – 250 million) and severe impacts to local traffic during the four year construction period.

C.6 Measures to Minimize Harm

The following is a summary of site specific measures to minimize harm:

- The proposed soundwall would be extended south to provide noise abatement for the former Howarth Park parcel that is now part of the school;
- Caltrans would coordinate with school officials on structural aesthetic treatments and landscaping for the proposed soundwall;
- In staging the construction of the soundwall, Caltrans would make every effort to: 1) construct the new soundwall before removing the existing soundwall; 2) schedule soundwall construction activities during off-school hours and times of least playground use.
- Caltrans would leave the adjacent northern pedestrian over crossing in place until the new pedestrian/bike path along the north bank of Santa Rosa Creek is completed.

C.7 Summary of Coordination

In 1999, Santa Rosa City staff informed Caltrans of the Santa Rosa City School District's willingness to provide the extreme western portion of the school playground located at the Burbank Elementary School for project purposes. On June 4 and June 30, 1999, Caltrans staff met with Doug Bower, Assistant District Superintendent, and Jane Escobedo, Burbank School Principal, to discuss the potential acquisition as well as ways in which right-of-way needs could be minimized. On July 21, 1999, Caltrans staff presented the Santa Rosa City School Board with a concept for building a collector-distributor road between SR-12 and 3rd Street that would require the acquisition of an approximately 8.0 m (25 ft) wide portion of school property, but would not require the acquisition of any permanent buildings. On September 9, 1999, a similar presentation was given to the parents and students of the school in the school auditorium. On August 23, 2001, Caltrans design and environmental staff met with Jane Escobedo and a parent representative at the school to confirm that the proposed acquisition would be compatible with the

school's expansion and landscape plan. At these meetings, measures to minimize impacts to the school and classes were discussed.

Caltrans released the Draft EA/EIR on July 21, 2003, and held a public meeting on August 7, 2003 to give the public an opportunity to review and comment on the document and the proposed soundwalls. In addition to others listed in Chapter 8 (Distribution List), the Draft EA/EIR was distributed to the Office of Environmental Policy and Compliance, U.S. Department of Interior (OEPC USDI), the Santa Rosa City School District, Burbank Elementary School, and several departments in the City of Santa Rosa. On August 8, 2003, eighteen additional copies of the Draft EA/EIR were transmitted to the OEPC USDI.

On December 12, 2003, the OEPC USDI provided comments on the Section 4(f) Evaluation (see Appendix A). As of the date of circulation of this Final EA/EIR, no other comments have been received on the Draft Section 4(f) Evaluation.

C.8 Other Parks, Recreational Facilities, and Historic Properties Evaluated Under Section 4(f)

C.8.1 Prince Memorial Greenway

Prince Memorial Greenway (PMG), a linear park along Santa Rosa Creek which extends into Caltrans ROW under Encroachment Permit 0401-NMC0527, was evaluated for Section 4(f) applicability. The evaluation indicates that the proposed project would constitute a minimal, temporary, occupancy under Section 4(f) (771.135(p)(7)).

The Caltrans Encroachment Permit which authorizes construction of the PMG within highway ROW was issued on June 12, 2001. The permit was issued after the Notice of Intent (October 30, 2000) was issued and after public information meetings (October 27, 1999 and November 29, 2000) and a public agency informational meeting (January 21, 2001) were held (see Chapter 6.1 for more discussion of public involvement opportunities). Encroachment Permit General Provision #2 stipulates that the permit is revocable on five days notice, while General Provision #25 states that the permitee agrees to rearrange the permitted installation upon request of Caltrans.

PMG is a linear park developed by the City of Santa Rosa which currently extends along a restored portion of Santa Rosa Creek from Railroad Avenue to A Street in

Santa Rosa. PMG serves as a linear park to connect downtown Santa Rosa through pedestrian and bicycle paths placed alongside the creek and through bridges which span the creek.

Two PMG pedestrian/bicycle paths are within Caltrans ROW on the north bank of Santa Rosa Creek. The upper pedestrian/bicycle path passes under the bridge between the bridge abutment and the pier wall, while the lower path follows along the low flow level of the creek. A retaining wall supports the embankment on the abutment side. The upper path is approximately 3.0 m (11 ft) wide, while the lower path is approximately 2.0 m (6.0 ft) wide. The lower path provides access to the water's edge. Pedestrians, cyclists, skaters, and joggers are numerous in good weather.

The existing Route 101/Santa Rosa Creek bridge over the Prince Memorial Greenway is a cast-in-place reinforced concrete box girder structure in three parts. One part carries two northbound traffic lanes on Route 101 and one exit ramp lane to 3rd Street. The second part carries two southbound traffic lanes. The third part carries southbound ramp traffic. All three parts of the bridge are supported by a pair of continuous reinforced concrete pier walls built parallel to the Santa Rosa Creek channel. The walls are approximately 0.5 m (1.7 ft) wide and are supported on a 0.9 m (3 ft) wide subsurface footing.

The new bridge would be constructed essentially in the same location as the existing bridge. However, the new bridge would be about 6.0 m (20 ft) wider than the existing on the east side, and the new bridge would have no "gap" between northbound and southbound directions. The new bridge would be a clear span structure, as opposed to the existing bridge, which is supported on pier walls. Although most of the pier walls would be removed, their base sections (1-2 ft tall) would remain as retaining walls for the upper pedestrian/bike paths on the north and south banks.

Construction of the new bridge structures may necessitate temporary, seasonal closures of adjacent pedestrian/bike paths under the Santa Rosa Creek Bridge during demolition of existing bridge structures, pier walls and abutments and construction of the new clear span structure and abutments. These seasonal closures would correspond to work windows included in the Biological Opinion issued by NOAA Fisheries and the Section 404 Nationwide Permits issued by the ACOE. The temporary closures could potentially extend from June 15 to October 31 during the

three years of bridge construction, currently anticipated to extend from 2005 through 2007. During any closure periods, nearby alternative crosstown access routes would be available and signage directing bicyclists and pedestrians to the alternate routes would be provided. Alternative routes would include the existing pedestrian overcrossing located adjacent to the south bank of Santa Rosa Creek and 3rd Street, located approximately 100 m (330 ft) north of PMG.

No pile-driving is anticipated at this location. All paths and park features along the paths that may be temporarily affected during construction would be restored to their prior condition. No impacts or limitations of use to any adjacent areas of PMG are anticipated. Although dewatering of the construction zone may require placement of a cofferdam and culvert outside Caltrans ROW, these structures would be placed either in the center of the stream or on the opposite bank from the pedestrian paths. The dewatering system would not intrude into or affect the use of the paths or other park features. The dewatering system would be used temporarily during the permitted work window (June 15 – October 31) from 2005 through 2007. Any areas temporarily used for the dewatering system would be restored to their prior condition.

C.8.2 Historic Properties in the Project Vicinity

Historic properties found within Area of Potential Effect (APE) of the proposed project are described in Chapter 3.13 of the Final EA/EIR. None of the eligible historic buildings and districts will be physically used and the indirect effects of the proposed project will not substantially impair any qualities that make the properties significant. No National Register-eligible archaeological properties have been identified in the project's APE. It is expected that any eligible archaeological sites identified during construction are likely to be important solely for the information they contain. Consultation with SHPO has resulted in a determination that the proposed project will have no effect or no adverse effect to historic buildings and districts and that no archaeological properties will be affected. Please see Appendix A of the Final EA/EIR for SHPO consultation correspondence.

C.9 Conclusion

Based on the above considerations, there is no feasible and prudent alternative to the use of land from Burbank Elementary School and the proposed action includes all possible planning to minimize harm to Burbank Elementary School resulting from such use.

Appendix D Glossary of Technical Terms

Accident Rate	number of accidents per million vehicle miles traveled.
Alluvial Fan	the soil deposits of a stream where it exits from a gorge upon a plain, or the deposits of a tributary stream at its junction with the main stream.
Alluvium	clay, sand, silt, gravel, or similar detrital material deposited by running water.
Best Management Practices	any program, technology, process, operating method, measure, or device that controls, prevents, removes, or reduces pollution.
Block Group	a standard geographical unit of measurement defined by the U.S. Census Bureau.
Erosion	The wearing away of land surface by running water, wind, ice, or other geological agents.
Expansive Soils	soil deposits that have the capacity or a tendency to expand during weather or seismic events.
Federal Register	a Federal publication that provides official notice of Federal administrative hearings and issuance of proposed and final Federal administrative rules and regulations.
FREQ	Traffic simulation model developed by University of California at Berkeley.
Grade Separated	when two roads intersect at different grades (vertical elevations). Normally provided as part of an interchange, instead of an at grade intersection.
Holocene	the second epoch of the Quarternary Period characterized by man and modern animals.
Horizon	the geological deposit of a particular time, it is identified by distinctive fossils; or any of the reasonably distinct layers of soil or its underlying material in a vertical section of land.
HOV Lane	traffic lane for higher (usually equal or greater than two) number of persons per vehicle. Examples are buses, carpools, and vanpools.
Illuvial	accumulation of dissolved or suspended soil materials on one area of horizon as a result of eluviation from another.
Level of Service	a measurement of roadway operational performance.
Liquefaction	soil deposits that destabilize, acting like a liquid, during an earthquake event.
Median	a paved or planted strip dividing a freeway into lanes according to direction of travel.
Mixed Flow Lane	traffic lane for all types of vehicles.
Non-Attainment	a defined geographic area that does not meet one or more Federal ambient air quality standards for pollutants.
Notice of Intent	part of the NEPA process; a notice placed in the Federal Register to advise the public that an environmental impact statement will be prepared for a project.
Notice of Preparation	part of the CEQA process; a notice sent to responsible agencies to advise that an environmental impact report will be prepared for a project.

Photochemical Smog	produced when hydrocarbons and oxides of nitrogen combine in the presence of sunlight to form ozone.
Pleistocene	the first epoch of the Quarternary Period characterized by the first indications of social life in man.
Pliocene	the fifth epoch of the Tertiary Period characterized by the transition from hominids to early humans.
Quarternary Period	a geologic period, which includes both the Pleistocene and Holocene Periods, comprising the second portion of the Cenozoic era; characterized by the rise of man and modern animals.
Scouring	to clear, dig, or remove by or as if by a powerful current of water.
SOUND32	Caltrans computer model that is based upon one used by FHWA in order to predict future noise levels for the proposed project.
Staging	a period or step in a process, activity, or development project
Synchro	Intersection traffic model.
Tract	a standard geographical unit of measurement defined by the U.S. Census Bureau.
Watershed	a region or area bounded peripherally by a divide and draining ultimately to a particular watercourse or body of water.

Appendix E City of Santa Rosa Resolutions

1. Resolution 24128, Passed September 14, 1999
2. Resolution 24219, Passed December 7, 1999
3. Resolution 24551, Passed September 12, 2000

The City of
Santa Rosa
City Council

RESOLUTION NO. 24128

RESOLUTION OF THE COUNCIL OF THE CITY OF SANTA ROSA CONCURRING WITH THE SONOMA COUNTY TRANSPORTATION AUTHORITY'S RECOMMENDATION TO REQUEST THE CALIFORNIA DEPARTMENT OF TRANSPORTATION TO STUDY OPTION 2 WHICH FOCUSES ON MAINTAINING ACCESSIBILITY IN THE ENVIRONMENTAL DOCUMENT FOR WIDENING OF HIGHWAY 101 FROM FOUR LANES TO SIX LANES FROM HIGHWAY 12 TO STEELE LANE

WHEREAS, the widening of Highway 101 from four lanes to six from Highway 12 to Steele Lane was funded in the 1998 State Transportation Improvement Program (STIP) for $49 million; and

WHEREAS, the California Department of Transportation (Caltrans) has begun preliminary design of the Highway 101 widening project, and as part of that process, Caltrans has developed two options for study during the environmental process; and

WHEREAS, Option 1 focuses on maximizing the flow on Highway 101 (on/off access points would be eliminated and modified to address merging conflicts and existing congestion) and improvements would include widening from four lanes to six lanes in the median, elevated structures which separate Highway 101 and Highway 12 traffic, auxiliary lanes and College Avenue improvements; and

WHEREAS, Option 2 focuses on maintaining accessibility (existing access points are maintained) and improvements would include widening from four lanes to six lanes in the median, auxiliary lanes and College Avenue improvements; and

WHEREAS, Option 2 includes a Sub-Option - Burbank School right of way north of Highway 12; and

WHEREAS, the Sonoma County Transportation Authority has requested that Caltrans study Option 2 in the environmental document for widening of Highway 101 from four lanes to six lanes from Highway 12 to Steele Lane.

NOW, THEREFORE, BE IT RESOLVED that the Council concurs with the Sonoma County Transportation Authority's recommendation to request the California Department of Transportation to study Option 2, which focuses on maintaining accessibility, in the environmental document for widening of Highway 101 from four lanes to six lanes from Highway 12 to Steele Lane.

IN COUNCIL DULY PASSED this 14th day of September, 1999.

RESOLUTION NO. 24551

RESOLUTION OF THE COUNCIL OF THE CITY OF SANTA ROSA CONFIRMING MITIGATION MEASURES IDENTIFIED IN RESOLUTION NO. 24219 AND ADDING THE 6TH STREET UNDERCROSSING TO BE CONSIDERED BY THE CALIFORNIA DEPARTMENT OF TRANSPORTATION IN THE ENVIRONMENTAL DOCUMENT FOR THE HIGHWAY 101 WIDENING PREFERRED ALTERNATIVE FROM HIGHWAY 12 TO STEELE LANE.

WHEREAS, the California Department of Transportation (Caltrans) is conducting preliminary design and environmental review of a project to widen Highway 101 between Highway 12 and Steele Lane in Santa Rosa; and

WHEREAS, the proposed project will impact the residents and businesses of Santa Rosa; and

WHEREAS, the existing Highway 101 currently bisects Santa Rosa and acts as a pedestrian/bicycle barrier and widening the Highway will increase the effect of the barrier; and

WHEREAS, the impact of the widening project on pedestrian and bicycle circulation, and on the community in general, can be reduced by incorporating mitigation measures into the project; and

WHEREAS, the Council has, by Resolution No. 24219, requested that Caltrans consider mitigation measures for the impacts of widening Highway 101 between Highway 12 and Steele Lane; and

WHEREAS, the Council has reviewed the mitigation measures identified in Resolution No. 24219 and considered elements suggested by CityVision which they believe would help alleviate the impacts of the highway widening project.

NOW, THEREFORE, BE IT RESOLVED that the Council requests Caltrans to consider in the environmental document the mitigation measures identified in Resolution No. 24219 and include the 6th Street undercrossing for the Highway 101 widening Preferred Alternative from Highway 12 to Steele Lane.

IN COUNCIL DULY PASSED this 12th day of September, 2000.

AYES: (5) Mayor Condron; Councilmembers Evans, Rabinowitsh, Runyan, Wright

NOES: (0)

ABSENT: (2) Councilmembers Martini and Vas Dupre

ABSTAIN: (0)

APPROVED: Janet Condron
Mayor

ATTEST: Audrey Hooper
Assistant City Clerk

APPROVED AS TO FORM

City Attorney

RESOLUTION NO. 24219

RESOLUTION OF THE COUNCIL OF THE CITY OF SANTA ROSA IDENTIFYING MITIGATION MEASURES TO BE CONSIDERED BY THE STATE OF CALIFORNIA IN THE ENVIRONMENTAL REVIEW FOR THE WIDENING OF HIGHWAY 101 BETWEEN HIGHWAY 12 AND STEELE LANE

WHEREAS, the California Department of Transportation (Caltrans) is conducting preliminary design and environmental review of a project to widen Highway 101 between Highway 12 and Steele Lane in Santa Rosa; and

WHEREAS, the proposed project will impact the residents and businesses of Santa Rosa; and

WHEREAS, the existing Highway 101 currently bisects Santa Rosa and acts as a pedestrian/bicycle barrier; and

WHEREAS, widening Highway 101 will increase the effect of the pedestrian/bicycle barrier; and

WHEREAS, the impact of the widening project on pedestrian and bicycle circulation, and on the community in general, can be reduced by incorporating mitigation measures into the project; and

WHEREAS, Caltrans has developed two options for improvement of Highway 101, and the Council has, by Resolution No. 24128, supported Option 2 which maintains current access points to the freeway.

NOW, THEREFORE, BE IT RESOLVED that the Council requests Caltrans to consider the following mitigation measures for the impacts of widening Highway 101 between Highway 12 and Steele Lane in accordance with Option 2:

- Provide a more attractive and comfortable environment for pedestrians and bicyclists by maximizing landscaping along creeks, local streets, and the highway; incorporating architectural features in the design of structures such as bridges, walls, and abutments; including aesthetic features along creeks; and providing lighting features along creeks and under the freeway.

- Construct a clear span bridge rather than pier walls over Santa Rosa Creek in order to provide pedestrians and bicyclists with more visibility and a safer, more comfortable linkage under the freeway in conjunction with the City's Prince Memorial Greenway project.

- As a replacement for the existing pedestrian overcrossing which provides access to Burbank School, construct a path along the south side of Santa Rosa Creek to be compatible with the Prince Memorial Greenway project.

- Resolve the sight distance restriction approaching the intersection of 6th Street and Davis Street/Highway 101 off ramp.

- Construct pedestrian/bicycle improvements on 3rd and 5th Streets to be compatible with the Federally funded Downtown Pedestrian Linkage Project along 4th Street.

- Promote uses of the Caltrans owned and operated property under Highway 101 which would make it more attractive for pedestrians and bicyclists.

- At the College Avenue interchange, construct a clear span bridge or reinforce the pier walls and create openings in the walls, rather than separate the sidewalks from the street by solid walls as is currently proposed.

- Provide bicycle lanes along College Avenue.

- Provide for a pedestrian/bicycle overcrossing connecting Santa Rosa Junior College (SRJC) with proposed parking facilities on the west side of Highway 101 to alleviate congestion resulting from SRJC traffic at the College Avenue interchange.

- Should ramp metering be included in the project, mitigate the impact on local streets.

- Mitigate construction impacts (such as noise, dust, and congestion) on businesses and residents.

BE IT FURTHER RESOLVED that the City of Santa Rosa should meet no less frequently than monthly with Caltrans during the environmental review and design process to maintain community involvement in the design of the project and to develop the mitigation measures to be included in the Highway 101 project.

IN COUNCIL DULY PASSED, this 7th day of December, 1999.

AYES: (7) Mayor Condron; Councilmembers Martini, Vas Dupre, Evans, Rabinowitsh, Runyan, Wright

NOES: (0)

ABSENT: (0)

ABSTAIN: (0)

APPROVED: Janet Condron
Mayor

ATTEST: Audrey Hergza
Assistant City Clerk

APPROVED AS TO FORM

RCC
City Attorney

(HEEU/HWY101MIT.P06)

Appendix F Relocation Assistance Program and Benefits

RELOCATION ASSISTANCE ADVISORY SERVICES

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, Caltrans will provide relocation advisory assistance to any person, business, farm or nonprofit organization displaced as a result of the acquisition of real property for public use. Caltrans will assist displacees in obtaining comparable replacement housing by providing current and continuing information on the availability and prices of both houses for sale and rental units that are "decent, safe and sanitary." Nonresidential displacees will receive information on comparable properties for lease or purchase (For business, farm and non profit organization relocation services, see below).

Residential replacement dwellings will be in equal or better neighborhoods at rents or prices within the financial ability of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, comparable replacement dwellings will be offered to displacees that are open to all person regardless of race, color, religion, sex, national origin, and consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include the supplying of information concerning Federal and State assisted housing programs, and any other known services being offered by public and private agencies in the area.

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice. Occupants eligible for relocation payment(s) will not be required to move unless at least one comparable "decent, safe and sanitary" replacement residence, available on the market, is offered to them by Caltrans.

RESIDENTIAL RELOCATION PAYMENTS PROGRAM

The Relocation Payment Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for or incidental to the purchase or rental of the replacement dwellings and actual reasonable moving expenses to a new location within 50 miles of the displacement property. Any actual moving costs in excess of the 50 miles are the responsibility of the displacee. The Residential Relocation Program can be summarized as follows:

Moving Costs

Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displacees will receive either the actual reasonable costs involved in

moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule.

Purchase Supplement
In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their property for 180 days or more prior to the date of the first written offer to purchase the property, may qualify to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest rate for the loan on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate. The maximum combination of these three supplemental payments that the owner-occupant can receive is $22,500. If the total entitlement (without the moving payments) is in excess of $22,500, the Last Resort Housing Program will be used (See the explanation of the Last Resort Housing Program below).

Rental Supplement
Tenants who have occupied the property to be acquired by Caltrans for 90-179 days prior to the date of the first written offer to purchase may qualify to receive a rental differential payment. This payment is made when Caltrans determines that the cost to rent a comparable "decent, safe and sanitary" replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted under the **Down Payment** section below. The maximum amount payable to any tenant of 90 days or more and any own-occupant of 90-179 days, in addition to moving expenses, is $5,250. If the total entitlement for rental supplement exceeds $5,250, the Last Resort Housing Program will be used.

In addition to the occupancy requirements, in order to receive any relocation benefits the displaced person must buy or rent and occupy a "decent, safe, and sanitary" replacement dwelling within one year from the date the Department takes legal possession of the property, or from the date the displacee vacates the displacement property, whichever is later.

Down Payment
The down payment option has been designed to aid owner occupants of 90-179 days and tenants with no less than 90 days of continuous occupancy prior to Caltrans first written offer. The down payment and incidental expenses cannot exceed the maximum payment of $5,250. The one year eligibility period in which to purchase and occupy a "decent, safe and sanitary" replacement dwelling will apply.

Last Resort Housing
Federal regulations (49 CFR 24) contain the policy and procedure for implementing the Last Resort Housing Program on federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard residential relocation as explained above. Last Resort Housing has been designed primarily to cover situations where a displacee cannot be relocated because of lack of available comparable replacement housing, or when the anticipated replacement housing payments exceed the $5,250 and $22,500 limits of the standard relocation procedure, because either the displacee lacks the financial ability or other valid circumstances. In certain exceptional situations, Last Resort Housing may also be used for tenants of less than 90 days.

After the first written offer to acquire the property has been made, Caltrans will within a reasonable length of time, personally contact the displaces to gather important information, including the
• preferences in area of relocation;
• Number of people to be displaced and the distribution of adults and children according to age and sex
• Location of school and employment;
• Specific arrangements needed to accommodate any family member(s) special needs;
• Financial ability to relocate into comparable replacement dwelling which will adequately house all members of the family.

NONRESIDENTIAL RELOCATION ASSISTANCE PROGRAM

The Nonresidential Relocation assistance Program provides assistance to businesses, farms and nonprofit organizations in locating suitable replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms and nonprofit organizations are searching and moving expenses, and possibly reestablishment expenses or a fixed in lieu payment instead of any moving, searching and reestablishment expenses. The payments types can be summarized as follows:

Moving Expenses
Moving expenses may include the following actual, reasonable costs:
• The moving of inventory, machinery, equipment and similar business-related property dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property.
• Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.
• Expenses related to searching for a new business site, up to $1,000 for reasonable expenses actually incurred.

Reestablishment Expenses
Reestablishment expenses related to the operation of the business at the new location, up to $10,000 for reasonable expenses actually incurred.

Fixed In Lieu Payment
A fixed payment in lieu of moving and searching payments, and reestablishment payment may be available to businesses which meet certain eligibility requirements. This payment is an amount equal to the average annual net earnings for the last two taxable years prior to the relocation and may not be less than $1,000 nor more than $20,000.

ADDITIONAL INFORMATION

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954, or resources for the purpose of determining the extent of eligibility of a displacee for assistance under the Social Security Act, local “Section 8” Housing Programs, or other Federal assistance programs.

Any person, business, farm or nonprofit organization which has been refused a relocation payment by the Caltrans relocation advisor or believes that the payment(s) offered by the agency are inadequate, may appeal for a special hearing of the complaint. No legal assistance is required. Information about the appeal procedure is available from the relocation advisor.

California law allows for the payment for lost goodwill that arises from the displacement for a public project. A list of ineligible expenses can be obtained from Caltrans Right of Way. California's law and the federal regulations covering relocation assistance provide that no payment shall be duplicated by other payments being made by the displacing agency.

Appendix G Listings in Transportation Plans

1. Applicable project listing in the Metropolitan Transportation Commission's 2001 Regional Transportation Plan for the San Francisco Bay Area, page 176. See RTP Reference Number 94165.

2. Applicable project listings in the Metropolitan Transportation Commission's 2003 Transportation Improvement Program (TIP), TIP ID SON990001 and SON010001.

RTP REFERENCE NUMBER	PROJECT/PROGRAM WITH COMMITTED FUNDING	TOTAL PROJECT COSTS	NOTES
		In millions of 2001 dollars	
	SONOMA COUNTY-WIDE		
94694	Local streets and roads pavement maintenance (committed revenues shown)	$268.0	Shortfall remains (see Track 1)
21862	Non-pavement maintenance (sidewalk, lighting, drainage, landscaping, etc. – committed revenues shown)	$208.5	Shortfall remains
21870	Local bridge maintenance (committed revenues shown)	$26.1	Shortfall remains
94695	Sonoma County, Santa Rosa, Petaluma, Healdsburg, and Cloverdale Transit – transit operating and capital improvement program (including replacement, rehabilitation, and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets)	$349.2	Federal, state and local (including transit fares) available directly to operator
98572	Golden Gate Transit (Sonoma County share) – transit operating and capital improvement program (including replacement, rehabilitation, and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include expansion)	$979.7	Federal, state and local (including transit fares) available directly to operators; capital shortfall remains (see Track 1)
98213	Bicycle and pedestrian projects	$15.7	Funds are from Transportation Development Act (TDA) Article 3, Bicycle Transportation Account, and local TEA-21 Enhancement funds
	GOLDEN GATE		
21338	US 101 southbound auxiliary lane between Route 116 to East Washington	$7.0	
21346	US 101/Route 116 separation: improve Route 116 onramp to southbound US 101	$9.9	Funded by State Highway Operations and Protection Program (SHOPP)
21423	Widen Commerce Boulevard from 2 lanes to 3 lanes from US 101/Wilfred Avenue interchange to Redwood Drive Golf Course in Rohnert Park	$1.0	
21436	Regional Express Bus Program: US 101/Santa Rosa to San Rafael/ San Francisco	$2.1	2000 Traffic Congestion Relief Program project
21898	US 101/Route 116 east separation: replace bridge over separation and improve onramp to US 101 (from Petaluma River bridge to north of US 101/Route 116 east separation and overhead)	$7.1	Funded by State Highway Operations and Protection Program (SHOPP)
94165	US 101 northbound and southbound HOV lanes from Route 12 to Steele Lane in Santa Rosa; includes interchange modifications at Steele Lane and College Avenue	$77.5	
94167	Sonoma-Marin Rail station site acquisitions/upgrades	$5.0	Funding is from federal earmarks for multi-modal stations.
94685	Route 12/Farmers Lane partial interchange improvements	$3.3	
94689	US 101/Arata Lane interchange improvements in Windsor (Phase 2)	$2.5	Funding is from federal earmark
96016	Reconstruct and upgrade Stony Point Road from Pepper Road to Petaluma city line	$1.4	
	NORTH BAY EAST-WEST		
21899	Rehabilitate Route 12, widen shoulders and replace bridge near Kenwood between Sonoma Creek to Boyes Boulevard	$10.5	Funded by State Highway Operation and Protection Program (SHOPP)
21998	Rehabilitate and widen Route 116 between Elphick Road to Redwood Drive in Sebastopol and Cotati	$17.0	Funded by State Highway Operation and Protection Program (SHOPP)
94691	Route 121 traffic signal system and channelization at Eighth Street	$0.4	

This web page updated on 5/ 8/2003All funding is in $1,000's					
SON990001		As of TIP Amendment:		03-00	Top of Page
SPONSOR:	Caltrans	PROJECT NAME:	Son 101 HOV - Route 12 to Steele Lane		
PROJECT TYPE:	Highway - HOV	MTC LIAISON / COORDINATOR:	A. Eliot		
DESCRIPTION:	Sonoma County; US 101 from Route 12 to Steele lane; Widen from 4-6 lanes for 2 HOV lanes & modify interchanges.				
COUNTY:	SON				
ROUTE:	101	From Postmile:	19.5	To Postmile:	21.6
LEVEL OF REVIEW:	PR				

Fund Source	Phase	Prior	Fy02/03	Fy03/04	Fy04/05	Later	Subtotal	Obligation Deadline	UZA Cnty Share
ITIP-98-F/St	CONST	0	0	12000	0	0	12000	6/30/2004	
RTIP-98-F/ST	CONST	0	0	36770	0	0	36770	6/30/2004	Sonoma
RTIP-98-F/ST	ENV	1600	0	0	0	0	1600	6/30/1999	Sonoma
RTIP-98-F/ST	PSE	4700	0	0	0	0	4700	6/30/1999	Sonoma
RTIP-98-F/ST	ROW	0	1030	0	0	0	1030	6/30/2003	Sonoma
RTIP-98-F/ST	ROW-CT	800	0	0	0	0	800	6/30/2001	Sonoma
RTIP-98-F/St	CONST-CT	0	0	4700	0	0	4700	6/30/2004	Sonoma
Totals:	...	7100	1030	53470	0	0	61600		

This web page updated on 5/ 8/2003All funding is in $1,000's					
SON010001		As of TIP Amendment:		03-00	Top of Page
SPONSOR:	Caltrans	PROJECT NAME:	Son 101 HOV - Steele Lane Interchange		
PROJECT TYPE:	Highway - HOV	MTC LIAISON / COORDINATOR:	A. Eliot		
DESCRIPTION:	Santa Rosa: Steele Lane/US 101to .8 km north of Steele Lane; Reconstruct interchange and widen hwy from 4 to 6 lanes including HOV lanes.				
COUNTY:	SON				
ROUTE:	101	From Postmile:	21.7	To Postmile:	22.2
LEVEL OF REVIEW:	PR				

Fund Source	Phase	Prior	Fy02/03	Fy03/04	Fy04/05	Later	Subtotal	Obligation Deadline	UZA Cnty Share
RTIP-00-F/St	CONST	0	0	7358	0	0	7358	6/30/2004	Sonoma
RTIP-98-F/ST	ENV	595	0	0	0	0	595	6/30/2001	Sonoma
RTIP-98-F/ST	PSE	0	0	0	0	0	0	6/30/2002	Sonoma
-->Carryover	...	0	1768	0	0	0	1768	6/30/2002	Sonoma
RTIP-98-F/ST	ROW	0	55	0	0	0	55	6/30/2003	Sonoma
RTIP-98-F/ST	ROW-CT	0	118	0	0	0	118	6/30/2003	Sonoma
Totals:	...	595	1941	7358	0	0	9894		

Appendix H Calculation of Reasonable Allowance for Soundwalls

1. Calculation of Reasonable Allowance – "Worksheet B"

Calculation of Reasonable Allowance
"Worksheet B"

PROECT: Co: SON Rte: 101
EA: 248400 P.M. 19.5 / 22.2

PROJECT ENGINEER: Fred Witteborn

PROJECT DESCRIPTION AND LOCATION:
Widened SON 101 from 4 lanes to 6 lanes from the Route 101/Route 12 Interchange to Steele Lane in the City of Santa Rosa

Page:
Date:

NOISE BARRIER I.D. (From Worksheet A)	REASONABLE ALLOWANCE PER BENEFITTED RESIDENCE Al (Worksheet A) (a)	NO. OF BENEFITTED RESIDENCES Nl (b)	REASONABLE ALLOWANCE PER NOISE BARRIER (Al x Nl) (c)	FRACTION OF TOTAL REASONABLE ALLOWANCE (Al x Nl)/At (d) (d = c/box 1)	REDUCTION OF REASONABLE ALLOWANCE PER NOISE BARRIER (e) (e =d x box 3)	REDUCTION OF REASONABLE ALLOWANCE PER BENEFITTED RESIDENCE (f) (f =e/b)	MODIFIED REASONABLE ALLOWANCE PER BENEFITTED RESIDENCE (Aml) (g) (g = a - f)	MODIFIED REASONABLE ALLOWANCE PER NOISE BARRIER (Aml x Nl)
Soundwall 1	39,000	9	351,000					
Soundwall 2	29,000	12	348,000					
Soundwall 3	29,000	37	1,073,000					
Soundwall 4	Existing wall	-	-					
Soundwall 5	37,000	4	148,000					
Soundwall 6	33,000	11	363,000					
Soundwall 7	33,000	22	726,000					
Soundwall 8	31,000	23	713,000					

TOTAL REASONABLE ALLOWANCE FOR ABATEMENT (At)	Box 1	3,722,000
ESTIMATED PROPECT COST X 0.5	Box 2	16,600,000
SUBTRACT BOX 2 FROM BOX 1 * If result is zero or less, STOP. Use the reasonable allowances per residence in column (a) above. * If result is greater than zero, the amount is TOTAL ALLOWANCE EXCESS (Et); continue with columns (d) through (g).	Box 3	3,722,000

TOTAL MODIFIED REASONABLE ALLOWANCE FOR ABATEMENT (Amt)	

