

# SR12

## State Route 12

Comprehensive Corridor Evaluation and Corridor Management Plan  
Technical Advisory Group Meeting #2



State Route 12 Corridor Study

# Introductions



[www.movingSR12forward.com](http://www.movingSR12forward.com)

# Meeting Objectives

1. Briefing on work completed since the July Kick-off Meeting
2. Preview findings of two draft work products
  - *Existing Conditions Analysis*
  - *Environmental Scan*
3. Prepare for upcoming meetings with Stakeholders and the Public on February 16th
  - *Stakeholder Briefing 3:30 to 5:00 pm*
  - *Public Open House 6:00 to 8:00 pm*



SR-12 – Median Barrier, Solano County

## State Route 12 Corridor Study

# Purpose

*Conduct a comprehensive evaluation of the State Route 12 corridor from SR-29 in Napa County through Solano, Sacramento, and San Joaquin Counties to I-5, building upon previous studies and projects.*

*Identify improvement strategies that address near- and long-term needs of the SR-12 corridor through an active stakeholder collaboration process.*

*Inform future county and regional funding and planning processes.*

**12**  
**Moving Forward**  
STATE ROUTE 12 CORRIDOR STUDY

SR 12 passes through **4** counties (Napa, Solano, Sacramento, and San Joaquin), **3** Caltrans Districts (3, 4 and 10), developed areas including Suisun City, Fairfield and Rio Vista, rural settlements and undeveloped areas. The route crosses **2** major Interstate routes (I-80 and I-5), **2** railway lines (Union Pacific and Sacramento Northern), navigable water bodies with **3** bridges (most notably the Sacramento River Crossing at Rio Vista) and numerous at-grade and grade separated intersections.

### Corridor Overview

SR 12 supports interregional, recreational, commuter, agricultural and military traffic between the Bay Area and the San Joaquin Valley. SR-12 is important for recreational travelers destined for Napa, Solano and Sonoma Counties as well as the Delta. It also serves as a commute corridor and a key interregional goods movement corridor because of its direct access to I-80, I-5 and Travis Air Force Base.

**GOAL**  
The goal of the study process is to develop a multi-jurisdictional corridor management plan that includes stakeholder input and consensus on a set of near-and long-term improvement strategies for SR 12.

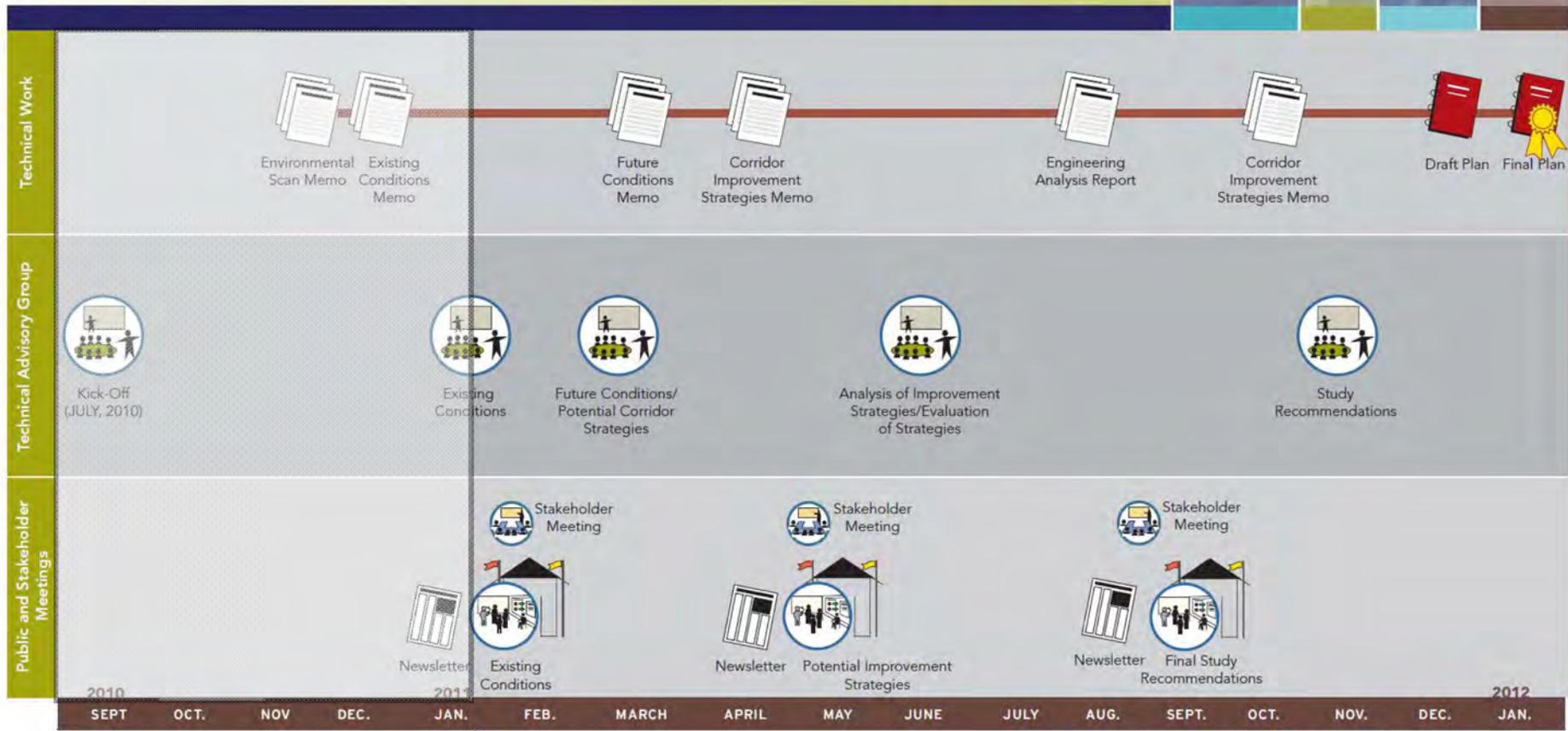
This plan will build upon and update existing studies for the SR 12 corridor and incorporate the most recent transportation forecasts based upon current land use plans for each of the counties located along the corridor.

# State Route 12 Corridor Study

# Work Plan & Major Milestones

## State Route 12

Comprehensive Corridor Evaluation and Corridor Management Plan



# Outreach Structure & Roles

- Project Development Team (PDT)
  - *Staff from Caltrans Districts, MPO's, Counties and the consultant team*
  - *Meets monthly to direct and guide the study*
  - *Reviews work plan and work products*
- Technical Advisory Group (TAG)
  - *Executives from transportation agencies, city engineers and professional staff*
  - *Meets at major milestones to provide input and guidance*
- Stakeholders
  - *Organized groups with a special interest in the SR-12 corridor*
  - *Briefed at major milestones and asked to provide input*
- Public at-large
  - *Engaged in advertised open-house forums to review major work products and provide input*

# Meeting Agenda

1. Welcome
2. SR-12 Roadway Rehabilitation Project
3. Existing Conditions Analysis
4. SR-12 Bridge Tour 2010
5. Environmental Scan
6. Next Steps
7. Closing Remarks



*SR-12 – Jameson Canyon*

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SR-12 Roadway  
Rehabilitation Project

## Sol-12 Pavement Rehab



**04 - Sol - 12, KP 12.7/33.2(PM 7.9/20.6)**

**EA – 0T10U4**

**Caltrans, District-4 Oakland**

**01/18/2011**





# Sol-12 Pavement Rehabilitation



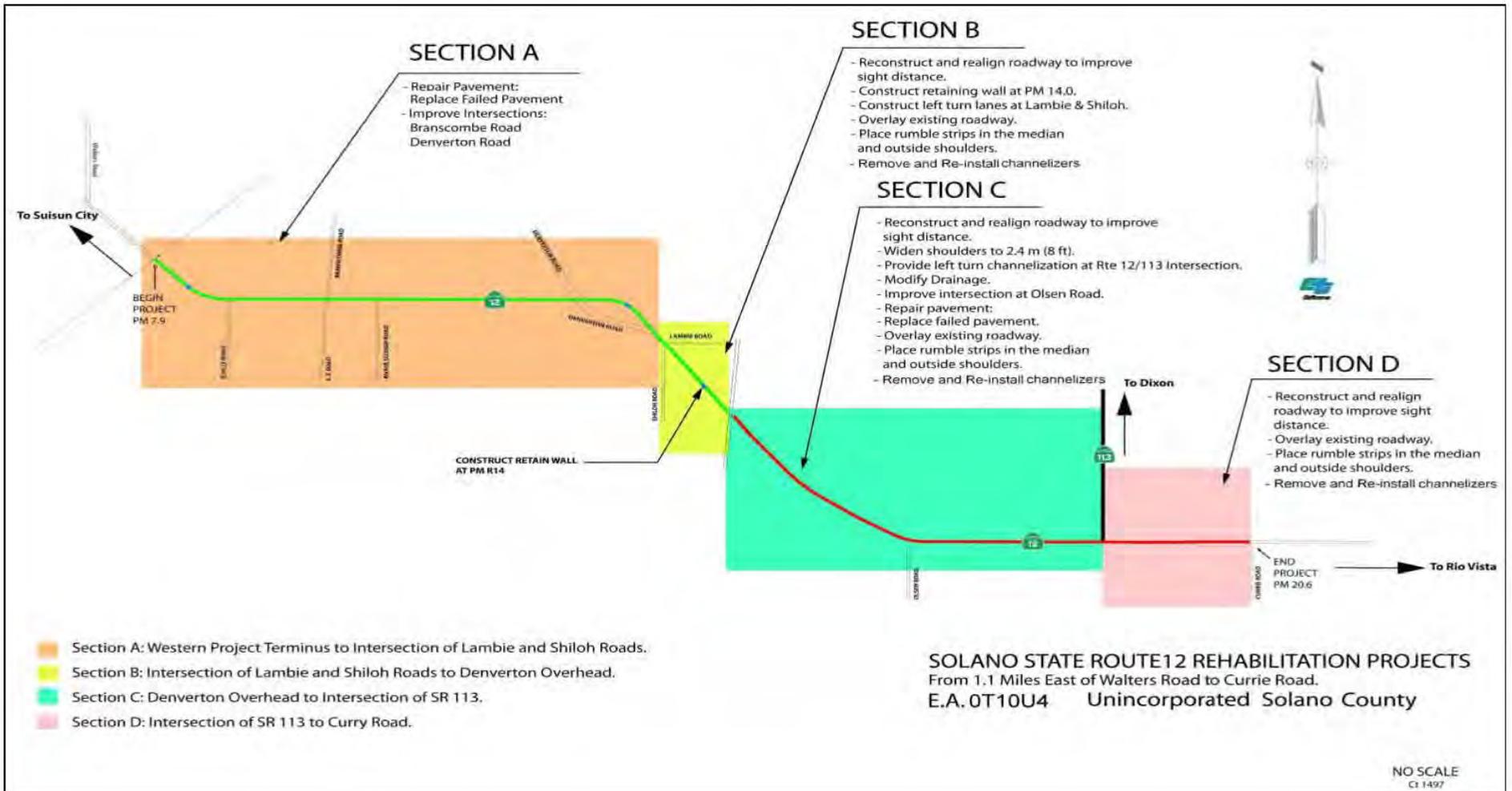


## Sol-12 Pavement Rehab Public Outreach Meeting

### ***Project Overview:***

- Project provides for the rehabilitating Highway 12 between Suisun City and Rio Vista from east of Scandia Road to Currie Road and upgrade the highway to current design standards.
- The project will:
  - Provide, at minimum, 12-foot lanes and 8-foot outside shoulders for the entire length of the project.
  - Repair failed pavement and overlay existing roadway.
  - Replace channelizers and install rumble strips at the inside and outside shoulders.
  - Improve drainage.
  - Improve intersections at Branscombe Road, Denverton Road & Olsen Road.
  - Construct left-turn lanes at Route 113, Lambie & Shiloh.
  - Realign curve of roadway to improve sight distance.
  - Correct vertical roadway profile to improve sight distance.

