



## STATE ROUTE (SR) 37 POLICY COMMITTEE

1:00 p.m., Monday, September 25, 2017

Touro University - Farragut Inn

1750 Club Dr.

Vallejo, CA 94592

### MEETING AGENDA

#### 1. CALL TO ORDER AND INTRODUCTIONS

**Chair David Rabbit**  
**County of Sonoma**

#### 2. OPPORTUNITY FOR PUBLIC COMMENT

#### 3. CONSENT CALENDAR

##### A. Minutes of the May 4, 2017 SR 37 Policy Committee Meeting

**Daryl Halls, STA**

##### Recommendation:

Approve SR 37 Policy Committee May 4, 2017 Policy Committee Meeting Minutes

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#### 4. ACTION ITEMS

##### A. Draft SR 37 Transportation and Sea Level Rise Corridor Improvement Plan Phase 1 and Upcoming Public Open House Events

**Kevin Chen, MTC**

##### Recommendation:

Release the Draft SR 37 Transportation and Sea Level Rise Corridor Improvement Plan Phase 1 for public comment.

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##### B. SR 37 Policy Questions: 1) Legal/Legislation/Finance Plan and 2) Contract and Agreement

**Danielle Schmitz, NVTa**

##### Recommendation:

Approve the Legal/Legislation/Finance Plan and Contract and Agreement Policy recommendations as shown in Attachment A.

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#### 5. INFORMATION ITEMS

##### A. SR 37 Corridor Activities Update by Transportation Agency:

- Transportation Authority of Marin
- Napa Valley Transportation Authority
- Solano County Transportation Authority
- Sonoma County Transportation Authority

**Dianne Steinhauser, TAM**

**Kate Miller, NVTa**

**Daryl Halls, STA**

**Suzanne Smith, SCTA**

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#### SR 37 Policy Committee Members:

##### Solano Elected Officials

Bob Sampayan, Mayor City of Vallejo  
Jim Spering, MTC Commissioner  
Erin Hannigan, Solano County Board of Supervisor

##### Sonoma Elected Officials

David Rabbitt, Sonoma County Board of Supervisor  
Jake Mackenzie, MTC Commissioner  
Susan Gorin, Sonoma County Board of Supervisor

##### Marin Elected Officials

Damon Connolly, MTC Commissioner  
Judy Arnold, Marin County Board of Supervisor  
Stephanie Moulton-Peters, Councilmember, City of Mill Valley

##### Napa Elected Officials

Alfredo Pedroza, MTC Commissioner  
Belia Ramos, Napa County Board of Supervisor  
Leon Garcia, Mayor City of American Canyon

**INFORMATION ITEMS CONTINUED**

**B. Status of SR 37 Funding Opportunities**

**Daryl Halls, STA**

**6. COMMITTEE MEMBER COMMENTS AND STAFF UPDATES**

**Group Discussion**

**7. FUTURE TOPICS**

- A. Summary of Public Comments of four County SR 37 Public Open Houses – November 2, 2017
- B. Final SR 37 Transportation and Sea Level Rise Corridor Study Phase 1 – November 2, 2017
- C. Bay Area Conservation and Development District Presentation – November 2, 2017

**8. ADJOURNMENT**

**Next SR 37 Policy Committee Meeting: 9:30, Thurs., November 2, 2017 at  
Touro University - Farragut Inn, Vallejo.**

**State Route (SR) 37 Policy Committee Meeting Minutes**  
**9:30 a.m., Thursday, May 4, 2017**  
**Mare Island Museum**  
**1100 Railroad Avenue**  
**Vallejo, CA 94592**

**1. CALL TO ORDER/INTRODUCTIONS**

Committee Chairperson, Supervisor David Rabbit, called the SR 37 Policy Committee Meeting to Order at approximately 9:33 a.m.

**POLICY COMMITTEE  
MEMBERS PRESENT:**

Judy Arnold	Marin County Supervisor
Damon Connolly	MTC Commissioner, Marin County Supervisor
Leon Garcia	Mayor, City of American Canyon
Susan Gorin	Sonoma County Supervisor
Erin Hannigan, Vice Chair	Solano County Board of Supervisors
Jake Mackenzie	MTC Commissioner, City Council, Rohnert Park
Stephanie Moulton-Peters	Councilmember, City of Mill Valley
Alfredo Pedroza	MTC Commissioner, Napa County Supervisor
David Rabbitt, Chair	MTC Commissioner, Sonoma County Supervisor
Belia Ramos	Napa County Supervisor
Bob Sampayan	Mayor, City of Vallejo
Jim Spering	MTC Commissioner, Solano County Supervisor

**POLICY COMMITTEE  
MEMBER ABSENT:**

None.

**EXECUTIVE  
DIRECTORS PRESENT:**

Daryl Halls	STA
Kate Miller	NVRTA
Suzanne Smith	SCTA
Dianne Steinhauser	TAM

**EXECUTIVE  
DIRECTORS ABSENT:**

None.

**OTHERS PRESENT:**

Anthony Adams	STA
Janet Adams	STA
Madolyn Agrimonti	Sonoma Council Member
Tanya Albert	County of Napa
Melissa Apuya	Assembly Member Marc Levine
Lorena Barrera	Congressman Mike Thompson
Tom Barte	Assembly Member Bill Dodd's Office
Laura Beltran	Assembly Member Cecilia Aguiar-Curry
Steve Birdlebough	SCTLC
Karin Boulter	ESA
Adam Brand	Sonoma County
James Cameron	SCTA
Fidel Chavez	Carpenters Union
Bernadette Curry	STA
Mike Davis	ICF
TJ Devtz	United Bridge Partners

Pippin Dew-Costa	City of Vallejo Council Member
Ed Diffendal	United Bridge Partners (UBP)
Bill Emlen	Solano County
Kathleen Diohop	Vallejo Resident
Elizabeth Dippel	Sonoma-Marin Area Rail Transit (SMART)
Andrew Dohrmunn	Ty Lin International
Pat Eklund	City of Novato Council Member
Joseph Feller	Sierra Club Solano Group
Rick Fraites	Marin Audubon Society
Becky Frank	Caltrans
Andrew Fremier	MTC
Maureen Gaffney	SF Bay Trail
Seana L.S. Gause	SCTA
Robert Guerrero	STA
Amy Hartman	Greenbelt Alliance
Ramsey Hissen	AECOM
Jason Holley	American Canyon
Daniel Keen	City of Vallejo - City Manager
John Kenyon	Ty Lin International
Susan Klassen	Sonoma County Transportation & Public Works
Josette Lacey	Solano County
Dan McCulloch	Carpenters Union
Dan McElhinney	Caltrans District 4
Peter Miljanich	Solano County
Jana Modena	Assemble Member Tim Grayson
Cynthia Murray	North Bay Leadership Council
David Oster	Sonoma Resident
Elizabeth Patterson	Mayor, City of Benicia and Alternate Member
Isaac Pearlman	BCDC
Leo Roy Pfeifer	Sustainable Novato
Logan Pitts	Senator Bill Dodd
Dina Potter	HNTB
Mike Pyrz	Ty Lin International
Lee Sandahl	International Longshore and Warehouse Union
Danielle Schmitz	NVTA
Teri Shore	Greenbelt Alliance
Coy Smith	Novato Chamber of Commerce
Susan Stompe	Marin Conservation
Hermie Sunga	City of Vallejo Council Member
Craig Tackabery	Marin County Public Works
Matt Tuggle	Solano County
Phil Vermeulen	UBP
Kendall Webster	Sonoma Land Trust
Laurie Williams	Marin County, Novato Watershed Program

## 2. OPPORTUNITY FOR PUBLIC COMMENT

Teri Shore, Greenbelt Alliance, thanked the committee for being able to be part of the process. She stated her key interests in future improvements including prioritizing planning for mobility solutions that are environmentally sound and doesn't increase greenhouse gas emissions.