Appendix I Locations of Historic Properties

1. Figures I-1A-D. Locations of Historic Properties

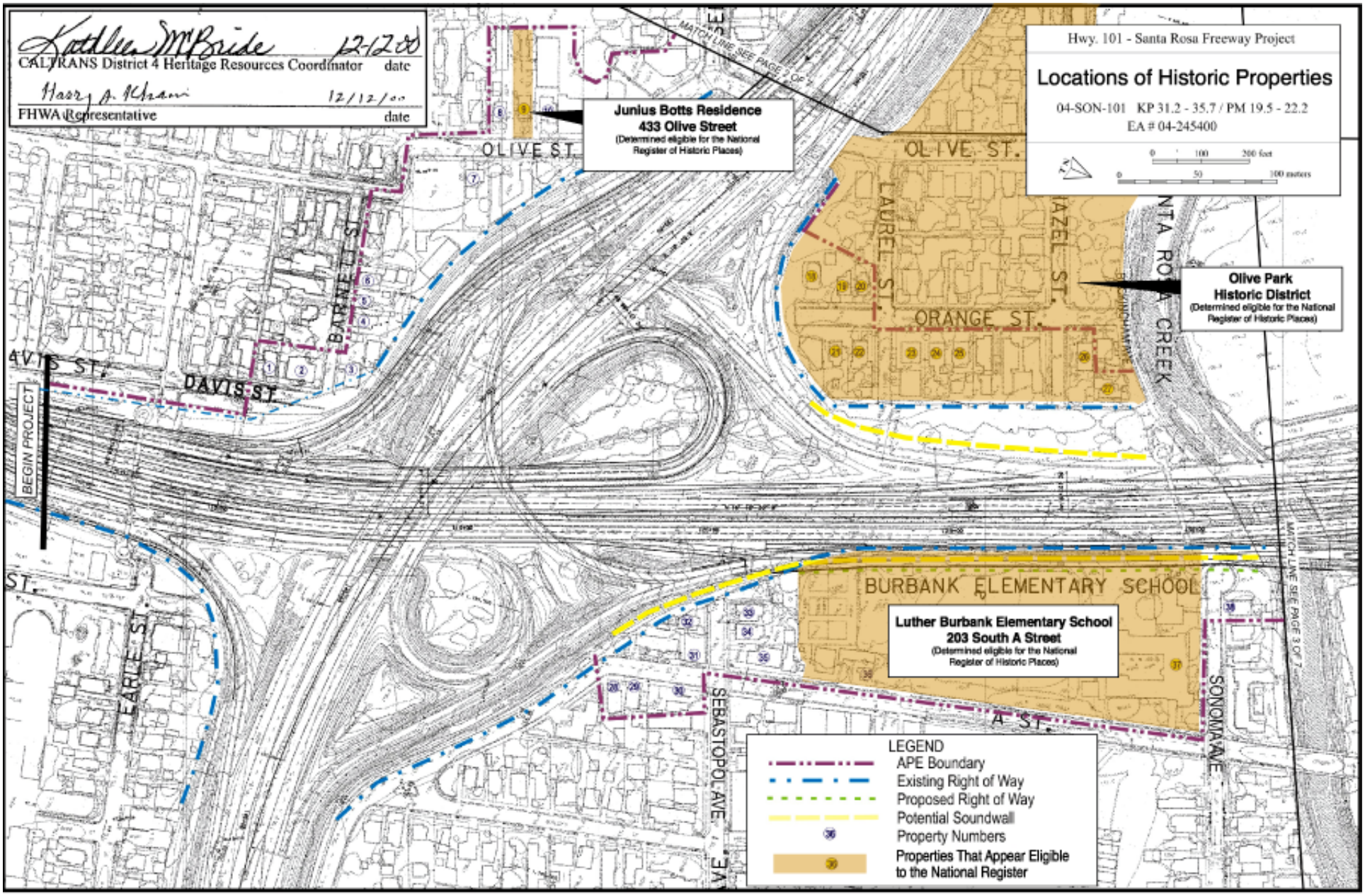
Kathleen McBride 12-12-00
CALTRANS District 4 Heritage Resources Coordinator date
Harry A. Kharni 12/12/00
FHWA Representative date
Hwy. 101 - Santa Rosa Freeway Project
Locations of Historic Properties
04-SON-101 KP 31.2 - 35.7 / PM 19.5 - 22.2
EA # 04-245400
Junius Botts Residence
433 Olive Street
(Determined eligible for the National Register of Historic Places)
Olive Park
Historic District
(Determined eligible for the National Register of Historic Places)
Luther Burbank Elementary School
203 South A Street
(Determined eligible for the National Register of Historic Places)
OLIVE ST.
LAUREL ST.
HAZEL ST.
ORANGE ST.
SANTA ROSA CREEK
BARNETT ST.
AVIS ST.
DAVIS ST.
BEGIN PROJECT
EARLE ST.
BURBANK ELEMENTARY SCHOOL
SEBASTOPOL AVE.
A ST.
SONOMA AVE.
MATCH LINE SEE PAGE 2 OF 7
MATCH LINE SEE PAGE 3 OF 7
LEGEND
APE Boundary
Existing Right of Way
Proposed Right of Way
Potential Soundwall
Property Numbers
Properties That Appear Eligible to the National Register

Figure I-1A

Kathleen McBride 12-12-00
CALTRANS District 4 Heritage Resources Coordinator date

Harry A. Kharni 12/12/00
FHWA Representative date

Hwy. 101 - Santa Rosa Freeway Project

Locations of Historic Properties

04-SON-101 KP 31.2 - 35.7 / PM 19.5 - 22.2
EA # 04-245400

0 100 200 feet
0 50 100 meters

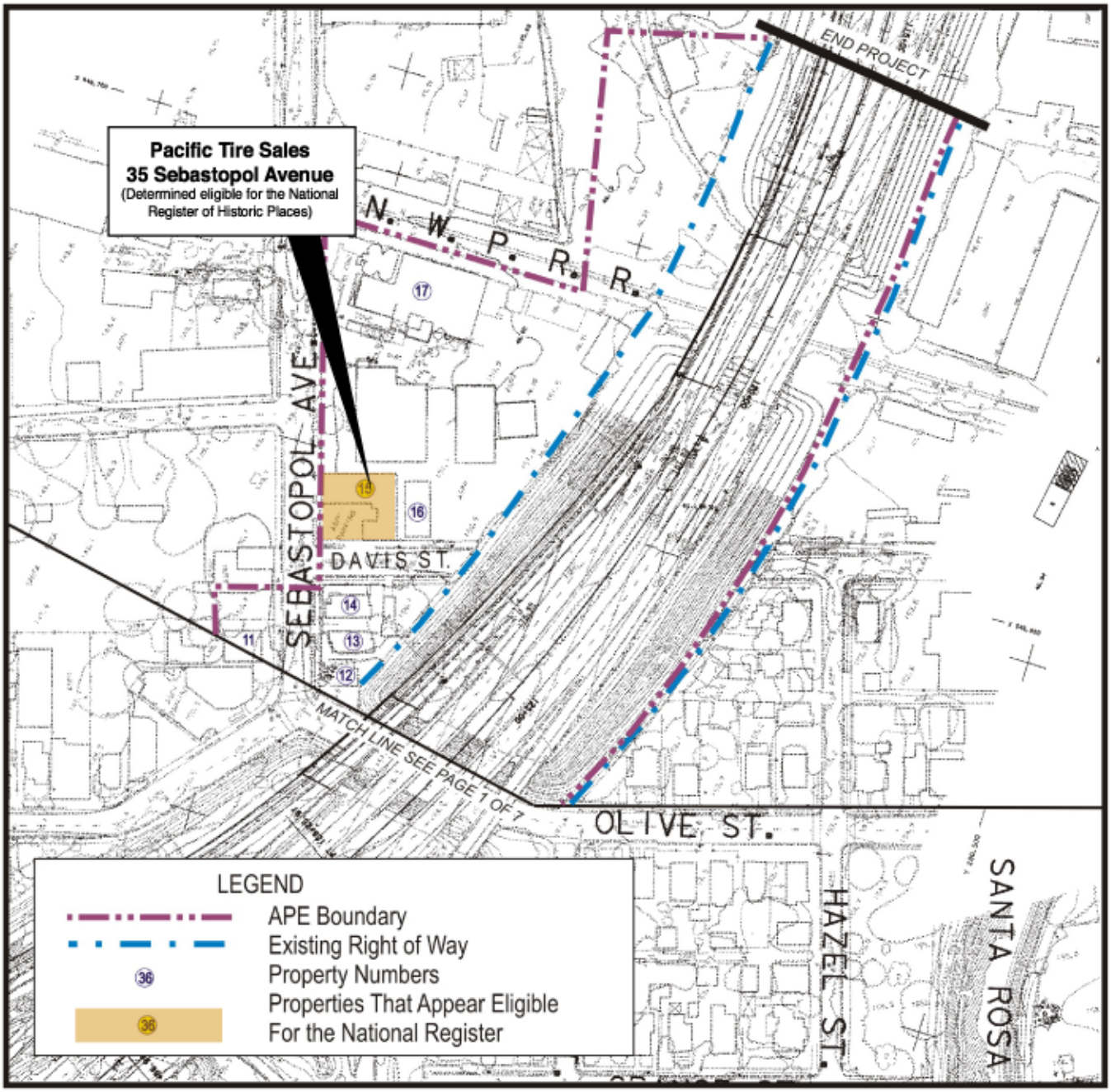

Figure I-1B

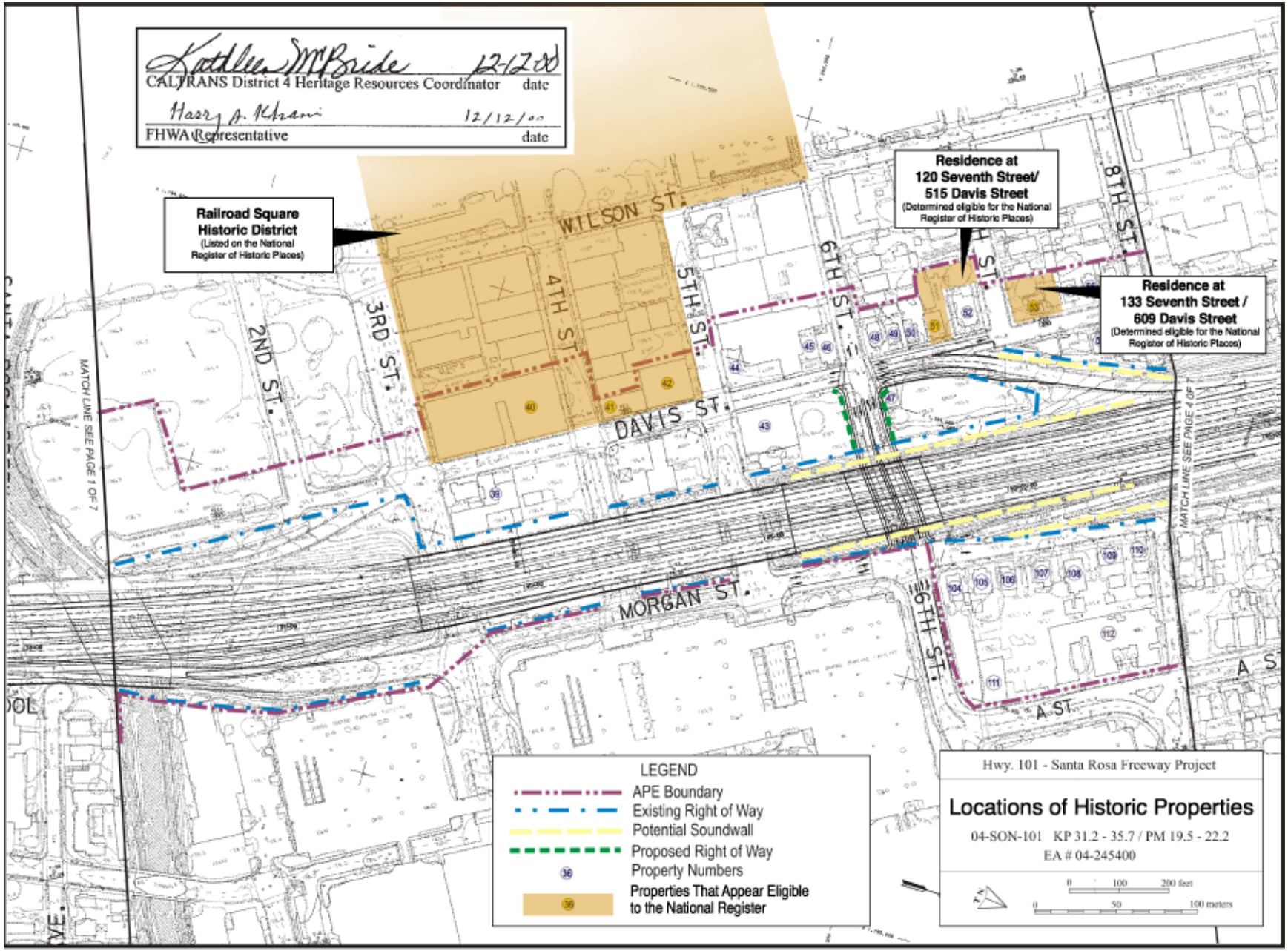
Kathleen McBride 12/12/00
CALTRANS District 4 Heritage Resources Coordinator date
Harry A. Kharami 12/12/00
FHWA Representative date
Railroad Square Historic District
(Listed on the National Register of Historic Places)
Residence at 120 Seventh Street/ 515 Davis Street
(Determined eligible for the National Register of Historic Places)
Residence at 133 Seventh Street / 609 Davis Street
(Determined eligible for the National Register of Historic Places)
WILSON ST.
DAVIS ST.
MORGAN ST.
A ST.
2ND ST.
3RD ST.
4TH ST.
5TH ST.
6TH ST.
7TH ST.
8TH ST.
MATCH LINE SEE PAGE 1 OF 7
MATCH LINE SEE PAGE 4 OF 7
LEGEND
APE Boundary
Existing Right of Way
Potential Soundwall
Proposed Right of Way
Property Numbers
Properties That Appear Eligible to the National Register
Hwy. 101 - Santa Rosa Freeway Project
Locations of Historic Properties
04-SON-101 KP 31.2 - 35.7 / PM 19.5 - 22.2
EA # 04-245400
0 100 200 feet
0 50 100 meters

Figure I-1C

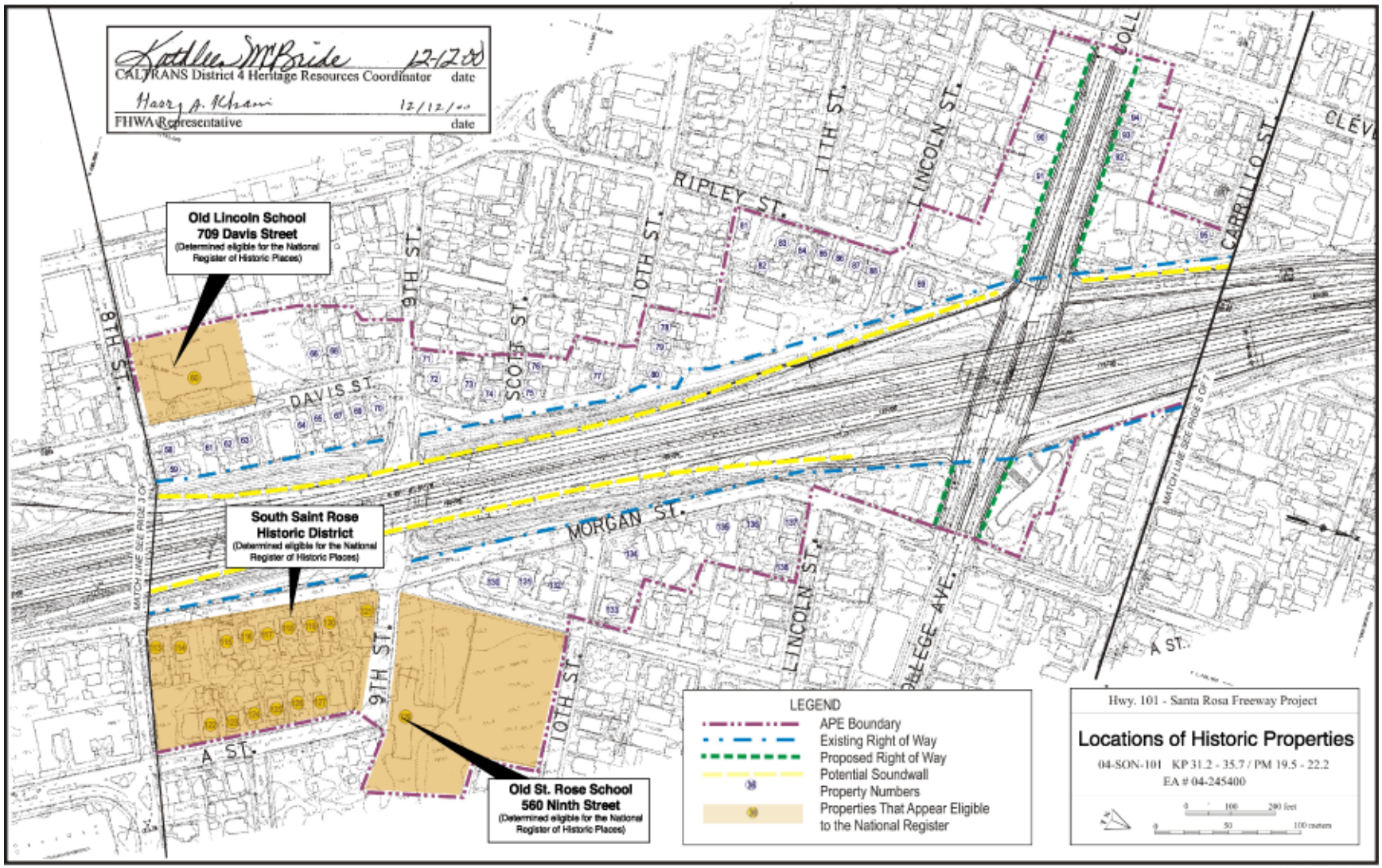
Kathleen McBride 12-12-00
CALTRANS District 4 Heritage Resources Coordinator date
Harry A. Kharani 12/12/00
FHWA Representative date
Old Lincoln School
709 Davis Street
(Determined eligible for the National Register of Historic Places)
South Saint Rose Historic District
(Determined eligible for the National Register of Historic Places)
Old St. Rose School
560 Ninth Street
(Determined eligible for the National Register of Historic Places)
8TH ST.
9TH ST.
10TH ST.
11TH ST.
DAVIS ST.
SCOTT ST.
RIPLEY ST.
LINCOLN ST.
MORGAN ST.
COLLEGE AVE.
CARRILLO ST.
A ST.
MATCH LINE SEE PAGE 3 OF 7
LEGEND
APE Boundary
Existing Right of Way
Proposed Right of Way
Potential Soundwall
Property Numbers
Properties That Appear Eligible to the National Register
Hwy. 101 - Santa Rosa Freeway Project
Locations of Historic Properties
04-SON-101 KP 31.2 - 35.7 / PM 19.5 - 22.2
EA # 04-245400
0 100 200 feet
0 50 100 meters

Figure I-1D

Appendix J DTSC Variance

1. September 22, 2000 DTSC Variance

California Environmental Protection Agency
Department of Toxic Substances Control

VARIANCE

Applicant Names:

Mr. Harry Yahata, District Director
State of California
Department of Transportation, District 4
(Caltrans)
111 West Grand Avenue
P.O. Box 23660
Oakland, California 94623-0660

Variance No. 00-H-VAR-01

Effective Date: September 22, 2000

Expiration Date: September 22, 2005

Modification History:

Pursuant to Section 25143 of the California Health and Safety Code, the Department of Toxic Substances Control hereby issues the attached Variance consisting of 8 pages to Department of Transportation District 04.

Frederick S. Moss
Chief, Permitting Division
Department of Toxic Substances
Control

Date: 9/22/00

VARIANCE

1. INTRODUCTION.

1.1 Pursuant to Section 25143, Chapter 6.5, Division 20 of the Health and Safety Code (HSC), the California Department of Toxic Substances Control (DTSC) grants a variance to the applicant below for waste considered hazardous solely because of its contaminant concentrations and as further specified herein.

1.2 DTSC hereby grants a variance only from the requirements specified herein and only in accordance with all terms and conditions specified herein.

2. IDENTIFYING INFORMATION.

APPLICANT/OWNER/OPERATOR

Mr. Harry Yahata, District Director
State of California
Department of Transportation, District 4 (Caltrans)
111 West Grand Avenue
P.O. Box 23660
Oakland, California 94623-0660

3. TYPE OF VARIANCE.

Generation, Manifest, Transportation, Storage and Disposal

4. ISSUANCE AND EXPIRATION DATES.

DATE ISSUED: September 22, 2000 EXPIRATION DATE: September 22, 2005.

5. APPLICABLE STATUTES AND REGULATIONS. The hazardous waste that is the subject of this variance is fully regulated under HSC, Section 25100, et seq. and Title 22 of the California Code of Regulations (CCR) Division 4.5 except as specifically identified in Section 8 of this variance.

6. DEFINITION. For the purposes of this variance, waste that meets the criteria in paragraphs a) and b) of section 9 below, shall be referred to as "lead-contaminated soil(s)".

7. FINDINGS/DETERMINATIONS. DTSC has determined that the variance applicant meets the requirements set forth in HSC Section 25143 for a variance from specific regulatory requirements as outlined in Section 8 of this variance. The specific determinations and findings made by DTSC are as follows:

a) Caltrans intends to excavate, stockpile, transport, bury and cover large volumes of soil associated with highway construction projects throughout the State. In the

more urbanized highway corridors this soil is contaminated with lead, primarily due to historic emissions from automobile exhausts. In situ testing has shown the uppermost two feet of soil have been found to contain concentrations of lead in excess of regulatory thresholds. However, DTSC has prepared a risk assessment that shows that soil contaminated with low concentrations of lead can be managed in a way that presents no significant risk to human health and the environment.

b) The lead-contaminated soil will be placed only in Caltrans rights of way. Based on concentration levels, the wastes will be covered with a minimum thickness of one (1) foot of non-hazardous soil or asphalt cover and will always be five (5) feet above the highest groundwater elevation. Caltrans will assure that proper health and safety procedures will be followed for workers. This includes any persons engaged in maintenance work in areas where the waste has been buried and covered.

c) DTSC finds and requires that the lead contaminated soil excavated, stockpiled, transported, buried and covered is a non-RCRA hazardous waste, and that the hazardous waste management activity is insignificant as a potential hazard to human health and safety and the environment, when managed in accordance with the conditions, limitations and other requirements specified in this variance.

8. PROVISIONS SUBJECT TO VARIANCE.

DTSC, subject to all terms and conditions herein, waives the hazardous waste management requirements of Title 22,CCR, sections 66264.250 through 66264.259, 22 CCR 66268.1 through 66268.9, 22 CCR 66262.10, 22 CCR 66262.12, 22 CCR 66262.20, 22 CCR 66262.30 through 66262.34, 22 CCR 66262.40 through 66262.42, 22 CCR 66263.10 through 66263.18 and 22 CCR 66263.20 through 66263.23 for the generation, transportation, manifesting, storage and land disposal of hazardous waste. These management requirements are only waived provided all other requirements of this variance are complied with at Caltrans construction projects in the Caltrans District specified in section 2 above.

9. SPECIFICATIONS OF THE CONDITIONS, LIMITATIONS, OR OTHER REQUIREMENTS. The owner/operator shall be subject to the following conditions:

a) Caltrans shall manage all soil contaminated with lead at concentrations such that it is considered a hazardous waste pursuant to HSC 25117 and 22 CCR, Div 4.5, Chapter 11, unless the contaminant concentrations and management practices meet the following conditions:

1. Soil containing 500 ug/l extractible lead or less (based on a modified waste extraction test using deionized water as the extractant) and 350 ppm or less total lead may be used as fill provided that the lead-contaminated soil is placed a minimum of five (5) feet above the maximum water table elevation and covered with at least one (1) foot of nonhazardous soil. The limit on total lead within shall be the following: Total parts per million (ppm) lead shall be at or below the statutory limits in effect when the soil is used as fill or the risk based limit of 1496mg/kg, whichever is less. On the effective date of this variance, HSC section 25157.8 limits total lead

concentrations to 350 ppm. That section may be amended and/or expire in the future. Additionally, other parts of relevant statutes may be added or amended in the future to include lead limits applicable to this variance.

2. Soil containing more than 500 ug/l and less than 50 mg/l extractible lead (based on a modified waste extraction test using deionized water as the extractant) and 350 or less ppm total lead may be used as fill provided that the lead-contaminated soils are placed a minimum of five (5) feet above the maximum water table elevation and protected from infiltration by a pavement structure which will be maintained by Caltrans. Caltrans shall comply with the lead limits discussed in paragraph a) 1 above.

3. Contaminated soil with a pH < 5.0 shall be used as fill material only under the paved portion of the roadway.

b) Caltrans will implement appropriate health and safety procedures to protect its employees and the public, and to prevent or minimize exposure to potentially hazardous substances. A project-specific health and safety plan must be prepared and implemented. The monitoring and exposure standards shall be based on Construction Standards in Title 22, CCR section 1532.1.

c) All lead-contaminated soil that cannot be buried and covered within the same Caltrans corridor from where it originated shall be managed as a hazardous waste.

d) Lead-contaminated soil will not be moved outside the designated corridor boundaries (see paragraph q) below).

e) Lead-contaminated soil shall not be buried in areas where it will be in contact with groundwater or surface water.

f) Lead-contaminated soil shall be buried and covered only in locations that are protected from erosion resulting from storm water run-on and run-off.

g) The lead-contaminated soil shall be buried and covered in a manner that will prevent accidental or deliberate breach of the asphalt, concrete, and/or cover soil.

h) The presence of lead-contaminated soil will be incorporated into the projects' as-built drawings. The as-built drawings shall be annotated with the location, representative analytical data, and volume of lead-contaminated soil. The as-built drawings shall also state the depth of the cover. These as-built drawings shall be retained by Caltrans until its rights-of-way or property ownership are relinquished.

I) Caltrans shall ensure that no other hazardous wastes, other than the lead-contaminated soil, are placed in the burial areas.

j) Lead-contaminated soil shall not be buried within ten (10) feet of culverts or locations subject to frequent worker exposure.

k) Excavated lead-contaminated soil not placed into the designated area (fill area, roadbed area) by the end of the working day shall be stockpiled and covered with sheets of polyethylene or at least one foot of non-hazardous soil. The lead contaminated soil, while stockpiled or under transport, shall be protected from contacting surface water and being dislodged or transported by wind or storm water. The stockpile covers shall be inspected at least once a week and within 24 hours after rainstorms.

l) Caltrans shall ensure that all stockpiling of lead contaminated soil remains within the specified corridor. Stockpiling of lead-contaminated soil outside the area of contamination is in direct violation of land disposal restrictions and is prohibited.

m) Caltrans shall conduct confirmatory sampling, if appropriate, of any stockpile area after removal of the lead- contaminated soil to ensure that contamination has not been left behind or has not migrated from the stockpiled material to the surrounding soils. Caltrans shall ensure that test results are kept with Caltrans project records located at the District office or a subsequent permanent location and are available to DTSC upon request.

n) Caltrans shall stockpile lead-contaminated soil only on high ground (i.e. no sump areas or low points) which will not be affected by surface water run-on or run-off.

o) Caltrans shall not stockpile soil in an environmentally sensitive area.

p) Caltrans shall ensure that run-off which has come into contact with stockpiled lead-contaminated soil will not flow to storm drains, inlets, or waters of the state.

q) Caltrans may move lead-contaminated soil from one Caltrans project to another Caltrans project so long as the lead-contaminated soil remains within the same designated Caltrans corridor. Caltrans shall record this movement of lead- contaminated soil by using a bill of lading. The bill of lading must contain: 1) US DOT description including shipping name, hazard class and ID number; 2) handling codes; 3) quantity of material; 4) volume of material; and 5) any specific handling instructions. The bill of lading shall be referenced in and kept on file with the project's as-built drawings. Lead-contaminated soil must be kept covered during transportation.

r) For each specific corridor where this variance is to be implemented, all of the following information will be submitted in writing to DTSC at least five (5) days before construction of any project begins:

1. a plan drawing designating the boundaries of the corridor where lead-contaminated soils will be excavated, stockpiled, buried and covered;

2. a list of the Caltrans projects that the corridor encompasses;

3. a list of Caltrans contractors that will be conducting any phase of work on any project affected by this variance;

4. duration of corridor construction;

5. location where sampling and analytical data used to make lead concentration level determinations are kept (e.g. a particular Caltrans project file);

6. name and phone number (please include area code) of project resident engineer and project manager;

7. location where Caltrans and contractor health and safety records are kept;

8. location of project special provisions (including page or section number) for soil excavation, transportation, stockpile, burial and placement of cover material;

9. location of project drawings (including drawing page number) for soil excavation, burial and placement of cover in plan and cross section (For example, "The project plans are located at the resident engineer's office located at 5th and Main Streets, City of Fresno,. See pages xxxxx of contract xxxx");

10. If a Caltrans project within the corridor is added, changed or deleted, Caltrans must update the information provided to DTSC five (5) days before construction begins; and

11. The type of environmental document for each project, date of adoption, document title, Clearing House number and where the document is available for review. A copy of the Notice of Exemption for any project shall be submitted to the DTSC Headquarters Project Manager within five (5) days of signing.

s) Changes in location of lead-contaminated soil placement, quantities or protection measures (field changes) will be noted in the resident engineer's project log within five (5) days of the field change.

t) Caltrans shall ensure that field changes are in compliance with the requirements of this variance.

u) If areas subject to the terms of this variance are sold, relinquished or abandoned (including roadways), all future property owners shall be notified in writing in advance by Caltrans of the requirements of this variance, and Caltrans shall provide the owner with a copy of the variance. A copy of such a notice shall be sent to and contain the corridor location and project. Caltrans shall also disclose to the new owner the location of areas where lead contaminated soil has been buried. Future property owners will be subject to the same requirements as Caltrans retains the right to modify or revoke this variance pursuant to HSC 25143 upon a change of ownership or at any other time.

v) For the purposes of informing the public about instances where the variance is implemented, Caltrans shall:

1. Maintain current fact sheets at all Caltrans resident engineer offices and the Caltrans District office. Caltrans shall make the fact sheets available to anyone expressing an interest in variance-related work.

2. Maintain a binder(s) containing copies of all reports submitted to DTSC at the District office. Caltrans shall ensure that the binders are readily accessible to the public.

3. Carry out the following actions when it identifies additional projects:

(A) Notify the public via a display advertisement in a newspaper of general circulation in that area.

(B) Update and distribute the fact sheet to the mailing list and repository locations.

w) Caltrans implementation of this variance shall comply with all applicable state policies for water quality control, water quality control plans, waste discharge requirements (including storm water permits), and others issued by the State Water Resources Control Board or a California Regional Water Quality Control Board.

x) This variance is applicable only to soil considered hazardous because of aerially-deposited lead contamination. The variance is not applicable to any other hazardous waste.

y) Lead-contaminated soil may be buried only in areas where access is limited or where lead-contaminated soil is covered and contained by a pavement structure.

1) Dust containing lead-contaminated soil must be controlled. Water or dust palliative may be applied to control dust. If visible dust migration occurs, all excavation, stockpiling and truck loading and burying must be stopped. The granting of this variance confers no relief on Caltrans from compliance with the laws, regulations and requirements enforced by any local air district or the California Air Resources Board.

2) Sampling and analysis is required to show the lead contaminated soil meets the variance criteria specified in a). All sampling and analysis must be done according to U.S. EPA subsection SW-846.

z) All correspondence shall be directed to the following office:

Frederick S. Moss, Chief
Permitting Division
Department of Toxic Substances Control
400 P Street, 4th Floor
P.O. Box 806
Sacramento, CA 95812-0806

Attn: Caltrans Lead Variance Notification Unit

10. DISCLAIMER.

10.1 The issuance of this variance does not relieve Caltrans of the responsibility for compliance with Division 20, Chapter 6.5, HSC, or the regulations adopted thereunder, and any other laws and regulations other than those specifically identified in Section 8 of this variance. Caltrans is subject to all terms and conditions herein. The granting of this variance confers no relief from compliance with any federal, state or local requirements other than those specifically provided herein.

10.2 The issuance of this variance does not release Caltrans from any liability associated with the handling of hazardous waste, except as specifically provided herein and subject to all terms and conditions of this variance.

11. VARIANCE MODIFICATION OR REVOCATION. This variance is subject to review at the discretion of DTSC and may be modified or revoked at any time pursuant to Health and Safety Code section 25143.

12. CEQA DETERMINATION. DTSC adopted a Negative Declaration on September 22, 2000.

Approved:

9/22/00
Date

Frederick S. Moss
Frederick S. Moss, Chief
Permitting Division
Hazardous Waste Management Program
Department of Toxic Substances Control

Appendix K Biological Opinion

1. NOAA Fisheries Biological Opinion: December, 2003

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802- 4213

DEC 12 2003

In Response Reply To:
151422SWR02SR6254:JTJ

DEC 11 2003

Gary N. Hamby
Division Administrator
United States Department of Transportation
Federal Highway Administration
980 Ninth Street, Suite 400
Sacramento, California 95814-2724

Dear Mr. Hamby:

This document transmits the National Marine Fisheries Service's (NOAA Fisheries) biological opinion (Enclosure) based on our review of the Federal Highway Administration's (FHWA) proposed funding for the widening of Highway 101 from Highway 12 to Steele Lane in Santa Rosa, Sonoma County, California (FHWA reference: HDA-CA, File # 04-Son-101-19.5/22.2, Document # P45633) and its effects on threatened Central California Coast steelhead (*Oncorhynchus mykiss*) and designated critical habitat for Central California Coast coho salmon (*O. kisutch*) in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*). In addition, this letter documents the result of NOAA Fisheries' Essential Fish Habitat (EFH) consultation pursuant to section 305(b)(2) of the Magnuson-Stevens Fisheries Conservation and Management Act (MSFCMA).

Endangered Species Act Consultation

NOAA Fisheries concludes in the biological opinion that the proposed action will not jeopardize the continued existence of Central California Coast steelhead, nor adversely modify designated critical habitat for Central California Coast coho salmon. However, we anticipate that take of listed species as a result of this project will occur, and therefore, an incidental take statement with non-discretionary terms and conditions is included.

Essential Fish Habitat Consultation

NOAA Fisheries has evaluated the proposed project for potential adverse effects to EFH pursuant to section 305(b)(2) of the MSFCMA. After reviewing the effects of the project as described in the enclosed biological opinion, NOAA Fisheries has determined that the proposed action will have a minimal adverse effect on EFH of Chinook salmon (*O. tshawytscha*) and coho salmon in Santa Rosa Creek.

Section 305(b)(4)(A) of the MSFCMA authorizes NOAA Fisheries to provide EFH Conservation Recommendations that will minimize adverse effects of an activity on EFH. For this project, conservation measures were already included in the project description. In addition, the enclosed biological opinion also contains non-discretionary terms and conditions that will minimize adverse effects to EFH. Therefore, NOAA Fisheries has not provided EFH Conservation Recommendations for this project.

If you have any questions about this section 7 consultation and EFH consultation, or if you require additional information, please contact Mr. Jeffrey Jahn at (707) 575-6097.