# Sol-12 Pavement Rehab



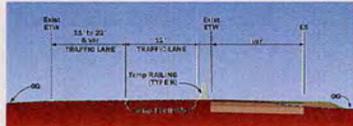
# Sol-12 Pavement Rehab



## Planned Improvements for State Route 12 From Walters Rd. to Currie Rd. Roadway Rehabilitation, Widening and Profile Correction

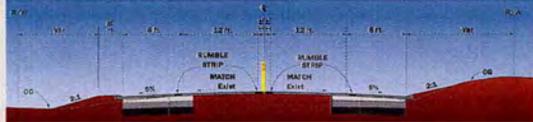


### STAGE 1

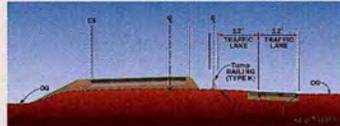


- Shoulder widening on the south side (East bound)
- Lane widening in preparation to detour lanes for Stage 2.

### OUTSIDE SHOULDER

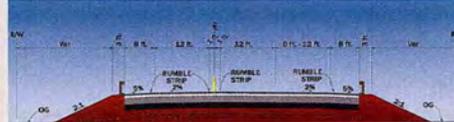


### STAGE 2

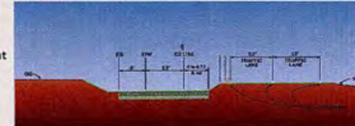


- Construction of profile adjustment on the existing roadway. There will be two traffic lanes at all times.

### PROFILE CORRECTION

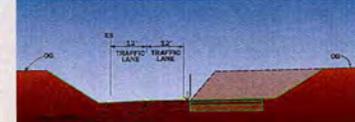


### STAGE 2



- Construction of proposed re-alignment

### STAGE 3



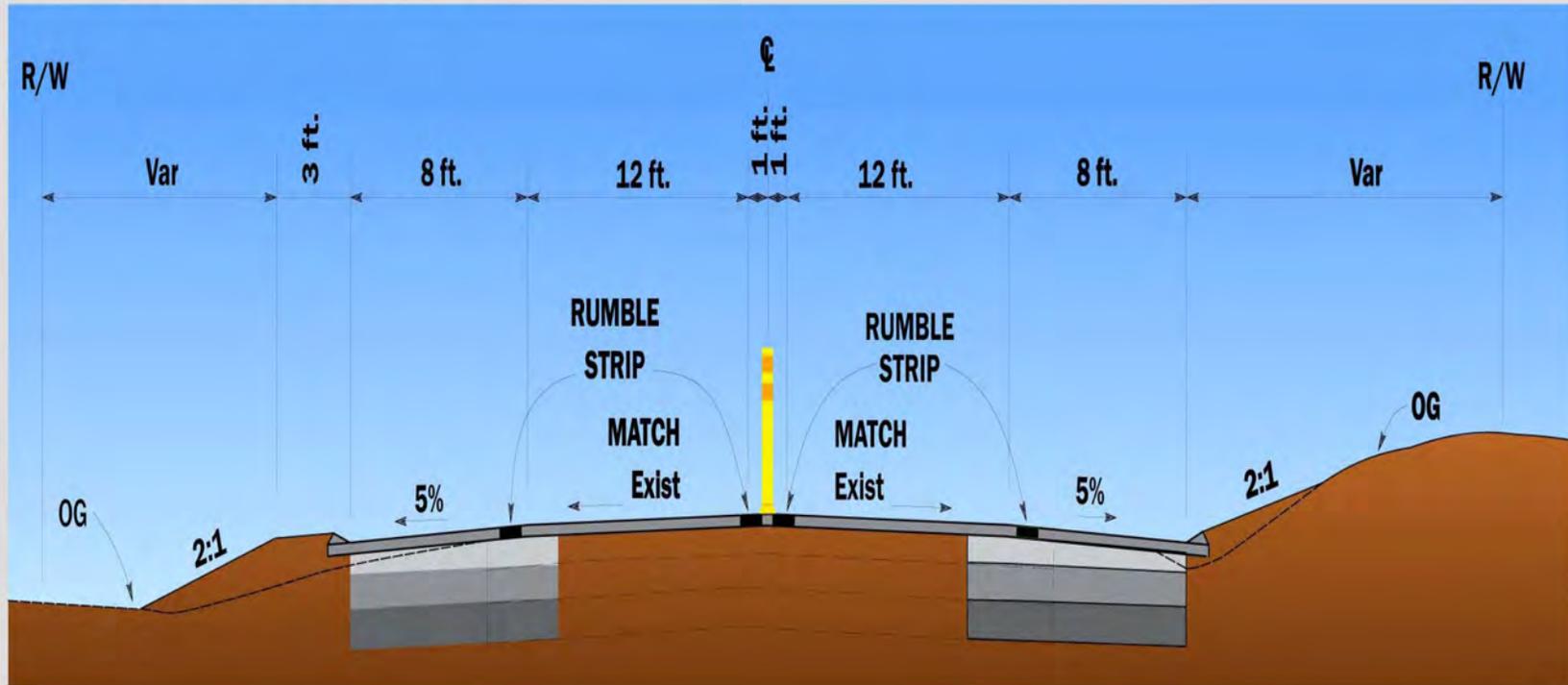
- Constructing the conforms to existing roadway.
- Final lift of the AC.
- Construction of the rest of the proposed roadway built in Stage 2.

Suisun & Denverton City



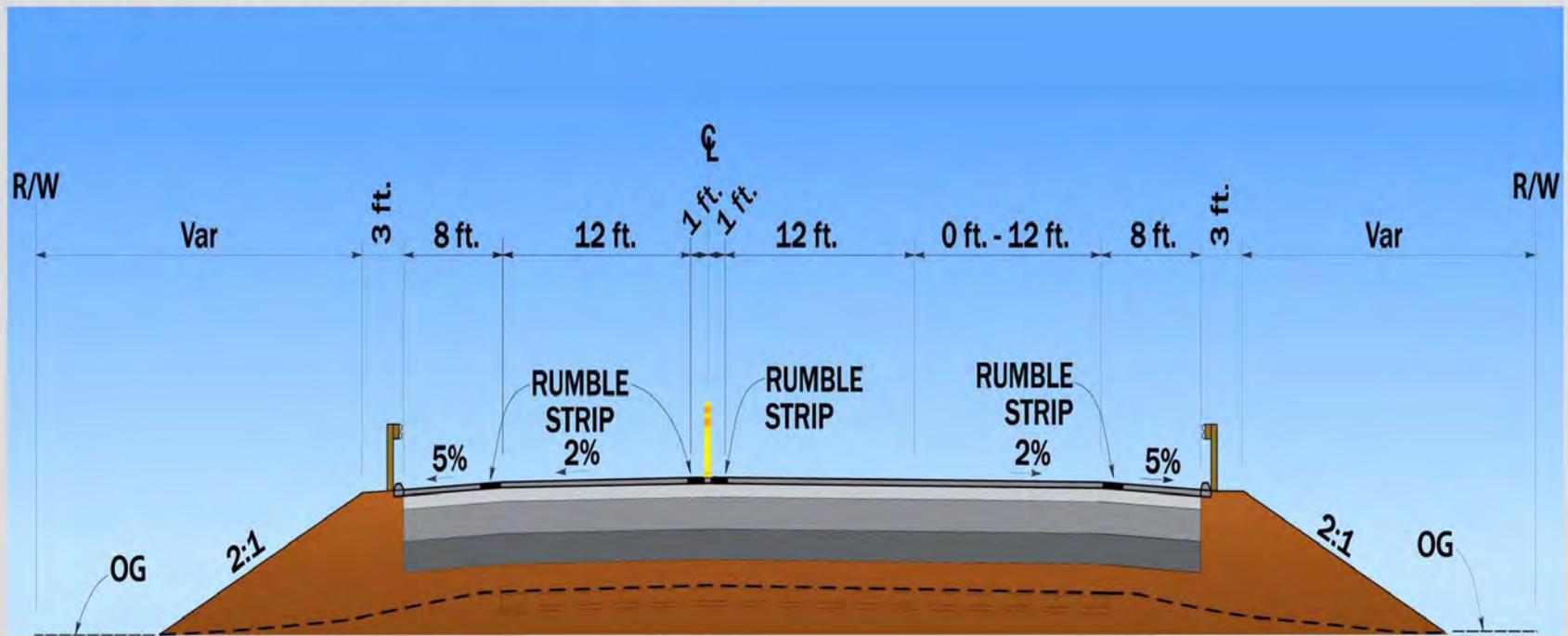
# Sol-12 Pavement Rehab

## OUTSIDE SHOULDER



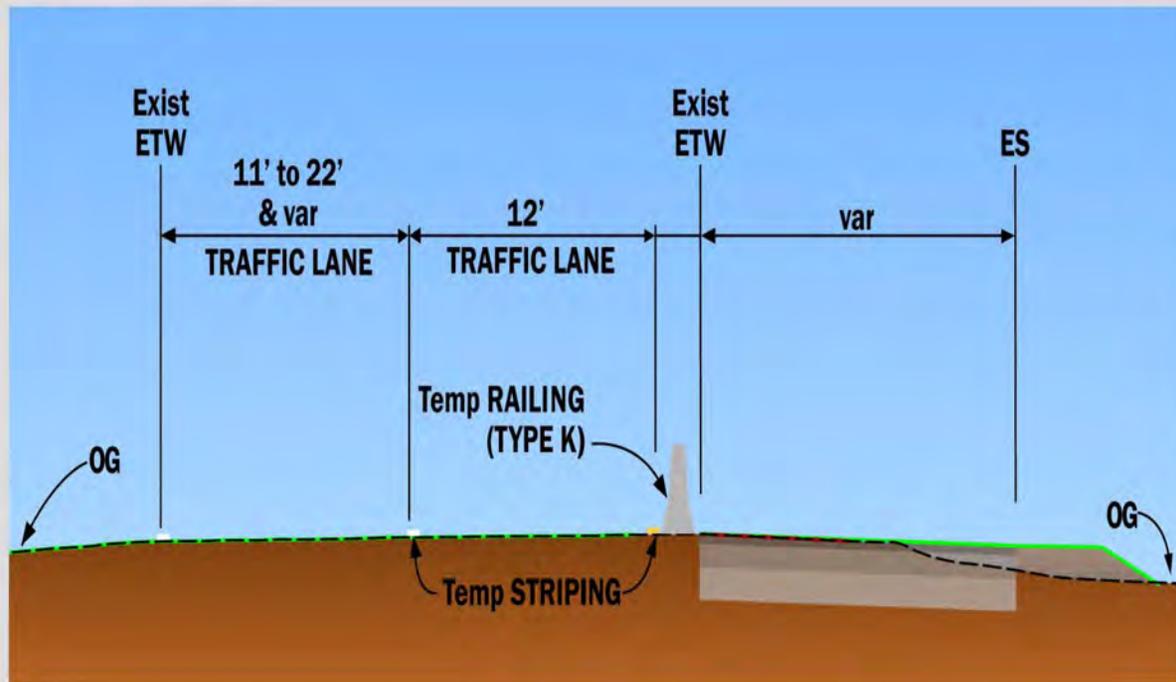
# Sol-12 Pavement Rehab

## PROFILE CORRECTION



# Sol-12 Pavement Rehab

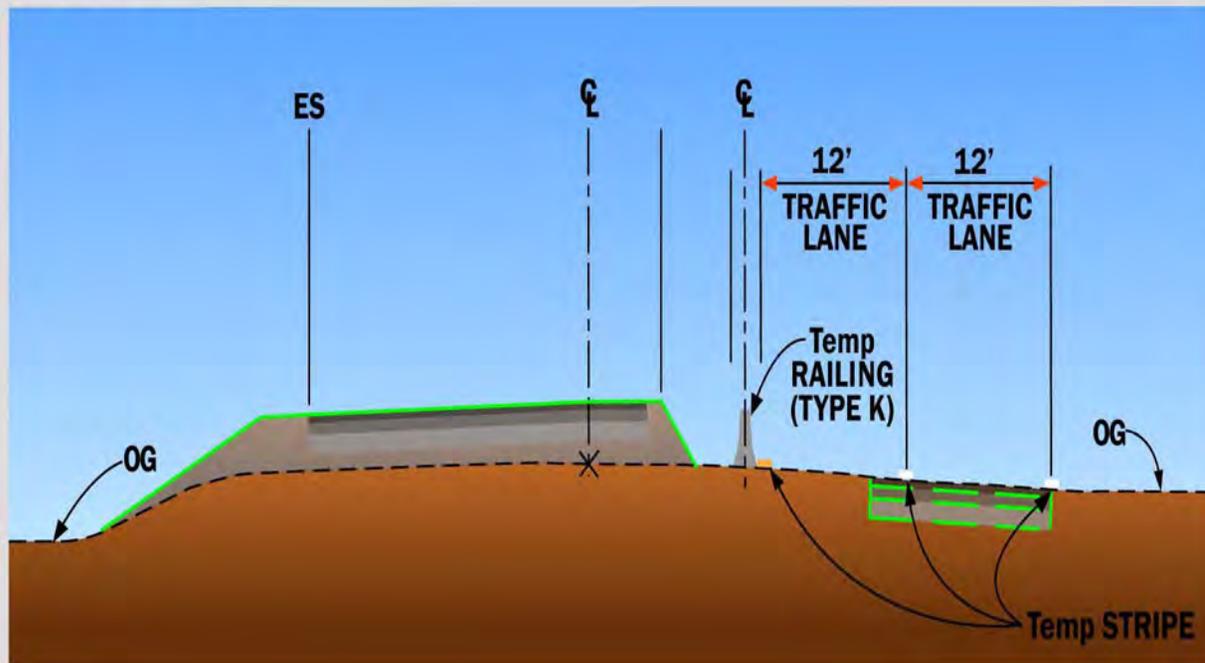
## STAGE 1



- Shoulder widening on the south side (East bound)
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# Sol-12 Pavement Rehab