Leo Roy Pfeifer, Sustainable Novato, spoke about autonomous vehicles and America's desire for independence. He suggested that the corridor is good for this kind of technology because it is straight and little cross traffic.

Jerry Meral, National Heritage Institute, commented that time is being wasted and that SR 37 problems need to be addressed earlier than later.

Steve Birdlebough, Transportation and Land Use Coalition and Sierra Club, stated that they sent a letter out to the Board and reiterated the content of the letter, including transit consideration.

### **3. CONSENT CALENDAR**

#### **A. Minutes of the May 4, 2017 SR 37 Policy Committee Meeting**

##### Recommendation:

Approve SR 37 Policy Committee March 4, 2017 Meeting Minutes.

A motion was made by Commissioner Jake McKenzie, and a second by Supervisor Erin Hannigan, the May 4, 2017 SR 37 Policy Committee meeting minutes were approved.

### **4. PRESENTATION**

#### **A. SR 37 Corridor Affordability Analysis and Financing Options**

Jose Luis Moscovich, PFAL, provided a summary of background information on their work for providing financial options, including previous work in developing case studies. He presented a range of finance solutions and explained their revenue analysis which was based on tolling scenarios. Mr. Moscovich also described risk transfer for financing large capital projects.

Supervisor Ramos expressed her concerns about the tolls and diversion of traffic to adjoining corridors. Mr. Moscovich responded that a marginal amount would divert because the new project would provide a more attractive experience when compared to the alternative free option. He explained that the free alternative would continue to have disincentives including longer commute times. Supervisor Ramos followed up with a question regarding the extent of how the model accounts for SR 37 diversion. Mr. Moscovich reiterated that their analysis was an order of magnitude intended to provide a first look at the project's financial feasibility and not a straight forward modeling exercise. He further explained that a modeling forecast will come later once the project is defined with a better sense of the project cost and characteristics.

Mayor Garcia agreed with Supervisor Ramos and noted that it would be helpful to show maps that illustrate the capacity of where that diversion occurs. In addition, Mayor Garcia noted that consideration should be made for where tolling is captured. Director Halls clarified that MTC's Corridor Study will define a project, and this topic will be brought back for further discussion. Chair Rabbit commented that traffic diversion has to be followed up and noted that the corridor study doesn't take into account the diversion. Richard Kerrigan, PFAL, noted that the type of tolling facility will influence the diversion rate.

Supervisor Hannigan asked if PFAL considered the toll rate being set based on the project cost rather than the current toll rates for the Bay Area Bridges. Jose Luis Moscovich responded that in a sense their analysis is trial and error and that they at least considered the cost of the UC Davis study alternatives, but that this is again an order of magnitude over 50 years. Mr. Moscovich did caution the market and politics will govern the toll and gave an example of a \$20 toll not being acceptable. Mayor Patterson questioned the calculation and asked about the life-cycle of the project. She noted that it was important for her to understand what potential liability the corridor could face with the current decisions being made today. She explained that she is concerned that the project cost, as presented, did not reflect the true cost without a long term life cycle cost consideration. Jose responded that we aren't at the point where we can answer that question, but that PFAL is already making allowances that consider operations and maintenance cost more so than any other facility in the Bay Area, with exception to other tolled bridges. He continued explaining that the reality is that the long term maintenance funds on public facilities in California is not guaranteed so this effort is a quantum leap forward because we are considering allowances for maintenance and operations. He noted that Mayor Patterson's question will have to be addressed as part of the environmental phase of the project.

Mayor Patterson followed up by proposing guiding principles for planning the corridor and noted the need to develop the principles in order to get buy in for other agencies. She asked Mr. Moscovitch what his recommendation would be on the timing of developing those guiding principles. He responded that the principles would be needed for the environmental phase of the project and will help determine the project statement.

Supervisor Sperring commented that the Policy Committee needs to keep in mind that the corridor will fail if we do nothing- which would cause 100% divergence of traffic. He also noted that the Policy Committee will have to ensure that the needs of low income are addressed up front. Commissioner Mackenzie noted that the schedule presented needed to reflect the MTC Corridor Study's completion. He also noted that any discussion regarding special legislation should be considered after the Corridor Study is completed. Mr. Moscovitch agreed and also noted that the schedule will continue to have milestones and check-ins as the project makes progress, making changes possible.

Director Smith commented that under the public option, BATA might be able to play a larger role as the toll authority. She recommended further discussion with BATA to determine what the agency could accomplished if it took over SR 37, making it part of a team and part of a larger structure. Mr. Moscovitch responded that regardless of whomever the group decides to partner with, the project needs a champion to push if forward. Commissioner Mackenzie agreed that BATA should have a role in this. Director Smith noted that there is a general consensus on the drive and desire to improve SR 37, and the timing of discussing the role of MTC and BATA is favorable as they begin discussing Regional Measure 3.

David Oster, Sonoma Resident, commented on the risk transfer and wanted to emphasis what it might mean. Mr. Moscovitch responded that the benefit is that the private sector has experience in risk transfer projects and efficiently implementing it. He further explained that the private sector has a track record of project delivery and efficiency, especially when compared to the State where the bigger the project the more cost overruns that can be expected.

Pat Eckland, City Council Member of Novato, commented that there are other options that need to be considered besides a toll. She also noted that toll roads don't just affect low income users- it effects middle-class. She also encouraged the Policy Committee to work with other environmental agencies to get resources for the project.

Joe Feller, of Solano Sierra Club, asked for clarification for toll revenues and if tolls will scare away recreational use along the corridor.

Supervisor Gorin provided information about working with BCDC and mentioned that she has a town hall meeting along with local newspapers to get public feedback on May 10th.

## **5. INFORMATION ITEMS:**

### **A. MTC SR 37 Transportation and Sea Level Rise Corridor Improvement Plan Update**

James Cameron, SCTA Director of Projects and Programming, provided a DAA update for MTC. Mr. Cameron explained that a travel time study was being developed and a preliminary report that showed significant congestion delays. He mentioned that there was approximately a 30 minute delay in the a.m. peak westbound and approximately an 80 minute delay in the p.m. peak eastbound direction.

Supervisor Arnold commented that Marin County is clearly interested and would like to be included in the environmental study. Chair Rabbit asked if there was anything to learn from the recent Caltrans fix on the west end of the corridor. Mr. Cameron responded that the DAA will come up with short term fixes, like the recent Caltrans fix. He also commented that there may be more opportunities to address short term improvements on the corridor which would give the Policy Committee the ability to deliver the larger project in the future.