Sincerely,

for Rodney R. McInnis
Acting Regional Administrator

Enclosure

cc: Joan Bollman, Federal Highway Administration, Sacramento
Chuck Morton, Caltrans, Oakland
Kelley Lounsbury, Caltrans, Oakland
Peter Straub, U.S. Army Corps of Engineers, San Francisco District
Bill Cox, California Department of Fish and Game, Yountville
Jim Lecky, NOAA Fisheries, Long Beach

Enclosure

BIOLOGICAL OPINION

AGENCY:	Federal Highway Administration, California Division
ACTION:	Proposed Funding for the Widening of Highway 101 from Highway 12 to Steele Lane in Santa Rosa, Sonoma County, California
CONSULTATION CONDUCTED BY:	National Marine Fisheries Service, Southwest Region
FILE NUMBER:	151422SWR02SR6254
DATE ISSUED:	DEC 11 2003

I. CONSULTATION HISTORY

During the summer of 2001, representatives from the California Department of Transportation (Caltrans) met with the National Marine Fisheries Service (NOAA Fisheries) at the proposed project site along Santa Rosa Creek to discuss the project and to identify potential impacts to listed salmonids. In December 2001, the Federal Highway Administration (FHWA) requested informal consultation with NOAA Fisheries based on a previously issued United States Army Corps of Engineers Clean Water Act permit to the City of Santa Rosa for the Prince Memorial Greenway Project (PMGP). At the time of consultation for the issuance of the permit for the PMGP, the available data indicated that salmonids would not likely be present during implementation of the project. However, low numbers of juvenile steelhead (*Oncorhynchus mykiss*) were present at the project site and had to be relocated to avoid their injury or death from construction activities.

In June 2002, NOAA Fisheries Santa Rosa Area Office was contacted by Caltrans inquiring about the status of the consultation. On July 23, 2002, NOAA Fisheries sent a letter to FHWA requesting additional information on the project, noting that relocation of salmonids would be necessary and thus a formal section 7 consultation was warranted. In August 2002, representatives from Caltrans met again with NOAA Fisheries at the proposed project site along Santa Rosa Creek to discuss the project and to identify potential impacts to salmonids.

Between the summer of 2002 and the spring of 2003, FHWA and Caltrans developed a biological assessment (BA) for the project. By letter dated July 3, 2003, the FHWA requested formal section 7 consultation and submitted the biological assessment for the proposed Highway 101 widening project from State Route 12 to Steele Lane. Acknowledgment of FHWA's request was sent on August 6, 2003. The consultation began on July 7, 2003, when NOAA Fisheries received the BA.

On October 21, 2003, NOAA Fisheries contacted Caltrans by telephone in order to better understand the proposed action and to address inconsistencies in the BA. During that discussion, NOAA Fisheries also notified Caltrans that the biological opinion would not be completed by the November 19, 2003, deadline. NOAA Fisheries explained that completion of the biological opinion was a high priority, but due to workload the completion may be delayed by about one month. On November 21, 2003, Caltrans sent an e-mail to NOAA Fisheries to inquire about the biological opinion and to inform NOAA Fisheries that the project description had changed. On the same day, NOAA Fisheries responded to the e-mail and requested additional information about the changes to the project. Caltrans partially provided the requested information to NOAA Fisheries by e-mail on November 25, 2003. On December 2, 2003, NOAA Fisheries provided a list of questions by e-mail to Caltrans regarding the change in the project and to further clarify the information presented in the BA. Caltrans provided the requested information to NOAA Fisheries by e-mail on December 3, 2003.

This biological opinion is based on information provided in the submitted document titled *Biological Assessment Highway 101 Widening Project from State Route 12 to Steele Lane (April 2003)*, subsequent discussions and submissions, and other sources of scientific and commercial information. A complete administrative record of this consultation is on file in the NOAA Fisheries Santa Rosa Area Office, Santa Rosa, California.

II. DESCRIPTION OF THE PROPOSED ACTION

The FHWA proposes to provide funding to Caltrans for the widening of Highway 101 in Santa Rosa, Sonoma County, California (reference: HDA-CA, File # 04-Son-101-19.5/22.2, Document # P45633). The proposed project will widen Highway 101 (Hwy-101) from four to six lanes in Santa Rosa from Highway 12 to immediately north of Steele Lane. The purpose of the proposed project is to improve the overall travel delay time that is currently experienced between State Route 116 in Cotati and River Road in Fulton during busy AM and PM peak traffic periods. There are two creeks within the project limits, Santa Rosa Creek on the south end and Paulin Creek on the north end. The proposed project includes the demolition and replacement of the Hwy-101 bridge over Santa Rosa Creek and the installation of fish habitat enhancement structures in Santa Rosa Creek upstream of the bridge. According to the BA, the bridge construction is anticipated to take three consecutive construction seasons to complete and is scheduled to be implemented between 2005 and 2007. The installation of the habitat enhancement structures may occur in 2004, during the final phases of PMGP, or may occur in 2007 during the final phase of the project. Construction activities within the Santa Rosa creek channel will be limited to June 15 through October 31 annually.

Because the proposed widening project will not involve any construction work in Paulin Creek, NOAA Fisheries has determined that the proposed project will not adversely affect listed salmonids or coho salmon (*O. kisutch*) critical habitat in Paulin Creek. The following description focuses on the widening of the bridge over Santa Rosa Creek. In order to keep Hwy-101 traffic moving throughout construction of the project, the bridge will be constructed in stages. This construction staging will involve shifting traffic so that some of the existing bridge can be

demolished and a portion of the new bridge can be constructed. After completing each phase, traffic would be shifted again to newer portions of the bridge so that the remaining portions of the existing bridge can be demolished and the rest of the new bridge can be constructed.

Work associated with the proposed bridge replacement and habitat enhancement structures involves the diversion of streamflow by means of a temporary cofferdam. The diversion will be accomplished prior to any work within the stream channel. In order to divert water by gravity to downstream of the project area, Caltrans will construct a coffer dam at the upstream end of the project area. The coffer dam will have a large pipe built into it to convey water through the work area. The outfall end of the pipe will be placed within the active stream channel at the downstream end of the project area. The diversion pipe can be shifted to one side of the channel or the other within the project area, as needed to complete the work. All fish within the dewatering reach downstream of the coffer dam will be captured by seine and dip net and will be relocated to the creek beginning at the Olive Street Bridge.

The existing bridge is a cast-in-place reinforced concrete box girder structure in three parts. One part of the bridge carries two northbound traffic lanes on Hwy-101 and one exit ramp lane to 3rd Street. The second part of the bridge carries two southbound traffic lanes and the third carries southbound ramp traffic. All three parts of the bridge are supported by a pair of continuous reinforced concrete pier walls built parallel to the Santa Rosa Creek channel. The walls are approximately two feet wide and are supported on a three-foot wide footing (underground).

Removal of the existing bridge will utilize standard methods of bridge demolition to be determined during the Design Phase of the project. The method of demolition will conform to the conditions provided by the resource agencies with regard to windows of construction and protection of the water in the creek. Heavy equipment will be utilized within the creek channel for the demolition of the bridge. The creek channel will be accessed via the existing PMGP pathway on the north bank of the creek. The pier walls will be chipped down to about one foot below the finished grade and backfilled with earth, with the existing footings and pilings abandoned in-place.

The new bridge will be constructed essentially in the same location as the existing bridge, except it will be approximately 20 feet wider than the existing bridge on the east side. Since the Hwy-101 mainline will be widened in the median, the new bridge will not have a gap between the northbound and southbound directions. The new bridge will be a free span cast-in-place reinforced concrete box girder structure. This will involve falsework to support the structure while the concrete cures. Caltrans will work to construct falsework in such a way as to avoid any falsework in the water or within the creek bed. Construction of the new bridge will involve constructing larger abutments at each end of the bridge in order to support the new free span structure. The new abutments will be constructed at the same location as the existing abutments, or slightly further away from the creek. The exact distance from the creek has not yet been determined. The new abutments will be no closer to the creek than the existing abutments.

After the bridge is built, a pedestrian/bicycle path along the south bank of Santa Rosa Creek under the new bridge will be constructed. This will connect the existing segments that currently end at

either side of the State Right of Way. The new path will be constructed utilizing heavy equipment and will be designed similar to the existing path on the north bank. It will pass under the bridge with a retaining wall supporting the embankment on the abutment side. In addition to enhancing the PMGP, the new pedestrian/bicycle path is intended to replace an existing pedestrian overcrossing, just south of the Hwy-101 bridge over Santa Rosa Creek, which will be removed to accommodate the freeway widening.

In addition to the demolition and construction of the Hwy-101 bridge over Santa Rosa Creek, Caltrans also proposes to install several boulder weir habitat enhancement structures within Santa Rosa Creek. The reach between the Hwy-101 bridge and the A Street bridge was chosen because the reach is currently grouted with a uniform bottom and low channel sinuosity. Caltrans has identified the weir structures as the best proposed mitigation alternative for the bridge replacement project. Installation of the weirs will improve conditions for fish migration as well as minimize the potential detrimental effects to the banks by keeping the flow in the center of the channel.

The weirs would be installed in an upstream "V" shape with the apex of the "V" facing upstream and a chain of boulders trailing down toward each bank. This orientation will encourage flow to converge into the weir and maximize the opportunity for fish passage by creating eddies downstream of the boulders. These eddies provide lower velocity areas for fish to use when moving upstream. The upstream end of the weir provides a backwater to deepen and slow the velocity of water across the channel at low flows while not impeding the momentum of water at higher flows. The placement of the boulder weirs will be such that flow will be concentrated toward the center of the channel. The concentration of flow will create a scour area directly downstream of each weir followed by a gravel bar at the downstream end of the pool. A glide or run habitat will be created on the upstream side of each weir by concentrating flow and increasing the velocity at the center of each weir.

Although the conceptual design has been described above, design details will be developed during the engineering phase of the project. The engineering design and placement will consider the expected flow regimes, channel sinuosity and gradient, opportunity for fish passage, and aesthetics. The engineering design will begin once the proposed conceptual design is accepted by NOAA Fisheries, the City of Santa Rosa, the Sonoma County Water Agency, and Caltrans.

Below is a list of Best Management Practices that were developed to minimize impacts to steelhead and to salmonid habitat:

- Equipment staging/storage area will be outside of the creek bed and bank.
- A high visibility construction fence outlining the limits of work will be installed as a first order of work. No work, storage or other activities shall occur outside these limits. The area outside the fence will be considered as an Environmentally Sensitive Area.

- To minimize project impacts to sensitive fish species, the in-stream construction period will be limited to June 15 through October 31. All coffer dams, pipes, and construction materials/equipment will be removed from the creek corridor before October 31 with the

creek bed in ready condition for winter storm flows.

- A coffer dam and corrugated steel pipe will be installed on clean gravel and filter fabric. The cofferdam, filter fabric and corrugated steel pipe will be removed from the creek bed after completion of the project. Before either pipe or gravel is introduced into the creek filter fabric must be placed in the creek bed to catch any sediment and to help with the final removal of materials. The fabric must extend above and below impacted areas and should be held down with properly sealed and tied sandbags. These procedures are intended to avoid water pollution and avoid hindering stream flow.

- Caltrans will provide a qualified fisheries biologist approved by NOAA Fisheries to capture and transport any salmonids present within the project area. Salmonids will be released at a safe location downstream of the project site. The biologist will document the findings in a short report which will be submitted to NOAA Fisheries.

- The creek and creek banks will be restored to their original conditions before water diversion structures are removed at the end of each construction season.

- Once construction is finished for each construction season, all project introduced material (pipe, gravel, false work, filter fabric, demolition debris, etc.) must be removed, leaving the creek as it was before construction. Excess materials will be disposed of at an approved disposal site.

A. Description of the Action Area

The action area is defined as all areas affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). For this project, the action area includes the bank to bank width of Santa Rosa Creek in the reach between Santa Rosa Avenue downstream to the Railroad bridge in downtown Santa Rosa (Figure 1). The action area also includes Paulin Creek. However, the proposed widening project will not involve any construction work in Paulin Creek, the footprint of the bridge will not extend further into the creek, and the bed and banks of the creek will not be disturbed. Therefore no adverse effects to steelhead or coho salmon critical habitat are expected in this creek and our analysis in this opinion focuses on Santa Rosa Creek.

Although direct impacts to steelhead are anticipated to be localized to the Santa Rosa Creek reach between the A Street bridge downstream to the Olive Street bridge, the action area has been extended both upstream and downstream due to the anticipated indirect effects of the project. The action area has been extended upstream to analyze any impacts that may occur if steelhead move upstream. The action area has been extended downstream due to the relocation of steelhead and to consider the potential for steelhead to move downstream after being relocated. Both situations could result in displacement and/or increased competition among listed fish and increased predation on listed fish.

III. STATUS OF THE SPECIES AND CRITICAL HABITAT

This biological opinion analyzes the effect of the proposed action on the following species and critical habitat:

- Threatened Central California Coast (CCC) steelhead (62 FR 43937; August 18, 1997).
- Designated critical habitat for Central California Coast (CCC) coho salmon (64 FR 24049; May 5, 1999).

The best available information on the distribution and abundance of CCC coho salmon indicate that they are not likely to rear or migrate through the action area, and thus are not likely to be present. Based on their life history, California Coastal (CC) Chinook salmon *(O. tshawytscha)* are also not likely to be present in the action area during the implementation of the project. Therefore, CCC coho salmon and CC Chinook salmon are not likely to be adversely affected by the proposed action and will not be further considered in this opinion.

A. Steelhead Life History and Biological Requirements

Steelhead spend from one to five years in saltwater, however, two to three years are most common (Busby *et al.* 1996). Some return as "half-pounders" that over-winter one season in freshwater before returning to the ocean in the spring. The distribution of steelhead in the ocean is not well known. Coded-wire tag recoveries indicate that most steelhead tend to migrate north and south along the continental shelf (Barnhart 1986).

The timing of upstream migration is correlated with higher flow events, such as freshets or sand bar breaches, and associated lower water temperatures. There are two types of steelhead, summer steelhead and winter steelhead. Summer steelhead return to freshwater during June through September, migrate inland toward spawning areas, overwinter in the larger rivers, and then resume migration to natal streams and spawn (Meehan and Bjornn 1991). Winter steelhead return to freshwater in autumn or winter, migrate to spawning areas, and then spawn in late winter or spring. Only winter steelhead are found in Santa Rosa Creek. Winter steelhead begin returning to Santa Rosa Creek in December, with the run continuing into April. Most spawning takes place from January through April. Steelhead may spawn more than once before dying (iteroparity), in contrast to other species of the *Oncorhynchus* genus.

Steelhead spawn in cool, clear streams featuring suitable water depth, gravel size, and current velocity. Intermittent streams may be used for spawning (Barnhart 1986; Everest 1973). The number of days required for steelhead eggs to hatch is inversely proportional to water temperature and varies from about 19 days at 15.6□C to about 80 days at 5.6□C. Fry typically emerge from the gravel two to three weeks after hatching (Barnhart 1986).

Upon emerging from the gravel, fry rear in edgewater habitats and move gradually into pools and riffles as they grow larger. Older fry establish territories which they defend. Juvenile salmonids occupy available low-velocity portions of the stream and areas with cover (Raleigh *et al.* 1984), including shallow water along stream banks (Barnhart 1986; Moyle 2002). Cover is an important habitat component for juvenile steelhead and smolts, both as velocity refuge and as a means of avoiding predation (Shirvell 1990; Meehan and Bjornn 1991; Moyle 2002). Steelhead juveniles will balance their use of cover and foraging habitats based on their competing needs for energy acquisition and safety (Bradford and Higgins 2001). Young steelhead feed on a wide variety of aquatic and terrestrial insects, and emerging fry are sometimes preyed upon by older juveniles. In winter, they become inactive and hide in any available cover, including gravel or woody debris.

Because rearing juvenile steelhead reside in freshwater all year, adequate flow and temperature are important to the population at all times (CDFG 1997). Generally, throughout their range in California, steelhead that are successful in surviving to adulthood spend at least two years in freshwater before emigrating downstream. Emigration appears to be more closely associated with size than age. In Waddell Creek, Shapovalov and Taft (1954) found steelhead juveniles migrating downstream at all times of the year with the largest numbers of age 0+ and yearling steelhead moving downstream during spring and summer. Smolts can range from 14-21 cm in length.

Water temperature influences the growth rate, population density, swimming ability, ability to capture and metabolize food, and ability to withstand disease of these rearing juveniles (Barnhart 1986; Bjornn and Reiser 1991). Rearing steelhead juveniles prefer water temperatures of 7.2-14.4□C and have an upper lethal limit of 23.9□C. They can survive up to 27□C with saturated dissolved oxygen conditions and a plentiful food supply. Fluctuating diurnal water temperatures also aid in survivability of salmonids (Busby *et al.* 1996).

During rearing, suspended and deposited fine sediments can directly affect salmonids by abrading and clogging gills, and indirectly cause reduced feeding, avoidance reactions, destruction of food supplies, reduced egg and alevin survival, and changed rearing habitat (Reiser and Bjornn 1979).

B. Status of Species and Critical Habitat

In this opinion, NOAA Fisheries assesses the status of species by examining four types of information, all of which help us understand a population's ability to survive. These population viability parameters are: abundance, population growth rate, spatial structure, and diversity (McElhaney *et al.* 2000).

Abundance is a measure of the population size and is generally expressed as the number of spawning adults or the number of rearing juveniles. Small populations are generally at greater risk of extinction because as their numbers vary in response to environmental changes, the population can dip to critically low numbers more easily than larger populations (Gilpin and Soule 1986; Pimm *et al.* 1988).

The growth rate of a population is a function of the species' intrinsic ability to reproduce and the capacity of their environment to support the population. Life stage specific survival rates and long-term trends in abundance are both indications of a population's performance in response to its environment. If a population is consistently failing to replace itself, as indicated by low survival rates and/or long-term population declines, then it is at an increased risk of extinction.

A population's spatial structure refers to the geographic distribution of individuals in the population. This structure depends in part on habitat quality and the species dispersal characteristics. Species range constriction and fragmentation are likely to interfere with the population structure and are indications of reduced viability.

Species diversity is manifested genotypically (genetic variation among individuals in a population) and phenotypically (morphological and behavioral variation among individuals in a population). These forms of diversity allow species to better survive the challenges of environmental variations. A diverse population is more likely to contain combinations of traits that prove successful in coping with a given environment. Conversely, a lack of diversity, as happens when populations are diminished, decreases the species likelihood of surviving environmental adversity.

While there is insufficient information to evaluate these population viability parameters in a quantitative sense, NOAA Fisheries has used existing information to determine the general condition of each population.

1. Steelhead

a. Abundance

Steelhead abundance in the CCC ESU is low. Stream water temperature increases and other habitat alterations over large areas in the ESU have led to shifts in fish communities favoring warm water species. Steelhead north of the Russian River are still fairly abundant. However, streams impacted by urban development, typically support few, if any, steelhead. Nonetheless,

this species remains more common than Chinook and coho salmon in Northern California. While there are no specific estimates of abundance at the population scale, steelhead numbers are substantially reduced from historical levels as described below. A total of 94,000 adult steelhead were estimated to spawn in the rivers of this ESU in the mid-1960s, including 50,000 fish in the Russian River and 19,000 fish in the San Lorenzo River (Busby *et al.* 1996). Recent estimates for the Russian River are on the order of 4,000 fish (NOAA Fisheries 1997). Abundance estimates for smaller coastal streams in the ESU indicate low but stable levels (NOAA Fisheries 1997), with recent estimates for several streams (Lagunitas Creek, Waddell Creek, Scott Creek, San Vincente Creek, Soquel Creek, and Aptos Creek) of individual run sizes of 500 fish or less (62 FR 43937).

b. Population Growth Rate

The Russian River, which is the largest watershed in the ESU, once boasted steelhead runs ranked as the third largest in California behind only the Klamath and Sacramento rivers. Although it is not possible to distinguish the relative proportions of hatchery and natural steelhead, more recent estimates indicate an average abundance of 4,000 fish in the Russian River and between 150 and 305 fish in the San Lorenzo River (Busby *et al.* 1996; NOAA Fisheries 1997). Although it is difficult to assess the sustainability of natural populations in these two major river basins because of substantial hatchery programs and a general lack of information about naturally spawning hatchery fish, these estimates suggest that recent total abundance of naturally reproducing steelhead in these two rivers is less than 10 percent of their abundance in the mid 1960s. Overall, the abundance of the CCC steelhead ESU has declined precipitously, from an estimated 94,000 returning adults in the 1960s to estimates between less than 5,350 in recent times (Busby *et al.* 1996; NOAA Fisheries 1997). These numbers represent over a 94 percent decline in the population of steelhead spawning in the ESU. It is reasonable to assume therefore, that the population growth rate is negative.

NOAA Fisheries (2003) evaluated five independent data sets to estimated population trends of juvenile CCC steelhead; there were no recent estimates of adult steelhead abundance. Results suggests an overall decline in juvenile abundance in all five populations. However, the data have limited usefulness for understanding the status of the adult population, because there is no simple relationship between juvenile numbers and adult numbers (Shea and Mangel 2001). For more detailed information on the status of CCC steelhead, see: Busby *et al.* 1996; NOAA Fisheries 1997; and NOAA Fisheries 2003.

c. Spatial Structure

CCC steelhead have maintained a wide distribution throughout the ESU. Presence/absence data show that in a subset of streams sampled in the Central California Coast region, most contain steelhead (NOAA Fisheries 1997). Of streams in the ESU for which there is current presence/absence data on steelhead, 218 of 264 streams currently support some juveniles (including the Russian River). Many streams in and around the San Francisco Bay region, however, no longer support steelhead. At least one watershed in the ESU, Stemple Creek, has no

urban development and no steelhead. This may be due to a lack of suitable spawning substrate and extensive habitat degradation associated with dairy farming.

The species relatively broad distribution throughout the ESU is a positive indicator (62 FR 43937). Species with broad distributions are more likely to survive environmental fluctuations and stochastic events, even if they suffer local extirpation (Pimm *et al.* 1988).

d. Diversity

The interbasin transfer of hatchery steelhead has persisted in various locations and at various times within the CCC ESU (NOAA Fisheries 1997). This has undoubtedly affected the genetic composition of existing stocks. Although some genetic research is being done on CCC steelhead, little information is available to assess the diversity of the species.

e. Conclusions

While CCC steelhead have experienced significant declines in abundance, and long-term population trends suggest a negative growth rate, they have maintained a wide distribution throughout the ESU. This suggests that, while there are significant threats to the population, they possess a resilience that is likely to slow their decline. In the recent document titled *Preliminary conclusions regarding the updated status of listed ESUs of West Coast salmon and steelhead*, the biological review team concluded that steelhead in the CCC steelhead ESU remain likely to become endangered in the foreseeable future (NOAA Fisheries 2003).

2. Coho Salmon Critical Habitat

Critical habitat is defined in section 3(5)(A) of the Endangered Species Act (ESA) as "(I) the specific areas within the geographical area occupied by the species . . . on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species . . . upon a determination by the Secretary of Commerce (Secretary) that such areas are essential for the conservation of the species" (see 16 U.S.C. 1532(5)(A)). The term 'conservation', as defined in section 3(3) of the ESA, means ". . . to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary" (see 16 U.S.C. 1532(3)). Therefore, critical habitat is the geographic area and habitat functions necessary for the recovery of the species.

The condition of CCC coho salmon critical habitat, specifically its ability to provide for their conservation, has been degraded from conditions known to support viable salmonid populations. NOAA Fisheries has determined that present depressed population conditions are, in part, the

result of the following human induced factors affecting critical habitat[1]: logging, agricultural and mining activities, urbanization, stream channelization, dams, wetland loss, and water withdrawals and unscreened diversions for irrigation.

Numerous studies have demonstrated that land use activities associated with logging, road construction, urban development, mining, agriculture, and recreation have significantly degraded coho salmon critical habitat quantity and quality in the CCC ESU. Impacts of concern include alteration of stream bank and channel morphology, alteration of water temperatures, loss of spawning and rearing habitat, fragmentation of habitat, loss of downstream recruitment of spawning gravels and large woody debris, degradation of water quality, removal of riparian vegetation resulting in increased stream bank erosion, increases in erosion entry to streams from upland areas, loss of shade (higher water temperatures) and loss of nutrient inputs (Botkin *et al.* 1995; NOAA Fisheries 1996; 61 FR 56138).

Depletion and storage of natural river and stream flows have drastically altered natural hydrologic cycles in many of the streams in the ESU. Alteration of flows results in migration delays, loss of suitable habitat due to dewatering and blockage; stranding of fish from rapid flow fluctuations; entrainment of juveniles into poorly screened or unscreened diversions, and increased water temperatures harmful to salmonids (61 FR 56138).

a. Critical Habitat Trend

In listing this species as threatened under the ESA, and designating its critical habitat, NOAA Fisheries determined that few, if any, State regulatory programs qualify under section 4(d) of the ESA as conserving listed species. Thus, NOAA Fisheries judges the State regulatory mechanisms currently in place as inadequate to prevent continued habitat degradation from urbanization, water use, logging, agriculture, road construction, mining, and recreation.

With the listing of CCC coho salmon and the designation of critical habitat, the provisions of the federal ESA took effect to prevent Federal actions from authorizing, funding, or carrying out actions that would jeopardize the long-term survival and recovery of the species and/or taking actions that would adversely modify critical habitat. In addition, both the State and Federal government are providing funding for habitat restoration projects in this, and other, ESUs. However, Federal agency actions affect only a subset of many of the critical habitat areas and/or elements. Funding for restoration has been increased since the late 1990s, but it may not affect a significant portion of degraded critical habitat for several decades. Thus, it is unknown whether State management of land use, Federal agency responsibilities under the ESA, and State/Federal restoration efforts are likely to reverse the overall trend of continued habitat degradation in the CCC coho salmon ESU in the near future.

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[1]Other factors, such as over fishing and artificial propagation have also contributed to the current population status of these species. All these human induced factors have exacerbated the adverse effects of natural environmental variability from such factors as drought and poor ocean conditions.

3. Factors Affecting the Species and Critical Habitat

Threats to naturally reproducing salmon and steelhead are numerous and varied. Among the most serious and ongoing threats to the survival of this ESU are changes to natural hydrology, and habitat degradation and loss. The following discussion provides an overview of the types of activities and conditions that adversely affect salmon and steelhead ESUs in California watersheds.

a. Habitat Degradation and Destruction

A major cause of the decline of salmon and steelhead is the loss or severe decrease in quality and function of essential freshwater habitat. Most of this habitat loss and degradation has resulted from anthropogenic watershed disturbances caused by agriculture, logging, urban development, water diversion, road construction, erosion and flood control, dam building, and grazing. Most of this habitat degradation is associated with the loss of essential habitat components necessary for salmon and steelhead survival. For example, the loss of deep pool habitat as a result of sedimentation and stream flow reductions has reduced rearing and holding habitat for juvenile and adult salmonids.

b. Natural Stochastic Events

Natural events such as droughts, landslides, floods, and other catastrophes have adversely affected salmon and steelhead populations throughout their evolutionary history. The effects of these events are now oftentimes exacerbated by anthropogenic changes to watersheds such as logging, road building, and water diversion. The ability of species to rebound from natural stochastic events is now likely limited as a result of these and other existing anthropogenic factors or depressed populations.

Variability in ocean productivity has been shown to affect salmon production both positively and negatively. Beamish and Bouillion (1993) showed a strong correlation between North Pacific salmon production from 1925 to 1989 and their marine environment. Beamish *et al.* (1997) noted decadal-scale changes in the production of Fraser River sockeye salmon that they attributed to changes in the productivity of the marine environment. Johnson (1988) noted increased adult mortality and decreased average size for Oregon's Chinook and coho salmon during the strong 1982-83 El Niño. It is unclear to what extent ocean conditions have played a role in the decline of salmon and steelhead; however, ocean conditions have likely affected populations throughout their evolutionary history.

c. Flows

Depletion and storage of natural flows have drastically altered natural hydrological cycles in many central California rivers and streams. Alteration of streamflows has increased juvenile salmonid mortality for a variety of reasons: migration delay resulting from insufficient flows or habitat blockages; loss of usable habitat due to dewatering and blockage; stranding of fish resulting from rapid flow fluctuations; entrainment of juveniles into unscreened or poorly screened diversions; and increased juvenile mortality resulting from increased water temperatures (Berggren and Filardo 1993; Chapman and Bjornn 1969; 61 FR 56138).

d. Harvest

There are few good historical accounts of the abundance of salmon and steelhead harvested along the California coast (Jensen and Startzell 1967). Early records did not contain quantitative data by species until the early 1950's. In addition, the confounding effects of habitat deterioration, drought, and poor ocean conditions on salmon and steelhead survival make it difficult to assess the degree to which recreational and commercial harvest have contributed to the overall decline of salmonids in West Coast rivers.

e. Artificial Propagation

Releasing large numbers of hatchery fish can pose a threat to wild salmon and steelhead stocks through genetic impacts, competition for food and other resources, predation of hatchery fish on wild fish, and increased fishing pressure on wild stocks as a result of hatchery production (Waples 1991). The genetic impacts of artificial propagation programs are primarily caused by the straying of hatchery fish and the subsequent hybridization of hatchery and wild fish. Artificial propagation threatens the genetic integrity, and diversity that protects overall productivity against changes in environment (61 FR 56138). The potential adverse impacts of artificial propagation programs are well documented (reviewed in Waples 1991; National Research Council 1995; National Research Council 1996; Waples 1999).

f. Marine Mammal Predation

Marine mammal predation is not believed to be a major factor contributing to the decline of West Coast salmon and steelhead populations relative to the effects of fishing, habitat degradation, and hatchery practices. However, marine mammal predation may significantly influence salmonid abundance in some local populations when other marine mammal prey are absent and physical conditions lead to the concentration of adult and juvenile salmonids (NOAA Fisheries 1999). At the mouth of the Russian River, Hanson (1993) reported that the foraging behavior of California sea lions and harbor seals with respect to anadromous salmonids was minimal. Hanson (1993) also stated that predation on salmonids appeared to be coincidental with the salmonid migrations rather than dependent upon them.

g. Reduced Marine-Derived Nutrient Transport

Reduced marine-derived nutrient (MDN) transport to watersheds is another consequence of the past century of decline in salmon abundance (Gresh *et al.* 2000). Salmon may play a critical role in the survival of their own species in that MDN (from salmon carcasses) has been shown to be vital for the growth of juvenile salmonids (Bilby *et al.* 1996; Bilby *et al.* 1998). The return of salmon to rivers makes a significant contribution to the flora and fauna of both terrestrial and riverine ecosystems (Gresh *et al.* 2000). Evidence of the role of MDN and energy in ecosystems infers this deficit may indicate an ecosystem failure that has contributed to the downward spiral of salmonid abundance (Bilby *et al.*1996).

IV. ENVIRONMENTAL BASELINE

The action area is located within the PMGP reach of Santa Rosa Creek in downtown Santa Rosa, Sonoma County, California. Santa Rosa Creek is located in the southeastern portion of the Russian River Basin (Figure 1) and is a tributary to the Laguna de Santa Rosa which is a tributary to Mark West Creek which is a tributary to the Russian River. The Santa Rosa Creek watershed is approximately 77 square miles with elevations that range from 59 feet at the mouth of the creek to 2,100 feet in the headwaters (CDFG 2001).

The action area is on the upstream end of the seven mile lower reach of Santa Rosa Creek that has been channelized and maintained for flood control. In the 1950s and 1960s, this area of Santa Rosa Creek was channelized as part of a small watershed flood control project sponsored by the Soil Conservation Service and implemented by the Sonoma County Water Agency (Golden Bear Biostudies 1999). In and effort to enhance the existing channel and to improve the aesthetic value of the creek corridor, the City of Santa Rosa recently implemented the PMGP. The action area is located within the PMGP reach of Santa Rosa Creek. As a result of the PMGP, the grouted cement channel at the downstream end of the action area has been removed in an effort to improve fish habitat. It now consists of fine gravel and sand. The channel in the upstream end of the action area still consists of grouted cement rip-rap.

Just upstream of the action area at Santa Rosa Avenue, Santa Rosa Creek goes underground through a concrete trapezoidal tunnel that provides fish passage. The confluence with one of Santa Rosa Creeks' major tributaries is also located underground in the concrete tunnel, but does not provide fish passage. The underground Santa Rosa Creek tunnel ends at E Street. From there, Santa Rosa Creek continues through the city of Santa Rosa and then goes through oak-woodland up to mixed conifer in the upper watershed.

Although large portions of the Santa Rosa Creek watershed are owned by the City of Santa Rosa and Sonoma County Regional Parks, the remaining areas are primarily owned by private landowners. The primary land use in the watershed is urban development, although vineyard development and livestock grazing also occurs.

A. Status of Listed Species/Critical Habitat in the Action Area

Steelhead abundance and trends within the action area are dependent upon multiple factors that affect steelhead populations within the Santa Rosa Creek watershed. Extensive habitat degradation and decreased carrying capacity has occurred as a result of urbanization, stream channelization, wetland loss, water withdrawals, agriculture and wastewater discharges. These activities have altered streambank and channel morphology, stream temperatures, spawning and rearing habitats, connectivity of habitats, and recruitment of large organic debris and spawning gravels. Within the action area, Santa Rosa Creek is a trapezoidal concrete and rip-rap channel that lacks complexity. In an effort to improve instream fish habitat, the City of Santa Rosa PMGP removed the concrete and rip-rap in the downstream portion of the action area as noted above.

2. Steelhead

Reproduction of the Santa Rosa Creek steelhead population is primarily dependent on spawning upstream of the action area. The action area primarily provides a migratory function for steelhead, however, small numbers of rearing steelhead have been documented within the action area during summer months. Degraded rearing habitat and low densities within the action area suggest that it is not currently an important habitat component for steelhead in the basin. The action area may be more important to outmigrating smolts with respect to its value as springtime rearing and velocity refuge.

While the steelhead population has declined in Santa Rosa Creek over the past several decades, its current numbers, distribution, and diverse use of habitat will likely provide resistance to environmental and anthropogenic perturbation. However, no information exists that demonstrates that the decline in the steelhead population has stabilized.

B. Salmonid Habitat/Critical Habitat Within the Action Area

The creek channel and riparian habitat within the action area have been degraded by the effects of urbanization. Salmonid habitat considerations within the action area are primarily related to water quality and quantity, and access to important spawning and rearing areas. Instream salmonid habitat conditions within the action area are generally poor. The action area does not contain adequate substrate for spawning. Overwinter and outmigration habitat conditions are also poor because the channel lacks habitat complexity and velocity refuge. Rearing habitat within the action area is marginal; primarily due to lack of complexity, elevated stream temperatures and management for flood control.