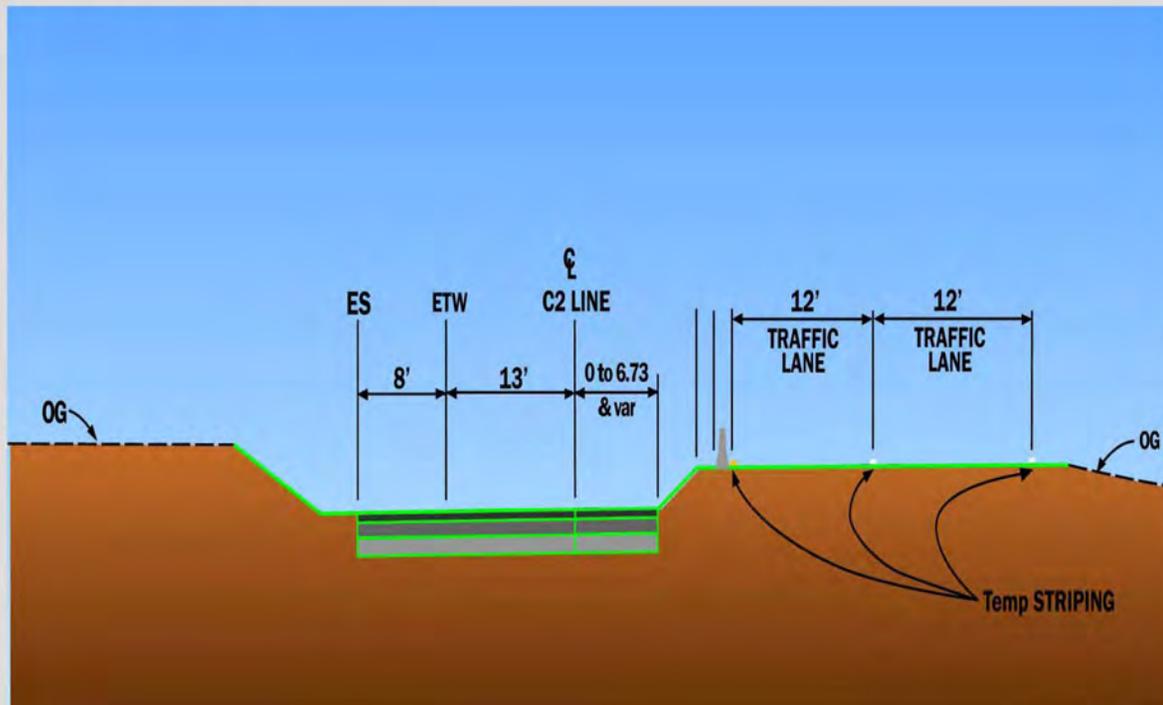
## STAGE 2



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# Sol-12 Pavement Rehab

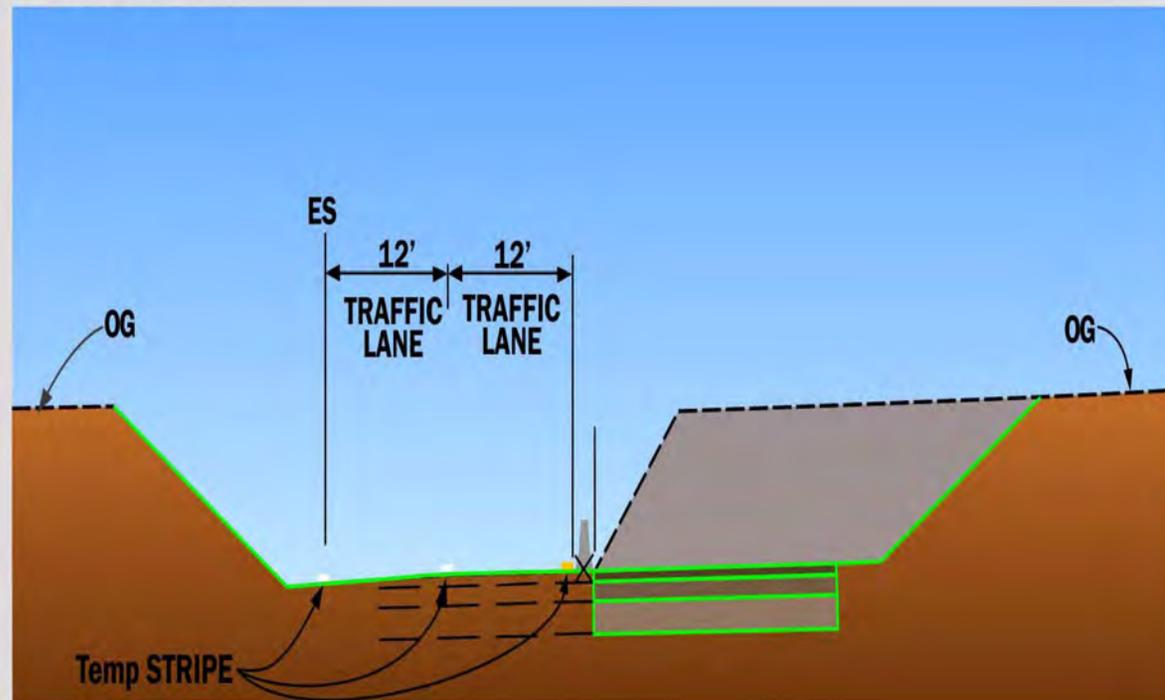
## STAGE 2



□ Construction of proposed re-alignment

# Sol-12 Pavement Rehab

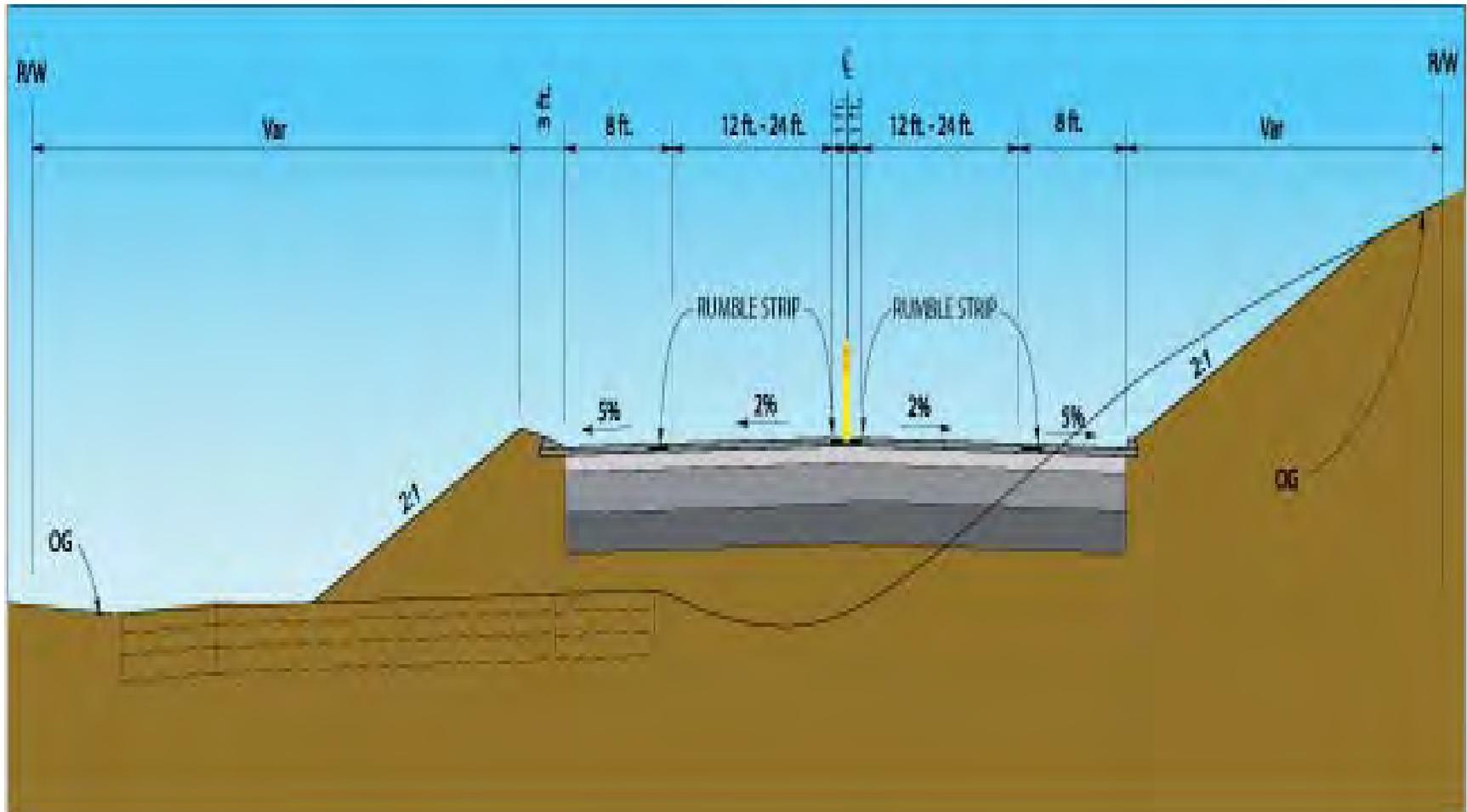
## STAGE 3



- ❑ Constructing the conforms to existing roadway.
- ❑ Final lift of the AC.
- ❑ Construction of the rest of the proposed roadway built in Stage 2.

# Sol-12 Pavement Rehab

## Roadway Re-alignment





## Sol-12 Pavement Rehab

### ***Construction Schedule:***

- Begin Construction,  
March 2009
- End Construction,  
May 2011



## Sol-12 Pavement Rehab

***Questions?***

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## Existing Conditions Analysis

## Existing Conditions Analysis

# Major Corridor Issues

- Freight and goods movement
- Future levels of inward commuting to the Bay Area
- Access, mobility and safety
- Future development in Rio Vista
- Increased Shipping to the Port of Sacramento
- Travis AFB as a military installation and as a joint passenger / freight airport
- Preservation of the Delta environment
- Location appropriate design
- Policy Mandates such as SB 375
- Integration of economic, environmental and equity concerns



*SR-12 – Rio Vista Bridge*



## Existing Conditions Analysis

# Existing Conditions Analysis

## Purpose

- *To set a “baseline” for the evaluation of future conditions*
- *To inform the development and evaluation of improvement strategies and needs along the corridor*

## Content

- *Description of the Corridor*
- *Geometric Evaluation*
- *Traffic Analysis*
- *Safety Evaluation*

## TAG input needed

- *Do we have it right?*
- *Have we overlooked anything?*



SR-12 – San Joaquin County

## Existing Conditions Analysis

# Description of the Corridor

This effort builds upon previous studies in the Corridor...