**B. Caltrans Public Outreach**

Robert Guerrero provided update of Caltrans public outreach scoping and indicated that PFAL will be going out to each of the four County Transportation Authorities to make final presentations to each Board.

**C. Project Implementation/Lead Agency for Segments B & C**

Supervisor Spering explained that he and the Mayor of Vallejo, Bob Sampayan, were planning to go to the STA Board to seek authority to be the lead agency for segments B and C. He further explained that they are hoping to start accelerating the discussions and getting into the details of delivering the project. Supervisor Spering noted that a project delivery team will be formed with Caltrans, MTC, and SCTA. He noted that the team is going to define the scope of the priority projects as identified by MTC's corridor study, likely segment B. They are also going to work to identify funding for the project approval and environmental document which is estimated around \$20 million. He intends to have the team meet with Caltrans to discuss the DAA and seek approval of the environmental document and is going to request a cooperation agreement with Caltrans with the STA as the project lead. The STA will hire a project manager consultant for the environmental document and will provide updates to the SR 37 Policy Committee. There will be public scoping meetings for the EIR/EIS. The RTP will need to be amended to include this project as an enterprise funded project. It will be advanced as a sea level rise adaptation project which will produce an environmental benefit as the project is completed.

Supervisor Spering explained that the next steps is to pursue funding for the environmental studies by convening interested parties such as BATA, Caltrans, United Bridge Partners and anyone who has an interest in helping deliver the project. He further explained that the Solano County, as the lead agency, will work with Marin and Sonoma to assure that Segment A will be completed concurrently with B and C. In addition, there will be a need to set up a working group with Napa to discuss segments B and C and potential impacts to Napa County. The goal is to start to advance the project and bring decisions to the STA and the Policy Committee to determine what is the best way to deliver the project. Supervisor Spering concluded by saying doing nothing is not an option.

Mayor Garcia requested that Supervisor Spering include Napa in the discussions as STA takes the lead and advances the project given the regional approach. Mayor Sampayan agreed with Supervisor Spering and noted that we have got to get started and get moving in the right direction. Steve Birdleough commented that transit options need to be considered. Supervisor Spering noted that without improvements, transit wouldn't work.

**6. COMMITTEE MEMBER COMMENTS AND STAFF UPDATES**

None.

**7. FUTURE TOPICS**

- A. Legal/Legislation and Finance Plan Policy Recommendations
- B. Review Draft SR 37 Transportation and Sea Level Rise Corridor Study

**8. ADJOURNMENT**

Next SR 37 Policy Committee Meeting: 9:30, Thurs., September 7th at Touro University – Farragut Inn, Vallejo.



DATE: September 18, 2017  
TO: SR 37 Policy Committee  
FROM: Robert Guerrero, Senior Project Manager  
RE: Draft SR 37 Transportation and Sea Level Rise Corridor Improvement Plan Phase 1

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**Background:**

SR 37 is 21 miles in length from Hwy 101 in Marin County to I-80 in Solano County. The SR 37 Corridor has been divided into three Segments, Segment A which is located in Marin and Sonoma Counties, Segment B which is located in Solano and Sonoma Counties, and Segment C which is located in Solano County. Most of the immediate traffic congestion problems occur due to the congestion bottleneck in Segment B, from SR 37/SR 121 intersection in Sonoma County to the Mare Island Interchange in Solano County. Segment B includes two lanes, while Segments A and C have four to six lanes. All three segments continue to experience daily traffic congestion and are projected to be impacted by future sea level rise and are vulnerable to near-term flooding.

The Metropolitan Transportation Commission (MTC) and the Transportation Authorities of Marin, Sonoma, Napa and Solano Counties have funded a Project Initiation Document (PID) Equivalent Corridor Study in an effort to address congestion and sea level rise impacts on the corridor. The PID Equivalent is a Design Alternatives Assessment (DAA) and is called the SR 37 Transportation and Sea Level Rise Corridor Improvement Study. This document is a necessary precursor to an Environmental Document as it assists in developing a project scope and a purpose and needs statement for the project.

The Corridor Study is being developed in two phases with the first phase focusing on conceptual strategies and solutions to improve it from a corridor wide level. The second phase is the primary concentration of the study and will focus on project specific design alternatives and improvements for Segment B (SR 37 from Mare Island Intersection in Solano County to SR 121/SR 37 Intersection in Sonoma County).

**Discussion:**

The draft of the first phase study is completed and is available for review and comment (Attachment A). The draft study provides a summary of priority studies and current data related to traffic congestion and sea level rise vulnerability. It also offers three potential strategies as part of the traffic and sea level rise vulnerability assessment: 1) Retreat, 2) Protect and 3) Accommodate. Lastly, the draft study offers near and long term solutions with an acknowledgment of Segment B as the priority segment for a more detailed traffic operations analysis and preliminary engineering design. This analysis, along with forecasted demand and growth, will be the basis for near-term and mid- to long-term improvements recommended for Segment B in the Final Corridor Plan. In addition, as part of the second phase of the study, the



DAA team will engage the environmental community through several workshops, and take into account environmental objectives as part of Segment B design options. The first environmental outreach workshop is tentatively scheduled in late October.

The SR 37 Policy Committee is recommended to release the SR 37 Corridor Study for public input at this time. Public Open Houses are scheduled for each County with the SR 37 Corridor Study as the focal point for providing information on planning activities along the corridor. The Public Open Houses are scheduled as follows:

- Novato, Wednesday, September 20<sup>th</sup>
- American Canyon, Wednesday September 27<sup>th</sup>
- Sonoma, Thursday September 28<sup>th</sup>
- Vallejo, Monday, October 2<sup>nd</sup>

Attachment B includes the public open house flyer for these events along as well as a flyer describing future upcoming outreach activities. The SR 37 Corridor Study Phase 1 will be finalized after the Public Open House events are completed and will be brought back to the SR 37 Policy Committee for further discussion with a report on public input received. In order to accomplish this, staff is proposing to have a deadline for public input set for October 13, 2017. It should be noted, as indicated in the 2<sup>nd</sup> Attachment B flyer “Future Upcoming Outreach Activities Flyer”, there will be other opportunities for public input as the Corridor Study continues to be developed.

**Recommendation:**

Release the Draft SR 37 Transportation and Sea Level Rise Corridor Improvement Plan Phase 1 for public comment.

Attachments:

- A. Draft SR 37 Transportation and Sea Level Rise Corridor Improvement Study (Phase 1)
- B. SR 37 Open House Flyer and Future Upcoming Outreach Activities Flyer



# SR 37 Transportation and Sea Level Rise Corridor Improvement Plan

DRAFT

PREPARED BY:

**Kimley»Horn**

Expect More. Experience Better.