As noted previously, the action area is within the recently completed PMGP. The goal of the PMGP was to enhance salmonid habitat and water quality in Santa Rosa Creek while maintaining the flood carrying capabilities of the channel (Golden Bear Biostudies 1999). Although riparian trees were planted as part of the PMGP, the density of planted trees throughout the site is sparse and most of them were not planted close enough to the water to provide shade (Prunuske

Chatham, Inc. 2002). The PMGP somewhat improved summer rearing conditions, and as more riparian vegetation is established over the years, it is expected to benefit rearing habitat. However, the channel is maintained for flood control, so habitat conditions are anticipated to improve only slightly over time as a result of the PMGP.

C. Factors Affecting Species Environment Within the Action Area

The primary factor that has played a role in the decline of steelhead within the action area is human population growth and the resulting urbanization. The action area has been heavily impacted by human population growth and urbanization within the city of Santa Rosa. Human population growth, with its attendant increased demand for resources may be the "most clear and present danger" to native fishes in California (Thelander 1994). As the human population expands, demand for water and other resources increases proportionately, resulting in altered stream channels and degraded habitat, either directly or through cumulative negative impacts to the system (SEC 1996). As for pollution, SEC (1996) cited Florsheim and Goodwin (1993) who determined that stream pollution increased with higher human density, degrading water quality for both people and wildlife.

SEC (1996) also cited Botkin *et al.* (1995) who determined that urbanization had degraded salmon habitat through stream channelization, flood plain drainage, and damage to riparian vegetation. SEC (1996) cited Florsheim and Goodwin (1993) who found that as urban centers develop, there was an initial influx of sediment into streams from erosion, followed by an increase in runoff from the large areas of concrete and asphalt once building is complete, thus resulting in increasing flooding and stream bank erosion. They found that the frequent response was stream channelization, particularly on tributaries. Pressure on the fisheries increased as human population expanded in Sonoma County (SEC 1996).

V. EFFECTS OF THE PROPOSED ACTION

The purpose of this section is to identify the direct and indirect effects of the proposed action on threatened CCC steelhead, and on designated critical habitat for CCC coho salmon. Data to quantitatively determine the precise effects of the proposed action on steelhead, and to coho salmon critical habitat, are limited or not available; the assessment of effects therefore focuses mostly on qualitative identification. This approach was based on a review of ecological literature concerning the effects of loss and alteration of habitat elements important to salmonids, including water, substrate, food, and adjacent riparian areas; the primary constituent elements of proposed critical habitat that will be affected. This information was then compared to the likely effects associated with the proposed project.

The project is anticipated to take three consecutive construction seasons to complete, beginning in 2005. Construction activities within the creek channel will be limited annually to June 15 through October 31. The work window begin date of June 15 will avoid effects to steelhead

smolts since outmigration occurs prior to June 15. The work window end date of October 31 will avoid the immigration period for adult steelhead. Based on available data, NOAA Fisheries anticipates that a small number of juvenile steelhead will be within the action area during project implementation.

A. Dewatering

Prior to any work within the creek channel, a coffer dam will be built in order to dewater the construction area and to convey water in a pipe through and to downstream of the construction area. Changes in flow are anticipated to occur within area to be dewatered and downstream of the pipe outfall. These fluctuations in flow are anticipated to be small, gradual, and short-term which should not result in any harm to salmonids. Except for moving the creek into the diversion pipe, streamflow should not be affected as water will not be impounded and flows will be maintained downstream. Streamflow in the vicinity of the project should be the same as free-flowing conditions except for the footprint where streamflow is bypassed.

Stream flow diversion and work space dewatering is expected to cause temporary loss, alteration, and reduction of aquatic habitat within the action area. Stream flow diversions could harm individual steelhead by concentrating or stranding them in residual wetted areas (Cushman 1985) before they are relocated, or causing them to move to adjacent habitats (Clothier 1953; Clothier 1954; Kraft 1972; Campbell and Scott 1984). Steelhead could be killed or injured if crushed beneath the coffer dam during installation, though direct mortality is expected to be minimal because of the small number of steelhead in the action area and due to relocation efforts prior to installation of the diversion. During installation of the coffer dam, a fisheries biologist will remain in the creek to net and rescue any additional fish that may have become stranded throughout the dewatering process.

Steelhead which avoid capture in work area will die during dewatering activities. NOAA Fisheries expects that the number of steelhead that will be killed as a result of stranding during dewatering activities is very low. This is due to the small area affected, the relocation efforts and the low numbers of steelhead expected to be present within the action area. NOAA Fisheries expects that the juvenile steelhead stranding rate associated with dewatering for this project will be less than the unintentional mortality rate from capturing and handling procedures (three percent).

Benthic (*i.e.*, bottom dwelling) aquatic macroinvertebrates may be temporarily lost or their abundance reduced when individual organisms are stranded or when creek habitats are dewatered (Cushman 1985). Effects to aquatic macroinvertebrates resulting from stream flow diversions and dewatering will be temporary because construction activities will be relatively short-lived, and rapid recolonization (about one to two months) of disturbed areas by macroinvertebrates (Cushman 1985, Thomas 1985, Harvey 1986) is expected following rewatering. In addition, the effect of macroinvertebrate loss on juvenile steelhead is likely to be negligible because food from upstream sources (via drift) would be available downstream of the dewatered areas since stream

flows will be maintained outside of the coffer dam. Based on the foregoing, the loss of aquatic macroinvertebrates as a result of dewatering activities is not expected to adversely effect steelhead.

Increased turbidity is anticipated to occur during the construction of the coffer dam and dewatering. Research with salmonids has shown that high turbidity concentrations can: reduce feeding efficiency, decrease food availability, reduce dissolved oxygen in the water column, result in reduced respiratory functions, reduce tolerance to diseases and can also cause fish mortality (Berg and Northcote 1985; Gregory and Northcote 1993; Velagic 1995; Waters 1995). Mortality of very young coho salmon and steelhead fry due to increased turbidity has been reported by Sigler *et al.* (1984). Even small pulses of turbid water will cause salmonids to disperse from established territories (Waters 1995), which can displace fish into less suitable habitat and/or increase competition and predation decreasing chances of survival.

Based on the effects described above, it is anticipated that rearing juvenile steelhead downstream of the area may be affected by short-term increases in turbidity caused during the construction of the coffer dam and dewatering. These pulses of turbidity may cause fish to move downstream to avoid the turbidity. Pulses of increased turbidity are not anticipated to reach lethal levels. However, pulses of increased turbidity may result in juvenile steelhead temporarily vacating preferred habitat areas and/or temporarily reducing their feeding efficiency. Due to the timing of the project and poor salmonid habitat within the action area, only low numbers of juvenile steelhead are anticipated to be affected and the minimal nature of the turbidity levels are not expected to have a detectable impact on the survival of individual fish.

B. Fish Relocation

Fish relocation activities are proposed to relocate steelhead out of the reach of creek that will be dewatered. Fish relocation activities pose risk of injury or mortality of juvenile steelhead. Any fish collecting gear, whether passive (Hubert 1983) or active (Hayes 1983) has some associated risk to the fish, including stress, disease transmission, injury, or death. Fish in the project area will be captured for relocation using a seine and dip net. The amount of unintentional injury and mortality attributable to the fish relocation efforts vary depending on the seine used, the ambient conditions, and the expertise and experience of the field crew. Based on reporting from research permits and other relocation efforts, NOAA Fisheries estimates the rate of unintentional mortality and injury at three percent, as noted above.

Relocated fish may also endure stress from crowding at the relocation sites and increased competition for available resources such as food and habitat. This may reduce the survival chances of some fish at the relocation sites. Some of the fish at the relocation sites may choose not to remain in these areas and may move either upstream or downstream to areas that have more habitat and less density of fish. As each fish moves, competition remains either localized to a small area or quickly diminishes as fish disperse. NOAA Fisheries cannot accurately estimate the number of fish adversely affected by competition, but does not believe this impact will cascade

through the Santa Rosa Creek watershed population of steelhead based on the small area that will likely be affected. Despite these impacts, fish relocation efforts are expected to minimize project impacts to steelhead by removing them from areas where they would have experienced high rates of injury and mortality.

C. Toxic Chemicals

Heavy construction equipment will be utilized within the dewatered creek channel during the demolition of the old bridge, construction of the new bridge, and installation of the habitat enhancement structures. Oils and similar substances from construction equipment can contain a wide variety of hydrocarbons, some of which evaporate rapidly while others sorb to sediments and may persist for long periods of time. These polynuclear aromatic hydrocarbons (PAHs) can prove harmful to benthic communities (EPA 1993) which are a salmonid food source. Fluid leaking from construction equipment can also contain metals, which do not degrade in the environment. Some metals (e.g., mercury, cadmium, lead, chromium) bioaccumulate in aquatic organisms inhabiting metals contaminated environments. Some of the sub-lethal effects that metals can cause in salmonids include: immobilization and impaired locomotion, reduced growth, reduced reproduction, and impairment of olfactory and brain functions (Eisler 2000).

Fluid leakage can occur during operation, refueling and during maintenance activities. There is a potential for leakage of toxic chemicals to occur during the project that may have the potential to affect salmonids. In order to minimize the potential adverse affects associated with using heavy equipment, heavy equipment will be operated primarily within the dewatered reach of the creek. NOAA Fisheries anticipates that if there is a leak, it can be contained and cleaned up prior to entering the flowing water, making it unlikely that salmonids will be adversely affected.

In addition to toxic chemicals associated with the heavy equipment, water that comes into contact with wet cement during construction of the new bridge can also adversely affect water quality and steelhead downstream of the work area. Water that comes in contact with wet cement can result an imbalance in pH. Many authors have reported that an inbalance in pH can cause as much as 75 percent mortality of salmonids (Thut and Schmiege 1991). Although the work area will be dewatered, there is the potential that water quality and steelhead could be adversely affected if the water that comes into contact with the wet cement is released into the creek downstream of the dewatered area.

D. Boulder Weir Habitat Enhancement Structures

The purpose of the proposed habitat enhancement structures is to provide benefits to steelhead and salmonid habitat. The orientation of the "V" is intended to encourage flow to converge into the weir and maximize the opportunity for fish passage by creating eddies downstream of the boulders. These eddies provide lower velocity areas for fish to use when moving upstream. The structures are also intended to provide benefits to overwintering juvenile steelhead by providing cover and low velocity refuge areas during storm events. These benefits of the boulder weir

habitat enhancement structures can only be realized if the structures are appropriately designed and placed within the channel. Therefore, take may occur if fish habitat enhancement structures impede fish passage due to inadequate design or operation. With proper project design, NOAA Fisheries expects the boulder weir structures will improve salmonid rearing habitat in the action area.

E. Other Indirect Effects

The proposed widening of Hwy-101 is a response to increased urban growth in the North Bay Area, with the stated purpose of improving the overall travel delay time that is currently experienced and may be experienced in the future between State Route 116 in Cotati and River Road in Fulton during busy AM and PM peak traffic periods. While the widening of this portion of Hwy-101 might have an impact on the urban growth rate in Santa Rosa in the future, urban growth is driving the actions of FHWA and Caltrans to widen the freeway, and any impact the action under consultation has on that growth rate is therefore likely to be very small and cannot be reliably estimated. NOAA Fisheries does not expect any adverse impacts to steelhead or coho salmon critical habitat from any change to the growth rate in Santa Rosa that might occur due to this proposed project.

VI. CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. NOAA Fisheries is not aware of any additional actions that would cause cumulative effects beyond those that are ongoing, including urban development, and have been analyzed in the *Environmental Baseline* section of this biological opinion.

VII. INTEGRATION AND SYNTHESIS OF EFFECTS

As with other salmonid species, steelhead populations have declined significantly. There is fragmentation in their distribution associated with the intense urbanization pressures in and around the San Francisco bay area. However, the CCC steelhead have maintained higher numbers relative to other salmonids, and continues to utilize a wider range of habitat conditions. Their populations in coastal watersheds are widespread and fairly abundant. These conditions suggest that the CCC steelhead population likely maintains a resilience to perturbation.

Habitat conditions within the action area are generally poor. Rearing habitat within the action area is marginal; primarily due to lack of complexity, elevated stream temperatures and management for flood control. Overwinter and outmigration habitat conditions are also poor

because the channel lacks habitat complexity and velocity refuge. The boulder weir structures are expected to improve rearing habitat.

CCC steelhead are present in the action area in very low numbers. The action area provides marginal rearing habitat in the mainstem, so there are few juveniles present. Overall, this area does not significantly contribute to the CCC steelhead population.

The best management practices contained within the proposed action minimizes risks to CCC steelhead. Short-term impacts from project activities will be minimal and localized at the site. However, many of steelhead present in the work area will be subject to disturbance, capture, relocation, and related stresses during three consecutive summers. A small number of these steelhead may be injured or killed. Only a small percentage of the steelhead population within Santa Rosa Creek watershed will be temporarily affected as a result of this project and this part of the rearing population is unlikely to provide an important contribution to the Santa Rosa Creek population's numbers. Spawning habitat will not be adversely impacted by the proposed project, and a small portion of the Creek's rearing habitat is likely to be improved. Rearing juveniles in areas of better habitat conditions in Santa Rosa Creek will compensate for any losses to juveniles that occur in the action area due to project construction because juveniles rearing elsewhere in Santa Rosa Creek are more numerous, widely distributed, and are located in habitat conditions which give them a much greater chance of survival to smolt age. In addition, improvements to rearing habitat in the action area are expected to improve the survival chances of the small number of steelhead that use this portion of Santa Rosa Creek. Therefore, the effects of the project are not likely to appreciably reduce the numbers, distribution or reproduction of CCC steelhead in the Santa Rosa Creek watershed or the CCC steelhead ESU; and are not likely to diminish the value of designated critical habitat.

VIII. CONCLUSION

After reviewing the best available scientific and commercial information, the current status of Central California Coast steelhead, the environmental baseline for the action area, the effects of the proposed widening of HWY-101 over Santa Rosa Creek and the installation of fish habitat enhancement structures within Santa Rosa Creek and the cumulative effects, it is NOAA Fisheries' biological opinion that the proposed project is not likely to jeopardize the continued existence of Central California Coast steelhead, and is not likely to destroy or adversely modify designated Central California Coast coho salmon critical habitat.

IX. INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by NOAA Fisheries as an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are nondiscretionary, and must be undertaken by the FHWA so that they become binding conditions of any grant or permit issued to Caltrans, as appropriate, for the exemption in section 7(o)(2) to apply. The FHWA has a continuing duty to regulate the activity covered by this incidental take statement. If the FHWA (1) fails to assume and implement the terms and conditions or (2) fails to require Caltrans to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the FHWA or Caltrans must report the progress of the action and its impact on the species to NOAA Fisheries as specified in the incidental take statement (50 CFR §402.14(i)(3)).

A. Amount or Extent of Take

The widening of Hwy-101 over Santa Rosa Creek and the installation of fish habitat enhancement structures within Santa Rosa Creek is expected to result in minimal incidental take of threatened Central California Coast steelhead. Fish in the vicinity of the project could be disturbed by the project construction activities. Some juvenile steelhead could be adversely affected when Santa Rosa Creek is diverted and dewatered for construction activities. Juvenile steelhead that are displaced due to the diversion may suffer an increase risk of competition and predation.

The number of steelhead that may be incidentally taken during project activities cannot be accurately quantified due to (1) the unknown number of fish that may be present; (2) the unknown number of fish that may be stranded; (3) the level of harm or mortality that might occur when juvenile fish are displaced to other habitat areas of the stream; and (4) the level of harassment, harm, or mortality resulting from accidental releases of contaminants. In instances where NOAA Fisheries can not quantify the amount of incidental take, surrogates such as the extent of habitat affected or modified by the proposed action are used.

Therefore, take is quantified as: All fish present in the action area between June 15 and October 31 (during the years that the project occurs) may be captured and/or harassed by relocation activities. No more than three percent of juvenile salmonids captured during relocation efforts are anticipated to be killed. NOAA Fisheries expects that the number of steelhead that will be killed as a result of stranding during dewatering activities is very low. This is due to the small area affected, the relocation efforts and the low numbers of steelhead expected to be present within the action area. In addition, take may occur if fish habitat enhancement structures impede fish passage due to inadequate design or operation.

B. Effect of the Take

In the accompanying biological opinion, NOAA Fisheries determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

C. Reasonable and Prudent Measures

At the interagency field review and in subsequent communications, potential impacts were identified and measures were developed to ensure the project was constructed in the manner with minimized impacts to the environment. Best management practices proposed as part of the project action were developed as a result of this interagency cooperation. The measures were deemed necessary to minimize the effects and incidental take of threatened Central California Coast steelhead that will result from project activities. The measures are outlined in the Description of the Proposed Action section in this biological opinion, and are not repeated here.

Pursuant to section 7(b)(4) of the ESA, the following reasonable and prudent measures are necessary and appropriate to minimize incidental take of threatened Central California Coast steelhead:

1. Measures shall be taken to reduce injury or harm to steelhead.

2. Measures shall be taken to assure that adverse effects to water quality are minimized.

3. Measures shall be taken to ensure that the boulder weir habitat enhancement structures are adequately designed and placed within the channel to avoid impeding salmonid passage.

D. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the FHWA and their designee(s) must comply with the following terms and conditions, which implement the reasonable and prudent measure described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary. The FHWA is responsible for Caltran's compliance with the following terms and conditions that implement the reasonable and

prudent measure.

1. The following terms and conditions implement Reasonable and Prudent Measure 1, which states that measures shall be taken to reduce injury or harm to steelhead.

   a. The FHWA or Caltrans must notify the NOAA Fisheries Santa Rosa Area Office, by letter stating the project commencement date, at least fourteen days prior to implementation at:

      National Marine Fisheries Service
      Santa Rosa Area Office Supervisor
      Protected Resources Division
      777 Sonoma Avenue, Room 325
      Santa Rosa, California 95404

   b. Block nets shall be set up at the upstream and downstream extent of each habitat unit to prevent immigration and emigration of salmonids during relocation and construction activities.

   c. Seining must be conducted by experienced biologists. After seining, the biologist should monitor habitat areas and check for fish that were not captured during initial seining efforts, and repeat efforts if necessary.

   d. Captured salmonids will be relocated, as soon as possible, to a suitable instream location downstream of the work area.

   e. If any listed salmonids are found dead or injured, the project permittee shall contact NOAA Fisheries' Fishery Biologist Jeffrey Jahn by phone immediately at (707) 575-6097. If Jeffrey Jahn cannot be reached, the Santa Rosa NOAA Fisheries Office shall be contacted at (707) 575-6050. The purpose of the contact is to review the activities resulting in take and to determine if additional protective measures are required. All steelhead mortalities must be retained, placed in an appropriately sized whirl pack or zip-lock bag, labeled with the date of collection, fork length, location of capture, and be frozen as soon as possible. Frozen samples must be retained until specific instructions are provided by NOAA Fisheries.

   f. In order to monitor the impact of incidental take, FHWA or Caltrans must notify the NOAA Fisheries Santa Rosa Office by letter within 30 days after project completion detailing any incidental take that occurred during the project. This shall include the species taken, date taken, type of take (capture and relocate, injury, mortality), number taken, and fork length of any mortalities. This should be sent to:

      National Marine Fisheries Service
      Santa Rosa Area Office Supervisor

Protected Resources Division
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404

1. The following terms and conditions implement Reasonable and Prudent Measure 2, which states that measures shall be taken to assure that effects to water quality are minimized.

   a. All equipment refueling and maintenance will occur outside the river channel (top of bank to top of bank).

   b. Construction equipment used within the creek channel will be checked each day prior to work within the creek channel (top of bank to top of bank) and if necessary action will be taken to prevent fluid leaks. If leaks occur during work in the channel (top of bank to top of bank), Caltrans will contain the spill and remove the affected soils.

   c. Water that comes in contact with wet concrete and has a pH greater than 9.0 must not be allowed to enter the ground or stream but shall be either: 1) pumped to a separate, lined basin, and then pumped to a truck or upland for disposal or treatment (not within the bank to bank of any waterway); or 2) pumped directly to a truck for disposal at a site that is not within the top of bank to top of bank of any waterway.

3. The following terms and conditions implement Reasonable and Prudent Measure 3, which states that measures shall be taken to ensure that the boulder weir habitat enhancement structures are adequately designed and placed within the channel in order to ensure that salmonid passage is not impeded.

   a. FHWA or Caltrans shall submit the final engineering design for the boulder weir habitat enhancement structures to NOAA Fisheries for evaluation and approval prior to implementation. This should be sent to:

National Marine Fisheries Service
Santa Rosa Area Office Supervisor
Protected Resources Division
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404

This incidental take statement is based on full implementation of the proposed widening of HWY-101 over Santa Rosa Creek and the installation of fish habitat enhancement structures within Santa Rosa Creek as described in the April 2003 Biological Assessment and subsequent documents, and as described in the Description of the Proposed Action section of this biological opinion, including best management practices that were incorporated into the project design.

Failure to implement the project as proposed (including all relevant measures), or implementation of the project in a manner that causes an effect to listed species or designated critical habitat not adequately considered in this opinion may cause coverage of section 7(o)(2) to lapse and require reinitiation of consultation to ensure compliance with section 7(a)(2) of the ESA.

X. REINITIATION NOTICE

This concludes formal consultation on the proposed widening of HWY-101 over Santa Rosa Creek and the installation of fish habitat enhancement structures within Santa Rosa Creek. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in the biological opinion; or (4) a new species is listed or critical habitat designated that may be affected by the identified action. In instances where the amount or extent of incidental take is exceeded, formal consultation shall be reinitiated immediately.

XI. CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or develop additional information.

1. NOAA Fisheries recommends that FHWA and Caltrans consult with NOAA Fisheries to develop a long range planning approach that seeks to minimize and avoid the impacts of road related projects on listed salmonids.

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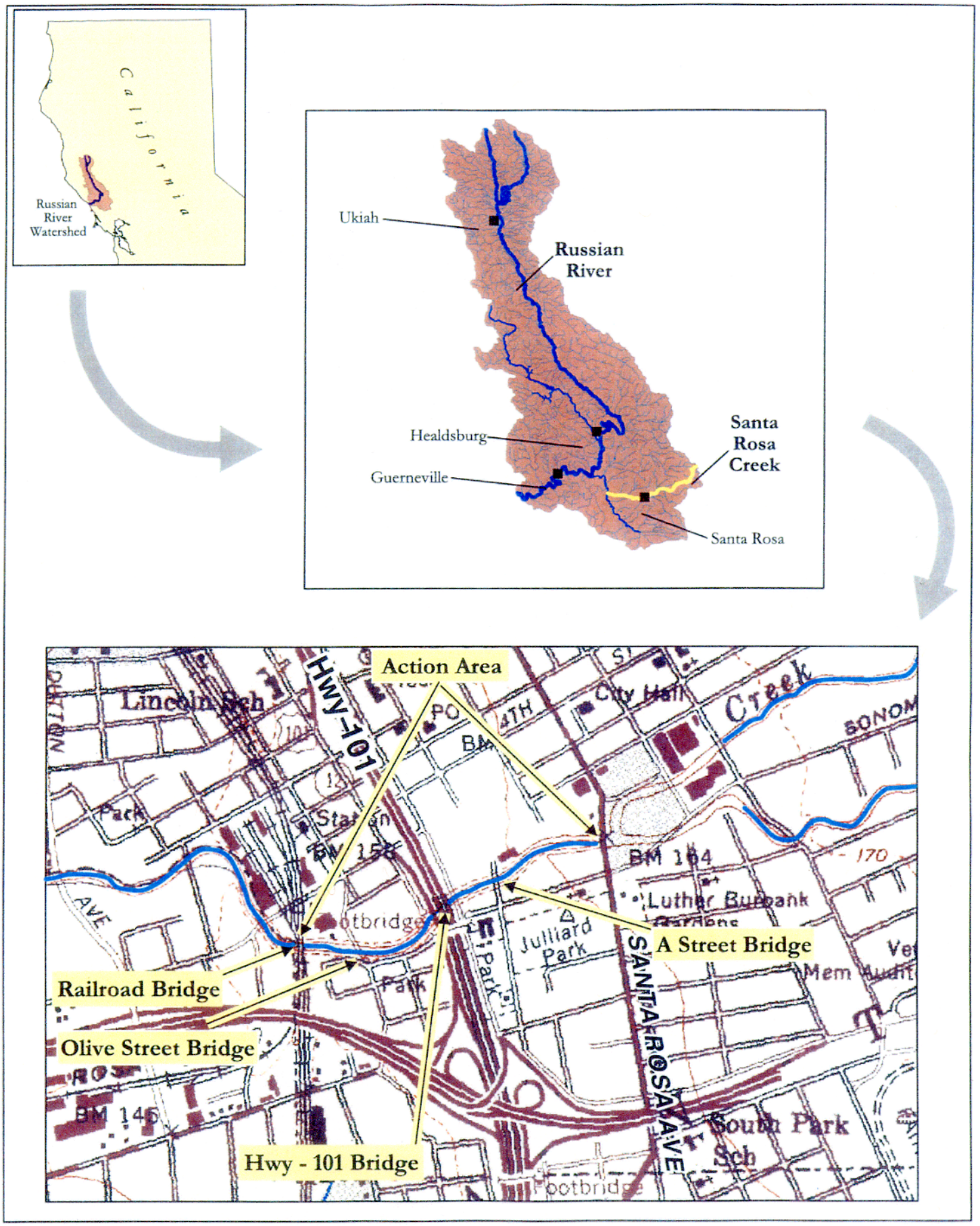

Figure 1. Action Area for Hwy-101 widening over Santa Rosa Creek, Santa Rosa, California.

Appendix L Responses to Comments

L.1 Summary Of Comments Received on the Draft EA/EIR

Caltrans released a draft EA/EIR and Section 4(f) Evaluation on July 21, 2003, and subsequently held a public meeting on August 7, 2003 to give the public an opportunity to review and comment on the document and the proposed soundwalls. The public comment period closed on September 3, 2003. A total of 24 people or agencies commented on the document. Caltrans' response to comments are presented in this chapter and are summarized further in Table II-1 below. Comments were received in several formats, including U.S. mail, hand-written comments submitted during the public meeting, oral testimony submitted during the public meeting, and via the world wide web at http://www.dot.ca.gov/dist4. The commenters consist of the following: 1 Federal Agency, 2 State Agencies, and 21 organizations or individuals. This Final EA/EIR takes into account comments received on the Draft EA/EIR.

Table L.1. Summary of Comments

FEDERAL AGENCIES

COMMENTER	COMMENT TYPE	COMMENT #	AREA OF CONCERN
Lisa B. Hanf Environmental Protection Agency	Letter	FAC-01h	Cumulative Impacts Assessment
		FAC-01i	Project Purpose Design Year
		FAC-01j	Project Purpose Independent Utility
		FAC-01k	Project Purpose Viaduct Width
		FAC-01l	Impact Assessment for No Build Alternative
		FAC-01m	VMT Analysis
		FAC-01n	Air Quality Sensitive Populations
		FAC-01o	Air Quality PM-2.5 Monitoring
		FAC-01p	Water Quality Stormwater Runoff

STATE AGENCIES

COMMENTER	COMMENT TYPE	COMMENT #	AREA OF CONCERN
Robert W. Floerke Department of Fish and Game	Letter	SAC-01a	Biology Oak Woodland Replacement Ratios
		SAC-01b	Biology Salmonids
Mark E. Piros - Department of Toxic Substances Control	Letter	SAC-02	Hazardous Materials Regulatory Requirements for ADL

ORGANIZATIONS AND INDIVIDUALS

COMMENTER	COMMENT TYPE	COMMENT #	AREA OF CONCERN
Alexander Malloree	Comment Card	CC-01	Noise
Denise Hill	Comment Card	CC-02	Noise
Joe Lillenthal	Comment Card	CC-03	Noise/Soundwalls
Ramona Mooney	Comment Card	CC-04	Bicycle/Pedestrians
Christine Culver	Comment Card	CC-05	Bicycle/Pedestrians
Joel Woodhull	Comment Card	CC-06	Bicycle/Pedestrians
Curt Groniga	Comment Card	CC-07	Noise/Soundwalls
Richard Canini	Handwritten	HW-01	Bicycle/Pedestrians
J.M. Eunice	Handwritten	HW-02	Bicycle/Pedestrians
Dan Kirshner Environmental Defense	Internet Comment	ICO-5a	Project Effectiveness
		ICO-5b	Safety
		ICO-5c	Project Alternatives HOT Lanes
		ICO-5d	Air Quality
		ICO-5e	Induced Growth Induced Traffic
Laura Graham	Public Meeting Transcript	PMT-01	Landscape Architecture Visual/Aesthetics
Richard Canini	Public Meeting Transcript	PMT-02a	Bicycle/Pedestrians
		PMT-02b	Landscape Architecture Visual/Aesthetics
Al Kamahele	Public Meeting Transcript	PMT-03	Noise/Soundwalls
Vern Calsy	Public Meeting Transcript	PMT-04	Temporary Construction Impacts
Carl and Irma Larsen	Public Meeting Transcript	PMT-05	Noise/Soundwalls
Andrea Rodriguez	Public Meeting Transcript	PMT-06	Landscape Architecture Visual/Aesthetics
Paul Ogasawara	Public Meeting Transcript	PMT-07a	Proximity to Burbank Elementary School
		PMT-07b	Project Alternatives
		Exhibit 1	FASTPLAN
Guillermo Madrigal	Public Meeting Transcript	PMT-08	Traffic/Transportation
Ken Wells	Public Meeting Transcript	PMT-09	Bicycle/Pedestrians
Paul Ogasawara	Public Meeting Transcript	PMT-10	Project Alternatives HOV vs. Mixed Use HOV Times
Laura Graham	Public Meeting Transcript	PMT-11	Landscape Architecture Visual/Aesthetics
Hugh Futrell – Third and Davis, LLC	Letter	USM-01a	Noise
		USM-01b	Traffic/Transportation
		USM-01c	Landscape Architecture Visual/Aesthetics

L.2 Comments and Responses

Comment FAC-01

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

RECEIVED
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OFFICE OF ENVIRONMENTAL PLANNING - NORTH

September 3, 2003

Gary Hamby
Federal Highway Administration
980 9th Street, Suite 400
Sacramento, CA 95814

Subject: Draft Environmental Assessment for Route 101 HOV Widening, Santa Rosa, Sonoma County, California

Dear Mr. Hamby:

The Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. Our detailed comments are enclosed.

EPA sent scoping comments to Caltrans in a letter dated January 10, 2001, in response to a Notice of Intent to prepare an environmental impact statement (EIS). In April 2003, FHWA issued a notice in the Federal Register indicating that the project was not likely to result in significant impacts and a draft environmental assessment (DEA) would be prepared.

The DEA indicates that the project purpose is to relieve congestion in downtown Santa Rosa. It assessed only environmental impacts within a small radius of the 2.7 mile segment between the SR 12 interchange and Steele Lane. However, the project is an interdependent part of a large series of improvements under a regional plan to add continuous high-occupancy-vehicle (HOV) lanes to Route 101 through Marin and Sonoma Counties. EPA is concerned that with the separate but connected HOV widening projects already built or being planned, there is no comprehensive study of the indirect and cumulative effects of widening Route 101. We believe that a more complete analysis of the indirect and cumulative impacts over the length of the corridor is warranted to determine whether there are significant impacts.

The DEA evaluates only the direct environmental impacts of the preferred alternative, and not those of the No Build alternative. Environmental impacts that concern EPA within the study area include the potential health effects from existing and forecast air quality impacts to sensitive populations within the vicinity of the freeway, and the effects of increased stormwater runoff from the added impervious surfaces into receiving waters that are tributary to the Laguna de Santa Rosa, an impaired water under §303(d) of the Clean Water Act.

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We hope that FHWA and Caltrans will provide a more comprehensive analysis of cumulative impacts, that addresses air emissions, stormwater runoff, water quality, and land use from the effects of increased travel that this corridor will experience. We appreciate the opportunity to review this DEA and look forward to reviewing the final EA when it is released for public review. If you have any questions, please contact me or Liz Varnhagen, the lead reviewer for this project. Liz can be reached at 415-972-3845 or varnhagen.liz@epa.gov.

Sincerely,

Lisa B. Hanf

Lisa B. Hanf, Manager
Federal Activities Office
Cross Media Division

Enclosure

cc:
Robert Gross, Caltrans, District 4, Oakland, CA

EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR ROUTE 101 HIGH OCCUPANCY VEHICLE (HOV) WIDENING, SEPTEMBER 3, 2003

Cumulative Impacts

Overall, the DEA evaluates the environmental impacts from the proposed project as if it were an independent highway improvement project along 2.7 miles of Route 101 through downtown Santa Rosa. However, the Project Background section in Chapter 1 presents a broader context for the project. Route 101 is a heavily traveled route linking Sonoma County with San Francisco to the south, as well as to Northern California. More specifically, the Sonoma County Transportation Authority (SCTA) Congestion Management Program envisions widening Route 101 to six lanes with HOV capacity between Windsor Road in Windsor and the Sonoma/Marin County line. Segments of Route 101 already include HOV lanes such as the Gap Closure project in Marin County and Wilfred Avenue north to SR-12 in Sonoma County. More are planned, including those in the pending 17-mile Marin Sonoma Narrows project, Old Redwood Highway to Rohnert Park Expressway, and from Steele Lane north to Windsor Road.

The DEA does not evaluate the potential cumulative effects that the proposed HOV lanes with increased vehicular travel capacity, may have on regional traffic, stormwater, water quality, and land use. Currently, Route 101 experiences heavy congestion between Windsor, Sonoma County, and San Francisco during peak commute hours. The establishment of a continuous HOV lane between these two areas has the potential to reduce travel delays especially for HOVs, which may have the indirect effect of encouraging people to live in northern Santa Rosa and Windsor where the population density is currently lower, but travel times to San Francisco are greater. EPA is concerned that while the HOV lane widening projects are being accomplished in segments, no overall environmental impact assessment is studying the effects of increasing the capacity along the whole Marin/Sonoma Route 101 corridor. There may be significant impacts that are not being addressed.

The cumulative impacts evaluation in Chapter 4 of the DEA does not sufficiently address cumulative effects associated with this project. First, it only considers other Caltrans projects in the Santa Rosa area near Route 101. Second, because the impacts of each of the projects listed either have been or will be mitigated to insignificance, Table 4.1 concludes that cumulative impacts are not substantial. However, cumulative impacts include effects from non-highway projects as well, and other factors that collectively degrade a resource. For example, groundwater recharge and the stormwater hydrology have been substantially altered within the project study area by all of the cumulative development. How will this project incrementally contribute to this condition?