- *Highway 12 Major Investment Study (2001)*
- *State Route 12 Comprehensive Transportation Corridor Study (2006)*
- *State Route 12 Transit Corridor Study (2006)*
- *Rio Vista Bridge Study (2010)*
- *SR-12 and Church Road Intersection PSR (2010)*
- *Corridor System Management Plan (CSMP) (2011)*

... and near-term safety enhancements...

- *Legislation - AB 122*
- *Enforcement*
- *Education*
- *Engineering (Caltrans short-term enhancements in 2007)*

... and current projects underway

- *SR-12 Roadway Rehabilitation Project (Solano)*
- *SR-12 Bouldin Island Project (San Joaquin)*
- *SR-12 Improvements Project (San Joaquin)*
- *SR-12 Roadway Rehabilitation Project (Solano)*
- *SR-12 Jameson Canyon Project (Napa & Solano)*
- *I-80/I-680/SR-12 Interchange Project (Solano)*



*SR-12 – CHP Enforcement*

# Existing Conditions Analysis

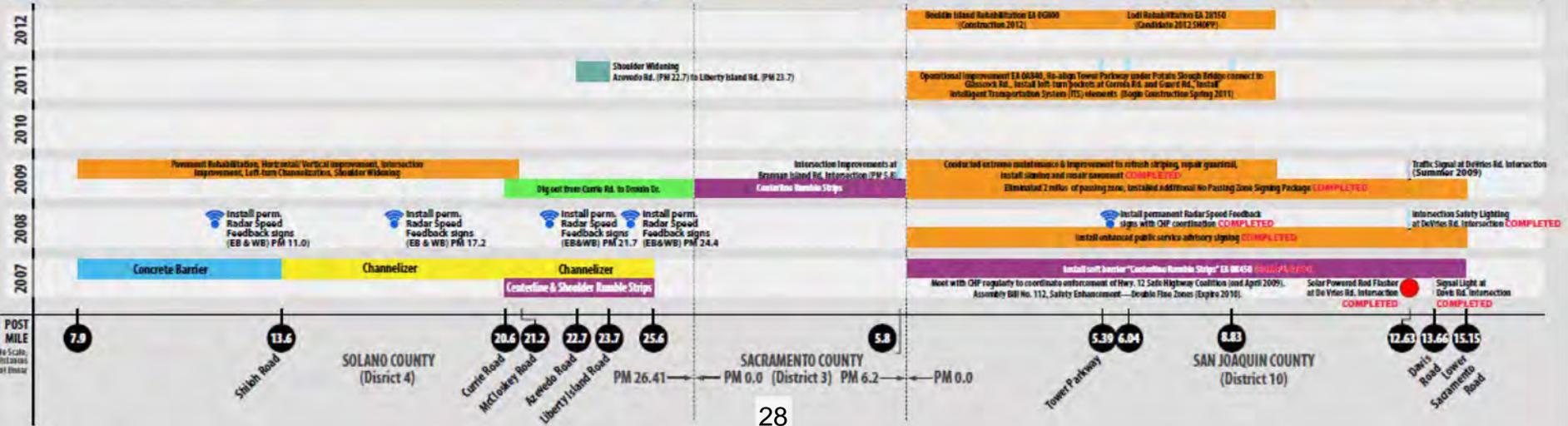
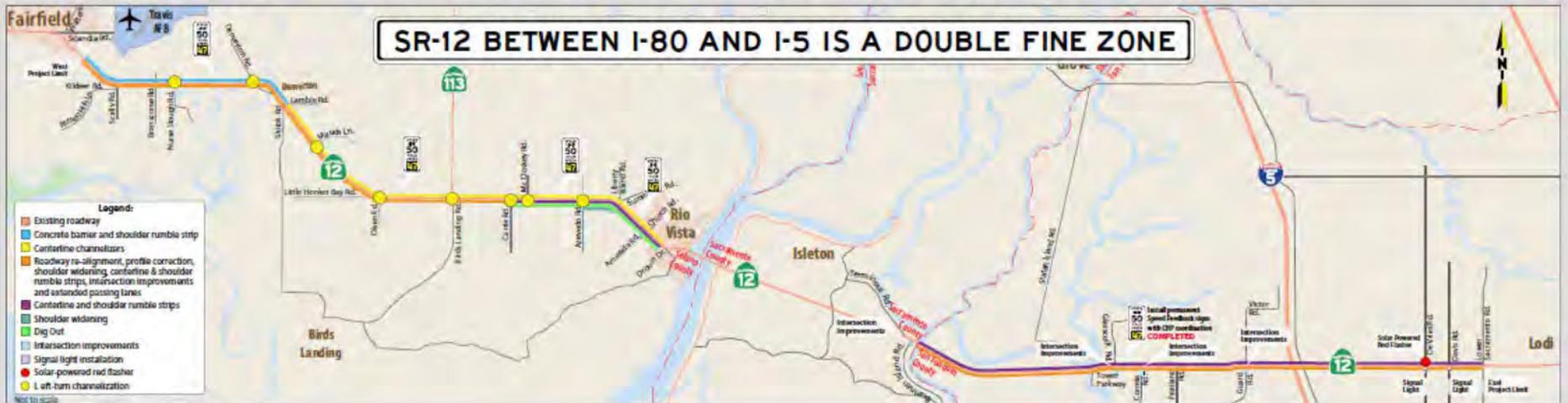
# Description of the Corridor



## Planned Improvements for State Route 12 Through Solano, Sacramento and San Joaquin Counties



**SR-12 BETWEEN I-80 AND I-5 IS A DOUBLE FINE ZONE**



## Existing Conditions Analysis – Geometric Evaluation

# Pavement Rehabilitation

- *The Delta area soils present many challenges to the SR-12 Corridor. They are highly compressive causing differential settlement and requiring engineered structural pavement sections.*



Source: PBS&J, 2011

## Existing Conditions Analysis – Geometric Evaluation

# Median Treatments & Passing Lanes

- *Median treatments will be implemented throughout the corridor.*



- Barriers (Concrete or Guardrail)
- Depressed
- Channelizers
- Westbound Passing Lane
- Eastbound Passing Lane



Source: PBS&J, 2011

# Existing Conditions Analysis – Geometric Evaluation

## Shoulders & Side Slopes

- Shoulders and side slopes will be greatly improved along most of the corridor.

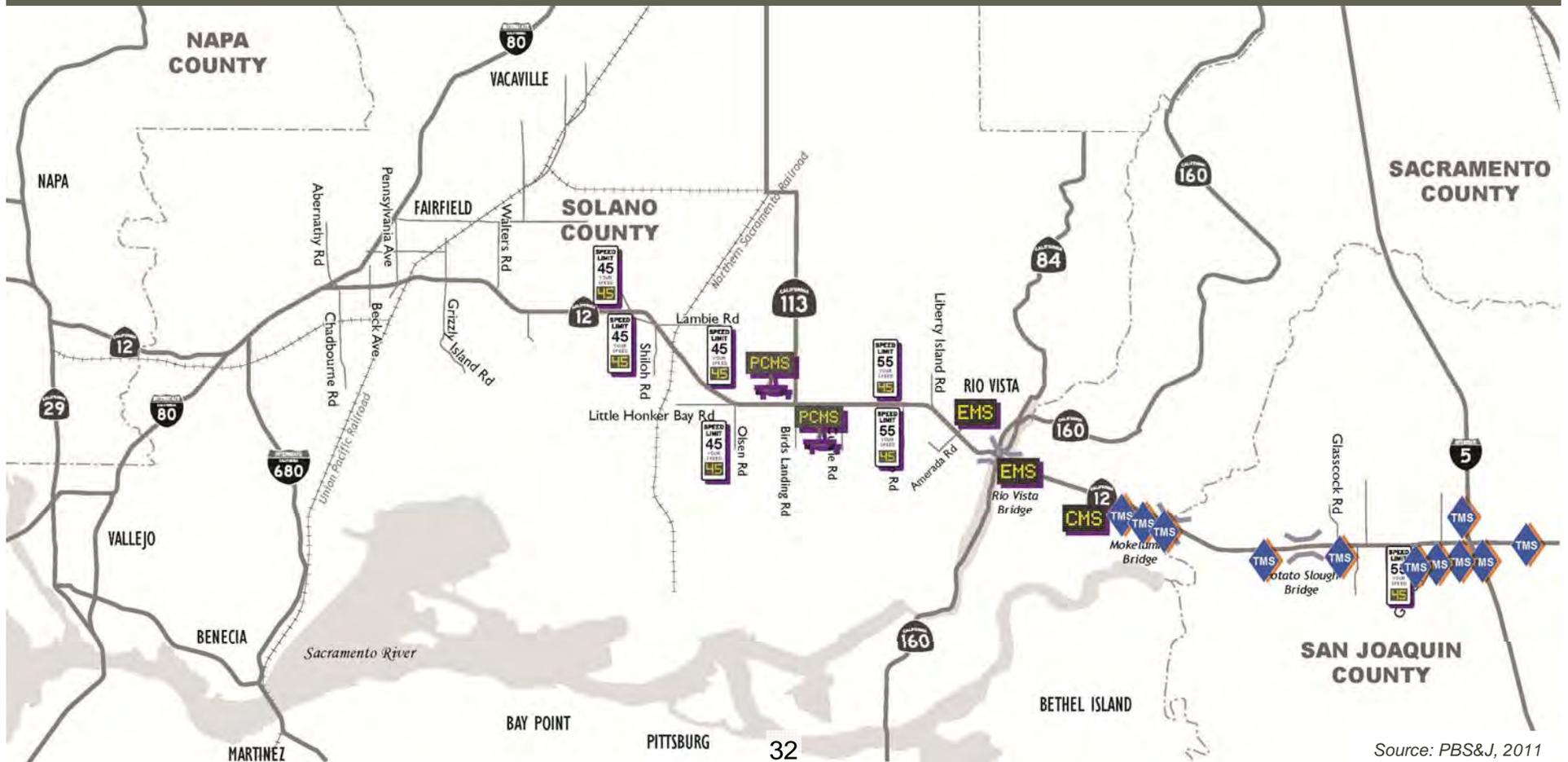


Source: PBS&J, 2011

# Existing Conditions Analysis – Geometric Evaluation

## ITS

- *ITS features to enhance safety and monitor traffic*



Source: PBS&J, 2011

## Existing Conditions Analysis – Traffic Analysis

# Daily Traffic Volumes

Location	Daily Traffic Volumes
Jameson Canyon	34,500 <sup>(a)</sup>
Between Beck Ave and Pennsylvania Ave	41,691
Between Walters Road & Shiloh Road	9,309
Between Summerset Drive and Main St	13,626
Between Brannan Island Road and W. Terminous Road	16,283
Between W. Terminous Road & I-5 SB Ramps	19,764
<p>Note: a. 2005 data from Operational Analysis for the SR-12 Widening Project and Route 12/29 Interchange</p>	

Source: PBS&J Traffic Analysis, 2010



# Traffic Characteristics



SR-12 – San Joaquin

- Highest volumes are on Fridays
- Peak hours: 6:00 - 8:00 a.m. and 4:00 - 6:00 p.m.
- Peak summer traffic is about 10% higher
- High truck and recreational vehicle traffic
- Presence of agricultural vehicles in Sacramento and San Joaquin Counties
- Traffic volumes are about 15% lower than 2007 traffic

## Existing Conditions Analysis – Traffic Analysis

# Intersection Level-of-Service

*Capacity of the SR-12 Corridor is controlled by signalized intersections.*



# Truck Volumes and Percentages

Location	Daily Truck Percentage	Daily Truck Traffic
Between SR29 and Red Top Road (Jameson Canyon)	8% <sup>(a)</sup>	2,760 <sup>(a)</sup>
Between Beck Ave and Pennsylvania Ave	9%	3,750
Between Walters Road and Shiloh Road	14%	1,300
Between Summerset Drive and Main St	7%	950
Between Brannan Island Road and W. Terminous Road	12%	1,950
Between W. Terminous Road and I-5 SB Ramps	12%	2,370

Note:

a. 2005 data from Operational Analysis for the SR-12 Widening Project and Route 12/29 Interchange.