**AECOM**

September 2017



METROPOLITAN  
TRANSPORTATION  
COMMISSION



San Joaquin Hills Transportation Authority



Transportation Authority of Marin



SAN MATEO COUNTY TRANSPORTATION AUTHORITY



NAIPA VALLEY TRANSPORTATION AUTHORITY



Caltrans

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## ACRONYMS USED

CA: California

CESA: CA Endangered Species Act

CNDDDB: California Natural Diversity Database

CSSC: California Species of Special Concern

DAA: Design Alternatives Assessment

ESA: Endangered Species Act

FE: Federally Endangered

FC: Federal Candidate for listing

I-80: Interstate 80

MHHW: Mean Higher High Water

MTC: Metropolitan Transportation Commission

NAVD: North American Vertical Datum

NVTA: Napa Valley Transportation Authority

PA/ED: Project Approval/Environmental Document

PS&E: Plans Specification and Estimates

SE: State Endangered

SCTA: Sonoma County Transportation Authority

SLR: Sea Level Rise

SR 37: California State Route 37

SR 121: California State Route 121

ST: State Threatened

STA: Solano Transportation Authority

STAA: Surface Transportation Assistance Act

TAM: Transportation Authority of Marin

US 101: United States Highway 101

## GOALS AND OBJECTIVES

The SR 37 Corridor Plan (Corridor Plan) provides a comprehensive roadmap addressing current and anticipated issues on California State Route 37 (SR 37). SR 37 (study corridor) currently experiences severe traffic congestion and temporary flooding during heavy storms. Furthermore, with anticipated Sea Level Rise (SLR), the frequency of flooding is expected to increase, to a point that the roadway becomes permanently inundated. At that point, vehicular traffic on the corridor would be forced to divert to other already congested routes and critical habitat for protected species would be lost.

The Metropolitan Transportation Commission (MTC) and its partners, the Solano Transportation

**Develop integrated transportation and ecosystem design solutions, both short- and long-term, to improve mobility for all modes of transportation, maintain public access, while developing resiliency to storms and sea level rise.**

Authority (STA), the Sonoma County Transportation Authority (SCTA), the Transportation Authority of Marin (TAM) and the Napa Valley Transportation Authority (NVTA) seek to perform a Design Alternative Assessment (DAA) to plan and expedite the delivery of improvements in the study corridor to address the threat of SLR and traffic congestion.

The Corridor Plan is part of the DAA process to identify near-term and long-term strategies for the corridor. Findings from several completed studies informed the Corridor Plan, including the Highway 37 Stewardship Study (completed 2012), the State Route 37 Integrated Traffic, Infrastructure, and Sea Level Rise Analysis (UC Davis Study, completed 2014-15) and the Transportation Concept Report (TCR, completed 2015). These studies along with corridor evaluation efforts as part of the DAA helped define the corridor context, identify critical issues, and explore alternative improvement strategies for the SR 37 Corridor Plan.

<http://www.dot.ca.gov/dist4/systemplanning/docs/tcr/TCR-37-FINAL-SIGNED.pdf>

[http://www.dot.ca.gov/dist4/systemplanning/studies\\_sr37.htm](http://www.dot.ca.gov/dist4/systemplanning/studies_sr37.htm)

## STUDY CORRIDOR

The study corridor extends from US 101 in Novato to I-80 in Vallejo as shown in Exhibit 1. SR 37 is an important regional connection linking the north, east and west San Francisco Bay Area sub-regions. It connects job markets and housing within Marin, Sonoma, Napa, and Solano Counties. It also provides access to the popular wine growing regions of Napa and Sonoma Counties, the Sonoma Raceway in Sonoma County as well as Six Flags Discovery and Mare Island in Solano County. SR 37 serves commute, freight and recreational traffic on weekdays and weekends. There is currently no transit or regular passenger rail service available and very little bicycle and pedestrian activity exists along the study corridor. There is an existing freight rail line that partially parallels the SR 37 corridor. Consistent with the Caltrans TCR, the Corridor Plan divides the study corridor into three segments reflecting a change in the number of lanes as well as in the designation of the facility. Exhibit 1 illustrates the study corridor and the three study segments:

**Segment A:** From US 101 to the signalized SR 121 intersection at Sears Point, SR 37 is a four-lane expressway with 3.4 miles in Marin County and 3.9 miles in Sonoma County. Segment A is relatively low-lying (2 to 6 feet NAVD88) for most of its length and protected by levees along Novato Creek, the



Petaluma River, and landward levees of the Sonoma Baylands. These levees range in elevation from approximately 10 to 13 feet. The lowest point of the corridor is just less than 2 feet in Sonoma County near Lakeville Road.

**Segment B:** East of Sears Point, SR 37 becomes a two-lane conventional highway with a median barrier as it crosses the Napa-Sonoma marshlands from SR 121 to Mare Island with 2.3 miles in Sonoma County and 7 miles in Solano County. The SR 37 road elevation is relatively high (8 to 9 feet NAVD88) and is protected by levees between Tolay Creek and Sonoma Creek. There is no bayfront levee protecting SR 37 west of Sonoma Creek to Mare Island and the road is constructed to an elevation of approximately 11 feet except near Mare Island where the road elevation is much lower at approximately 7 to 8 feet NAVD88.

**Segment C:** SR 37 is a four-lane freeway starting at Mare Island and continuing eastward, mostly on elevated roadway and structures, 4.4 miles to its termination at I-80 in Solano County. This segment crosses SR 29 in the City of Vallejo.



**Exhibit 1: Study Corridor**

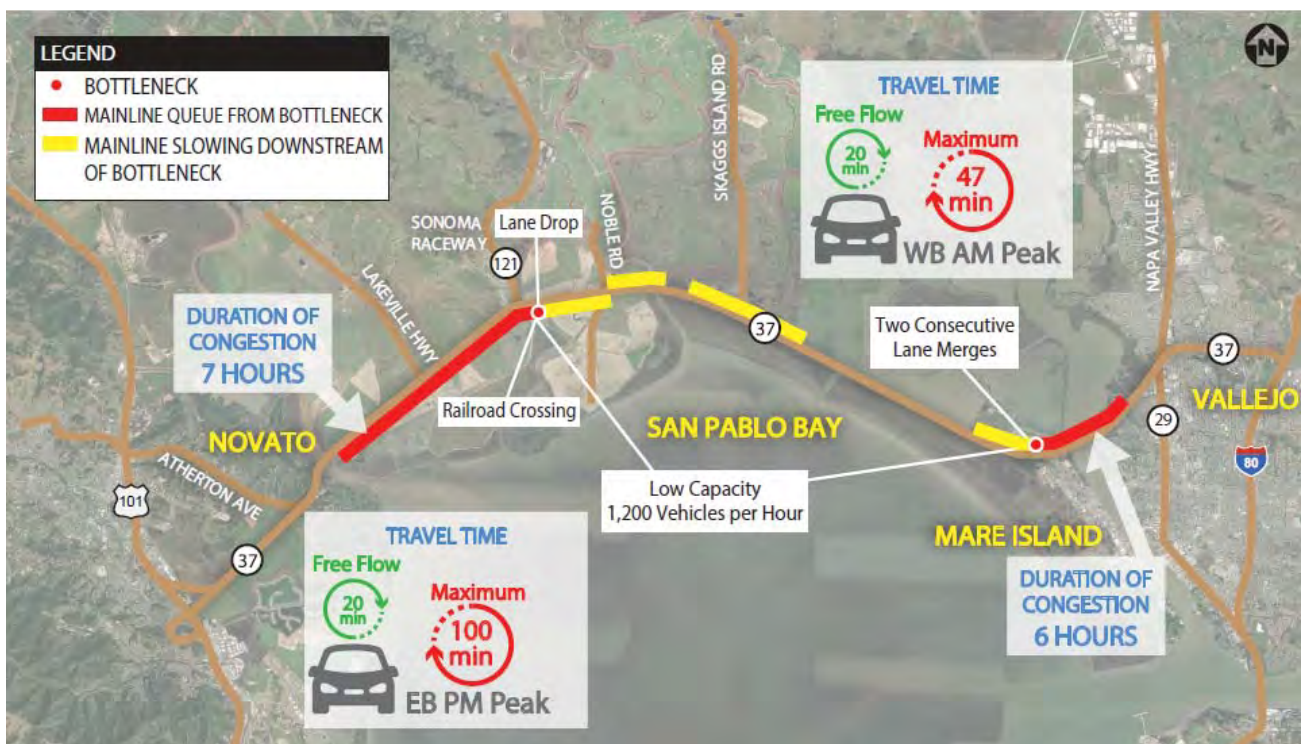
## **CORRIDOR ISSUES**

The most critical issues for the study corridor are recurrent traffic congestion, vulnerability to flooding, which will likely grow more frequent with SLR, and potential impacts of SLR on highly sensitive environmental resources adjacent to the corridor.