Recommendation:
The final EA should include a comprehensive cumulative impact assessment. The approach presented in FHWA Interim Guidance: Indirect and Cumulative Impacts in NEPA, Lamar Smith, February 2003 may be helpful. The final EA should reference any ongoing studies or existing documents where the effects of the complete corridor widening are being or have been evaluated comprehensively.

FAC-01h

Project Purpose

The DEA states that the purpose of the project is to: a) relieve congestion, b) maintain and improve transportation linkages, and c) improve safety. The DEA does not establish a design year for the project, nor does it clarify that the project as proposed has independent utility as a component of a series of connecting HOV lanes.

Our concern is that the northern terminus at Steele Lane will shift traffic congestion north from the SR 12 interchange, and necessitate widening the freeway further north. Figure 3.11-2, *Route 101 Congestion Analysis, 2010 With Proposed Project Scenario*, predicts that new congestion will result just north of this area as a result of the project. The DEA mentions that a separate project that will add two new HOV lanes is currently being planned from Steele Lane to Windsor, the next town north of Santa Rosa. The independent utility of these two projects is not clear.

Another concern is that included in the description of the proposed project on page 2-4, two structures along Route 101 that span over Fourth and Ninth Streets respectively, will be widened to eight lanes. This is inconsistent with the rest of the project description, widening this stretch to six lanes. Is there a long-term plan, beyond the current horizon, to widen the corridor to eight lanes?

FAC-01i

Recommendation:
The final EA should identify the design year for the project, as well as establish its independent utility with respect to the need for HOV lanes north of Steele Lane, to Windsor. Clarification should be provided about why some of the viaduct/bridge structures are being designed for eight lanes and some for six.

FAC-01j

FAC-01k

Impact Assessment for the No Build Alternative

Page 2-1 of the DEA says that the No Build alternative and the proposed project were the only alternatives selected for detailed environmental study. While the DEA assesses various environmental effects associated with the proposed action, there was no assessment of ongoing impacts associated with the existing freeway (the base line) or whether these would be different in the design year under the No Build scenario. The consideration of a no action alternative is important because it provides a benchmark, enabling decision makers to compare the magnitude of *environmental* effects of the action alternatives (see CEQ 40 Questions, #3).

FAC-01l

Recommendation:
The environmental impacts from the No Build Alternative should be evaluated in the final EA. The final EA should provide an estimate of the vehicle miles traveled (VMT) within the study area, and compare it to the forecast VMT for the design year of the project, both with and without the project improvements. As part of this process, the final EA should identify the important assumptions contributing to the travel model, such as the hours of HOV lane operation and the occupancy requirements, as well as induced travel demand from adding two new lanes. The results from comparing current VMT

FAC-01m

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levels with forecast VMT levels both with and without the project will be useful in evaluating the effects of the project on travel patterns, local air emissions, and stormwater quality.

Air Quality

Sensitive Populations

The DEA should have identified locations in close proximity to the freeway where sensitive populations might be exposed to the increased air pollution from the freeway. Page 3-28 (which is in the section describing noise impacts), identifies three schools and three community parks located within the study area. In particular, the Luther Burbank Elementary School yard abuts the existing freeway margins, and will lose a portion of its land to the freeway expansion. EPA is concerned that the proximity of the freeway in this dense urban corridor may increase the incidence of adverse respiratory ailments to sensitive populations close to the freeway. We are concerned that the project may result in increased levels of:

- hazardous air pollutants (air toxics) that are generated from trucks and cars,
- suspended particulate matter, both PM-10 and PM-2.5, from vehicular traffic, and
- suspended particles from ground disturbance and diesel emissions during project construction.

Recommendation:

The final EA should address sensitive populations within the study area, such as schools and community parks, that might be particularly susceptible to toxic air emissions and suspended particulate matter. It should assess the effects of both the No Build and preferred alternatives and in any case, identify and implement mitigation measures that can reduce these effects, if possible. Commitments to use low emission construction equipment could further mitigate potential impacts.

FAC-01n

PM-2.5 Monitoring

Table 3.4-2 entitled, *Ambient Air Quality at the Santa Rosa Air Monitoring Station*, is informative. However, it lacks monitoring information about PM-2.5. PM-2.5 is a criteria pollutant which is closely tied to the occurrence of some respiratory ailments. This information should be included as well.

Recommendation:

EPA encourages Caltrans to incorporate into the table, results of PM-2.5 monitoring and compare them to the 24-hour and annual standard. We request this because, a) attainment classifications will be established within the near future and b) the local area has exceeded State thresholds for PM-10, indicating that there are somewhat elevated levels of particulate matter.

FAC-01o

Water Quality

Stormwater in much of the project area drains into Santa Rosa Creek and other tributaries of the Laguna de Santa Rosa, which is listed as an Impaired Water under Section 303(d) of the

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Clean Water Act. The Laguna de Santa Rosa is impaired, in part, because it receives excessive amounts of sediment. The proposed project will increase impervious surface area within the project limits by 20 acres (page 3-3), draining into unlined ditches which ultimately empty into local receiving waters that drain into the Laguna de Santa Rosa. During project construction, much existing vegetation will be removed and there will be new exposed ground resulting in more sediment laden runoff.

The DEA indicates that Caltrans will implement and abide by the Best Management Practices that will be dictated in their National Pollutant Discharge Elimination System (NPDES) permit, which they will obtain from the North Coast Regional Water Quality Control Board. Some of these practices will require the construction and maintenance of sediment detention basins to capture loose sediment. No project specific information is offered about where these may be located. Given the built-out nature of the construction corridor for this project and the tight right-of-way margins, EPA is concerned that there be sufficient space for adequate treatment of surface runoff both during project construction and operation. Deferring the development of details pertaining to this important function to a later time and regulatory process does not demonstrate that there will not be further degradation of water quality.

Recommendation:
The final EA should provide specific commitments regarding the best management practices that will be implemented to satisfy the requirements of the NPDES permit and prevent the incremental contribution of pollutants to impaired receiving waters, both from the construction and the operation of the proposed project. Ideally, Caltrans should identify and implement all opportunities to reduce current stormwater pollutants draining into waters tributary to the Laguna de Santa Rosa from Route 101.

FAC-01p

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Response to Comment FAC-01
Lisa B. Hanff – Environmental Protection Agency

Comment Number	Response
FAC-01h	Please see Chapter 4 (Cumulative Effects) for an expanded cumulative impact assessment. Table 4-1(b) shows non-highway projects and their potential to contribute to cumulative impacts. Please note that the HOV-widening project between Novato and Petaluma is not expected to be built by Year 2020. That project, known as the Marin-Sonoma Narrows, is not included in the financially-constrained Regional Transportation Plan, so it is uncertain whether it will ever be built. Concerning the potential of the project to induce population growth in Santa Rosa and Windsor, please see Chapter 3.7.1.4 for a discussion of how the proposed project relates to growth inducement. The Caltrans Environmental Handbook states that "Caltrans projects are designed to facilitate planned growth in accordance with local and regional plans and policies…[and] to accommodate existing traffic and traffic projected to be generated by planned growth." "Caltrans projects … are not designed with excess capacity that could induce unplanned growth during the twenty year period following completion." (Caltrans 1997) The current four-lane freeway was constructed in the sixties. Traffic has increased in the intervening years, and currently congestion causes delays between 9 and 12 minutes during the peak hour. Between 1980 and 2000, the population of Santa Rosa increased by 56% and the population of Santa Rosa and the surrounding areas is projected to increase another 31% in the next 20 years (Dyett and Bhatia 2001). Between 1990 and 2000, Windsor grew by 70%. The current HOV project is designed to encourage carpool formation, to support transit operations, and to reduce existing congestion. Total traffic delay is expected to be reduced by six to twelve minutes for HOV users. There is no evidence that an HOV lane would encourage amendments to the cities' or county's general plan Urban Growth Boundaries, and thus induce growth. The growth rates noted above occurred absent any highway improvements, and there is no indication that declining to construct an HOV lane would prevent future growth from occurring at the rates predicted.
FAC-01i	The design year of the project is 2030.

FAC-01j The State Route 12 / 101 interchange and the Steele Lane interchange are logical termini for the proposed HOV widening. On the south end, the Route 12 interchange is at the northern end of a similar HOV widening project that was completed in November 2002. The Steele Lane interchange represents the edge of intense urban development in Santa Rosa. A high number of vehicles enter or exit the freeway between these termini.

The need for congestion relief exists between Route 12 and Steele Lane, regardless of whether any projects are undertaken to the north. The project's anticipated effectiveness at reducing delays demonstrates its usefulness as a stand-alone project. Please see Chapter 3.11 (Traffic / Transportation) for a discussion of how the proposed project is projected to reduce congestion in Santa Rosa.

FAC-01k Structures described as having eight lanes include six through-lanes and two auxiliary lanes (lanes that enter then exit at the next interchange). Text has been added to Chapter 2.3.2 to clarify this configuration.

FAC-01l Please see Chapter 3.14 for an evaluation of the environmental impacts of the No Build Alternative.

FAC-01m The Travel Demand Model used to analyze this project forecasts the following VMTs for the 2030 design year. Also included are the model's estimates for base year 2000 VMTs. The project area includes Route 101 within the project limits plus nearby local streets. While the VMT for the Project Area is forecast to be slightly higher with the project, the VMT totals for Sonoma County are lower with the project. Once the project is in place, some travelers would not be forced to use circuitous routes to avoid traffic congestion. Also, the HOV lane would encourage car pooling. Together, these shifts in travel behavior would reduce VMTs in the larger area.

Year	VMT in Project Area	VMT in Sonoma County
2000	371,902	1,011,457
2030 With Project	476,119	1,492,566
2030 Without Project	470,563	1,500,659

According to these VMT estimates, the project would cause VMT in the Project Area to increase about 1%, while VMT throughout Sonoma County would decrease by about 0.5%. These small changes would not affect the conclusions stated elsewhere regarding local air quality, specifically that carbon monoxide emission is reduced as congestion is

reduced and that freeway travel generates less particulate matter than analogous surface street travel. Similarly, the small differences in VMT would not be associated with major differences in stormwater quality.

The traffic model used for this project was used to forecast the ultimate destination of the vehicles traveling southbound on Route 101 between Windsor and Santa Rosa during the morning peak hour in 2030 if this project is constructed. It projects that, out of a peak-hour volume of 4,370 vehicles, 110 (2.5%) are destined for San Francisco, 132 vehicles (3.0%) are destined for Marin County, and 3950 vehicles (90%) are destined for locations in Sonoma County. Without the project, the same model predicts that, out of a peak-hour volume of 4,271 vehicles, 117 (2.7%) are destined for San Francisco, 132 vehicles (3.1%) are destined for Marin County, and 3990 vehicles (93%) are destined for locations in Sonoma County. All of these projections include commuters as well as vehicles traveling for other purposes.

Travel demand forecasts for these analyses were developed with the expanded Marin County CMA model, with greater zonal structure andcnetwork details added for Sonoma County. Projections of traffic volumes in 2030 conducted for this project assume that the projects in the Regional Transportation Plan have been constructed. For HOV operation, the traffic projections assume that the HOV lane will be open to vehicles with two or more occupants. They also assume that the HOV lanes will be operated throughout the peak period when the highway is congested and its operation as an HOV lane would influence driver behavior. The specific hours of HOV operation would be determined shortly before the HOV lanes are opened to traffic in order that actual traffic conditions at that time can be taken into account.

FAC-01n At the project level at Burbank Elementary School, the only pollutants of concern are carbon monoxide (CO) and possibly diesel particulate matter (PM). The project's CO impacts have been analyzed and show that the project would not cause any CO hot spots. Moving freeway traffic slightly closer to sensitive receptors would not necessarily cause health problems. Since background CO levels are so much lower than ambient air quality standards, as detailed in Chapter 3.4.2, a slight decrease in the distance to the receptors still would not cause CO concentrations at the receptors to reach harmful levels. As for diesel PM, there is currently no quantitative model available to estimate the impacts of diesel emissions. The project should provide a net benefit since the project is expected to reduce congestion levels, thereby reducing the number of acceleration events by diesel trucks. This decrease in diesel emissions would likely more than offset any possible additional exposure caused by shorter distances to receptors.

Construction contractors are required to follow standard dust control practices prescribed in all Caltrans contracts. They must also meet all fugitive dust emission regulations of the local air quality management district. Caltrans currently does not have the legal authority to require contractors to use specific types of construction equipment. A voluntary incentive program to use equipment with lower emissions was recently conducted as a pilot, but it did not generate much interest from contractors.

FAC-01o Summary data for PM 2.5 has been added to Table 3.4-2.

For PM 2.5 there is no generally accepted project-level analysis method, nor is a simple one likely in the short term, due to the complex and still somewhat arguable nature of PM 2.5 formation and dispersion. Federal nonattainment areas are not yet designated, and will not be until some time around the end of 2005 according to EPA statements and published schedules. For practical purposes, regional measures used to reduce ozone precursor emissions from transportation will also reduce PM 2.5. In most areas, a large proportion of PM 2.5 is formed under winter conditions from the same precursors (NOx and VOC) that form ozone in the summer. A substantial portion of the particulate matter in diesel exhaust falls within the PM 2.5 range, but diesel exhaust particulate matter is normally dealt with as a toxic air contaminant issue. Any emission reductions accomplished for that purpose will also reduce their contribution to PM 2.5.

FAC-01p The proposed freeway widening project will result in more paved area, and, therefore, will increase the amount of runoff from the facility. The amount of increased stormwater will be mitigated by installing larger drainage facilities capable of storing and metering out flows such that there should be only negligible changes in the amount of surface water reaching local receiving waters. However, there may be some noticeable effect during heavy rains and peak flows in nearby streams.

The project widening will increase impervious surfaces by approximately 8 hectares (20 acres). Permanent Control Measures (PCM's) consisting of a bioswale and infiltration basin will be constructed between the Route 12 interchange and Santa Rosa Creek. These measures will treat approximately 12.6 hectares (31.6 acres) of highway roadway (15.6 acres) and slope and vegetated runoff (16.0 acres). Thus, this project will provide a net benefit to water quality by treating approximately 1.6 times more highway runoff area compared to the amount of new impervious surfaces. The infiltration basin will offset minor decreases in ground water infiltration due to the increase in impervious surfaces.

The selection of these measures follows the guidelines established in the Department's State Water Resources Control Board-approved statewide Storm Water Management Plan (SWMP) which is a condition of the Department's Statewide NPDES permit.

Comment SAC-01

State of California

Memorandum

To: Mr. Robert Grass
Caltrans - District 4
111 Grand Avenue
Oakland, CA 94623

Date: August 25, 2003

RE AUG 28 REC'D OF

From: Robert W. Floerke, Regional Manager
Department of Fish and Game - Central Coast Region, Post Office Box 47, Yountville, California 94599

Subject: Draft EIR - Highway 101 HOV Widening, County of Sonoma, SCH #2000102074

Department of Fish and Game (DFG) personnel have reviewed the draft Environmental Impact Report (EIR) for the widening of Highway 101, and we offer the following comments.

The draft EIR has a reference to consultation with DFG concerning mitigation for impacts to oak woodlands that will result from the highway widening. During a field meeting between our departments to evaluate the project's impact, the proposed 1:1 mitigation ratio for lost oaks was discussed. However, to reduce project impacts to a less than significant level, the 1:1 replacement ratio is applicable only within the context of the overall mitigation site. At the field meeting, a possible mitigation site was proposed to DFG by Caltrans. That particular site would be unsuitable for a 1:1 replacement planting ratio since it is surrounded by development and would, therefore, provide reduced resource value. In such a situation, a 5:1 replacement ratio would be appropriate to reduce impacts. A 1:1 replacement ratio will be appropriate only if the proposed mitigation area was prior oak woodland or supported oaks, was adjacent to additional oak woodland and/or riparian habitat, or along wildlife movement corridors. The draft EIR does indicate that Caltrans is looking into appropriate sites and we encourage such site evaluation. If suitable sites for such oak revegetation are not available, higher replacement ratios will be necessary to reduce project impacts. SAC-01a

DFG recognizes that precise detail is not available to specifically develop mitigation for project impacts to salmonids and riparian habitat at this time. DFG requests that our SAC-01b

Mr. Robert Grass 2 August 25, 2003

biologists be included in impact/mitigation discussions with National Marine Fisheries Service (NOAA Fisheries) biologists in order to address our concerns.

For any activity that will divert or obstruct the natural flow, or change the bed, channel, or bank (which may include associated riparian resources) of a river or stream, or use material from a streambed, DFG may require a Streambed Alteration Agreement (SAA), pursuant to Section 1600 et seq. of the Fish and Game Code, with the applicant. Issuance of SAAs are subject to the California Environmental Quality Act (CEQA). DFG, as a responsible agency under CEQA, will consider the local jurisdiction's (lead agency) Negative Declaration or EIR for the project. The CEQA document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for completion of the agreement. An SSA package is attached.

SAC-01b

If you have questions or concerns, please contact Mr. Fred Botti, Environmental Scientist, at (707) 944-5571; or Mr. Carl Wilcox, Habitat Conservation Manager, at (707) 944-5525.

Attachement
cc: State Clearinghouse
Post Office Box 3044
Sacramento, CA 95812-3044

Response to Comment SAC-01
Robert W. Floerke – Department of Fish and Game

Comment Number	Response
SAC-01a	Caltrans acknowledges that replanting ratios for lost oaks would be developed relative to the habitat characteristics of the selected mitigation site. Caltrans conducted an additional field meeting with DFG in Santa Rosa on October 22, 2003 and will continue to work with DFG to identify appropriate mitigation sites.
SAC-01b	Since the circulation of the Draft EA/EIR, Caltrans has had an additional field meeting with DFG and has provided DFG with the Biological Assessment prepared by Caltrans and the Biological Opinion prepared by NOAA Fisheries for DFG review and comment. Requirements for work within Santa Rosa Creek developed in consultation with NOAA Fisheries and DFG will be incorporated into a Streambed Alteration Agreement as applicable.

Comment SAC-02

Department of Toxic Substances Control

Edwin F. Lowry, Director
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

September 2, 2003

Mr. Robert Gross
State of California
Department of Transportation, District 4
111 West Grand Avenue
Oakland, California 94623

Dear Mr. Gross:

Thank you for the opportunity to comment on the Environmental Assessment/Draft Environmental Impact Report (EA/Draft EIR) for the proposed Route 101 HOV Widening project (SCH# 2000102074) located from State Route 12 to north of Steele Lane in Santa Rosa, California.

Section 3.3.3.2 (Aerially Deposited Lead) states that any materials with lead concentrations that are considered potentially hazardous to either human health or the environment would be handled in accordance with regulatory requirements. This section also states that if regulatory requirements for soil reuse were met, a remediation plan would be prepared for proper reuse of the aerially deposited lead (ADL) material within the project limits. However, this section does not identify the specific regulatory requirements. The Department of Toxic Substances Control issued a variance to the Department of Transportation, District 4, on September 22, 2000 that specifies requirements for lead contaminated soil management and reuse. The EA/Draft EIR should discuss that the regulatory requirements include those specified by the DTSC variance.

If you have any questions, please contact Ted Park of my staff at (510) 540-3805.

Sincerely,

Mark E. Piros

Mark E. Piros, P.E.
Unit Chief
Northern California-Coastal Cleanup Operations Branch

cc: (see next page)

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at www.dtsc.ca.gov.

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Mr. Robert Gross
September 2, 2003
Page 2

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044

Guenther W. Moskat
CEQA Tracking Center
Department of Toxic Substances Control
P.O. Box 806
Sacramento, California 95812-0806

Response to Comment SAC-02
Mark E. Piros – Department of Toxic Substances Control

Comment Number	Response
SAC-02	Reference to the regulatory requirements specified in the September 22, 2000 DTSC variance has been added to Chapter 3.3.3.2 and the complete variance has been included as an exhibit in Appendix J.

Comment CC-01

COMMENT CARD

Name (Please Print) Alexander Mallonee

Address (Home) 432 LINCOLN city SR state CA zip code 95401

Authorized Representative (Name of organization or agency)

Address (Business) city state zip code

Comments: No 1214/1253 Carillo - NUMBERS DONT EXIST - R-6(831 WASH.) not in correct location on photo map.

For more comments use reverse side.

Caltrans

Response to Comment CC-01
Alexander Malloree – Santa Rosa Resident

Comment Number	Response
CC-01	Table 3.5-2 and Figure 3.5-2B have been corrected. The addresses for 1214 and 1253 Carillo Street have been changed to 1214 and 1253 Ripley Street in Table 3.5-2 and R-6 (831 Washington) has been moved to its correct location in Figure 3.5-2B.

Comment CC-02

COMMENT CARD

Name (Please Print) Denise Hill

Address (Home) 317 Tenth St city Santa Rosa state CA zip code 95401

Authorized Representative (Name of organization or agency) St. Rose Historic District

Address (Business) Same city state zip code

Comments: South bound lanes going over 9th street have uneven pavement causing semi trucks with double trailers to drop enough to create a sonic boom-like explosive noise.

For more comments use reverse side.

Caltrans

Response to Comment CC-02
Denise Hill – Santa Rosa Resident

Comment Number	Response
CC-02	Pavement overlay is a component of the proposed project and should correct the uneven pavement condition.

Comment CC-03

COMMENT CARD

Name (Please Print) Joe Lilienthal

Address (Home) 317 Tenth St city Santa Rosa state CA zip code 95401

Authorized Representative (Name of organization or agency)

Address (Business) city state zip code

Comments: ~~Vertical Curve Correction~~

In full support of sound walls, especially between 6th and College. Hoping public can help select the style used

For more comments use reverse side.

Caltrans

Response to Comment CC-03
Joe Lillenthal – Santa Rosa Resident

Comment Number	Response
CC-03	As indicated in Chapter 6.1 of the EA/EIR, under the heading Coordination with Local Governments and Stakeholders, aesthetic treatments for proposed soundwalls have been developed through monthly public meetings in coordination with the Santa Rosa City Council, the City Department of Public Works, the Sonoma County Transportation Authority, the Santa Rosa Design Review Board, and Main Street. Also, a soundwall review was held as part of the Open House/Map Review hosted by Caltrans on August 7, 2003 in Santa Rosa.

Comment CC-04

COMMENT CARD

Name (Please Print) Ramona Mooney

Address (Home) 1841 Salem Ave #9 city Santa Rosa state CA zip code 95401

Authorized Representative (Name of organization or agency) member of Sonoma County Bicycle Coalition

Address (Business) _____ city _____ state _____ zip code _____

Comments: As a bicyclist, I do not like riding on College Ave. which has too much traffic but instead would like to see a bike over/underpass from SRJC to Jennings Ave. thru 101. Jennings is a quiet residential street and is better for bicycling. Or Edwards Ave. to Elliott would be good.

For more comments use reverse side.

Caltrans

Response to Comment CC-04
Ramona Mooney – Santa Rosa Resident

Comment Number	Response
CC-04	A pedestrian overcrossing (POC) is not within the current project scope. However, a future pedestrian overcrossing in the vicinity of Jennings Avenue is not precluded by the current project design. If funding could be secured by another agency, for instance the Sonoma County Transportation Authority or the City of Santa Rosa, Caltrans would work with that agency to facilitate the development of an overcrossing as a separate project. Please also see response to Comment HW-01 for a discussion of proposed bicycle and sidewalk improvements at College Avenue and Steele Lane.

Comment CC-05

COMMENT CARD

Name (Please Print) Christine Culver

Address (Home) 1489 Wright St. city Santa Rosa state CA zip code 95404

Authorized Representative (Name of organization or agency)

Address (Business) city state zip code

Comments: As a driver & resident of Santa Rosa I look forward to the completion of this project. However I also use my bicycle to get around locally. I understand that at the planned under/overpasses bicycles & pedestrians will be accomodated. But what needs to be implemented is the Bike/Ped overcrossing from the SRJC to Jennings, this is in the City of Santa Rosa Masterplan (it is called project 11, route 37-101 overcrossing. This overcrossing is a very important part of the City's master plan as it will help eleviate congestion & pollution on our City streets. It will give the residents of Santa Rosa more & safer alternatives ~~to~~ to an east/west passage. Portland, OR has seen significant bike/ped Daily trip increases (Steel Bridge went from 410 daily trips in 2000 to 1891 daily trips in 2002!) ~~and the Hawthorne Bridge~~ With the possibility of the Smart train going in (& they are doing their EIRs Right Now), the widening of 101 & ~~the~~ ~~as~~ SRJC planning on a parking garage this is the time for Caltrans, the City of Santa Rosa, Smart & the Junior College to get to gether & make the Bike/Ped overcrossing a reality. thank you.

Yes on the HOV lanes! they ROCK

For more comments use reverse side.

Caltrans

Response to Comment CC-05
Christine Culver – Santa Rosa Resident

Comment Number	Response
CC-05	Please see response to Comment CC-04.

Comment CC-06

COMMENT CARD

Name (Please Print) Joel Woodhull

Address (Home) 1301 Ferguson Rd. city Sebastopol state CA zip code 95472

Authorized Representative (Name of organization or agency) Sonoma County Transportation/Land-use Coalit.

Address (Business) city state zip code

Comments: Bicyclists and pedestrians need to be properly accommodated by over & undercrossings. Not only by safe paths through pre-existing crossings, but by additional crossings as well, where they should have been built but were omitted.

It might be supposed that since this deficiency (too few crossings)

For more comments use reverse side.

Caltrans

Response to Comment CC-06
Joel Woodhull – Sebastopol Resident

Comment Number	Response
CC-06	Please see response to Comment CC-04.

Comment CC-07

COMMENT CARD

Name (Please Print) CURT GRONINGA

Address (Home) C/o Santa Rosa JC 1501 Mendocino city S.R. state Cal zip code 95401

Authorized Representative (Name of organization or agency) V.P SRJC

Address (Business) _____ city _____ state _____ zip code _____

Comments: (1) Sound wall needed ARMORY FROM Steele Lane South

For more comments use reverse side.

Caltrans

Response to Comment CC-07
Curt Groninga – Santa Rosa Resident

Comment Number	Response
CC-07	In 2000, Santa Rosa Junior College requested that Caltrans consider a soundwall along Armory Drive because classroom instruction occurs nearby and is disrupted by noise. Caltrans personnel visited the location and determined that although noise is sufficient to merit abatement, the architecture of the building is such that a soundwall could not be of a sufficient height to achieve the required 5 dBA noise reduction. Therefore, the requested soundwall does not meet the criteria for implementation of a reasonable and feasible noise attenuation wall (see Chapter 3.5.2.3).

Comment HW-01

TO CALTRANS
CITY OF SANTA ROSA

FR. RICHARD CANINI
2159 RIESLING
SR CA 95403

RE 101 WIDENING.

THE EXISTING UNDER CROSSING (EG. STEEL LANE) SIDEWALKS ARE HORRID! 3RD, 8TH, 9TH & COLLEGE SIMILAR
AT STEEL LANE THE SIDEWALK IS ABOUT 5FT. THERE ARE SEVEN LANES OF TRAFFIC (84FT?) PEDESTRIANS ARE SQUEEZED BTWN LARGE FAST MOVING TRUCKS AND A CONCRETE WALL. THAT IS NOT GOOD. WE NEED A SAFETY BARRIER (K-RAIL) BTWEEN PED'S AND TRAFFIC WE NEED ROOM FOR A WHEEL CHAIR & BABY CARRAGE TO PASS EACH OTHER. BENCHS, GRASS, TREES, BUSHS, AND WATER FOUNTAINS WOULD BE NICE. THE APPIAN WAY (BUILT IN 300 BC) HAS GRASS, TREES AND FOUNTAINS, WHAT IS OUR SOCIETY BUILDS DOES NOT. CAN YOU BUILD AS GOOD AS THE ANCIENT ROMANS? I THINK YOU CAN

Response to Comment HW-01
Richard Canini – Santa Rosa Resident

Comment Number	Response
HW-01	While a width of 5 feet is the Caltrans statewide standard for sidewalks, our project proposes: • 10-foot sidewalk widths between ramp terminals for Sixth Street and College Avenue; and • 10-foot sidewalk width on the north side of Third Street from under the bridge to the local streeet terminal at Morgan Street (east side). (The City of Santa Rosa is currently working on a separate project to conform to the proposed sidewalk on the west side of the bridge.) In addition, in response to this comment and in consultation with the City of Santa Rosa and the Main Street Organization, the project has been modified to include 7-foot sidewalk widths between ramp terminals for Steele Lane. Regarding barriers along sidewalks, the project provides bicycle lanes that are at least 5 feet wide at Sixth Street and College Avenue, and shoulders for future bicycle lanes that are at least 5 feet wide at Third Street and Steele Lane. This will provide some separation between the proposed sidewalk and moving vehicles. Regarding your recommendations for landscaping, benches, and drinking fountains, we encourage you to raise this issue with the City of Santa Rosa. The City may be able to incorporate these recommendations into any improvement plans they may have for local parks and city streets/sidewalks.

Comment HW-02

My Name is J. M. EUNICE
I am chair of the Santa Rosa Pedestrian and Bicycle Advisory Committee.
the second purpose and need is to maintain and improve Transportation linkages.

Yet, I see no Bicycle/Pedestrian bridge from the Junior College to Jennings. this proposed bridge is on the Santa Rosa master Plan; it would greatly improve bicycle and pedestrian transportation across the 101 barrier at the place it is most needed.

The time has come for Caltrans to assume responsibility for blocking east and west bound bicycle and pedestrian traffic with 101. this bridge would greatly mitigate the Transportation damage done by 101.

J. M. Eunice

Response to Comment HW-02
J.M. Eunice – Santa Rosa Pedestrian and Bicycle Advisary Committee

Comment Number	Response
HW-02	Please see response to Comment CC-04.

Comment ICO-5

Environmental Defense
5655 College Ave. - Suite 304
Oakland, CA 94618

Caltrans, ATTN Robert Gross
Office of Environmental Analysis
P.O. Box 23660
Mail Station 6F
Oakland, CA 94623

September 3, 2003

Re: Santa Rosa 101 HOV Widening

Cost-Effectiveness and Congestion Reduction

This project appears to be similar to the project analyzed in MTC's Blueprint report for 101 from Santa Rosa to Petaluma. The project appears not to be cost effective. MTC's analysis indicates that the more southerly 101 project would reduce delay by 72,000 hours in 2020 and cost $3.6 million per year. Thus, the cost per hour of delay reduced for the moproject is $50 per hour. US DOT specifies that the highest reasonable cost per hour of time for local travel is $13.40. (http://ostpxweb.dot.gov/policy/safety/VOT_Guidance_Revision_1.pdf). Thus, the project costs nearly 4 times the maximum value that DOT says is reasonable.

Part of the problem may be that the Environmental Assessment (EA) shows the project won't be very effective. The EA indicates that congestion would worsen for several of the possible directions and vehicle types (mixed flow AM southbound, northbound PM HOV, southbound PM show a greater congested area). IC0-5a

While it is possible that there are other benefits from the project, none are substantiated. There are claims that the project will improve safety. However, the project is of a type shown in several studies to actually decrease safety. (http://www.cts.cv.ic.ac.uk/staff/wp22-noland.pdf, http://www.vtpi.org/tdm/tdm64.htm, "Traffic Safety Programs".) Fatalities appear to increase on roads that are wider and straighter, crashes and deaths appear to increase on roads with more lanes, and deaths increase on roads with wider lanes. In addition, the MTC report does not account for construction delays and it certainly does not account for all sprawl inducement and induced travel that the project would create. In addition, the reduction in delay for 2020 would not be as great for earlier years. Thus, even the $50 per hour cost calculated above is an underestimate. IC0-5b

1

Caltrans should estimate the delay reduction for at least a couple of different years, such as 2010 and 2025, and calculate the cost per hour saved. Then Caltrans should explain why, if it believes so, the project makes sense to implement.

The analysis done of this corridor for MTC and Sonoma County (U.S. 101 Variable Pricing Study) indicated that High Occupancy Toll Lanes ("HOT Lanes"), which allow low-occupancy vehicles to access high occupancy lanes with excess capacity for a fee, would provide better performance. Caltrans should analyze HOT Lanes as an alternative to the proposed project. IC0-5c

Air Quality

This project appears very likely to increase air pollution in the surrounding area. Construction will create emissions of air toxics and particulates. EPA's NONROAD model provides toxics emissions projections from construction and the AP-42 model does for particulates. Increased travel on the route will also increase pollution. EPA's model indicates that with newer, cleaner vehicles emissions increase at lower speeds than previously thought. NOx emissions increase on freeways at speeds anywhere above 15-20 miles per hour and VOC emissions increase at speeds above 30-35 mph. Thus, increased speeds will probably also increase emissions. IC0-5d

The EA says that no appreciable amount of new traffic and VMT is expected and that therefore no additional PM-10 problems are anticipated (p. 3-25). No basis is provided for this claim. No information is given on what model was used for analysis or what assumptions were used. Given the nature of the project the claim is extremely questionable. It should be removed unless analysis is done which evaluates and supports the claim.

Key factors which tend to lead to high levels of induced travel are present in this case. The best estimate is that for any increase in capacity an average increase of VMT of 50-90% of the added capacity will occur in 5-10 years. Some studies have concluded that levels can reach or exceed 100%. But this project is likely to be higher than average because: IC0-5e

1. There is a high level of congestion now, which increases induced travel (Transportation Research Board, Special Report 245, "Expanding Metropolitan Highways: Implications for Air Quality and Energy Use," 1995, p. 221); and
2. The location is conducive to increasing sprawl development by increasing access to jobs and shopping where there is appreciable developable land at relatively low prices (TRB Special Report 245, pp. 222 ff: "The greatest probability of large development and travel impacts occurs where major highway capacity additions provide access to developable land in outlying suburban areas").
3. Induced travel effects have been found to be very high in the Bay Area, higher than any

2

other area in California (Mark Hansen and Yuanlin Huang, "Road Supply and Traffic in California Urban Areas," Transportation Research A, Vol. 31, No. 3, 1997, pp. 205-218).

FHWA (http://www.fhwa.dot.gov/steam/doc.htm) identifes the following six sources of induced travel, which should be addressed:

1.An increase in person trip productions related to development
2.An increase in person trip attractions related to development
3.An increase in number of daily motorized person trips per development unit
4.An increase in average motorized person trip distance
5.An increase in share of person travel by private motorized vehicles
6.A shift in vehicle travel to improved facilities from unimproved facilities within a corridor or to an improved corridor due to diversion of traffic from other corridors.