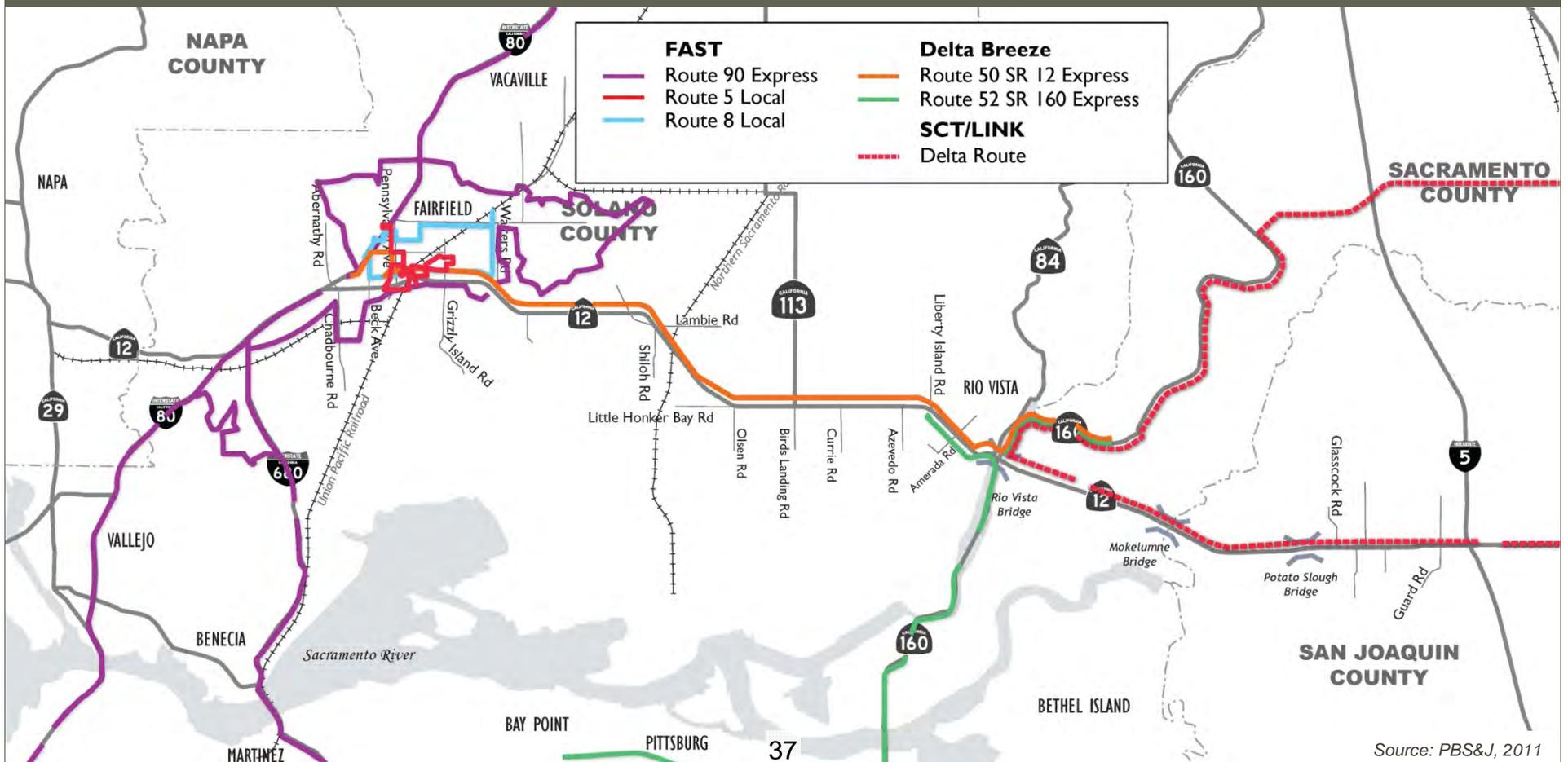
Source: PBS&J Traffic Analysis, 2010



## Existing Conditions Analysis – Traffic Analysis

# Transit Facilities

*Multiple operators with routes centered around Fairfield/Suisun City and Rio Vista.*

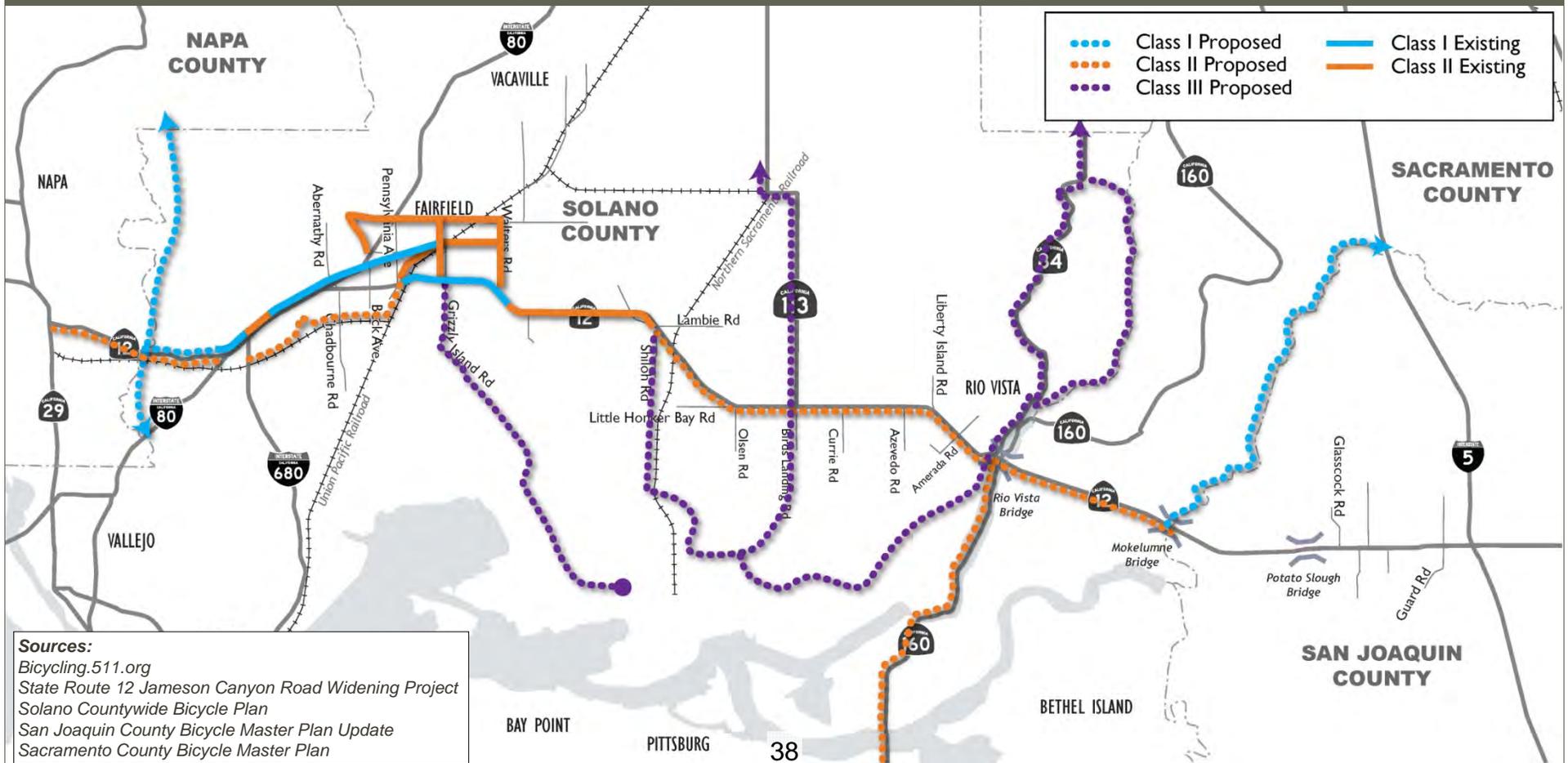


Source: PBS&J, 2011

## Existing Conditions Analysis – Traffic Analysis

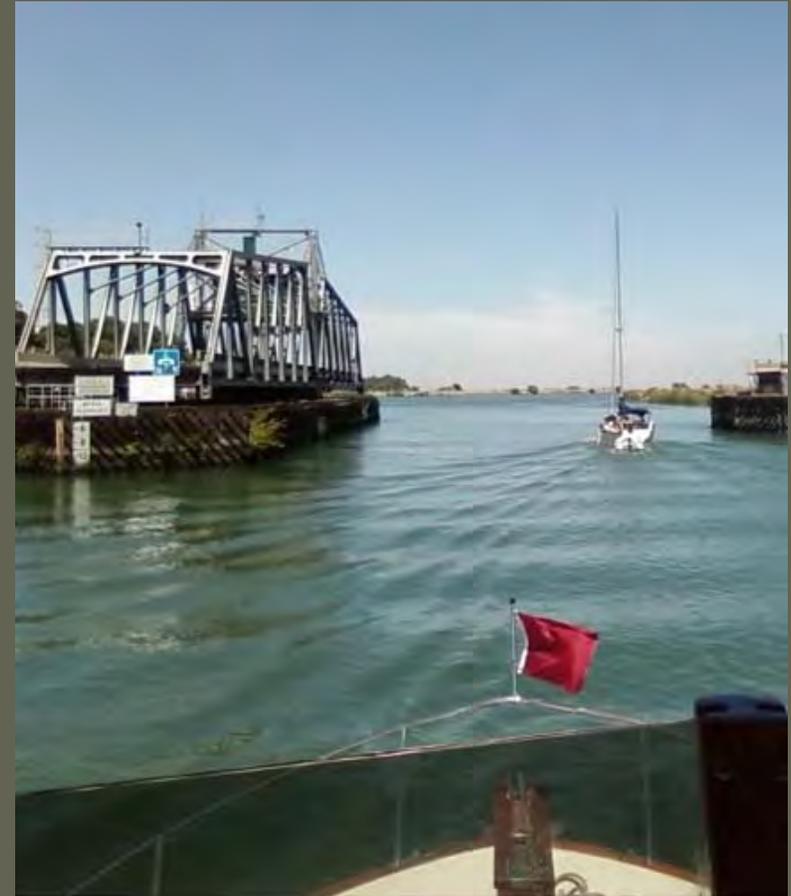
# Bicycle Facilities

*Extensive bicycle facilities are planned along the corridor.*



# Moveable Bridge Operations

- Openings per day
  - *Rio Vista: 2 to 4*
  - *Mokelumne: 2 to 9*
- Bridge cycle times range from 8 to 25 minutes
- Queues can range from 70 to 250 vehicles (up to a mile long)
- Waterborne traffic at both bridges is 50% less than in 2004
- Concentration of accidents within ½-mile of Rio Vista and Mokelumne Bridges



*SR-12 – Mokelumne Bridge*

# Safety Summary

- Safety enhancements are making a difference
  - Downward trend in total accidents
  - Downward trend in severity (including fatal accidents)
  - Reduction in head-on accidents
- No head-on accidents where concrete barrier is installed
  - Total accidents remain the same
  - Higher number of hit object accidents
- Locations with accident concentrations include:
  - Signalized intersections
  - Movable bridges
  - SR 113 & SR 160