### **Traffic Congestion**

The primary cause of corridor congestion is vehicular demand exceeding the capacity of the 2-lane conventional highway segment, Segment B, between SR 121 and Mare Island. No transit opportunities are available along the study corridor to offset vehicular demand. The capacity of this segment is also unusually low, about 400 vehicles per hour per lane less than other similar facilities (about 1,200 versus

1,600), and is primarily due to the short merge distances approaching the lane drops east of SR 121 and Mare Island, high heavy vehicle usage, railroad crossing settlement east of SR 121 and grades at the Sonoma Creek Bridge. The high traffic demand combined with the low capacity results in severe congestion for both weekday peak period and weekend traffic. Westbound SR 37 traffic typically experiences congestion approaching the lane drop west of the Mare Island interchange for about 6 hours during the weekday AM peak period and throughout much of the day on weekends. Eastbound SR 37 congestion occurs approaching the lane drop east of SR 121 intersection for about 7 hours during the weekday PM peak period as well as much of the day on weekends. On typical weekdays, the maximum westbound delay in the morning peak period is about 27 minutes and the maximum eastbound delay in the afternoon peak period is about 80 minutes. The bottlenecks and queues Exhibit illustrates the bottleneck locations and the extent of associated queues along the study corridor.

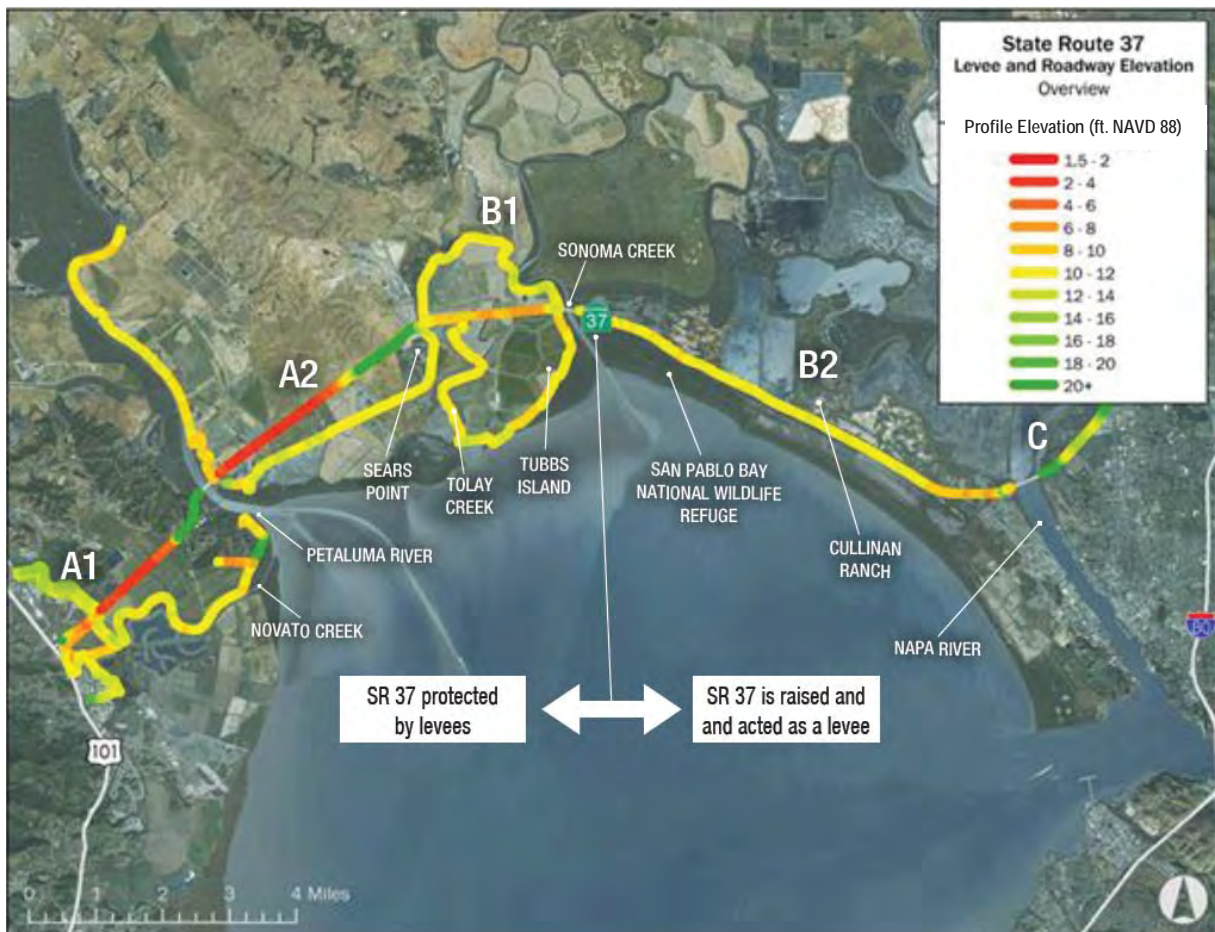


**Exhibit 2: Bottlenecks and Queues**



## Sea Level Rise Vulnerability and Flood Risk

Rising sea levels due to climate change will critically impact both the study corridor and surrounding sensitive ecosystems. Currently, SR 37 is protected from flooding by a complex interconnected system of levees along Novato Creek, the Petaluma River, Tolay Creek, Sonoma Creek, the Napa River, and the San Francisco Bay. Exhibit 3 shows the relationship between the surrounding levee system and the roadway elevations along SR 37. Segments A and B are further sub-divided to present differences in the highway and levee elevations within the segments. Segment A and a portion of Segment B are protected by levees. Raised portions of Segments B and C act as levees. The UC Davis Stewardship Study identified Segment A as the most vulnerable to SLR – primarily due to its low elevation and reliance on levees to provide flood protection for the highway. Segment B was identified as the most at risk to SLR impacts when considering consequence factors such as capital improvement costs, economic impacts on commuters and goods movement, impacts to public recreational activities and impacts to alternate routes. Many of the levees are privately owned and were not constructed specifically for protecting SR 37 from flooding. Instead, protection of SR 37 is an ancillary benefit of the levees. Neither Caltrans, MTC nor any of the four North Bay Transportation Authorities has a role in managing or maintaining many of the levees responsible for protecting SR 37.



