SR 12 Corridor Advisory Committee
April 18, 2011
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.
53-Mile, Multi-Jurisdictional Corridor

- 4 Counties -- Napa, Solano, Sacramento & San Joaquin
- 3 Caltrans Districts -- 3, 4 and 10
- Developed areas -- Suisun City, Fairfield & Rio Vista
- Rural communities, farmlands and portions of the Delta
- 2 Major Interstate routes -- I-80 and I-5
- 2 Railway lines -- Union Pacific & Sacramento Northern
- 3 Bridges -- Rio Vista, Mokelumne and Potato Slough
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
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

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)
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
## Daily Traffic Volumes

<table>
<thead>
<tr>
<th>Location</th>
<th>Daily Traffic Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jameson Canyon</td>
<td>34,500 (a)</td>
</tr>
<tr>
<td>Between Beck Ave and Pennsylvania Ave</td>
<td>41,691</td>
</tr>
<tr>
<td>Between Walters Road &amp; Shiloh Road</td>
<td>9,309</td>
</tr>
<tr>
<td>Between Summerset Drive and Main St</td>
<td>13,626</td>
</tr>
<tr>
<td>Between Brannan Island Road and W. Terminous Road</td>
<td>16,283</td>
</tr>
<tr>
<td>Between W. Terminus Road &amp; I-5 SB Ramps</td>
<td>19,764</td>
</tr>
</tbody>
</table>

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

Traffic Characteristics

• 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
Capacity of the SR-12 Corridor is controlled by signalized intersections.
## Existing Conditions Analysis – Traffic Analysis

### Truck Volumes and Percentages

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

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

Source: PBS&J Traffic Analysis, 2010
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
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

Source: Caltrans - District 10; 2007
SR-12 Bridge Tour 2010
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
Examples of river barges carrying containers
2. Opening Procedure
Control Room Rio Vista Bridge
3. Reliability
Environmental Scan
State Route 12 Corridor Study

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
Environmental Scan

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
Environmental Scan

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

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

- Project Corridor
- Delta green ground beetle
- Delta smelt
- Vernal pool fairy shrimp
- Vernal pool tadpole shrimp
- Contra Costa goldfields

Source: USFWS, Critical Habitat, 2009-2010.
Environmental Scan

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

[Map with various wetland features labeled]
Environmental Scan

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
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

*Other Land is land not included in any other mapping category. Common examples include low density rural developments, brush, timber, wetland and riparian areas not suitable for livestock grazing, confined livestock, poultry, or aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.
Environmental Scan

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
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
Outreach Structure & Roles

• Project Development Team (PDT)
  • Staff from Caltrans Districts, MPO’s 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 and city/county engineers
  • 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
Next Steps

Milestones

- May - Future Conditions and Potential Corridor Strategies
- June - Strategy Evaluations
- November - Study Recommendations