State Route 12 Corridor Study

# Existing Conditions Analysis

*Questions?*

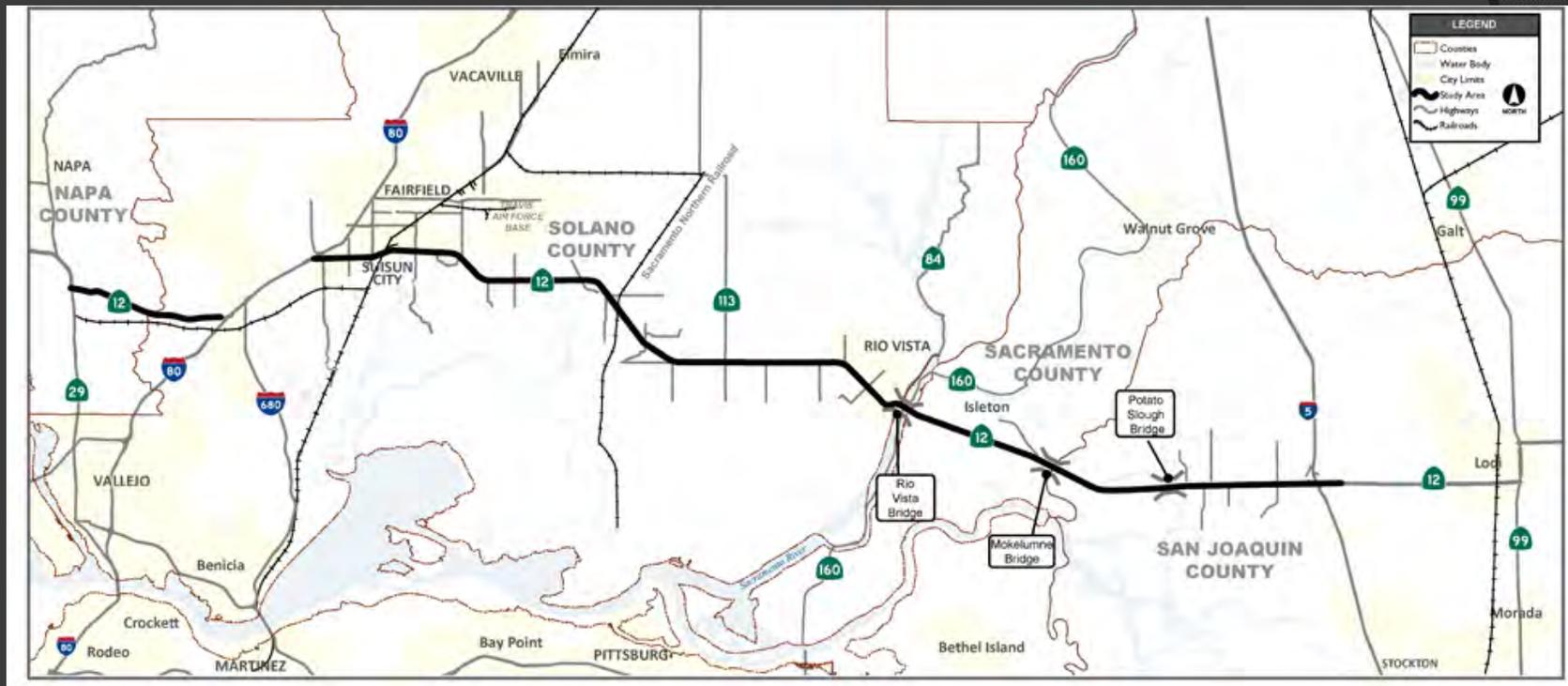
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## SR-12 Bridge Tour 2010

SR-12 Corridor Study (I-80 to I-5)

# THREE BRIDGES

# SR-12 Corridor



# Potato Slough Bridge



# Potato Slough Bridge (PM: SJ 4.75)



- ◎ River: Little Potato Slough
- ◎ Bridge Type: Center Swing
- ◎ Constructed: 1991
- ◎ Crossing Distance: 120m (920m)
- ◎ Average High-Tide Clearance: 35ft

# Mokelumne Bridge



# Mokelumne Bridge (PM Sac 6.20)



- River: Mokelumne
- Bridge Type: Center Swing
- Constructed: 1942 (widened 1978)
- Crossing Distance: 360m
- Average High-Tide Clearance: 8ft

# Rio Vista Bridge



# Rio Vista Bridge (PM: Sol 26.41)



- River: Sacramento/Shipping Channel
- Bridge Type: Vertical Lift
- Built: 1944 (widened 1960)
- Crossing Distance: 730m
- Average High-Tide Clearance: 18ft

# Bridge Operations

There are 3 elements that effect bridge operations.

1. River Traffic
2. Opening Procedure
3. Mechanical Reliability

# 1. River Traffic

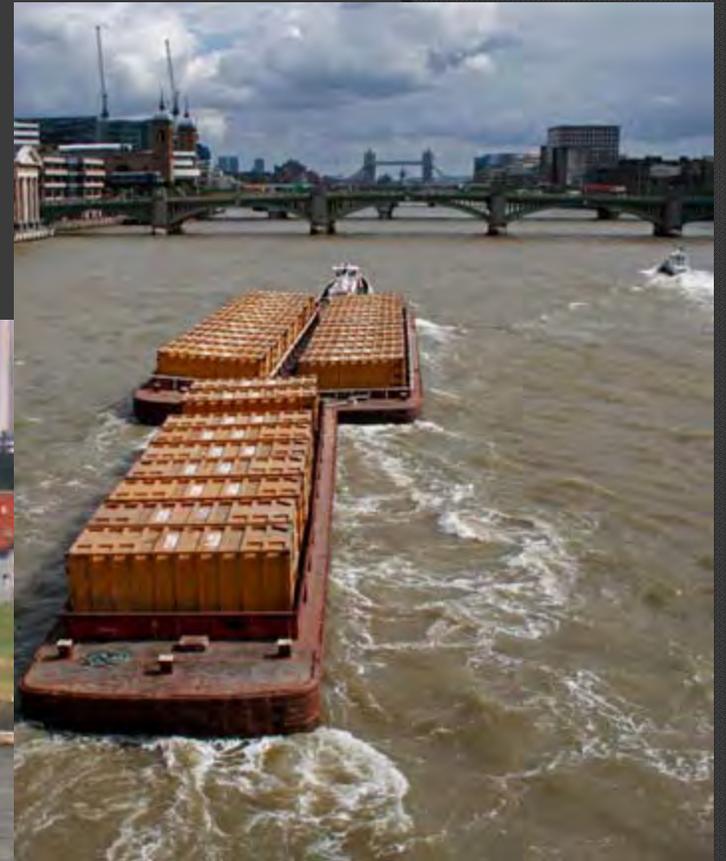


House Boat passing through Mokelumne Bridge



Boat passing beneath the Rio Vista Bridge

# Examples of river barges carrying containers



## 2. Opening Procedure





Control Room Rio Vista Bridge





# 3. Reliability



SR-12 Corridor Study (I-80 to I-5)

**ANY QUESTIONS?**

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# Environmental Scan

# Environmental Scan

## Purpose

- *To provide an overview of known environmental resources and potential constraints on the development of transportation strategies in the corridor*

## Content

- *Resources evaluated*
- *Resources of concern*

## TAG input needed

- *Do we have it right?*
- *Have we overlooked anything?*



# Resources Evaluated

Available information gathered on the following resources:

- Wetlands
- Threatened and Endangered Species
- Critical Habitat
- Flood Hazards/Sea Level Rise
- Farmland
- Land Use
- Socioeconomic/Community Impacts
- Visual/Aesthetic
- Historical/Archaeological Resources
- Hydrology/Water Quality
- Geology
- Hazardous Waste

# Resources of Special Concern

Resources in the corridor subject to agency coordination:

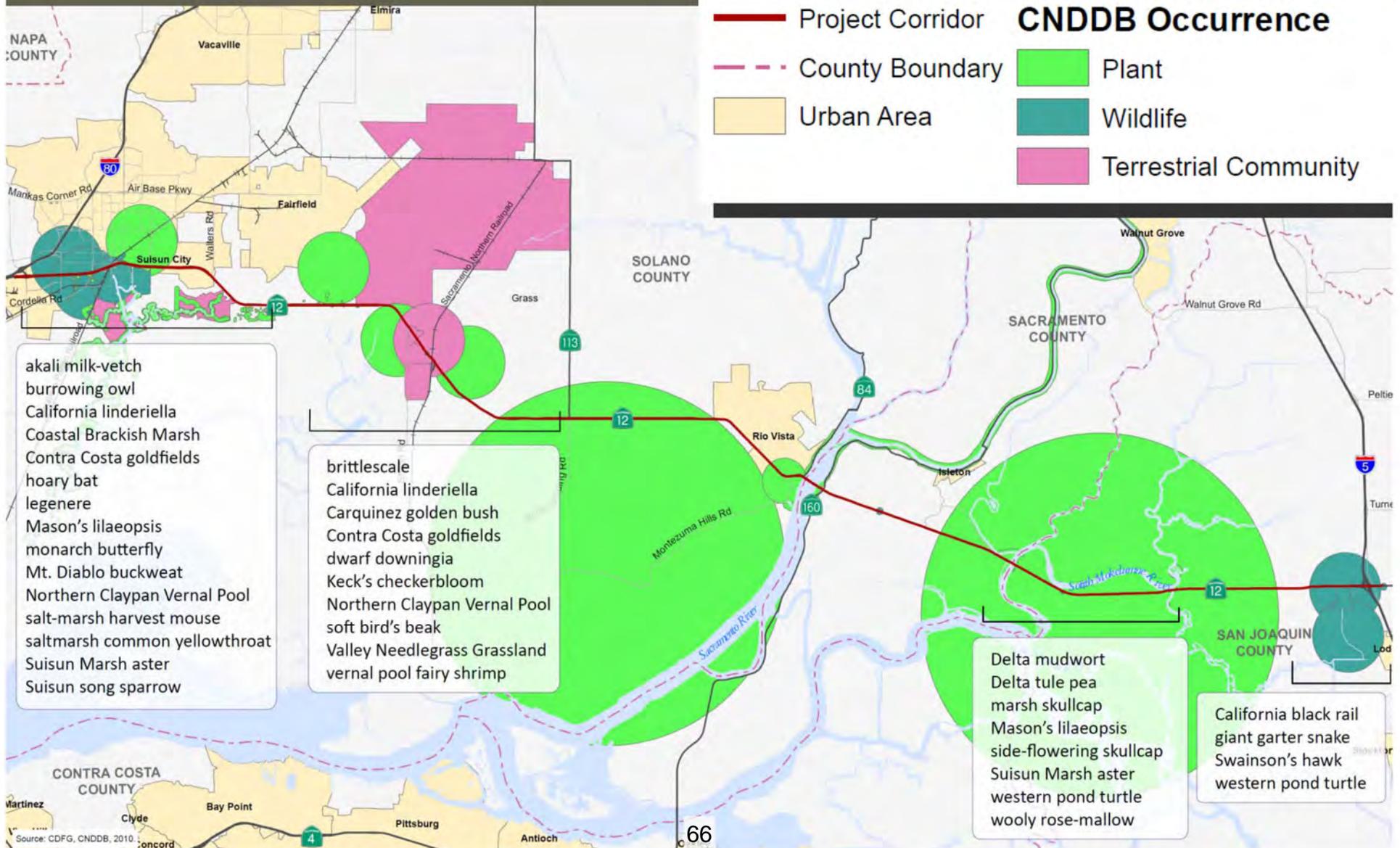
- Wetlands
- Threatened and Endangered Species
- Critical Habitat
- Flood Hazards/Sea Level Rise
- Farmland
- Historical/Archaeological Resources

# Threatened and Endangered Species

- Plant and Wildlife Species Protected under the California Endangered Species Act and/or the Federal Endangered Species Act
- Requires Coordination with the U.S. Fish and Wildlife Service and the California Department of Fish and Game