**Exhibit 3: Levee and Roadway Elevation**

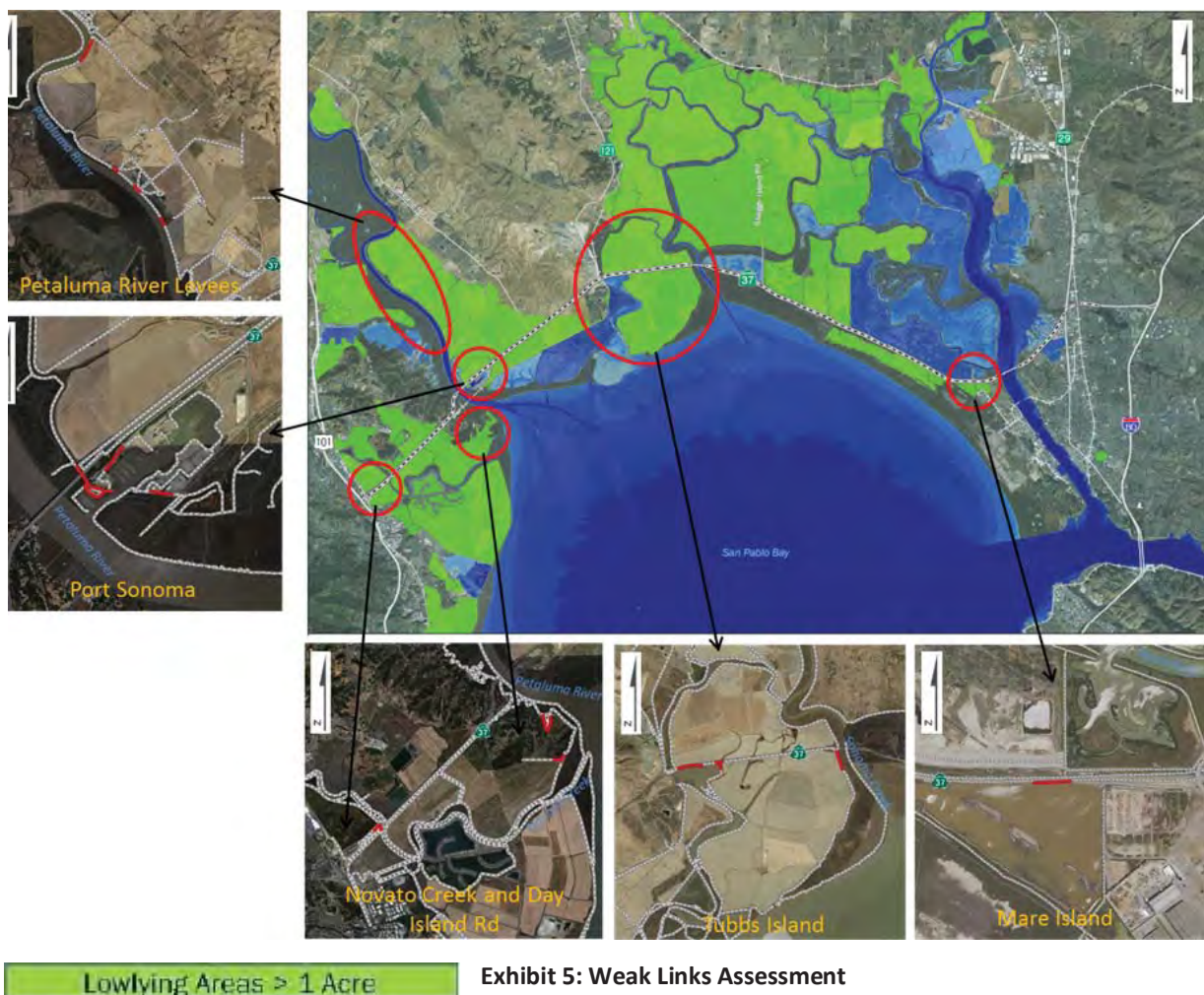


### Existing Conditions-Flood Risk

The existing levees along Segment A and B protect the low-lying highway from daily tidal inundation and storm surge flooding. Flooding is, however, an issue along some portions of SR 37 such as Novato Creek, Tolay Lagoon, and Mare Island. The highway has, in the past, been closed due to flooding, most recently in January and February 2017 when both directions of the roadway were closed for 28 days at the Novato Creek crossing. The Mare Island Interchange eastbound off-ramp also experienced flooding during that period. Subsequently, Caltrans dedicated \$8 million in emergency funds to address the flooding at Novato Creek, but the Mare Island Interchange was not addressed. The improvements at Novato Creek included raising the roadway elevation by two feet in both directions using lightweight material and replacing three cross-highway culverts. A review of the UC Davis study and subsequent field surveys confirmed six potential low spots in the existing levee system making them weak links in the system. These weak links make portions of Segments A, B, and C more vulnerable to short term flooding and eventual SLR. These locations are shown in the Exhibit 5.