The likely changes in residential and commercial development and induced travel would be likely to significantly increase travel in this area and therefore air pollution. This should be addressed.

Thank you for your attention.

Sincerely,

Dan Kirshner
Senior Economic Analyst

3

Response to Comment ICO-5
Dan Kirschner – Environmental Defense

Comment Number	Response
ICO-5a	Please see Chapters 1.2.2 (Need) and 3.11 (Traffic / Transportation) for a discussion of how the proposed project is projected to reduce congestion in Santa Rosa. Traffic projections for Year 2030, not available in the June 2003 Draft EA/EIR, identify delay reductions in both directions for both the AM and PM peak periods, particularly for HOV users.
ICO-5b	Assertions made in the referenced documents can't be generalized to the proposed project. Most of recorded accidents in the project area are of types related to congestion, such as rear-end collisions. Reducing congestion is anticipated to reduce rates of these accidents.
ICO-5c	In 1998, the Sonoma County Transportation Authority (SCTA) and MTC initiated a study of HOV/Toll Lanes (Parsons et al. 1999) . As defined in the study, use of HOV/Toll lanes is restricted to vehicles meeting the definition of High Occupancy Vehicles and to users who pay a toll. (As envisioned in the SCTA/MTC study, HOV's would not be charged a toll.) These HOV/Toll Lanes, also known as "HOT" lanes, have been implemented in California, in other areas of the country, and abroad. As envisioned in the study, there would be a single HOT lane in each direction separated from the mixed flow traffic. Drivers would pay tolls by means of electronic toll readers, similar to "FasTrak" readers used at certain toll bridges in the region. The draft report of the SCTA/MTC study, issued in September 1998, predicted that a HOT lane would improve overall corridor performance. However, this study alternative was not advanced for detailed study in this environmental document, because HOT lanes are not on the list of transportation priorities forwarded by Sonoma County jurisdictions. For a HOT lane proposal to be feasible, a number of actions would need to take place prior to its implementation. Enabling legislation would be required allowing operation of a toll lane; MTC would need to amend the Regional Transportation Plan; the public would need to accept the concept; and additional funding would be required. Consequently, the HOT lane concept was not considered as a feasible alternative to this project.
ICO-5d	The Bay Area Air Quality Management District currently has no thresholds of significance that would be applicable to freeway

construction sites in regard to air toxics. While we could predict emission levels (and possibly even microscale levels) and perform a risk analysis for each toxic substance, such a study would be inconclusive since there is no 'standard' to compare the results against. The case is similar for particulate matter. While some evaluation tools are available, there is no accepted procedure for evaluating impacts due to particulate matter during construction.

Recent research sponsored by Caltrans (Eisinger *et al* 2002) on vehicle emissions indicates that emission rates for most pollutants tend to level off at higher speeds, or at least do not increase substantially. Overall emissions are highest when there is a high level of traffic congestion, accompanied by a large number of sudden accelerations. Since the project will relieve congestion levels, emissions of most pollutants, especially carbon monoxide (CO), would likely be lower. The only exception might be oxides of nitrogen (NOx), which may increase slightly at higher speeds. But NOx emissions are not a concern at the project level, because NOx does not cause localized hot spots as CO does. NOx is a precursor to ozone, the impact of which has already been modeled with regional analyses, conducted as part of the conformity determinations for the Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP).

Please see response to Comment FAC-01m for VMT forecasts and modeling assumptions.

ICO-5e If improvements increase a highway's travel speed, the peak period traffic using the highway will likely increase. This is due to at least six separate factors.

1. Route changes – Some travelers that previously did not use the highway will modify their routes to use the improved highway. For these travelers, the quickest route to their destination did not include traveling on the highway before the improvement, but does after the highway is improved and its travel speeds are increased.

2. Departure time changes – Some travelers will have been shifting the time that they begin their trips in order to avoid congested highway conditions during peak travel periods. Once the facility is improved and congestion decreased, some travelers will shift their travel back to their preferred time during the peak periods and peak period travel will increase.

3. Mode Shifts – Improved travel speeds along the improved highway will make it more attractive to travelers and some travelers will change from alternative travel modes and begin driving on the improved facility.

4. Destination Changes – Some travelers will take advantage of improved travel speeds along the improved highway to travel to more distant destinations than they otherwise would have.

5. Additional Trips – Because of the improved travel speeds along the improved highway, some trips that would have otherwise not been taken will be taken.

6. New development/Additional Land Use – In time, improved travel speeds along the highway may encourage additional development along the highway. Trips to and from the development will increase the traffic on the highway.

The first factor, route changes, does not represent additional travel. Rather, it represents travelers shifting the route for their trips. These routes may be longer or shorter than those taken before the highway improvement. Vehicles taking a freeway rather than local streets will likely have a more uniform travel speed with fewer stops and starts. This should decrease the amount of air pollution created by the vehicle. Environmental Defense stated in their comments, "There is a high level of congestion now, which increases induced travel." It is correct that in highly congested area, more travelers will find it advantageous to shift from other routes to take advantage of added capacity on an alternative route. This largely explains what Environmental Defense calls "increased induced travel in congested areas." Route changes and their effect on VMT have already been taken into account in the travel models used for this project. This explains why calculated VMT increases in the project area but decreases throughout Sonoma County.

The second factor, departure time changes, also does not represent additional travel. It simply represents travelers who choose to travel at different times. This factor is not explicitly accounted for in the traffic model used for this project but should have no effect on the total VMT.

The third factor, Mode Shift, also does not represent additional travel. However, it could represent additional motor vehicle travel as travelers shift their travel mode to motor vehicle travel. However, in Santa Rosa this effect is limited because comparatively few travelers use mass-transit or non-motorized vehicle modes so there is a limited pool of trips that can be shifted to motorized vehicle modes. In addition, this project will be adding only High Occupancy Vehicle (HOV) Lanes. There will be some improvement in Single Occupancy Vehicle (SOV) travel times because of HOVs diverted into the HOV lanes, but most of the improved travel times during peak hours will be available only to HOV users. This will encourage HOV use (and potentially bus transit) and help to reduce the

number of Single Occupancy Vehicles on the highway. The traffic model used to analyze this project's traffic volumes includes a "mode split" step that models these effects.

The first three factors that represent increases in the number of vehicles using the highway during peak periods do not represent "induced travel." Rather they represent decisions by travelers concerning where and how they will make trips. The fourth and fifth factors, destination changes and additional trips, represent induced travel. Neither of these is accounted for in most traffic models, including the one used to analyze the traffic effects for this project. There is controversy concerning the relative contribution of induced travel to the total traffic volume; however, recent research indicates that the contribution is small. (Barr 2000) (Cervero 2003) (Trantech Management, Inc. & Hagler Bailly 2001) (Hartgen, 2003) One very recent study in California, which examined the question of induced travel through comparison of improved and unimproved highway segments, found no statistical difference between the improved and unimproved segments and thus "no evidence of induced demand" (Mokhtarian, et al 2002:214; Handy 2003).

The sixth factor, induced travel from new development/additional land use, typically applies where a new highway is constructed in an undeveloped area. By contrast, Route 101 is a well-established corridor through Sonoma County and the project area encompasses City of Santa Rosa land already highly developed and densely populated. Historic growth in Sonoma County is attributable to many factors unrelated to any highway improvements, in particular, the vitality of the local and regional economy and the area's proximity to nearby recreational resources. Moreover, limitations on growth are tied to infrastructure restraints (e.g., water and sewer service) and, most notably, to local land use controls. The General Plans for the City of Santa Rosa and for Sonoma County both contain strong policies against urban sprawl and each favors maintaining urban boundaries and protecting agricultural and sensitive environmental resources. There is nothing to indicate that either the City of Santa Rosa or Sonoma County would amend its General Plan in response to the proposed HOV lane. Additionally, there is nothing to indicate that any proposed development is dependent on completion of the HOV lane.

Comment PMT-01

1 COMMENTS BY MS. LAURA GRAHAM
2 - - -
3 THE COURT REPORTER: Would you like to state your
4 name and address?
5 MS. GRAHAM: Laura, L-a-u-r-a, Graham,
6 G-r-a-h-a-m, 5305 San Luis, L-u-i-s, Avenue, and the zip is
7 95409.
8 I want to know if they're going to chop down all
9 the redwood trees that were planted along there in order to
10 widen it.
11 And I still think that we should have 101 going to
12 the west of town, between Sebastopol and Santa Rosa, and
13 this would be business route this way, and get all that
14 traffic off the road.
15 I mean, it's bad all the way now; but, still, it
16 would be a heck of a lot better than what it is now --
17 because we've learned from the three lanes that they've got
18 down here now, there's practically nobody in the diamond
19 lane, and it's still all jammed up until you get to the
20 Novato Narrows that widens up. But who am I?
21 - - -
22 COMMENTS BY RICHARD CANINI
23 - - -
24 THE COURT REPORTER: Would you like to state your
25 name and address?

3

Response to Comment PMT-01
Laura Graham

Comment Number	Response
PMT-01	Redwood and other trees and shrubs will be removed to make room for the added traffic lanes. Because the State right of way is limited, this will result in a reduction in landscape plants. Caltrans will replace as many trees and shrubs as space and safety setback requirements allow. The sound walls and retaining walls, where possible, will be extensively planted with vines both to visually screen them and also to deter graffiti.

Comment PMT-02

1 COMMENTS BY MS. LAURA GRAHAM
2 - - -
3 THE COURT REPORTER: Would you like to state your
4 name and address?
5 MS. GRAHAM: Laura, L-a-u-r-a, Graham,
6 G-r-a-h-a-m, 5305 San Luis, L-u-i-s, Avenue, and the zip is
7 95409.
8 I want to know if they're going to chop down all
9 the redwood trees that were planted along there in order to
10 widen it.
11 And I still think that we should have 101 going to
12 the west of town, between Sebastopol and Santa Rosa, and
13 this would be business route this way, and get all that
14 traffic off the road.
15 I mean, it's bad all the way now; but, still, it
16 would be a heck of a lot better than what it is now --
17 because we've learned from the three lanes that they've got
18 down here now, there's practically nobody in the diamond
19 lane, and it's still all jammed up until you get to the
20 Novato Narrows that widens up. But who am I?
21 - - -
22 COMMENTS BY RICHARD CANINI
23 - - -
24 THE COURT REPORTER: Would you like to state your
25 name and address?

3

MR. CANINI: My name is Richard Canini, C-a-n-i-n-i, 2159 Riesling, Santa Rosa, 95403.

I'm concerned about the undercrossings, particularly for pedestrians, wheelchairs, baby carriages.

I just walked Steele Lane under 101 as a most unpleasant and unsafe feeling experienced. The sidewalk is only five feet wide. There was seven lanes of traffic, but only five feet is given to pedestrians. It's just too narrow. Pedestrians are forced between large, fast-moving vehicles and a concrete wall. Should a car go out of its way, a pedestrian has very little chance of surviving. I think this is a hazardous situation.

I suggest that a barrier, K-rail type, be installed between the traffic and the pedestrians, and that the sidewalk be wide enough to accommodate a wheelchair and a baby carriage simultaneously. PMT-02a

It would be nice if there was some greenery and landscaping other than asphalt and concrete. It would be nice if there was a bench. It would be nice if there was a water fountain. PMT-02b

Now, there are water fountains available that provide for people to drink, and they have a cup at the bottom for pets and other animals to drink from. It would be nice to have a few of those installed.

I think a similar situation as the painting at

4

Third and Ninth Streets and College Avenue, the same situation should be addressed there.

Okay. One other comment, the off-ramp 101 off-bound to Steele Lane eastbound is very confusing. It's hard to tell whether it's one to two lanes, and in addition there's a pedestrian crossing there, another hazard for people. I think that should be looked at.

So, in general, I don't think pedestrians have been given enough consideration in this project. I don't think pedestrians are ever given enough consideration by the automotive industry, and we need wider, safer, cleaner, friendlier pathways.

Thank you.

- - -

COMMENTS BY MR. AL KAMAELE

- - -

MR. KAMAELE: Al Kamahele, K-a-m-a-h-e-l-e, 404 Carillo Street, obviously, Santa Rosa.

And my comment is that the sound wall along Armory Drive, the east side of 101, is inadequate the way it is, and now we're proposing to increase the capacity for traffic. That sound wall needs to be revisited in terms of height and effectiveness, the whole length of Armory Drive as it faces the freeway there on the frontage road.

Let me make one more comment. I'm on the Cultural

Response to Comment PMT-02a and PMT-02b
Richard Canini – Santa Rosa Resident

Comment Number	Response
PMT-02a	Please see response to Comment HW-01. Regarding pedestrian safety at the Steele Lane off-ramp, as part of the scope of work proposed for this area of the project, the pedestrian islands will be removed, and the cross walks as well as the walk signal buttons will be redesigned and located in a way that will provide safe crossings for pedestrians.
PMT-02b	Please see response to Comment HW-01.

Comment PMT-03

Third and Ninth Streets and College Avenue, the same situation should be addressed there.

Okay. One other comment, the off-ramp 101 off-bound to Steele Lane eastbound is very confusing. It's hard to tell whether it's one to two lanes, and in addition there's a pedestrian crossing there, another hazard for people. I think that should be looked at.

So, in general, I don't think pedestrians have been given enough consideration in this project. I don't think pedestrians are ever given enough consideration by the automotive industry, and we need wider, safer, cleaner, friendlier pathways.

Thank you.

- - -

COMMENTS BY MR. AL KAMAELE

- - -

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And my comment is that the sound wall along Armory Drive, the east side of 101, is inadequate the way it is, and now we're proposing to increase the capacity for traffic. That sound wall needs to be revisited in terms of height and effectiveness, the whole length of Armory Drive as it faces the freeway there on the frontage road.

PMT-03

Let me make one more comment. I'm on the Cultural

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1 Heritage Board for the City of Santa Rosa. I have not
2 received notice of this sort of meeting. I only heard about
3 it through a meeting last night. So the Cultural Heritage
4 Board seems to need to be on the mailing list.
5 THE COURT REPORTER: Would you like to state the
6 address of the Cultural Heritage Board?
7 MR. KAMAHELE: City Hall, Santa Rosa. What is it,
8 100 Santa Rosa Avenue. Thanks.
9 - - -
10 COMMENTS BY MR. VERN CALSY
11 MR. CALSY: Vern Calsy, C-a-l-s-y, 1414 Manhattan
12 Way, Santa Rosa.
13 I guess the concern I have is when you are doing
14 all of this construction on Steele Lane and College, are
15 these houses -- these streets going to be closed so that
16 people who live on the west side have to get all the way
17 around Third, somewhere else? I don't see how they can do
18 what they're suggesting without closing those streets
19 completely. That's a concern for both Steele Lane and West
20 College or College. Make sense? That's the only thing that
21 I can see right now that affects me personally.
22 They're going to change it from an existing two to
23 almost an existing four at the highway, at Highway 12, to
24 allow two left turns, but that's an awful lot of
25 construction. I don't see how they can do it without

PMT-03

6

Response to Comment PMT-03
Alma Kamahele – Santa Rosa Resident

Comment Number	Response
PMT-03	There is an existing 4.9m (16') soundwall along Armory Drive from Carrillos Street. Chapter 3.5.2 describes the reasoning used in determining where to include soundwalls in a Caltrans project. According to that methodology, the existing soundwall provides for more than adequate protection from freeway noise to existing homes along Armory Drive. Any additional height increase would require a design exception to existing noise barrier height protocol. Further, a higher wall would not provide any noticeable reduction in noise. Finally, increasing the height of the wall would not meet the reasonable and feasible criteria established in Chapter 3.5.2 referenced above. The Cultural Heritage Board has been added to the environmental distribution list.

Comment PMT-04

Heritage Board for the City of Santa Rosa. I have not received notice of this sort of meeting. I only heard about it through a meeting last night. So the Cultural Heritage Board seems to need to be on the mailing list.

THE COURT REPORTER: Would you like to state the address of the Cultural Heritage Board?

MR. KAMAHELE: City Hall, Santa Rosa. What is it, 100 Santa Rosa Avenue. Thanks.

- - -

COMMENTS BY MR. VERN CALSY

MR. CALSY: Vern Calsy, C-a-l-s-y, 1414 Manhattan Way, Santa Rosa.

I guess the concern I have is when you are doing all of this construction on Steele Lane and College, are these houses -- these streets going to be closed so that people who live on the west side have to get all the way around Third, somewhere else? I don't see how they can do what they're suggesting without closing those streets completely. That's a concern for both Steele Lane and West College or College. Make sense? That's the only thing that I can see right now that affects me personally.

PMT-04

They're going to change it from an existing two to almost an existing four at the highway, at Highway 12, to allow two left turns, but that's an awful lot of construction. I don't see how they can do it without

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diverting traffic for quite a while, you know, on some of the other streets.

That's all I can think of, or that's the only thing that affects me personally right now.

THE COURT REPORTER: Thank you.

- - -

COMMENTS BY MR. CARL LARSEN and MRS. IRMA LARSEN

- - -

MR. LARSEN: My name is Carl, with a C, Larsen, L-a-r-s-e-n, 707 Elliot Avenue, Santa Rosa 95441.

We are here mainly because the area they're building that we live in has not been designated to have a sound wall, and I was -- I would like to have it re-tested, something that -- a test closer to my house, because it's very noisy -- if possible.

THE COURT REPORTER: Would you like to comment too?

MRS. LARSEN: That was about it. We'd like to have a sound wall.

THE COURT REPORTER: And would you like to state your name?

MRS. LARSEN: Irma, I-r-m-a, Larsen.

Thank you.

- - -

/ / / / / /

Response to Comment PMT-04
Vern Calsy – Santa Rosa Resident

Comment Number	Response
PMT-04	The only complete closures of College Avenue and Steele Lane will be overnight closures to allow for bridge demolition and erection/removal of falsework for bridge construction. There will be longer term lane closures to do most other construction activities. Two lanes in each direction will be maintained at minimum during the construction period for both College and Steele.

Comment PMT-05

diverting traffic for quite a while, you know, on some of the other streets.

That's all I can think of, or that's the only thing that affects me personally right now.

THE COURT REPORTER: Thank you.

- - -

COMMENTS BY MR. CARL LARSEN and MRS. IRMA LARSEN

- - -

MR. LARSEN: My name is Carl, with a C, Larsen, L-a-r-s-e-n, 707 Elliot Avenue, Santa Rosa 95441.

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THE COURT REPORTER: Would you like to comment too?

MRS. LARSEN: That was about it. We'd like to have a sound wall.

THE COURT REPORTER: And would you like to state your name?

MRS. LARSEN: Irma, I-r-m-a, Larsen.

Thank you.

- - -

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Response to Comment PMT-05
Carl and Irma Larsen – Santa Rosa Residents

Comment Number	Response
PMT-05	The residence at 707 Elliott Ave is located about 3 blocks back from the freeway. The front row of structures adjacent to the freeway is primarily office/commercial. The future peak noise level this area is expected to be 61 dBA, Leq(h), which is less than the NAC (B) of 67 dBA, Leq(h). Therefore, no noise abatement (soundwall) is being considered at this location.

Comment PMT-06

COMMENTS BY MS. ANDREA RODRIGUEZ

- - -

MS. RODRIGUEZ: Andrea Rodriguez, 5743 Reynaud, R-e-y-n-a-u-d, Court, Santa Rosa 95409.

My comment regarding the environmental landscaping, all landscaping is going to be removed -- and I know a lot of the trees aren't mature trees, but if Caltrans would make an effort to have a contractor remove the mature trees and replace them somewhere else along the corridor and make an effort to replace the landscaping with not just sapling trees, make every effort to replace landscaping with full grown, something that's not just cactus and looks bare, but really make an effort to have it look green. PMT-06

- - -

COMMENTS BY MR. PAUL OGASAWARA

- - -

MR. OGASAWARA: Paul Ogasawara, O-g-a-s-a-w-a-r-a, address 7099 Baker Lane, Sebastopol.

My comment is that I think this widening project is a big, colossal, expensive boondoggle, and I think that doing these HOV lanes is just another way of promoting more mindless sprawl, and I would like to see a system where the traffic problems are solved but not with a third lane.

And I believe that if a judicious amount of monies are put into widening and lengthening on-ramps and

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Response to Comment PMT-06
Andrea Rodriguez – Santa Rosa Resident

Comment Number	Response
PMT-06	Caltrans will research the use of the largest trees available within our budget (possibly #15 size) to mitigate tree removal. Replanting existing trees would be prohibitively expensive. They would have to be dug up, planted somewhere else, watered during construction, and then dug up and replanted a second time. It is very expensive to transplant full size trees and especially so to do it twice per tree.

Comment PMT-07

COMMENTS BY MS. ANDREA RODRIGUEZ

- - -

MS. RODRIGUEZ: Andrea Rodriguez, 5743 Reynaud, R-e-y-n-a-u-d, Court, Santa Rosa 95409.

My comment regarding the environmental landscaping, all landscaping is going to be removed -- and I know a lot of the trees aren't mature trees, but if Caltrans would make an effort to have a contractor remove the mature trees and replace them somewhere else along the corridor and make an effort to replace the landscaping with not just sapling trees, make every effort to replace landscaping with full grown, something that's not just cactus and looks bare, but really make an effort to have it look green.

- - -

COMMENTS BY MR. PAUL OGASAWARA

- - -

MR. OGASAWARA: Paul Ogasawara, O-g-a-s-a-w-a-r-a, address 7099 Baker Lane, Sebastopol.

My comment is that I think this widening project is a big, colossal, expensive boondoggle, and I think that doing these HOV lanes is just another way of promoting more mindless sprawl, and I would like to see a system where the traffic problems are solved but not with a third lane.

PMT-07a

And I believe that if a judicious amount of monies are put into widening and lengthening on-ramps and

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1 off-ramps, and staggering the on-ramps and off-ramps, you
2 could spend one tenth-the amount of money, relieve traffic
3 congestion, and not have to do three lanes.
4 Another thing, I think that we should develop
5 alternate routes, and we should also concentrate on mass
6 transit systems instead of adding a third lane.
7 And they've given me the quote of $63 million.
8 They also mentioned that the Geysers Project was only going
9 to cost seventy-five million, and it turned into a hundred
10 and eighty-three million. So I think the costs are going to
11 escalate, no matter what. To give a low figure to kind Of
12 get your foot in the door to keep this going is disingenuous
13 on their part.
14 I asked them, you know, if they have assessed what
15 the $29 million that they spent from Highway 12 to Wilfred
16 Avenue has done, and I asked if it had relieved the traffic,
17 and they said yes. But then I countered; I said, But
18 there's a lot of -- lots of traffic and still traffic
19 back-up.
20 I drive those roads every day. I know there's
21 traffic, and yet they're saying it works. But it doesn't.
22 HOV lanes are not the answer.
23 Let's see what else. Oh, also every Caltrans
24 meeting that I've ever been to I've always asked that they
25 provide a map for the people to draw on, to get their

9

1 comments and ideas, and every time they say yes, but I've
2 never seen the map yet where people could do that.
3 And if they're truly interested in submitting
4 comments and information instead of a P.R. snow job, then
5 they should make it more public friendly, by -- you know,
6 they say they want to solicit our information, yet they
7 don't provide us the tools to do that.
8 I asked a person from Caltrans if I could put up a
9 map, and they said no, and I think that's wrong. Also, they
10 say that you can submit a map as a comment, but I can't put
11 it up. And to me, you know, that's like they don't want to
12 hear my ideas, and I think that's --
13 Also, at every other Caltrans meeting that I've
14 been to I've submitted comments about a plan called FAST
15 Plan. FAST Plan is the Frugal Alternative Solving
16 Transportation problems long-term. And now, and I've yet to
17 really hear any comment from them about that.
18 So I have some other comments. I've made comments
19 and I haven't got any feedback, and I don't know if they're
20 too busy with their glossy pictures and big maps that they
21 put up. I think that we, the public, needs to have more
22 input on this project, because, you know, we're the ones
23 that are spending the $77 million that it's going to cost.
24 And so for them to keep on building these HOV
25 lanes at an incredible cost while not providing traffic

See Comment PMT-07 Exhibit 1 Beginning on Page 66

10

relief is wrong, and they should think about spending money frugally, targeting specific bottlenecks, and spend the money wisely.

Those are my comments.

THE COURT REPORTER: Would you like to state your occupation?

MR. OGASAWARA: I am a landscape contractor that is fed up with all this traffic problems, and I feel like Caltrans isn't doing their job. I have yet to find someone whose ever agreed that the HOV lanes are a good idea except for Caltrans people.

Thank you.

(Mr. Ogasawara returns.)

THE COURT REPORTER: One more?

MR. OGASAWARA: This is Paul Ogasawara, and I wanted to comment about the widening of Highway 101 near the Luther Burbank school. And they're intending to build the freeway even closer to the school, and I think it's too close to the school, too close already; but they're even coming in 50 feet closer and I think that's way too close to the school.

PMT-07b

And they're talking about putting up the sound barrier again, but it's still way too close. You shouldn't have a school right next to a freeway.

- - -

11

Response to Comment PMT-07
Paul Ogasawara – Sebastopol Resident

Comment Number	Response
PMT-07a	The process to develop and analyze alternative ways of meeting the project purpose and need is described in Chapter 2.2.
PMT-07b	Concerning the proximity of the proposed project to Burbank Elementary School, the proposed Right of Way line is approximately 25 feet into the school property from the existing Right of Way. The project includes construction of a soundwall on the Right of Way line along the entire length of the boundary between the school and the freeway. Caltrans has met with officials from the school and the School District and has worked with them to address their concerns.

Comment PMT 07 Exhibit 1

FASTPLAN

Fastplan : Frugal
Alternative
Solving
Transportation
Problems
Longterm
And
Now

FASTPLAN advocates using precious tax dollars sparingly. Fastplan calls for everybody to identify problem areas and dangerous sections, and target funds for maximum effectiveness. Fastplan opposes mindless widening of 101 and observes after spending 29 million dollars, thereare still traffic backups. Adding a third lane is ineffective, promotes more sprawl and is disruptive. Fastplan advocates installing Thru lanes, Creates new alternate routes and extends a few selected onramps and offramps.Fastplan will solve many problems for a fraction of the cost of simple widening. a

Fastplan does not solely concentrate on roadways. Fastplan advocates development of a world class mass transit system. Concentrate new growth along mass transit corridors. Set a goal of connecting every community with bike lanes and pedestrian trails, with the ultimate goal of connecting every park,school and pedestrian mall.Fastplan advocates horse trails.

As a longterm solution, Fastplan advocates changing gas taxes from a fixed amount to a percentage. That way, the more prices are raised the higher the amount of taxes garnered. Allow local government to raise a local gas tax if funds are specifically targeted for local maintenance. Set a limit of up to five cents.

Fastplan envisions a future that has hybrid vehicles which can ride the rails then retracts the flanged wheels and then travels on roadways.

Fastplan advocates parallel roadways where feasible. It requires moving of houses, a new road is installed parallel to the existing road, then the old road is made into a one way road and the new road is made one way in the opposite connection. parallel roadways reduce head on collisions. They can also save trees lining roadways.

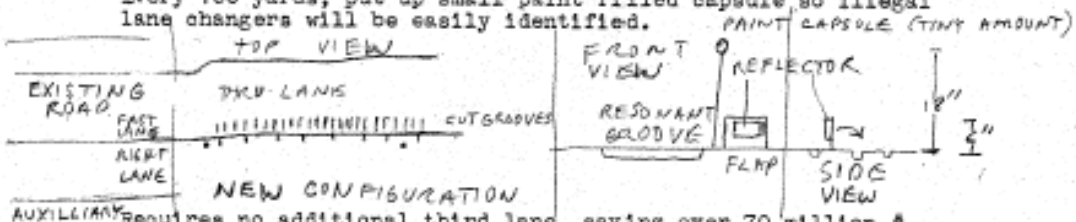
Fastplan will save money. It will also save lives.

FASTPLAN TOP TWENTY FIVE LIST

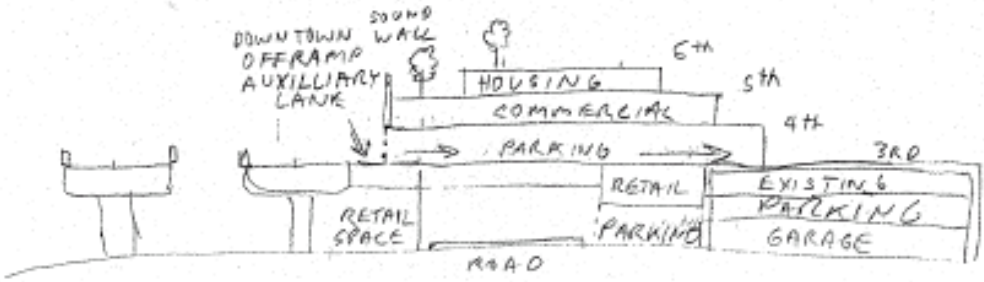
1. 101 Thru Lane Northbound From 12 To Steele Ln
2. 80 East Merge lane From Hwy 12 To Suisun Vly
3. 101 North Of Novato Lane Reduction Bottleneck Solution
4. Sears Point Overcrossing
5. HWY 101 Onramp And Offramp Extentions
6. Petaluma Hill Rd To Adobe Rd Penngrove Bypass
7. 101 North /South Alternative Lakeville to Pet Hill Rd
8. HWY 12 To Arnold Dr Connection At Madrone Rd
9. Stage Gulch Rd Parallel Roadway
10. 101 N/S Alt Stony Point To Fulton Rd
11. Pet River Bridge- Lower, 3 Lane, Northbound Only
12. 101 N/S Alt Micasio Vly to Stony Point Rd
13. 101 N/S Alt Kawana Springs to Mendocino Ave In Santa Rosa
14. HWY 12 Bypass -Sonoma
15. HWY 12 Bypass -Sebastopol
16. HWY 116 Bypass -Sebastopol
17. HWY 12 Alt -Bennet Vly
18. HWY 12 Bypass -Kenwood
19. East/West Alternate -Novato Blvd
20. E/W Alt Todd Rd To Bloomfield Rd
21. HWY 101 To HWY 29 Parallel Roadway
22. Bodega Bay Bypass
23. Bodega Bypass
24. Santa Rosa E/W Alt Mark West Rd To Calistoga Rd
25. Arnold Dr Parallel Roadway

1. 101 Thru Lane Northbound From HWY 12 To Steele Ln

Advocates making a Through Lane, ie,the fast lane restricts lane changes. Only Right Lane vehicles can merge on and off. Create barrier by installing resonant grooves and reflective flaps Every 100 yards, put up small paint filled capsule so illegal lane changers will be easily identified.

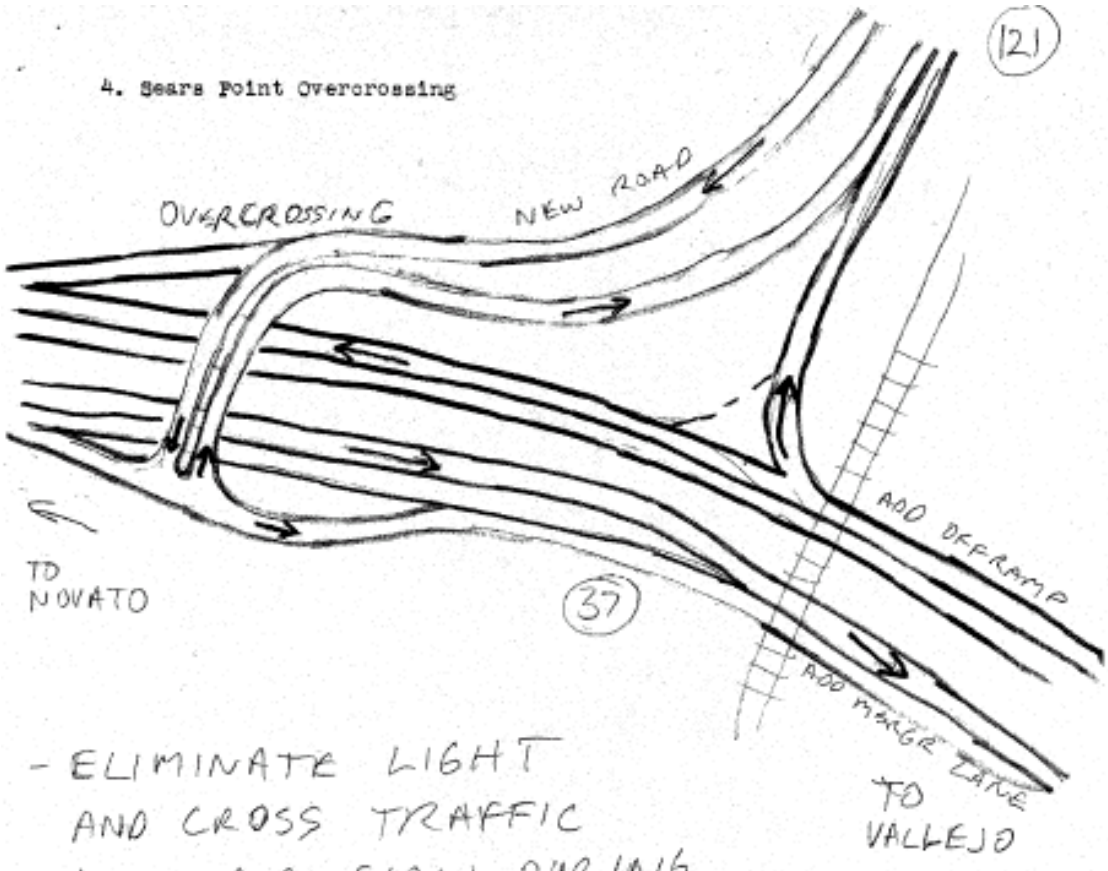


Requires no additional third lane, saving over 70 million $
Advocates filling in space between HWY 101 and the SR Mall parking garage,connecting the top floor with 101. Build a parking garage, commercial space and condos on the top floors of a 6 story high building.