## Environmental Scan

# Threatened and Endangered Species

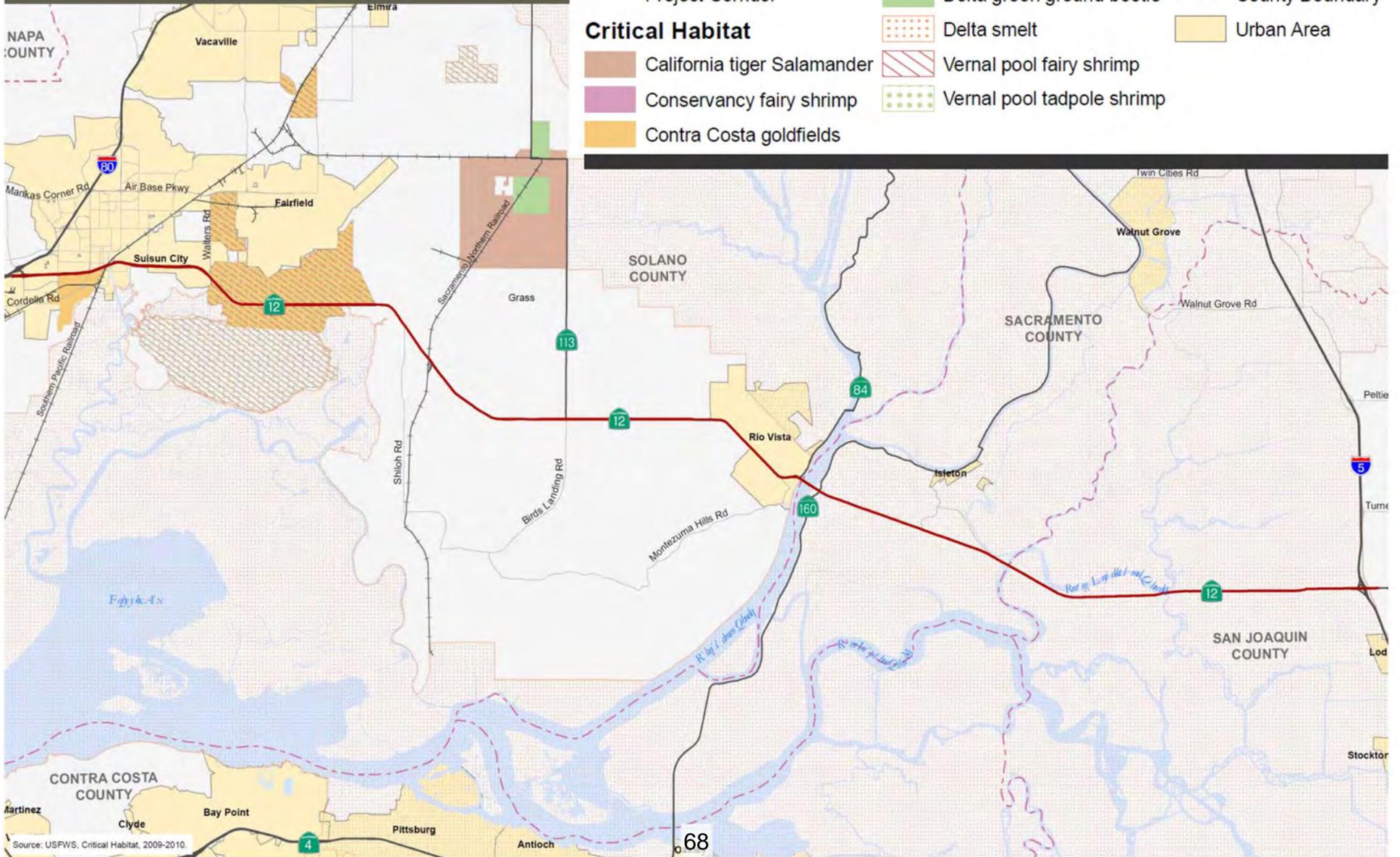


# Critical Habitat

- Federal Endangered Species Act requires the federal government to designate “critical habitat” for any species it lists under the Act
- Under Section 7, federal agencies must ensure their actions are not likely destroy or adversely modify designated critical habitat

# Environmental Scan

# Critical Habitat



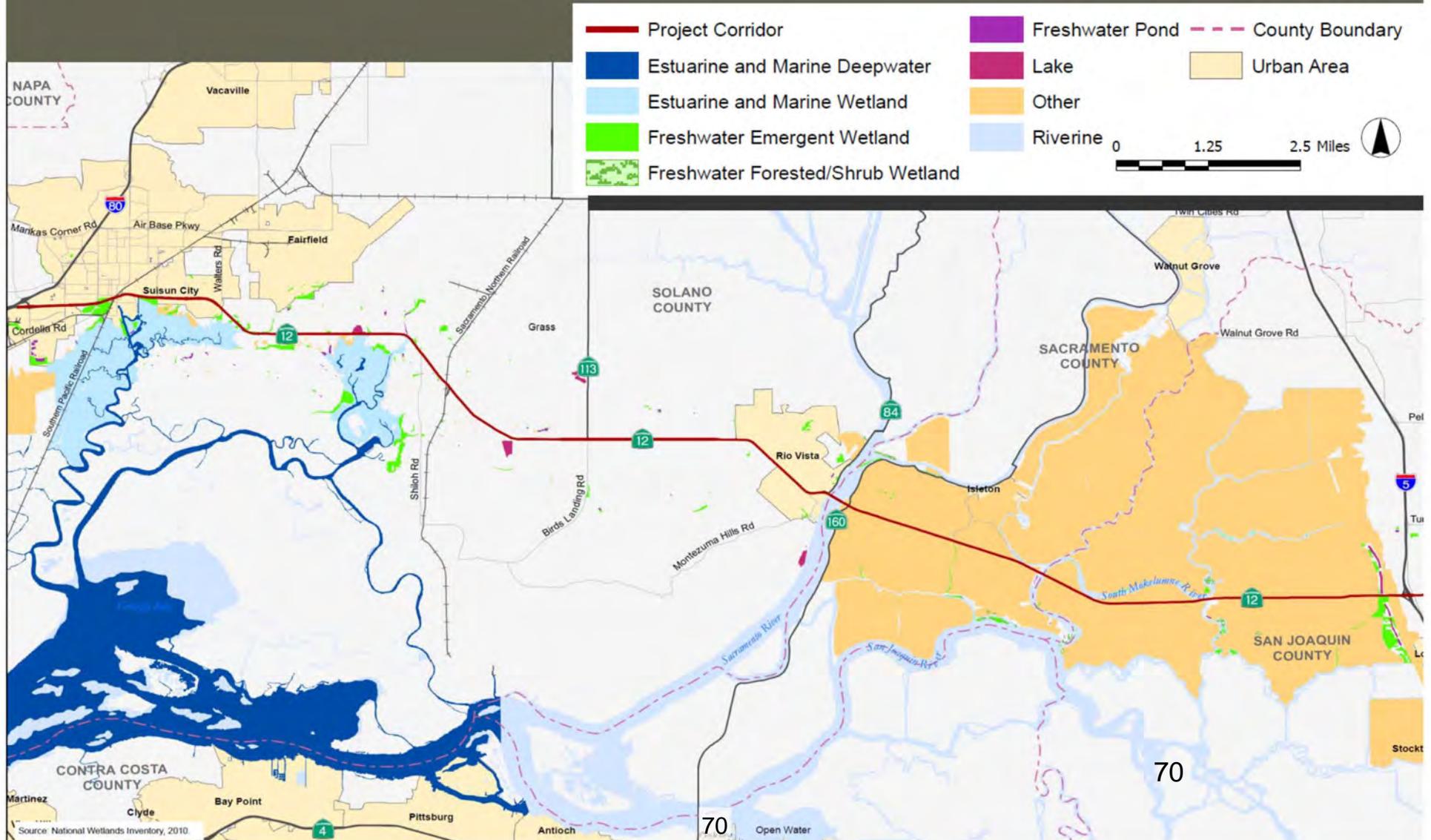
Source: USFWS, Critical Habitat, 2009-2010.

# Wetlands Features

- Potentially subject to permits administered by U.S. Army Corps of Engineers (Section 404), Regional Water Quality Control Board (Section 401), and/or California Department of Fish and Games (Section 1600 – 1616)
- May also provide habitat for Threatened and Endangered Species

# Environmental Scan

# Wetlands Features



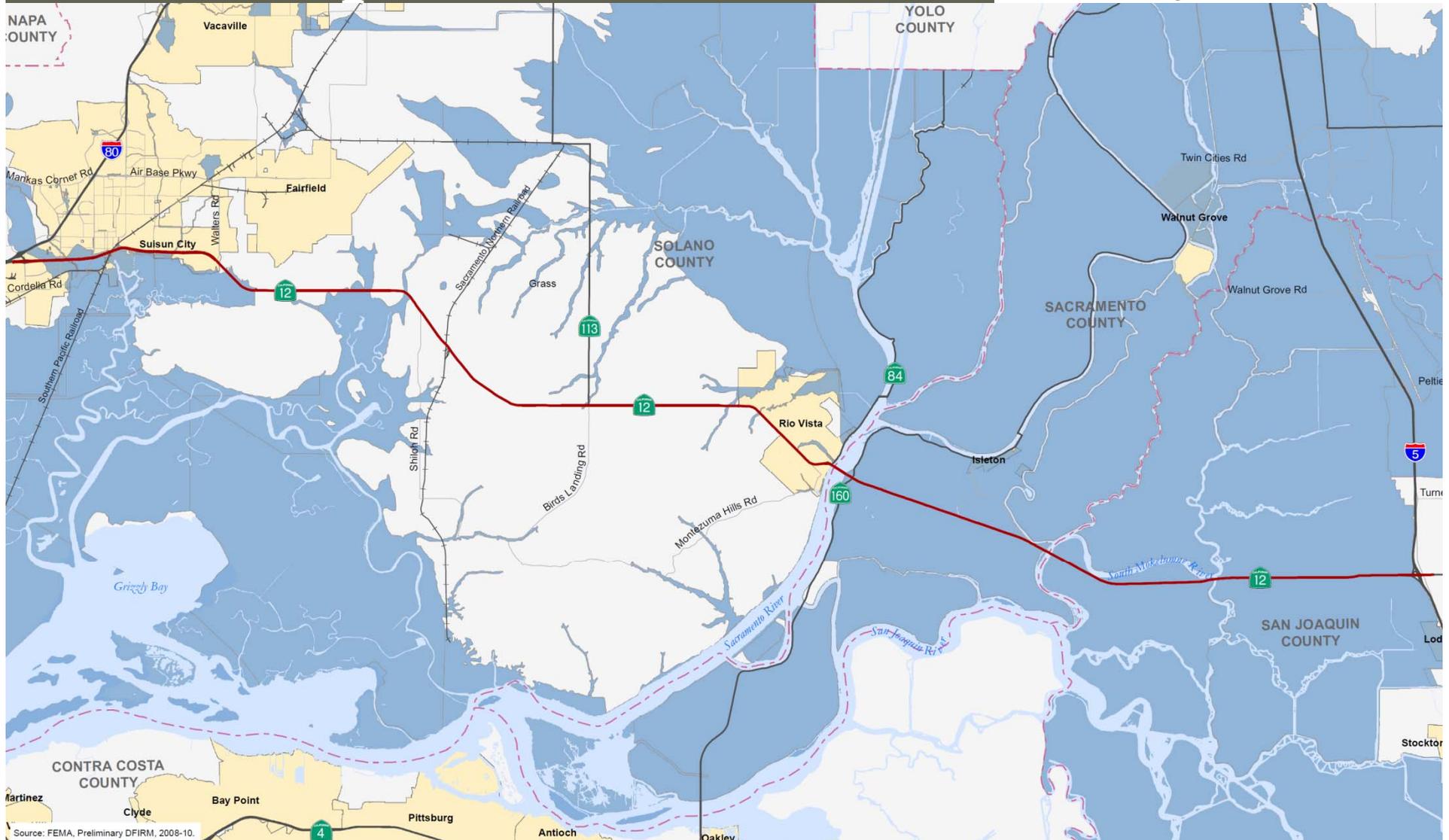
# Flood Hazards / Sea Level Rise

- Several areas within corridor are located within 100-year floodplain and subject to inundation due to Sea Level Rise
- Projects would require appropriate hydraulic studies