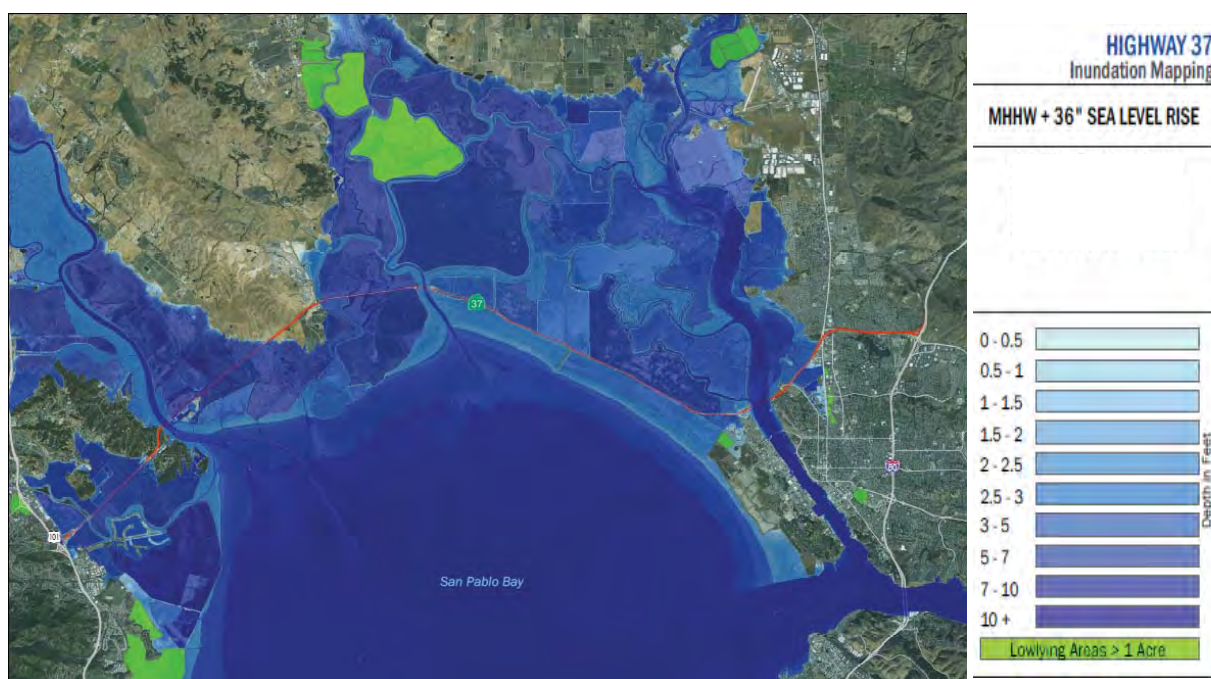


**Exhibit 4: Novato Creek Flooding During Closure Prior To 2017 Repairs**



### Future Conditions-Flood Risk

The State Route 37 Integrated Traffic, Infrastructure and Sea Level Rise Analysis study evaluated the exposure of SR 37 to permanent inundation and temporary flooding using SLR inundation maps. The study found that, in general, all segments of the highway would be impacted by permanent inundation with 36 inches of SLR and could be exposed to storm surge flooding by a 25-year coastal storm event today and by a 5- to 10-year coastal storm event with 6 to 12 inches of SLR. The inundation map in Exhibit 6 shows that a majority of Segments A and B will be completely inundated during the MHHW plus 36" SLR scenario (corresponding to the likely SLR projection at 2100).



**Exhibit 6: Inundation Map-MHHW+36" SLR Scenario**

Table 1 shows SLR projections for the San Francisco Bay through 2100. The "Projections" represent a mid-range, likely, SLR amount at each planning horizon. The "Ranges" represent low- and high-range SLR amounts that are considered possible but unlikely to occur at each planning horizon. For example, it is considered likely that the SLR amount at 2100 will be between 26 and 46 inches ( $36 \pm 10$  inches); however, it is possible, but unlikely, that SLR could be as low as 17 inches or as high as 66 inches.

**Table 1 Sea Level Rise Estimates for San Francisco Bay**

Year	Projections	Ranges
<b>2030</b>	$6 \pm 2$ in	2 to 12 in
<b>2050</b>	$11 \pm 4$ in	5 to 24 in
<b>2100</b>	$36 \pm 10$ in	17 to 66 in

Source: NRC 2012. *Sea-Level Rise for the Coast of California, Oregon, and Washington: Past, Present and Future*.

The State of California SLR Guidance Document (2013) recommends considering a range of SLR values and planning for the "worst case scenario" for critical infrastructure with long lifespans, thus, long-term alternatives would need to plan for the 100-year storm plus 66" SLR scenario.



The UC Davis study provided Inundation areas and depths for multiple scenarios and recommendations were provided based on the “most likely” year 2100 sea level rise scenario (36 inches SLR). Although the SLR study mapping did not account for rainfall-runoff events and water control structures such as culverts and tide gates, FEMA’s bayside storm surge estimates include 30 years of historical data and the Flood Insurance Rate Maps account for combined riverine and coastal flooding (for existing but not future conditions). The inundation map in Exhibit 7 shows that a majority of Segments A and B will be completely inundated during the 100-year storm surge plus 36” SLR scenario (corresponding to the likely SLR projection at 2100).

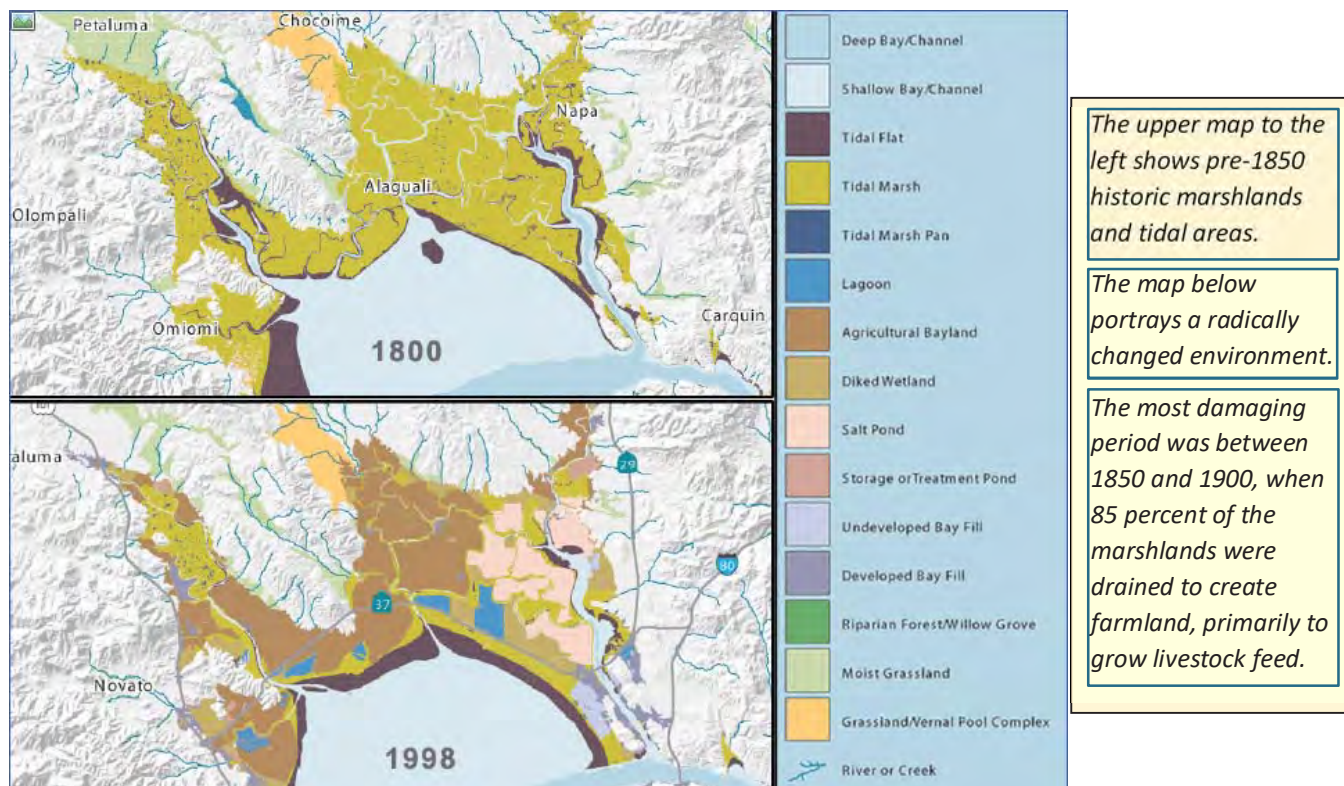


**Exhibit 7: Inundation Map - 100-year Storm Surge+36” SLR Scenario**

According to the projections, Segment A will flood during a 10-year storm surge event and will be permanently inundated around 2050 with roadway flooding depths ranging up to 5-feet. Segment B, from SR 121 to Sonoma Creek (area of Tubbs Island) will flood between the 25-year and 50-year storm surge events and will be permanently inundated around 2050 with roadway flooding depths up to 2-feet. The remainder of Segment B will be permanently inundated around 2100 with the majority of roadway depths around 0.5-feet. The low-lying area in Segment C, near Mare Island, will flood during a 10-year surge event and will be permanently inundated around 2050 with roadway flooding depths ranging up to 2-feet.