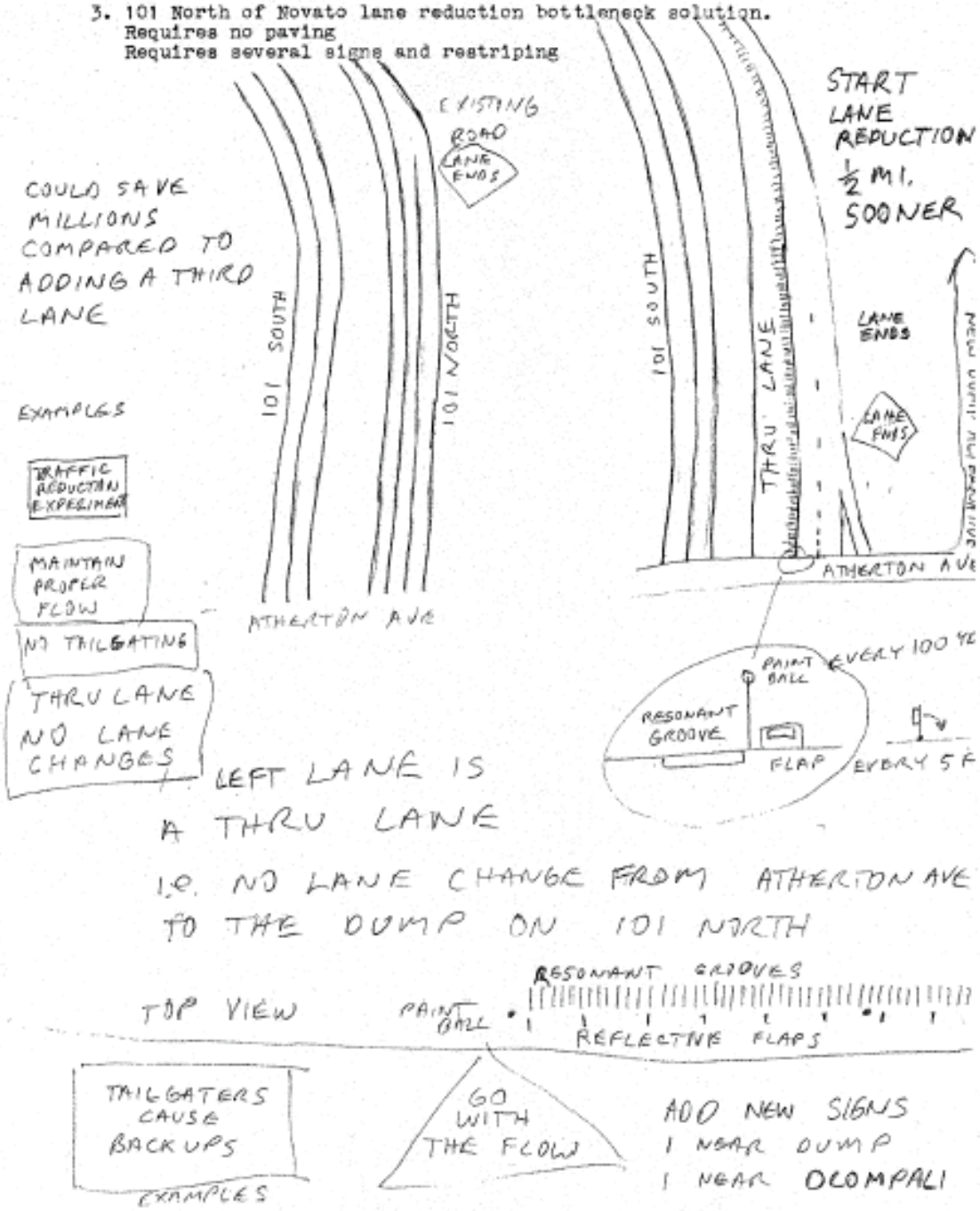
FUTURE PROJECT NEXT TO 101
ONLY 6 STORIES
FILLS IN CITY OWNED BLANK SPACE
NEW DOWNTOWN OFFRAMP
DO NOT BUILD 45' CLOSER TO SCHOOL
SAVE EXISTING SOUND WALL → SAVES
SAVE EXISTING PEDESTRIAN CROSSING → MONEY
SOLVES 101 BOTTLENECK
ALTERNATIVE TO 7 STORY DOWNTOWN PROJECT
ALSO ADVOCATES CLOSING COURTHOUSE SQUARE TO CAR
CREATE PEDESTRIAN MALL → 3 BLOCKS OF 4TH STREET

4. Sears Point Overcrossing

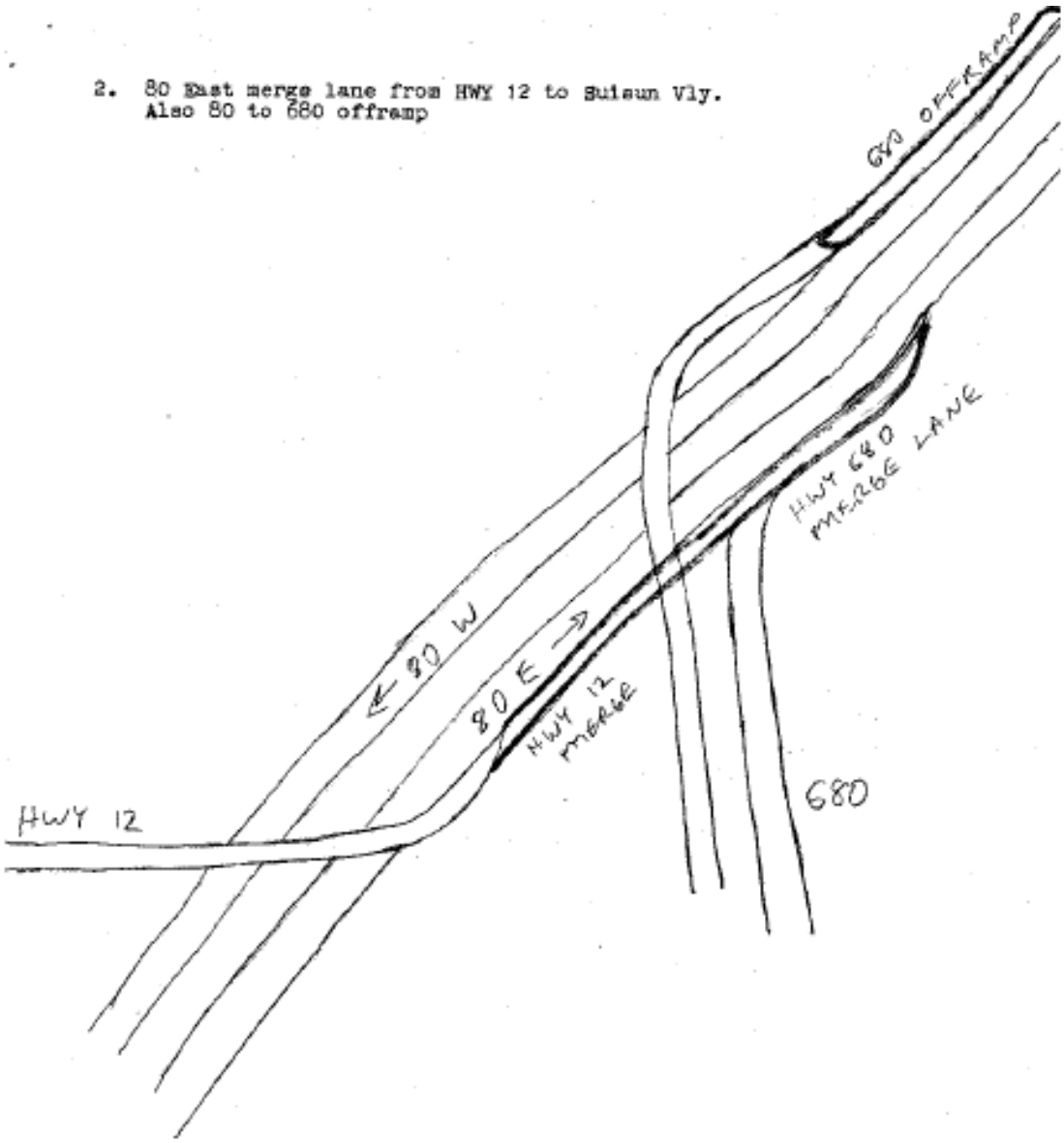


- ELIMINATE LIGHT AND CROSS TRAFFIC
- WILL AID FLOW DURING NASCAR RACES

3. 101 North of Novato lane reduction bottleneck solution.
   Requires no paving
   Requires several signs and restriping

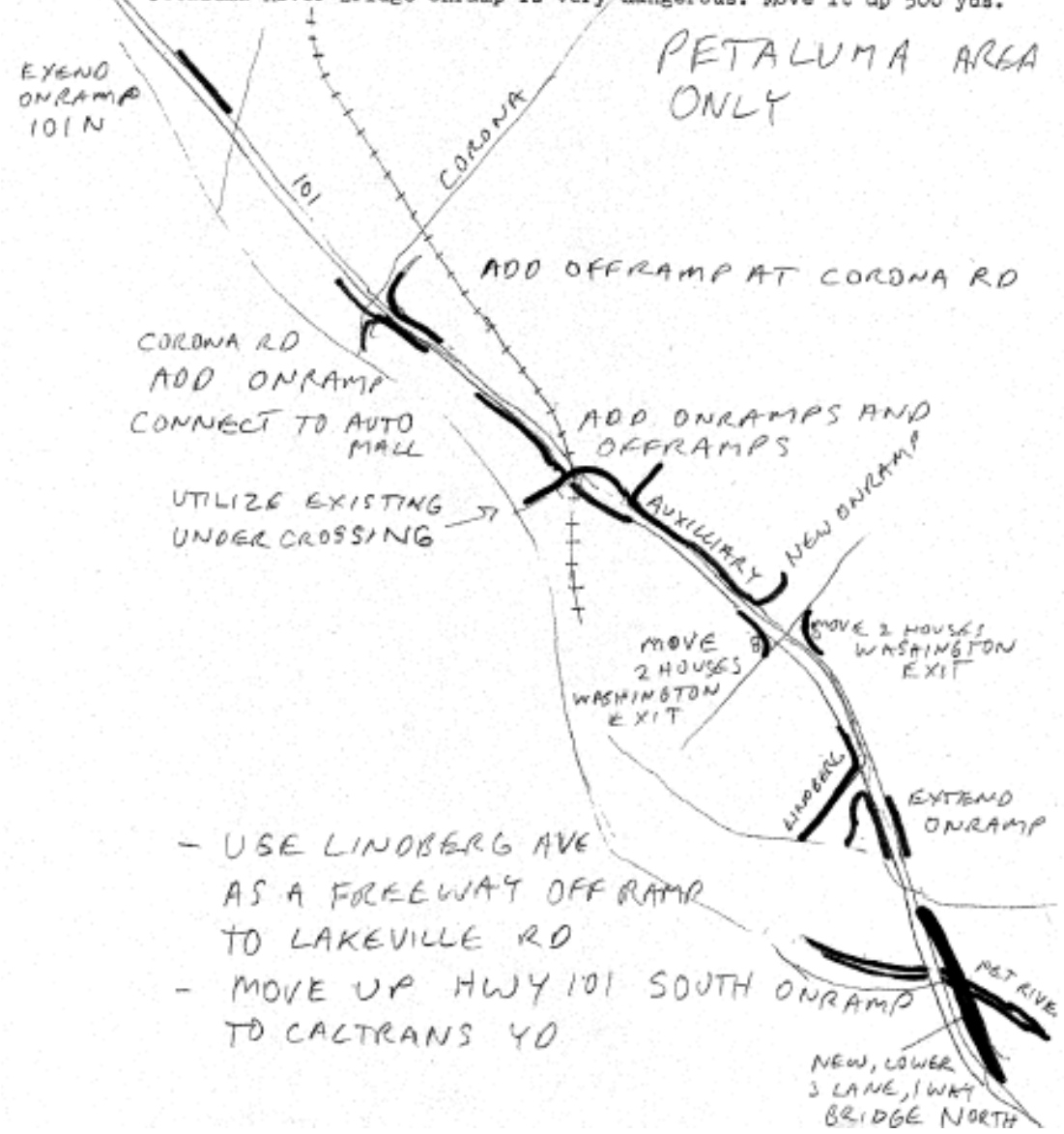


2. 80 East merge lane from HWY 12 to Suisun Vly.
Also 80 to 680 offramp



5. HWY101 Onramp And Offramp Extentions

Extend all onramps from 200 yards to 500 yards.
Stagger onramps and offramps where feasible and effective
In Petaluma, create a new interchange at the railroad under crossing.
20 MPH exit speeds are dangerous and unacceptible
Add Auxilliary lanes where appropriate
Petaluma River Bridge onramp is very dangerous. Move it up 500 yds.



b

TRANSPORTATION CONCEPTS

I would like to explain certain concepts as they relate to transportation, with specific emphasis on the North Bay.

1. Rail lines used to run throughout the North Coast, many lines still do exist, and these lines are functional. Therefore, starting up light rail for commuting is economically feasible right now. Rail transit is ten times(10X) more energy efficient than cars.

2.Alternative routes give flexibility and relief to other routes. For example, Lakeville Rd. to Adobe Rd. to Petaluma Hill Rd. could provide another North/South alternative. Also, Stony Point to Fulton Rd. could be another. A major accident on 101 will not cause gridlock if alternatives are availible.

3.Instead of the cutting down of many majestic oaks and other trees just to widen HWY12, build a parallel roadway with the oaks in the middle. Then make the existing road one way. This would reduce construction traffic and lost business due to construction, provide room for bike lanes and create a buffer zone so head on collisions could be eliminated while allowing 60 MPH speed zones.

4. All cities should be bypassed. Healdsburg was bypassed and is thriving. Sebastopol, Sonoma, Bodega Bay, Forestville, and Penngrove all need bypasses. Sonoma should be bypassed by going from Madrone to Arnold to Leveroni. HWY 12 through Sebastopol has been closed at least 3 times during the past 2 years. An elevated flood proof bridge over the Laguna should be a number one priority just considering safety concerns alone. Build it as a bypass to relieve traffic, too.

5. Bike lanes make sense. Santa Rosa should set as a goal the connecting of every school and park to a bikeway. By shifting funds from buses and enabling students to ride a bike to school, no new source of revenue is needed. Bike corridors that restrict auto use can be achieved by simply installing speed bumps and restriping. Getting the current crop of politicians to even consider such a concept is a daunting task.

6. New technologies such as Mag/Lev and the TGV and Bullet train systems offer hope for the future. As the world resources of cheap petroleum dwindle or are cut off due to conflicts, people will be wondering why the USA did not foresee the shortages and start building for the future. Our addiction to foreign oil will someday force us to expend billions of dollars and American lives. Oops I

AND NOW IRAQ

forgot about Desert Storm, it already happened.

7. New and innovative concepts like hybrid vehicles that can run on rails or roadways must be considered in formulating traffic solutions. Imagine getting on a bus in Guerneville and ride to Fulton on the pavement. The bus then extends flanged wheels that ride on rails and travels to Sausalito. The bus goes to a special area, retracts the flanged wheels and drives over the Golden Gate.

8. The biggest problem facing the people of the North Bay who are tired of all this traffic mess are the politicians and business leaders who try to cram widening of 101 as the panacea of all our problems. It has been proven that widening freeways induces more growth which causes more traffic. These leaders are the ones who did not plan for the future and got us in our present predicament. They try to manipulate public opinion by writing articles with headlines like "Rail Lines Cause Growth". Well duh. The question is not that rail lines cause growth but rather do we continue wasteful suburban sprawl or do we concentrate growth along energy efficient rail lines that reduces sprawl ? Think about that the next time you go into the voting booth. We need leaders that will lead us into the 20th Century, not ones that want to preserve the status quo and keep on spouting the same old tired rhetoric of past failed policies. We need leaders who see problems as opportunities and have the guts to propose innovative solutions.

THE PROBLEM

What is the problem? Recent rapid unplanned growth has created traffic jams and overtaxed the existing sewage treatment facilities. The past planners forgot to formulate contingency plans to deal with rapid growth. The present administrators and planners have violated laws and regulations, polluting drinking water supplies. Sonoma County has received nationwide attention over spills and mismanagement, creating a negative image of us. The regional waste treatment facility had a tertiary treatment system during the first major spill , but never used it until the winter of 85. Tertiary treatment was used as an reason to increase river dumping. Developers have built up Sonoma County with little thought towards sewage and traffic problems, preferring to make large profits and let other people deal with the problem.The common ratepayer is faced with a possible tripling of fees and has negligible input or impact.All of the options considered have major flaws and will cost hundreds of million dollars. All communities along the Russian River dump treated sewage into it, making the problem a regional issue. Santa Rosa City tapwater contains so much chlorine, it poses a health risk to every drinker. People's health is threatened, yet widespread apathy prevails.Worst of all, there is a huge vacuum in leadership to solve or even identify the problem.

Is there any remedy? What options are available? Who can present a solution that will satisfy everyone? Will waste mangement problems choke out growth in Sonoma County? Sounds hopeless, but it is not. We are presently confronted with a great opportunity brilliantly disguised as an insoluble problem. New ideas and innovation,coupled with foresight, should direct our path towards the solution. The solution should take into consideration future costs, supplies and necessities. It should not pollute the ocean or rivers because we derive food and water from them. It should not gamble on unproven technology nor dump wastes in our neighbor's yard. The solution could create new jobs while expansion creates many new opportunities for business.The solution should increase our independence while fulfilling the needs of many people, thus enhancing the quality of life of everyone.

THE SOLUTION

The solution is simple and has three parts. First, use tertiary treatment to remove most dissolved solids, leaving only bacteria as the major pollutant. Second, kill the harmful bacteria with heat. By burning wood in a boiler to generate electricity, the waste heat is used to kill all pathogens. The treated water is then sent through several organic laden ponds to absorb any toxic metals and is eventually allowed to enter the Russian River, harmless and clean. Pumping costs, presently estimated at 7 to 21 million dollars per year are offset by revenue produced from electrical generation. Pollution from wood burning can be neutralized using pyrolysis technology and state of the art scrubbers. Wood is used because it is an abundant and renewable resource. The main problem is the transportation costs of the wood fuel, which leads into the third part of the solution. The north coast must develope the aging and underutilized rail system that already exists. Acquire and renovate the rails into a mass transit system to alleviate traffic problems and transport wood fuel late at night to feed the boilers. Orchard prunings, sawmill wastes, garden trimmings, and building scraps, which used to cost money to dispose of, would gain new value as fuel sources. The new rail system could create new business opportunities, employ thousands of workers and supply a needed service to possible millions.

There are many parts of the solution that could be elaborated upon. Economic cost projections, cascading energy systems, mass transit scenarios, growth and planning processes, and other important considerations can not be fully addressed in this abbreviated solution.

Hopefully, this solution could be considered as the sixth option, one that is reasonable, feasible, and better than any other option.

POD

This is my declaration. I shall expound upon my beliefs, perspectives analysis, and proposals for innovative solutions. I will present a personal view of Redwood Empire politics, potentials, economics , social systems, problems and realities. I declare my love for the beauty of the North Coast and affirm my commitment to preserve such an abundant and bountiful environment. I will work hard to enhance our quality of life, and advocate community involvment with social activities. I acknowledge the pressures of growth and development and see the need for both. I propose development that does not despoil, Waste precious resources, or create boom and bust economic cycles. Urban sprawl similar to San Jose must be avoided by designing new high density structures to conserve open space. Development of our agricultural, mineral, marine and water resources must be properly planned to ensure perpetual utilization by everyone, not just a favored few.

This declaration is for you, too. This declaration states what many of us want, but feel overwhelmed by the volume of information to sort through, and cannot verbalize or organize into a cohesive proposal that takes into consideration the totality of the situation. This declaration is a comprehensive plan that benefits the majority of residents with succinct analysis and practical solutions.

I declare my independence from narrow minds, cynics, pessimists, intransigent idealogues, zealots, reactionaries, impotent politicians, and petty bureaucrats. I declare my intent to lead the Redwood Empire towards a clean, healthy, fruitful and prosperous life, one we can all live with. Remember, our future is not a matter of chance, it is a matter of choice. Choose a better future.

1

This declaration shall be divided into 3 main topics ;

1. Agriculture and the lumber and fishing resources.
2. Oil, gas, Geothermal and renewable energy resouces.
3. Social problems and issues, growth, sewage, transportation, politics and the quality of life.

1. Agriculture and the lumber and fishing resources.

The North Coast was blessed with an abundant fishery, large forests of redwoods, firs, pines and oaks, along with fertile valleys. The Indians used to scoop thousands of salmon out of the pristine rivers each year, living in peace and harmony with the environment. Settlers killed many Indians with guns and diseases, established a few reservations for the survivors and appropriated the rest for themselves. Forests were leveled and creeks were dammed to float out the logs. Many creeks silted up from massive erosion, negatively impacting spawning beds. Mills operated by the hundreds up and down the coast. Clearcut practices were widely used, and touted as modern timber management. Mature pine and fir trees were cut down and left in order to get to the redwoods. The whole North Coast succeeded to cut 90% of the prime virgin forests in less than 100 years. After the boom came the bust, and hundreds of sawmills closed down, throwing the North Coast economy into a tailspin. So when clearcut advocates scream about restrictions and job losses, just remember that if the resource had been managed properly, there would be thousands more permanent jobs. Pacific Lumber was a perfect example of sustained yeild until they sold out and began clearcutting. We need to formulate new stategies that establish a permanent economy with many jobs.

Clearcutting. Many silviculturalists say it is the most economical and beneficial forestry practice. The initial benefit of large capital gain from harvesting every tree offsets the drawback of long recovery time.Every new tree will start growing together so the new stand will be of a uniform height and age. Selected species can be introduced to reduce mixed forests and promote different cultivars. Herbicides are sprayed to kill broad leaved species and allow the conifers to take over. This rosy scenario sounds to good to be true, and is not.

Sustained yield programs produce more long term profits. If the same

2

forest were managed on a selective cut schedule, initial profits would be small, but revenues would be steady. Jobs would last instead of be lost. Only the large, mature trees are harvested so the wood quality is higher with increased financial rewards. Selective cutting will preserve the forest ecosystem and reduce erosion. The creeks will not silt up and ruin spawning beds. Clearcutting eliminates the forest canopy so new trees have lots of branches,thus decreasing the value of the timber. In prime virgin forests, the trunks of some trees will not have a branch for fifty feet.This is because the young trees grew with little light and stretched upwards towards the sky. Clearcut trees have branches down to the ground and produces knotty lumber. In Washington, clearcut forests eliminated mixed forests to produce uniform stands of trees, but also allowed pine moth populations to explode, decimating whole forests. If clearcutting is outlawed, the forest canopy will be retained and broad leaved plants will be held in check, eliminating the need for herbicide spraying. Instead of killing broad leafed trees, they should be harvested and utilized as a biomass fuel source.Herbicides are undesireable because they not only harm plants and animals, humans experience problems like rashes, cancer and birth defects. In Vietnam they called it Agent Orange.

Salmon and steelhead fishing along the North Coast used to be great. The fish were abundant, and millions of fish would return to spawn in North Coast streams. Then came the lumber activities. Whole drainages were clearcut and the rivers turned brown from all the erosion. Loggers used to cut down the trees, build a series of dams upstream, then release the water suddenly to float the logs downstream. This process wreaked havoc to the riparian ecosystem. Skid trails and unditched logging roads contribute to the problem upstream. "Modern" timber practices have resulted in 95%declines in salmon populations.Recently, some National Forest Land has been given to some large corporation to log and propose to clearcut it. When will we ever learn? Most virgin forest remains on steep slopes, so erosion potentials are greater. The only restoration presently required is ditching. Ditches are perpendicular cuts in the skid trails and logging roads that divert water so it will not erode as much.I have seen them, and erosion still occurs. Deleterious timber practices, combined with toxic water pollution and water diversion, threaten a once abundant and productive fishery.

I propose three main solutions. 1. Restrict logging to selective harvesting on a sustained yield basis. 2. Enfranchise a large majority of each county into operating in a sustained yield manner. Aid in establishing collectives to provide competition to the large timber corporations. Provide enabling legislation and tax incentives. 3. Require harvesters to restore damaged soils. Also aid in restoring past damage by dredging gravel beds, clearing obstructions, building fish ladders, or any other way to help promote spawning.

In order to explain #2, a little history is needed. Millions of acres of forests are in State or Federal Forest lands. Each year, bids on timber sales are submitted on selected timber. In the early 70's large lumber corporations bid millions of dollars to corner the timber market and sqeeze out the smaller companies. This timber grab backfired and they got caught short because timber prices fell and supplies went up. Instead of taking a financial bath, they asked to drop the contracts, and the forest service obliged with little or no penalties. By setting up small, owner run collectives, and structure sales in such a manner in which they could compete for bids, the large corporations would be punished for trying to monopolize and exploit the timber industry.

Collectives could be set up in such a way as to allow urban residents to live and work during the summer. People could work to produce enough lumber to build their own home. Another important proposal involves equitible distribution of timber rights on State and Federal lands.I propose giving every resident of the county the right to harvest 10 trees if they plant 10 new trees . Set up a lottery to allow a lucky few to harvest 100 and 1000 trees. Of course, harvesting would use low impact and non erosive techniques. These proposals would employ a large percentage of the forest residents and give them an opportunity to benefit from an abundant and renewable resource.

Now comes a controversial proposal for enviromentalists. I propose harvesting every tree, even those in State and National Parks. Certain trees that many people see and other special trees should be preserved, but even those, once they are past their prime should be carefully harvested and utilized in a proper manner. Every tree that is diseased, past its prime, leaning, split-crowned, or overcrowded should be selected. Restrict cutting in high use or tourist areas to one tree per acre. Allow only trained foresters to select ones to cut and use a lottery to distribute the harvest. If we utilize our forests wisely, everyone will become richer.

More on fishing. Fishing provides millions of dollars worth of business each year.Fishing is a recreational activity that the whole family can enjoy, and every penny spent in restoration will reap dollars worth of results.I propose restoring the fishery to pre1800's levels.I propose establishing water standards high enough to restrict toxics and sewage from threatening people and fish. I propose using water to aid people and agriculture, yet mitigate any adverse impacts to fish and wildlife. Lumber and fishing people should form an alliance to ensure perpetual spawning while allowing non-destructive timber harvesting. Each year, they must donate 1 weeks worth of materials or labor for restoration and enhancement. This voluntary system will tap the resources of the people who profit from harvesting the bounty of the land. Since both these industries are seasonal, the volunteer work could be done in the off season.

On the issue of agriculture, I support any enabling legislation that helps the small farmer. Farming used to be the major revenue source for the North Bay valleys. Nowadays, developers are decimating orchards and gobbling up open space. Agricultural preserves and trusts similar to the ones established in Yolo County; Tax breaks should be given to any farmer who puts his farm in a preserve. In Sonoma County, farmers want the right to sell part of their land to build houses and provide financial security. This will result in houses next to farmland, with noise, dust, insects, groundwater contamination and pesticide drifts negatively impacting people.We must avoid extending the suburbs into the country to minimize such conflicts by providing alternatives that is equitible. I propose selecting specific areas that are carefully determined through a consensus of diverse interests, and design new communities that farmers can move into. This would provide economic opportunities while preserving farmlands. Hopefully, we can prevent another Santa Clara in the North Bay.

2. Energy Resources and Dilemmas

Energy affects everyone. Without energy production, civilization would grind to a halt. Energy production is essential in maintaining the high quality of life we have become accustomed to. Americas' extensive energy infrastructure is envied by the rest of the world, and sets the standard for the rest to emulate. Energy production is messy, with pollution threatening our quality of life, so energy in either extreme is detrimental and a balance should be attained.

Energy production has serious drawbacks. Nuclear power threatens to depopulate hundreds of square miles if another Chernobyl occurs, and produces toxic wastes that have no permanent disposal site. Nuclear power plants had over 400 emergency shutdowns this year, and have exposed thosands of workers to radiation "that pose no health hazard". Decommissioning costs will eventually total billions of dollars, and could theoretically exceed the amount of energy generated over the lifetime of the plant. Coal burning produces acid rain, and could be a significant factor in global warming trends. Strip mining is raping the land, but coal deposits will last for hundreds of years. Oil is becoming so scarce that offshore oil leasing is being rammed through. Geothermal energy produces hundreds of tons of toxic wastes each year, and recently has shown signs of running out.

These energy sources not only harm the environment, they are non renewable.Renewable energy from water, wind, solar and biomass require high initial capital expenditures, but provide clean, safe and perpetual production. Why do people choose harmful, expensive, non-renewable resources? It is a matter of economics. People profit from a large entrenched industry centered upon fossil and nuclear fuels. They provide heating,lighting, cooking, and transportation and numerous other conveniences. They provide employment and an extensive network exists that people want to perpetuate.

This American Dream has problems, however, like pollution and hidden costs. One example is auto exhaust. One single car does little harm to the environment so no cost is charged, But the cumulative impact of a million cars in the LA basin causes smog alerts and respiratory ailments. Another hidden cost is pollution directly attributed to cars, like oil leakage from cars that is washed into sewers and rivers. It may seem like an inconsequential amount, but it adds up to millions of gallons each year.

People desire cars to get to work and because of the freedom of movement it allows, however, harsh realities are becoming painfully evident.The extensive network of roadways are crumbling after years of service, and construction costs have skyrocketed. Freeways are jammed every day, and people waste an estimated 400 million dollars stuck in traffic. In LA, someone predicted 11 MPH freeway speeds in 1990. Worst of all, oil is rapidly running out in the United States. We spent 40 billion dollars on foreign oil last year, and plan to purchase more. We are more dependent on foreign oil now than we were in 1973, making us more vunerable to an oil disruption due to some crisis in the Middle East. Soon, oil will be used as a weapon against us and we will be caught with our pants down. We must wean ourselves from our addiction to cars if we are to retain our high standard of living and desireable quality of life.

In the future, cars will become too costly to operate, insure, register, license and maintain. Roadways will become too costly to repair. Alternatives must be built before the crisis occurs or everyone will suffer from the consequences. Building now will save money because construction costs are escalating. Many people could be employed, new industries and commerce generated, and pollution reduced. A fast and efficient mass transit system is the key to a better future.

Back to energy and local politics. Some people advocate leasing large tracts off our coast to drill for gas, and maybe a little oil. The estimated reserves total only 2 months of American consumption, so the need to exploit these resources is not critical. There are many reasons not to drill. Tourism generates hundreds of millions of dollars in revenues, and the ocean is an abundant fishery that employs many thousands of people. The risk of spills is extreme due to the rough, open seas,and the ecosystem is fragile. The most logical reason for the sales is that some select interest group like the oil and gas corporations want the US to give away our resources for a song and downplay safety concerns with no penalties or accountability if a spill does occur.

My solution; we should wait until drilling is absolutely necesary, and if we do drill, the adjacent counties should bid to aquire the leases. Instead of a 10% royalty, make it at least 50%, and direct the benefits to go to the residents of the county. Enact laws with mandatory jail terms for the people responsible for spills, and stipulate that most jobs should go to the local residents. This way, the people

who risk the most shall also gain the most. In order to reduce the risks, I propose identifying the people responsible for approving and promoting drilling. These people and their families would be held accountable if a blowout or spill occured by making all of them clean up any toxic pollution. Large fines and jail terms for any major disaster will cool the advocates ardor when they realize that they will be held accountable for spills when they happen. An analogous situaion would be to force the mayor of Santa Rosa and his family to drink sewage effluent because the mayor says it is harmless. Only if such conditions exist would I support drilling off the coast.

Biomass cogeneration plants are an integral part in formulating a better future in the North Bay. These power plants utilize renewable fuel to produce electricity, and if the waste heat is utilized in a cascading manner, it could pasteurize wastewater, heat and cool buildings, heat greenhouses, and finally heat aquaculture ponds. Gassification processes using pyrolysis technology, coupled with state of the art pollution control devices like electrostatic precipitaters, can reduce pollution to acceptible levels. The amount of pollution generated is negligible compared to the pollution caused by sewage systems, landfill depletion, and transportion of wastes.These cogeneration systems could be located near sewage treatment plants that are located in every community, providing thousands of jobs.Local energy production utilizing renewable biomass such as sewage sludge, combustible refuse, garden wastes, orchard and vinyard prunings, dairy wastes, lumber wastes, and highway trimmings, can be achieved with existing technologies. Decentralized energy systems are resilient, not succeptible to weak links over long transmission lines, independent of large centralized sources, and are appropriately scaled to the function needed. The whole prospectus is profitable because costs are shared. Waste materials which previously cost money to dispose of now would actually be worth money.

Back to politics. Proponents of offshore oil drilling cite the economic peril we supposedly face if leasing does not take place soon. If our resources are dwindling so fast that exploitation of only two months worth of gas is of the utmost importance, a major shift into permanent energy production utilizing renewable resources makes even more sense. Biomass cogeneration should be a major defense appropriation because it will reduce our dependence on unstable Mideast oil, and create create a more resilient and decentralized energy system. It would be a great opportunity to engage the Army Corps of Engineers

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into a new project, since they have completed damming or channelizing most available rivers and need something to do. A major commitment along the same lines as the MX missile system would produce a stronger, healthier, cleaner and more independent America. I think there is a strong case in making the claim that decentralized biomass cogeneration plants should be promoted in the interest of national security. After the oil crisis in 1973, Carter installed programs that devoted research into gassification technology, and gave tax credits for any system that saves energy and produces alternative energy. Under Reagan, he gutted research and disallowed tax incentives for alternative energy. This short sighted and regressive action must be reversed or we will all live to regret it.

3. Social Problems and Issues; Growth, Sewage, Transportation, Politics, and the Quality of life.

Growth is a big issue facing the North Bay. Many people see rampant unplanned growth with sewage spills, clogged highways, incompetent bureaucrats, a doubling of taxes, and a general lowering of the quality of life. These people see the need for better planning, but feel helpless to affect change. This is due to a lack of leadership. With weak and ineffective leadership, problems cannot be solved because nobody can identify or define them. Leadership requires wisdom for intelligent planning, vision to see the future, determination to set realistic goals to achieve, and a capability to overcome adversity. A great leader possesses an intangible quality that makes someone want to follow. It is in short supply with the present politicians. People are getting fed up with expensive studies and no solutions or actions. Soon, people will not be satisfied with promises, they will demand results. A crisis looms with devastating consequences if leadership fails.

Growth is causing many problems, but it is the type of growth that exacerbates the crisis. People have built in a hodge-podge manner, overcrowding roadways, overloading systems and underestimating growth. The freeway through Santa Rosa is a good example of how inept politicians, special interest businessmen, and condemned property owners all weave a tale on how not to build freeway. Growth impacts on transportation has reached a crisis level in Sonoma County. One accident can result in total gridlock on 101 and traffic jams are expected every weekday. Highway 12 should be labeled 'blood alley' from all the accidents that occur. Just look at the trees that line the road.