Environmental Scan

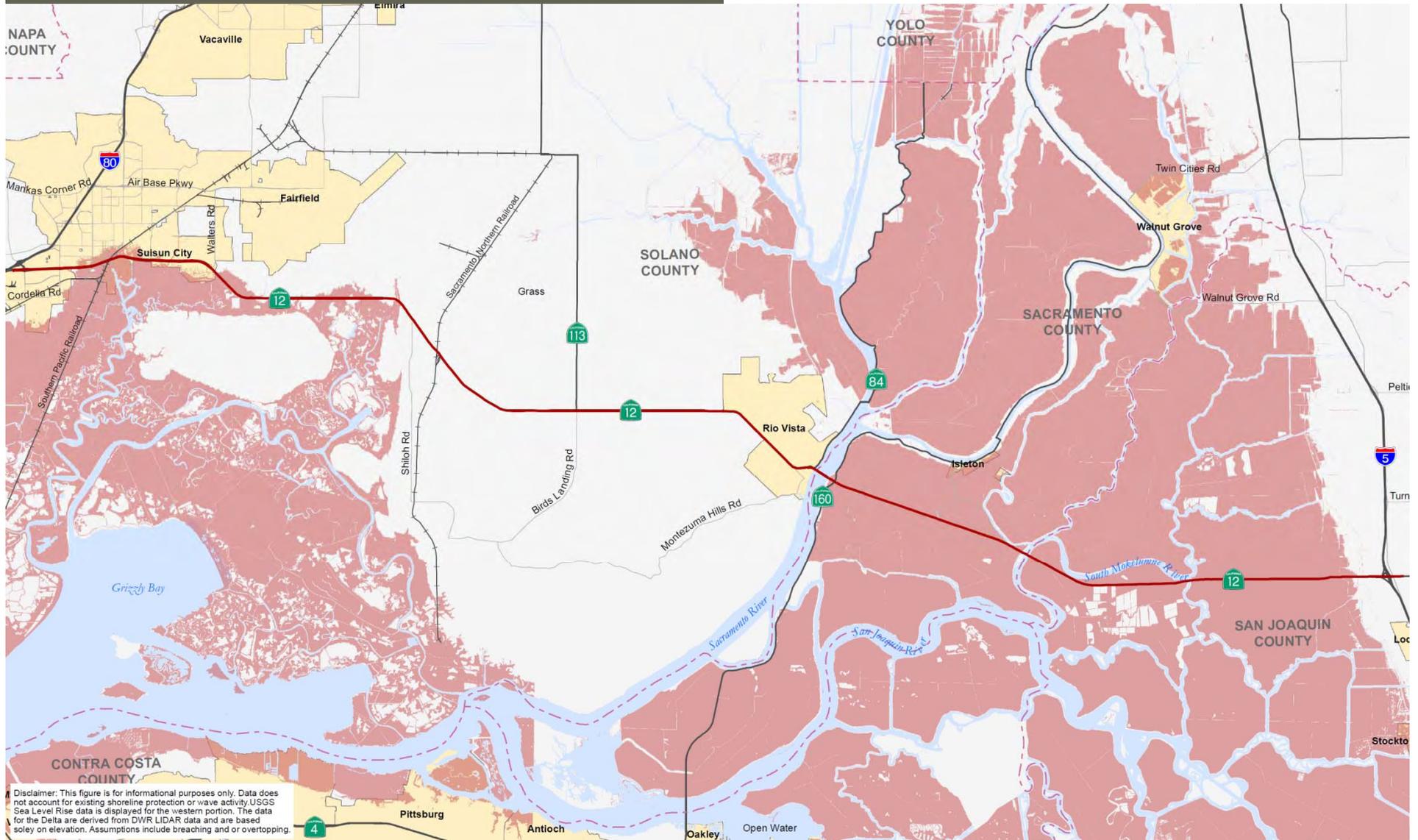
# Preliminary Digital Flood Insurance Rate Map

 Project Corridor



## Environmental Scan

# Sea Level Rise (Year 2100)

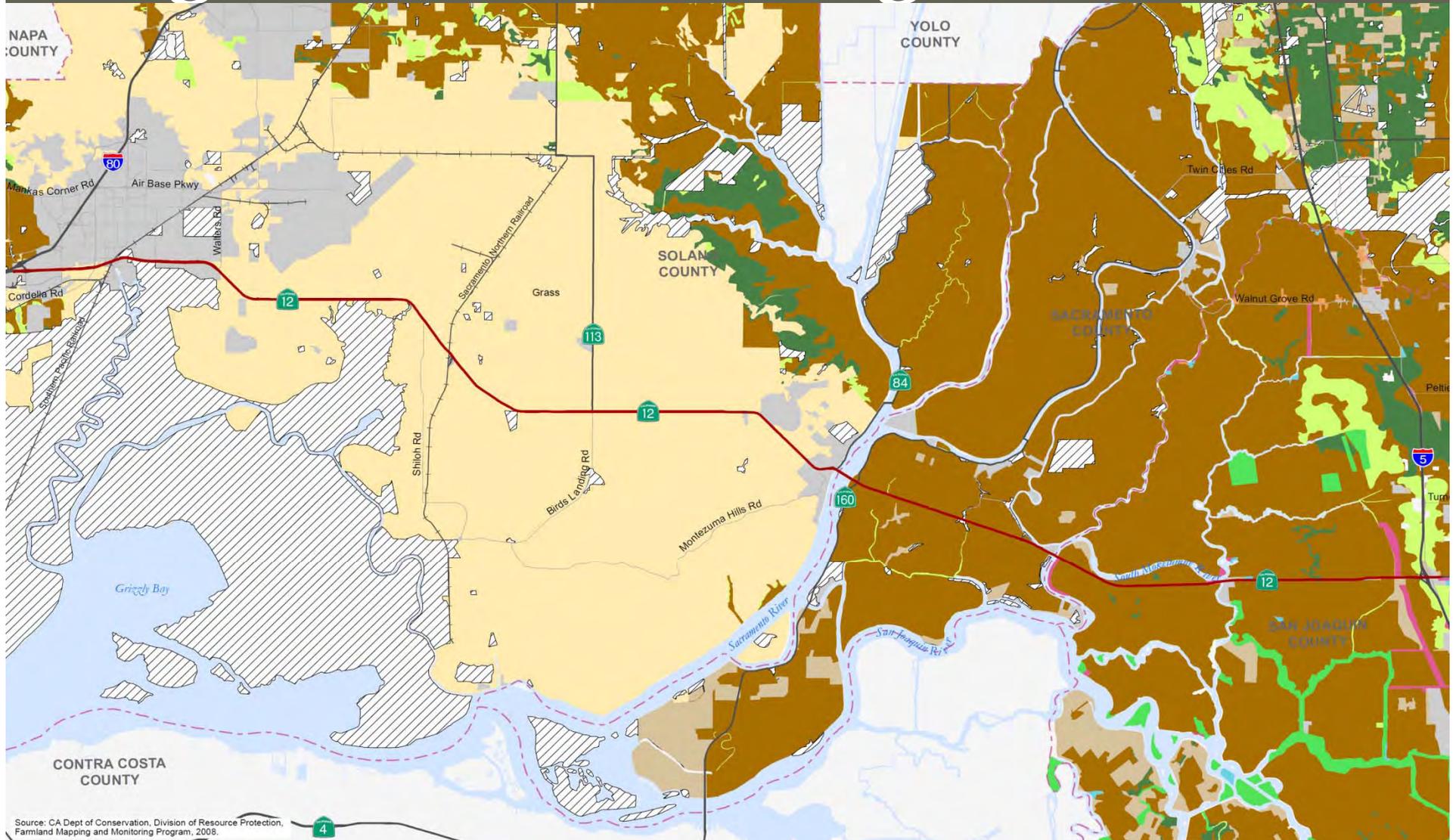


# Farmlands

- Federal Actions are subject to coordination with the Natural Resources Conservation Service under the Farmland Protection Policy Act
- Portions of corridor also pass through farmlands under Williamson Act contracts. Such contracts can only be canceled by the land owner.

Environmental Scan

# Farmland Mapping and Monitoring Program (FMMP) Designations



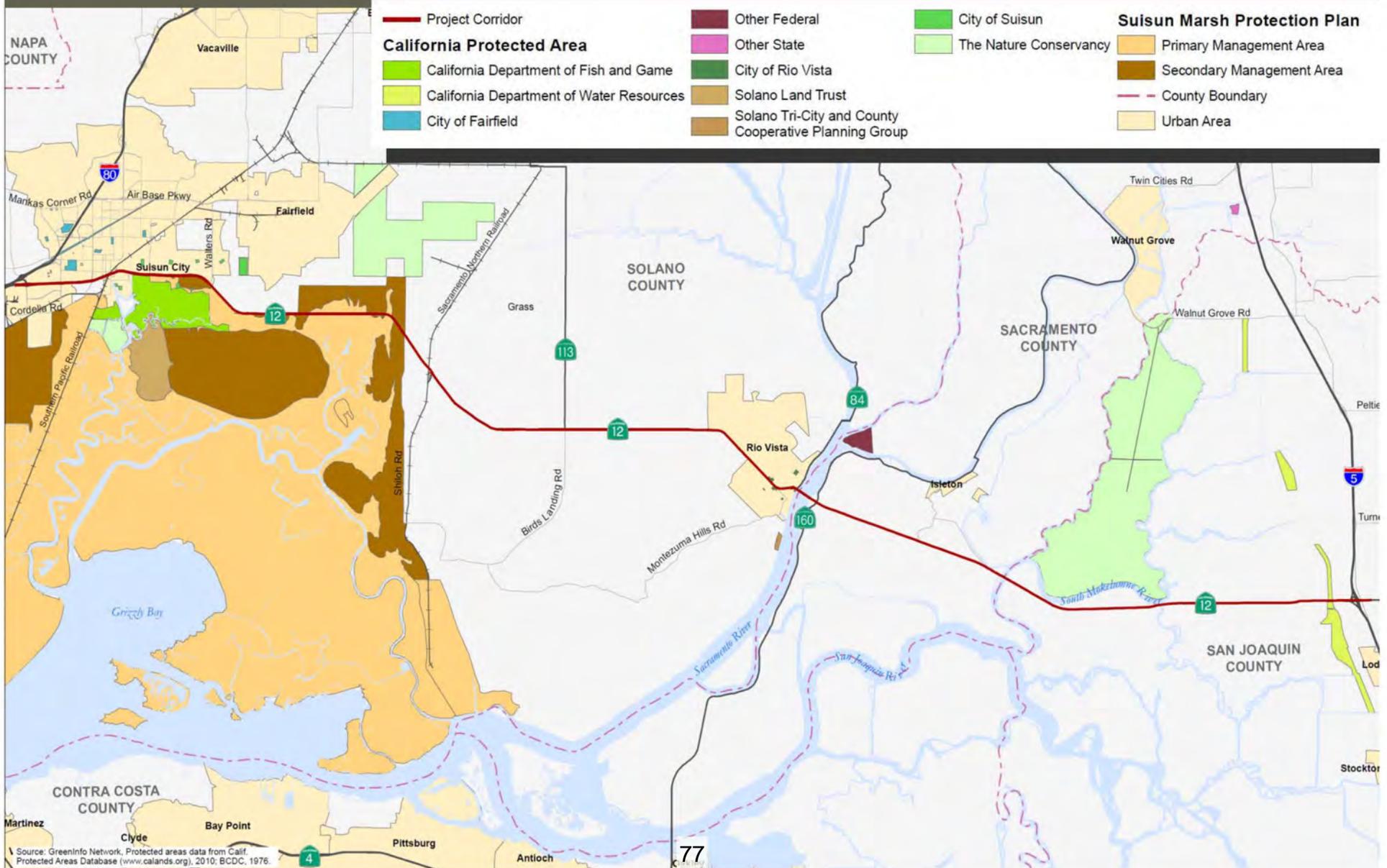
Source: CA Dept of Conservation, Division of Resource Protection, Farmland Mapping and Monitoring Program, 2008.

# Protected Areas

- Lands dedicated to natural, recreation, and cultural uses, and managed for these purposes through legal or other effective means
- Acquisition of right-of-way from such lands may require coordination with governing body

# Environmental Scan

# Protected Areas



Source: GreenInfo Network, Protected areas data from Calif. Protected Areas Database (www.calands.org), 2010; BCDC, 1976.

# Historical & Archaeological Resources

Sites eligible for the National and/or State Register of Historic Places or not yet evaluated:

- Solano County

- Archeological Sites – 2
- Historic Architectural Sites – 8

- Sacramento County

- Archeological Sites – 0
- Historic Architectural Sites – 2

- San Joaquin County

- Archeological Sites – 1
- Historic Architectural Sites – 1

State Route 12 Corridor Study

# Environmental Scan

*Questions?*

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Next Steps

## State Route 12 Corridor Study

# Next Steps

- TAG Feedback
  - *Existing Conditions Analysis and Environmental Scan*
    - *Distributed to TAG on March 7*
    - *Comments back by March 28*
- Upcoming Meetings
  - *February 16*
    - *Stakeholder Briefing 3:30 to 5:00 pm*
    - *Public Open House 6:00 to 8:00 pm*
- Milestones
  - *March - Future Conditions and Potential Corridor Strategies*
  - *June - Strategy Evaluations*
  - *November - Study Recommendations*



# SR12

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Technical Advisory Group Meeting #2