There are three main reasons why traffic is such a mess. First, many raodways used to be county roads with no shoulders or turn lanes. When developments sprung up in the last thirty years, people used these roads as commute routes. Now, funding to repair and add shoulders to these roadways has disappeared. Second, More and more people are using these deteriorating roadways because no alternatives exist. A fast and efficient mass transit system would relieve congestion, but building it would take a major commitment that present politicians are unwilling to make. Third, planners have allowed people to build too close to the roads. There is just no more room to expand, so turn lanes and additional lanes cannot be constructed. Also, peoples' driveways are located along major traffic corridors, so the danger of parking and merging into

heavy traffic confronts these people daily. Their lives are being negatively impacted by traffic congestion that is increasing daily.

I propose an equitable trade that benefits everyone. Wider roadways means less traffic jams, accidents and aggravation. When someone attacks the concept of wider roadways by asking who will pay for it, I counter by asking who is paying for wasted time sitting in traffic, the cost of lives lost due to accidents, and the aggravation of being stuck on a two lane road with someone going 35 MPH when you want to go 55MPH (or faster)? A recent poll indicated people would be willing to pay 6 ¢ per gallon more if it would mean solving traffic problems. Homeowners along major traffic corridors are heavily impacted by increasing traffic, higher noise levels and restricted parking. To provide relief, I propose trading property owners along these corridors their land for development rights elsewhere. This equitible exchange benefits the property owners by providing an escape to a traffic-free environment. It benefits everyone else by reducing traffic and increasing safety. Additionally, the extra space may be used to develop bike and pedestrian pathways, and in certain cases, railroad right-of-ways. The only people to suffer from this solution are the big developers. The development rights spread among hundreds of property owners will decrease their profit potential. The good ol' boy network will have to take a back seat to fair, progressive, and equitible development. ABAG (Assoc. of Bay Area Govmts) has predicted the North Bay will need to build 23,000 new homes over the next 5 years. I propose exchanging 6,000 building permits and land for at most 6,000 lots that will be utilized to widen major thoroughfares, provide traffic relief and mass transit lanes. Homeowners could move their houses to new developments in order to minimize condemnation and destruction of godd homes. The new developments will utilize state-of-the-art designs with proper spacing, neighborhood stores, community centers, bike paths, parks, foom to expand roadways and sewage systems in the future, and possible mass transit access. The location of these new development areas need to be determined by a consensus of polititians, developers, environmentalists, seniors and any other concerned citizens. The quality of life of existing residents will be enhanced, problems solved, and it allows rational, intelligent and proper growth. CONCENTRATE NEW GROWTH ALONG THE NW PRR MASS TRANSIT CORRIDOR.

Another area where equitible land exchanges could be implemented is along the creeks and flood control channels. These areas are ideal for

bike and pedestrian pathways and parks to be constructed. This also would provide a wonderful opportunity to enhance the riparian habitat. one ambitious goal would be to restore the creeks enough so salmon and steelhead return to spawn. These pathways would provide an effective alternative to automobiles, and students utilizing these paths would save millions of dollars each year in busing costs while providing healthful exercise. The cost of implementing this proposal is small when compared to the energy conserved and the numerous benefits derived. Altogether, this proposal would enhance the quality of life and provide an extensive, effective, healthful, safe, transportation and recreation alternative. I envision a future where a family can hop on a bike path and travel in 30 minutes to any park in Santa Rosa.

Sewage and waste disposal is a major problem facing everyone. This is of a paramount concern because unplanned and rapid growth threatens to overwhelm our capacity to safely treat and dispose of sewage, and now we are faced with building moratoriums until the problems are solved. Present treatment practices entail dilution to 1% of the river flow. This practice is safe if nobody lives downstream. However, most people live downstream so sewer municipalities dump in chlorine to kill harmful pathogens. This has its drawbacks because the EPA recently declared that chlorine, in combination with organic material, produces harmful mutagenic compounds. In order to mitigate the problem, they use a process called dechlorination, which produces ammonia. Ammonia is also toxic, so absorptive clays are added to eliminate it and produce wastewater. This whole process is expensive and is not 100% efficient, so sewage water in its present form poses a distinct health hazard to everybody. Needless to say, water companies and purification manufacturers are making large profits nowadays because Russian River water is contaminated by not only Santa Rosa, also Healdsburg, Geyserville, Cloverdale, and Ukiah. The cumulative impact of sewage loading in the Russian River has caused a fish quarantine and herpes-like sores on fish, and present polititians want to increase dumping.

I propose a better solution. Pasteurize the tertiary treated sewage instead of adding tons of chemicals. Utilize renewable wood fuel, or even sorted refuse to power an electrical generation plant, and use the waste heat to pasteurize wastewater, heat buildings, run heat pumps and heat greenhouses and aquaculture ponds. Cogeneration is the key because costs are shared, making this proposal economically feasible.

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If energy is utilized in a cascading manner, many possible processes can be implemented in a multitude of ways. In the forests, wood byproducts fuel the boilers and the mill, with greenhouses and aquaculture in the mill ponds using the waste heat. Along the coast, fuel can be shipped in, and the waste heat is used to run processing plants and run the refridgeration. On the farms, orchard and vinyard prunings could be processed from portable gassifiers, saving transportation costs.Large sources of agricultural wastes like rice hulls and almond shells could warrant a power plant with the waste heat used to heat a farmworkers camp. In the city, garbage could be used to heat low income housing, and greenhouses used to feed the hungry. Small neighborhood facilities could be used to cool an ice rink or power and heat a hospital.

Every new development should mandate two water systems ; one for drinking water and household use, and the other for irrigation of the landscaping. The waste water from the cogeneration facility has rendered the sewage effluent non-pathogenic, so landscaping use of this water would solve two problems ; The conservation of precious drinking water, and a solution to wastewater disposal. Lawns add so much to the quality of life we enjoy in the North Bay, but consumes too much water and requires constant maintenance. We must start designing new developments that employ dual water systems and landscapes that minimize lawns. The houses must utilize solar energy, and be properly insulated to conserve energy. City and county governments must demonstrate leadership and foresight by stopping the helter-skelter growth and incompetent planning, and adopting proper standards. Our state government should pass enabling legislation and tax credits to invest in the future, instead of present laws and regulations which allows more protection to the bottom line than the environment.

Growth is a big issue confronting everyboby. Do we continue the present course, or do we try new modern and inovative alternatives ? I have a proposal; Instead of developing existing cities, thus overcrowding and overtaxing systems, direct the estimated 100,000 people into smaller, separate communities with their own water, sewer, garbage and fire fighting capabilities. Granted, some development and annexation in the cities will occur, but the remaining open space should be used to create greenbelts, bike and pedestrian corridors, parks and solve the horrendous traffic problems people must face every day. Build the new communities with proper planning for transportation, and provide jobs nearby so the people do not have to commute . Maybe a cogeneration plant.

These cogeneration facilities should be appropriately scaled. Instead of building one large plant, build several smaller ones. I envision a future where many local refuse processing plants can sort refuse, recycle metals, paper and glass, burn the combustibles and landfill one tenth as much volume as a regular refuse system. Local processing will save millions in transportation costs, conserve landfill space, produce resources from wastes, create thousands of new jobs, generate electricity and pasteurize sewage water.

The small scale is perfect for new growth. New developments must include room for new processing plants/cogeneration facilities with designs for efficient utilization. These new developments will be independent from existing communities, so present residents will not pay for new growth. The best part of this proposal is that it can be implemented by many other communities to solve a global problem. This safe, dependable, permanent solution's an effective alternative and should be included in any future proposal.

Back to transportation. Many proposals to solve traffic congestion will not work, because future growth will overwhelm most improvements. Only a comprehensive, efficient mass transit system will provide proper relief. I applaud the foresight of Bridge Director Carol Ruth Silver and her plan to install a second deck on the Golden Gate for mass transit. Its amazing, a polititian actually had the guts to buck the automobile industry and propose an effective alternative to traffic gridlock.

Mass transit is only effective when it is extensive enough to service millions of people. A plan that includes connecting BART with the North Bay would accomplish that goal. In fact, I would like to see BART completed around the bay, with an extention up to Sacramento. Wouldn't it be convenient to be able to commute to SF from Santa Rosa in only 40 minutes? BART could be utilized to catch a flight at SFO, provide safe transportation for a field trip to the Steinhart Aquarium, or make possible a fun day at Great America. Drunk driving would be reduced if fans could take BART to the ball games.

Another aspect that makes mass transit economically feasable is the tourist business. Tourists could visit the wine country and North Coast on mass transit, generating millions of dollars in revenues, while minimally impacting our already congested roadways.

Mass transit will save millions in energy costs and reduce air pollution, but another transportation alternative will not only save energy,

it will enhance the health of citizens who utilize it. I am talking about bicycling. Bike paths could be constructed along the creeks, in open spaces, and along selected streets. An extensive system that provides an effective alternative will cost millions, but will save even more. If students are given an alternative to school busing, millions in busing costs could be saved. These savings could be transferred to other school programs, enhancing education. Buses could be provided during inclement weather to protect students from rain and snow. In Davis, California, they have miles of bike lanes, roads with wide shoulders, bike safety education programs,and firm support and affirmative action from city officials. We need similar commitment and leadership from North Bay polititians. The best thing about bikes is that they do not require new technology or massive funding like other transportation systems.What is presently lacking is a commitment, and leadership to provide an important alternative that will only cost pennies per dollar saved.

We are at a crossroads. Right now, we are confronted with problems of transportation, sewage, growth, crime and pollution. One pathway leads to worse problems and no solutions, but one path leads to solving transportation, sewage, and pollution problems while properly planning for growth. We are at a crossroads, and present polititians bureaucrats and developers want to continue down the pathway towards ignoring problems and delaying solutions.A good example is the Spring Lake Bridge. Even though a majority of residents oppose the bridge, they try to cram it down our throats with skewed and inaccurate polls, while ignoring practical alternatives and public outcry.

There is a pronounced void in competent and effective leadership, with litte discussion or public input about the looming crisis. This paper outlines my beliefs, observations, and possible solutions,hoping to provide an alternative path from the one we seem to be destined to follow and suffer because of it.Hopefully, this declaration will generate debate and create momentum towards making the hard decisions needed to solve a myriad of problems facing people in the North Bay. These innovative and effective solutions will take years to implement, and delay will only increase costs, so action is needed today to solve present and future problems.

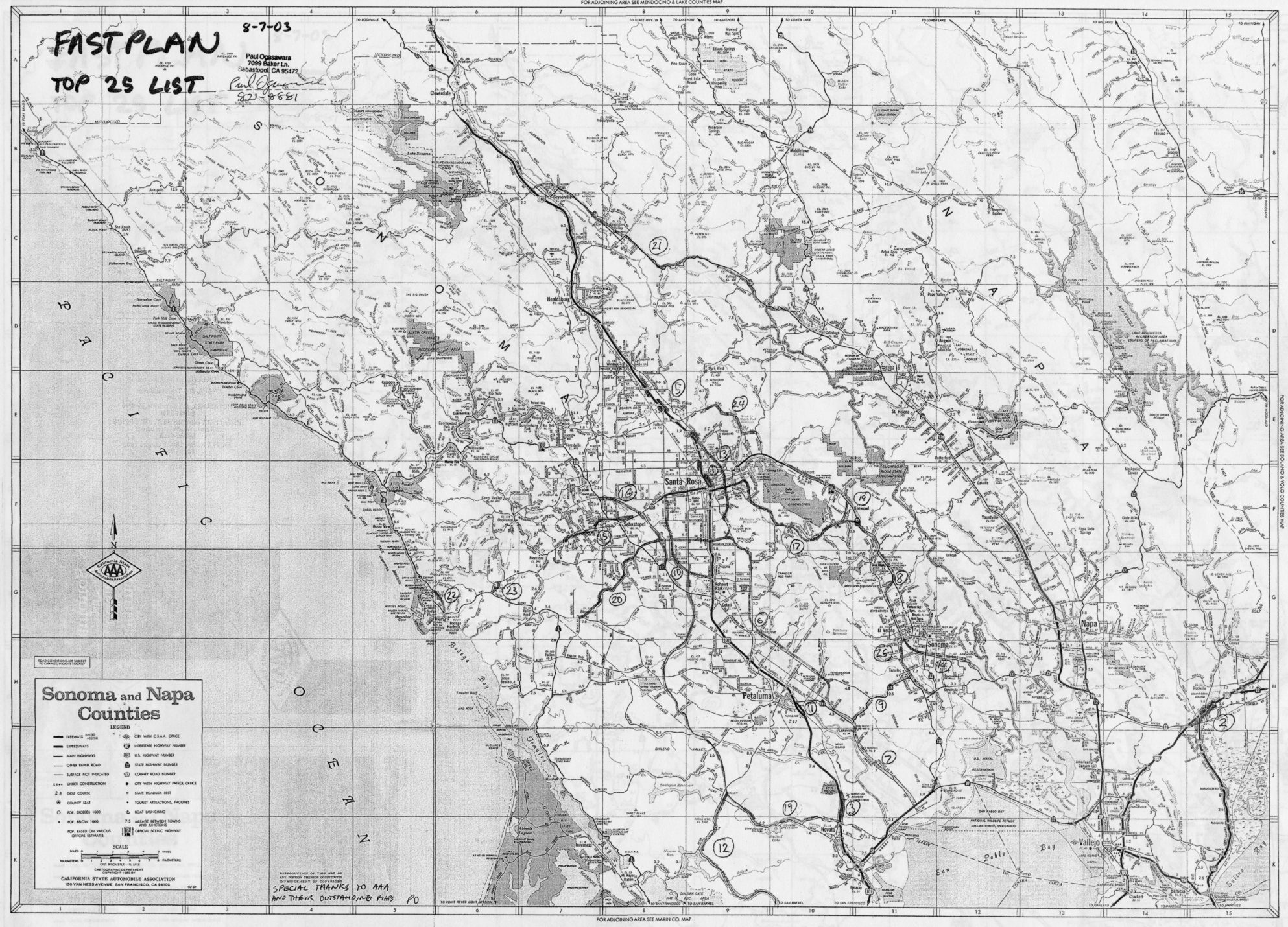
Remember, our future is not a matter of chance, it is a matter of choice. Choose the right path for a better tomorrow.

FAST PLAN

8-7-03

TOP 25 LIST

Paul Ogasawara
7099 Baker Ln.
Sebastopol, CA 95472
823-8681


FOR ADJOINING AREA SEE MENDOCINO & LAKE COUNTIES MAP
FOR ADJOINING AREA SEE SOLANO & YOLO COUNTIES MAP
FOR ADJOINING AREA SEE MARIN CO. MAP
Sonoma and Napa Counties
LEGEND
FREEWAYS
EXPRESSWAYS
MAIN HIGHWAYS
OTHER PAVED ROAD
SURFACE NOT INDICATED
UNDER CONSTRUCTION
GOLF COURSE
COUNTY SEAT
POP. EXCEEDS 1000
POP. BELOW 1000
POP. BASED ON VARIOUS OFFICIAL ESTIMATES
CITY WITH C.S.A.A. OFFICE
DIVIDED HIGHWAY
INTERSTATE HIGHWAY NUMBER
U.S. HIGHWAY NUMBER
STATE HIGHWAY NUMBER
COUNTY ROAD NUMBER
CITY WITH HIGHWAY PATROL OFFICE
STATE ROADSIDE REST
TOURIST ATTRACTIONS, FACILITIES
BOAT LAUNCHING
7.5 MILEAGE BETWEEN TOWNS AND JUNCTIONS
OFFICIAL SCENIC HIGHWAY
SCALE
MILES
KILOMETERS
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Tomales Bay
Drakes Bay
Pacific Ocean
San Pablo Bay
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Jack London State Park
Sugarloaf Ridge State Park
Bodega Head
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Point Reyes National Seashore
Point Bonita
Point Sonoma
Point Pinole
Point Richmond
Point San Pablo
Point San Quentin
Point Tiburon
Point Reyes Station
Inverness
Olema
Bolinas
Stinson Beach
Muir Beach
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Petaluma
Novato
Ignacio
Sonoma
Napa

Response to Comment PMT-07 Exhibit 1
Paul Ogasawara – Sebastopol Resident

Comment Number	Response
PMT-07 Exhibit 1	a– The "FASTPLAN" submitted represents a regional transportation plan more reasonably presented in the context of the development of a regional transportation plan than for an individual project. The plan contains no comments regarding the information presented in the current environmental document. b – This comment was previously submitted, verbatim, for the Caltrans "Highway 101 Widening and Soundwall Construction in Sonoma County from the Wilfred Avenue Interchange to the Route 101/12 Separation" project. Caltrans responded to the comment in April 2000.

Comment PMT-08

COMMENTS BY GUILLERMO MADRIGAL

- - -

MR. MADRIGAL: Name is Guillermo, Guillermo, Madrigal, M-a-d-r-i-g-a-l. Address, 1635 Manzanita Avenue, Santa Rosa, California 95404.

I own property at 517 A Street, Santa Rosa. I have concern regarding the Sixth Street underpass proposal as to traffic increasing on A Street, Ninth Street and Seventh Street, regarding intersection of Seventh and A Street, A as in apple. That's it. PMT-08

Thank you.

- - -

COMMENTS BY KEN WELLS

- - -

MR. WELLS: Ken Wells, W-e-l-l-s, at 360 Brey Road, B-r-e-y, Santa Rosa 95409.

And what I would be interested in seeing as part of the project to help alleviate its impact to pedestrians and bicycles is a bike and pedestrian overpass at approximately the Jennings Avenue and J.C. location.

Jennings Avenue is on the west side of 101, and J.C. would be on the east side of 101. In that general location an overpass would provide an opportunity to allow pedestrians and bicycles to get across the freeway safely.

And then for pedestrians, specifically, the

12

Response to Comment PMT-08
Guillermo Madrigal – Santa Rosa Resident

Comment Number	Response
PMT-08	The purpose of the Sixth Street undercrossing is to provide vehicular access to and from US 101 to the northerly portion of the downtown area using the Davis Street southbound off-ramp and the Morgan Street northbound on-ramp and to provide an east/west vehicle, bicycle, and pedestrian connection between Railroad Square/West Side area and the northerly Central Business District area. At the present time it is difficult to achieve this traffic circulation pattern because there is no obvious connection under US 101. The existing connection requires several non-intuitive turning movements for motorists requiring them to use Fifth Street, Morgan Street, Sixth Street and Seventh Street and does not provide a usable connection for pedestrians and bicyclists. The motorists who are using A Street and Ninth Street are traveling to and from the west side of the Santa Rosa by way of Ninth Street and their reason to use these streets is different from reasons to use the Sixth Street underpass. As such, traffic should not be increasing within this area due to the underpass. If anything, it could have a positive impact of reducing traffic through the area by encouraging motorists to travel on Seventh Street/Sixth Street between B Street and Wilson Street instead of using Seventh Street, A Street and Ninth Street to get to Wilson Street.

Comment PMT-09

COMMENTS BY GUILLERMO MADRIGAL

- - -

MR. MADRIGAL: Name is Guillermo, Guillermo, Madrigal, M-a-d-r-i-g-a-l. Address, 1635 Manzanita Avenue, Santa Rosa, California 95404.

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PMT-09

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And then for pedestrians, specifically, the

12

1 sidewalks that go to the undercrossings at Steele Lane and
2 College, and I believe there's going to be one at Ninth
3 Street, should be wide enough to accommodate people.
4 And I understand the current proposal is five
5 feet. I would suggest eight feet as a minimum for the
6 sidewalks and underpassing on both sides of the road.
7 So, in summary, overpass for the bikes and
8 pedestrians, and wider sidewalks at the underpassings.
9 THE COURT REPORTER: Would you like to state your
10 occupation?
11 MR. WELLS: I'm actually the president of the
12 Sonoma County Bicycle Coalition. And, clearly, I have an
13 interest in this and that particular aspect of it. That
14 should be enough.
15 - - -
16 FURTHER REMARKS BY PAUL OGASAWARA
17 - - -
18 MR. OGASAWARA: I've been talking to some people
19 here, and it seems like they're really stuck on putting HOV
20 lanes, like the third lane is the only option and any other
21 idea is not feasible.
22 But I asked them, Well, but if you have a project
23 that costs a tenth as much and you could solve the traffic
24 problems, why don't you use that. And they go, Oh, but the
25 financing is all set up for HOV lanes.

PMT-09

Response to Comment PMT-09
Ken Wells – Santa Rosa Resident

Comment Number	Response
PMT-09	Please see responses to Comments CC-04 and HW-01.

Comment PMT-10

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23 that costs a tenth as much and you could solve the traffic
24 problems, why don't you use that. And they go, Oh, but the
25 financing is all set up for HOV lanes.

13

1 And what I would like to know is who in the
2 government is so hot on HOV lanes? I mean, it sounds like
3 it's just the Caltrans engineers, but every person I ever
4 talk to hate the HOV lanes, and they, basically, sit empty
5 in the use of them.
6 So I really am against them, and I wish that
7 Caltrans would become intransigent and be more flexible and
8 receptive to new ideas, because they say they can't do
9 anything about it. But the only thing I can think of is if
10 we fire the people that believe that, and hire people that
11 will actually solve the traffic problems instead of
12 promoting expensive boondoggles that cost ten times more,
13 promote more sprawl, and doesn't solve the problem.
14 We should be going with a different plan that
15 spends money wisely and accommodates people's driving habits
16 instead of punishing them, and at least cut down the hours PMT-10
17 of the HOV lanes. I think 3:00 to 7:00, or is it 3:00 to
18 8:30, is way too long. It should be, like, between 4:30 and
19 6:00.
20 Down in Marin County it is a lot shorter time, but
21 here they have such a long time, and people are incensed
22 when they have to sit in a cramped lane for 30 miles, when
23 there's an empty lane on the left-hand side that maybe one
24 car goes by every 40 seconds or so.
25 Thank you.

14

Response to Comment PMT-10
Paul Ogasawara – Santa Rosa Resident

Comment Number	Response
PMT-10	The specific hours of HOV operation will be determined shortly before the HOV lanes are opened to traffic so that actual traffic conditions at that time can be taken into account.

Comment PMT-11

FURTHER REMARKS BY LAURA GRAHAM

- - -

MS. GRAHAM: Laura Graham, about cutting down all the trees.

I just think that they should, instead of those sound walls -- or add behind them, somehow, more redwood trees again, and use recycled waste water to water them so that they aren't so sad looking, as we see along some sections of the highway there where they're obviously suffering for lack of water. PMT-11

And the other thing is about they should have 101 going between Sebastopol and Santa Rosa so that they can help the traffic from both towns. And they just need to have the off-ramp at Highway 12 and maybe Guerneville Road, and what's the other one? -- Todd Road, and something like that going, south, but to get that through-traffic, all of those semis, as they refer to the trucks, and everything going through on that road, and have the business route through Santa Rosa, and they wouldn't have to -- because I have gone down where they have this new diamond lane, and there's nobody in the diamond lane. They're still all bumper to bumper in the two existing lanes.

And, I mean, I've gone on the bus and seen this, how there's nobody in the diamond lane except the bus. And then you run out of it, and you're back down to two lanes

15

1 again, anyway. But it just -- I don't think it's going to
2 make the traffic any better, really, going through
3 Santa Rosa that way.
4 And they're cutting down a lot of the trees and
5 getting awful too close to some of the historical homes in
6 that area, and I don't think that's right. You don't have
7 to type me down.
8 When we first came up here we had a business at
9 Fifth and Davis, so we were very familiar with traffic on
10 the freeway, and everything, until we moved away from there.
11 I guess we had our business there about five years, I think,
12 and we moved over off the Barham Avenue. We were between
13 Petaluma Hill Road and Santa Rosa Avenue.
14 The traffic around Santa Rosa is just bad anyway,
15 but you have to take your car. You can't take the bus. I
16 needed to go to Kaiser Hospital. I live in Rincon Valley.
17 I had to take three buses in order to get to Kaiser
18 Hospital. I had to transfer from Four to I think it was a
19 Number Eight, and then I think it was a 14, or something. I
20 went out a bought a used car because the bus just doesn't do
21 it.
22 Santa Rosa is spread out all over the map, and not
23 like San Francisco, where it's two and three stories all
24 over the place. So that's why we have so many cars. People
25 drive around town, and all these people are going through

16

1 town, and a lot of them are just going through town. That's
2 my opinion.
3 Thank you.
4 That Jeff I was talking to was very nice, but I
5 had to explain I've been away a few years, west end of
6 Oddfellows Park, and they go up the hill and flag down the
7 train, and I didn't even know where we were going. I
8 couldn't remember until Gaye Le Baron said it went into
9 Fulton.
10 But I've seen a lot of traffic, and stuff, and
11 I've also seen the results of some earthquakes. When I went
12 to Southern California a bridge that came up to I-5 and
13 didn't go across, and it fell down during a earthquake.
14 That's scary.
15 The main thing is, though, we need to have -- and
16 we have the perfect example with Sacramento and Cloverdale.
17 Cloverdale is in this county, and they now bypass
18 Cloverdale, and it's so much nicer downtown.
19 See, there are so many single-occupant vehicles
20 that can't use the diamond lanes, and they come out and they
21 all go up Santa Rosa Avenue at commute time, and it's
22 jammed. And, of course, the signals at Yulupa and Hearn
23 Avenue and opposite Costco, and everything, all that stuff
24 is jammed up. It's the pits.
25 But the reason a lot of them come off on

PMT-11

1 Santa Rosa Avenue is because the freeway is just inching. I
2 known there aren't that many people in the diamond lanes.
3 So I don't know.
4 (The proceedings adjourned at 8:30 p.m.)
5 --oOo--
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Response to Comment PMT-11
Laura Graham

Comment Number	Response
PMT-11	Replacement trees will be planted where space allows. Caltrans and the City are going to specify trees other than redwoods that will grow better in Santa Rosa than do redwoods. Caltrans uses recycled water for irrigation wherever possible; however, it is not available for this project. Regarding rerouting Highway 101, please see response to Comment PMT-01.

Comment USM-01

RECEIVED
AUG 11 REC'D
OFFICE OF ENVIRONMENTAL PLANNING - NORTH

THIRD AND DAVIS, LLC

California Department of Transportation
Attn.: Robert Gross, Office of Environmental Analysis
PO Box 23660
Mail Station 6D
Oakland CA 94623

Re: Environmental Impact – "Route 101 HOV Widening"

To Whom It Concerns:

This letter is in reference to the Draft Environmental Impact Report ("the DEIR") entitled "Route 101 HOV Widening", dated June 2003, 04-SON-101-KP 31.4-35.7.

The undersigned is Manager of Third and Davis, a California limited liability company ("the company") which is owner of real property ("the properties") adjacent to a portion of the proposed HOV widening project, assessor parcels 010-072-010, -011 and –013, making up nearly the entire block north of Third Street, south of Fourth Street, east of Davis Street, Santa Rosa California.

The company has proposed, and been granted use permit approval by the City of Santa Rosa for, a mixed use, retail and office project ("the project") on the properties of the company. This project is known as 200 4th Street and 201 Third Street. The City's project planner was Marie Meredith, the file number is CUP02-293, and the approval resolution number is 10351.

In reviewing the DEIR several concerns came to light. These represent environmental impacts, arising from the HOV widening, which appear inadequately addressed by the DEIR. These impacts, if unmitigated, would adversely affect properties in the Railroad Square area of Santa Rosa, including those of the company. Our comments follow.

3.5 Noise.

Upon completion of the project, the properties of the Company will fall under Activity Code C of Noise Abatement Criteria, i.e., noise mitigation may be required if dBA levels exceed 72 (exterior) and certain other conditions are met.[1] USM-01a

The DEIR implies that, as no noise barrier is proposed adjacent to the properties, noise levels along Route 101 adjacent to the properties may exceed this 72 dBA threshold.[2] The

[1] An annotation to Figure 3.5-2B appears to restrict mitigation to NAC codes A and B only. However, this is an error within the DEIR requiring correction, as other activity codes may also require mitigation. Table 3.5-1 of the DEIR, in contrast, correctly outlines the noise abatement requirements.

word "may" is operative here; none of the twenty receptor sites relied on by the DEIR were on or near any of the properties of the company and therefore no valid judgment can be drawn as to whether impacts on the properties do or do not require noise mitigation.[3]

This defect in the DEIR should be cured through additional measurements, appropriate analysis, and mitigation if required.

3.11 Traffic/Transportation

The DEIR states that "a limited number of parking spaces are located under the viaduct section of Route 101 in downtown Santa Rosa."[4] Why the DEIR employs "limited" in this context is unclear. If the intention is to state that the actual number of spaces is small compared to other parking resources, this would be an error as well over 100 spaces (the number beneath the viaduct) is the single largest public parking resource in the downtown core west of Highway 101 and is similar in size to other surface lots operated by the City east of Highway 101. If the intention is to suggest that the environmental significance of these spaces, whatever their comparative number, is trivial and may be disregarded for purposes of the DEIR, this too is an error, as several independent sources document the importance of these spaces to the economic vitality of Railroad Square. These sources are described below. To attain accuracy, the DEIR should be revised to reference the approximate number of spaces and delete the potentially prejudicial expression "limited."

USM-01b

The sources documenting the importance of the under-viaduct spaces include the following: Railroad Square Plan, City of Santa Rosa; Independent Parking Analysis, Carlile Macy, 2003; Initial Study and adopted negative declaration for 200 4th Street and 201 Third Street. Elimination of these spaces may create a parking shortage in the Railroad Square area adversely affecting current and approved businesses.

Despite the documented importance of these spaces, the DEIR states that no mitigation for temporary loss of these spaces is required.[5] Instead the document merely states that Cal Trans is working with the City of Santa Rosa "to identify an alternative parking area during construction."[6] The DEIR does not require that spaces will in fact be obtained; that such spaces will have comparable convenience to those being displaced; that use of the spaces will be at a user cost comparable to those now provided; or that the number of spaces will be comparable to the number now in use. The DEIR is therefore inadequate in this respect.

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[2] Page 3-33, "The projected peak hour noise levels … without sound barriers would range from 61 to 79 dBA Leq (H) …"
[3] Figure 3.5-2A shows that the closest receptor site to the properties and also adjacent to the freeway (as opposed to a ramp) is R-18
[4] Section 3.11.1.3
[5] Section 3.11.3.3
[6] Section 3.11.2.3

In order to mitigate the environmental impact of displacement of the spaces the DEIR must provide a factual, not speculative, showing how each of the conditions noted above will be met. Section 3.11.3.3 should be revised to describe this required mitigation.

It should be added that the properties of the company, together with other properties in the area, paid into an assessment district for the purpose of securing rights to parking under the viaduct, and all these properties are therefore in that additional respect parties of interest should the Environmental Impact Report fail to provide for appropriate mitigation for parking displacement.

3.12 Visual/Aesthetics

The DEIR notes that the widened viaduct structure between Third and Fifth Street would substantially reduce the amount of natural light beneath the structure. In effect, a tunnel 140 feet long would be created between the properties of the company and Morgan Street through which Fourth Street would pass to its terminus at Morgan.[7]

The DEIR does not fully evaluate the significance of this change or its potential to undermine the linkage project developed by the City of Santa Rosa through this corridor. No visual simulation for this area is included in the DEIR despite its planning significance; the statement in the DEIR that the visual simulations in Figures 3.12-1 through –3 "represent the proposed visual changes associated with this project"[8] is therefore incorrect. The *degree* to which a monolithic, darkened space may intimidate and inhibit pedestrian and other linkage traffic is speculative but that some impact will occur, and that this impact could be significant, is not. USM-01c

The DEIR recognizes that the viaduct widening will require visual mitigation. However, the description of appropriate mitigation for corridor impacts lacks sufficient specificity to allow its adequacy to be assessed. Lighting improvements are called out but not detailed[9]. Whether these alone will prove adequate mitigation cannot be evaluated based on information in the DEIR.

In order for the report to be adequate, a more detailed lighting plan must be described and assessed in the EIR, and a mechanism for evaluating the adequacy of the proposal must be established. If lighting alone does not mitigate the impact, other mitigation must be proposed.

[7] Section 3.12.2.3, Page 3-90.
[8] Section 3.12.2.3, Page 3-92
[9] Section 3.12.3, Page 3-99.

Thank you for the opportunity to comment on the DEIR.

THIRD and DAVIS LLC

By: Hugh Futrell
Hugh Futrell, Manager
Hugh Futrell LLC, Manager

cc. Davis 37
Railroad Square Assn/L. Angel
City of Santa Rosa

435 BEAVER STREET, SANTA ROSA CALIFORNIA 95404 (Tel) 707-568-3482 (Fax) 707-568-3457

Response to Comment USM-01
Hugh Futrell – Third and Davis LLC

Comment Number	Response
USM-01a	The reference to dBA levels from Figure 3.5-2B and Table 3.5.1 requires some clarification on Caltrans' noise policy. While it is true that commercial and business areas fall under category "C" (72 dBA Leq(h)) of the NAC, in determining and abating traffic noise impacts, primary consideration is given to exterior areas where there is frequent human use AND where a lowered noise level would be of benefit. At the time the Notice of Preparation for this environmental document was publically noticed, no permits for the property in question had been issued and the land use consisted of an empty field and parking lot, thus not qualifying as an area of frequent human use. If the land use of the location in question is anticipated to change to a use that would cause frequent human use, it is the responsibility of the developer/permitee to provide abatement for noise at that time. The 2003 Negative Declaration/Initial Study prepared for the 3rd and Davis mixed use project indicates that the proposed retail and office uses are not noise-sensitive uses.
USM-01b	More than one hundred parking spaces under the 4th Street Viaduct within State Right-of-Way have been available for public use under a sublease between Caltrans and the City of Santa Rosa. These parking spaces will be eliminated for most of the construction period. More specifically, the parking lots will be closed just prior to demolition of the existing buildings under the viaduct. They will continue to be closed during bridge construction for the widening of the 4th Street Viaduct. The lots will be reopened after the contractor restores the original parking areas to their original condition, which will probably happen near the end of the project construction period. Construction will most likely last about 3 years. Caltrans Division of Right of Way will work with the City of Santa Rosa to find an appropriate location for alternative parking for the lost parking during the construction period. Caltrans will make every effort to obtain

temporary parking as near to the location of the original parking as is reasonable and feasible.

USM-01c The project is still being designed, and specific decisions including lighting design will be made later. Lighting will meet Caltrans' safety design criteria, which accommodate the safety of pedestrians, bicyclists, and motorists.

Additional material regarding the downtown undercrossings has been added to Chapter 3.12.2.3. The mitigation measures described in Chapter 3.12.3 were developed in consultation with the City of Santa Rosa, and are expected to be effective at reducing the project's visual impacts.