## Environmental Sensitivity

The study corridor lies within an ecologically sensitive area containing wetlands and baylands, which provide habitat for several special-status species. Exhibit 8 from the San Francisco Estuary Institute shows the historical evolution of the marshlands in the North Bay. Human activities have significantly altered this area such as hydraulic mining in the Sierras, which increased the sediment supply to San Pablo Bay and led to a buildup of marshland, salt production, draining, filling, agriculture, and development. Current levee systems, built for agriculture throughout the project corridor, further complicate this dynamic system.



**Exhibit 8: San Francisco Estuary Institute - North Bay marshlands**

Wetlands and baylands are present throughout the SR 37 corridor. Segment B west of the Sonoma Creek Bridge has wetlands and waterways present, however, it is largely upland habitat. From the Sonoma Creek Bridge, eastward to Vallejo (segments B and C), the study corridor is largely dominated by wetland and bayland habitats that are along the edge of SR 37. Wetland habitat types in the study corridor include freshwater wetlands such as drainages, springs and seeps and tidal wetlands, such as bayland mudflats, open water, and tidal ditches.



**Exhibit 9: Wetlands along SR 37**



The Napa Sonoma Marsh represents a large marshland expanse. Restoration opportunities through stakeholder collaboration may be present within the study corridor. Ongoing restoration of historic wetlands, the preservation of existing open space and further efforts are in various planning and implementation stages. Various local, state, and federal agencies as well as private and non-profit groups are involved and investing considerable resources in marshlands and habitat restoration and endangered species recovery efforts. Present day wetland locations are presented in Exhibit 12, along with sea level rise inundation estimates under the 2050 scenario.

SR 37 crosses the San Pablo Bay National Wildlife Refuge. The wetlands, waterways and uplands surrounding the corridor provide habitat for a wide variety of native fauna and flora. Exhibit 13 shows species within the projected SLR inundation area. The inundation area shown in the Exhibit 13 corresponds to MHHW+66" SLR scenario. Some of the state and federally-protected species, include:

- Salt marsh harvest mouse (FE, SE, CDFW FP)
- California Ridgway's rail (FE, SE, CDFW FP)
- California Black rail (ST, CDFW FP)
- Steelhead (FE)
- Green sturgeon (FE, CSSC)
- Longfin smelt (FC, ST, CSSC)
- Red Legged Frog (FE, SE, CDFW FP)

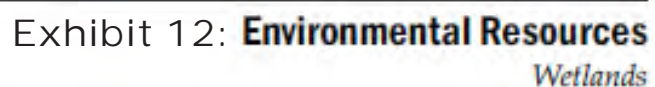
These species are largely found in areas associated with wetlands and waterways in all segments of the corridor.



**Exhibit 10: All About Birds-  
Ridgway's Rail**



**Exhibit 11: USFWS-Salt Marsh  
Harvest Mouse**





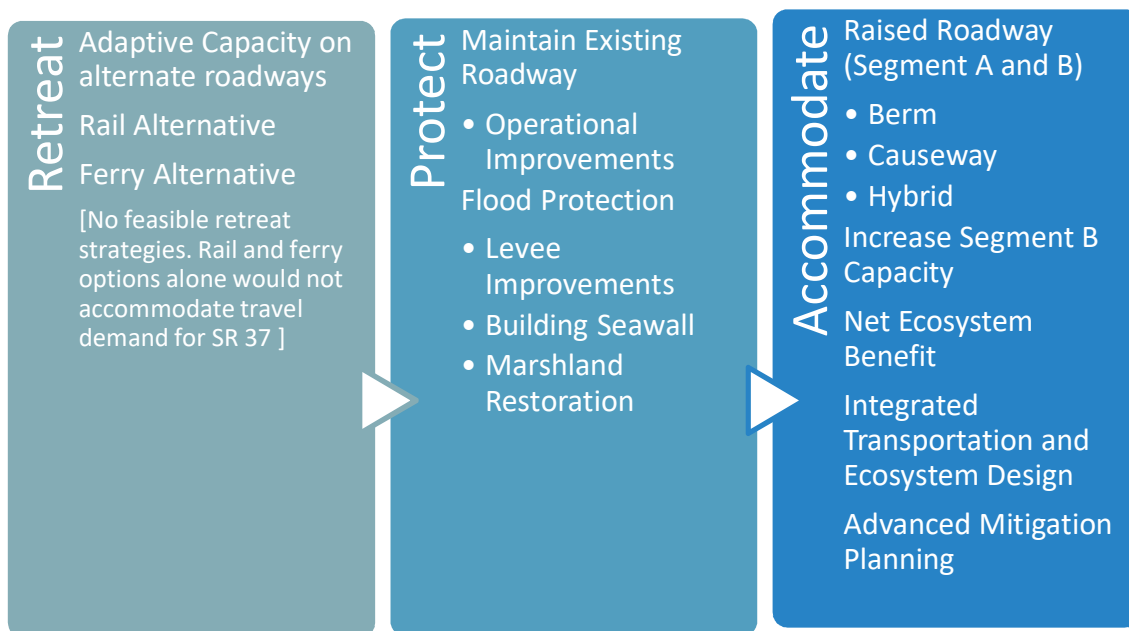


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## POTENTIAL STRATEGIES

SR 37 serves as a commute and recreational route and experiences traffic congestion both on weekdays and weekends. SR 37 acts as a secondary and reliever route to the interstates and state highways it parallels and is a recovery route for the Richmond-San Rafael Bridge in the event of an emergency closure. The existing congestion on SR 37 is projected to increase in the future thereby reducing its ability to serve commute and recreational traffic and act as a reliever route. The projected SLR in the next 90 years poses a potential threat to the highway. With the increased risk of flooding, there is a chance that portions of SR 37 will be permanently inundated or temporarily flooded in the future. Reduction or elimination of traffic on SR 37 would displace traffic to SR 29, SR 12, and SR 121 to the north and I 580 to the south. The SLR vulnerability and risk assessment study completed by UC Davis identified little available capacity on these routes in the event of a permanent SR 37 closure due to flooding. Hence, potential strategies have been developed to maintain this critical highway in the context of the existing corridor and identify adaptive mitigation strategies that will address the key corridor issues and develop resiliency to SLR.

The potential strategies were developed for key corridor issues of traffic congestion and SLR following a review of previous studies completed by UC Davis and Caltrans and coordinated with current stakeholders through TAC meetings. These strategies are consistent with adaptation strategies in the State of California SLR Guidance Document.





## Strategies to Retreat

The following strategies (alternate roadways, rail transit, ferry alternatives) were evaluated as possible strategies to retreat and it was determined that none of these are feasible standalone strategies as explained below.

1. *Available Capacity of Alternate Roadways:* MTC's travel model was run to determine the traffic diversion on alternate roadways if Segment A and Segment B are closed in the event of temporary flooding or complete inundation. The model runs determined that on the closure of SR 37 would displace traffic to alternative routes I-80, I-580, US 101, SR 12, SR 116 and SR 121 shown in Exhibit 14. Most these roadways are already experience severe traffic congestion, and the performance of these alternate routes is projected to be deteriorate with the additional traffic displaced from SR 37 closure, and hence this was not considered a viable option.

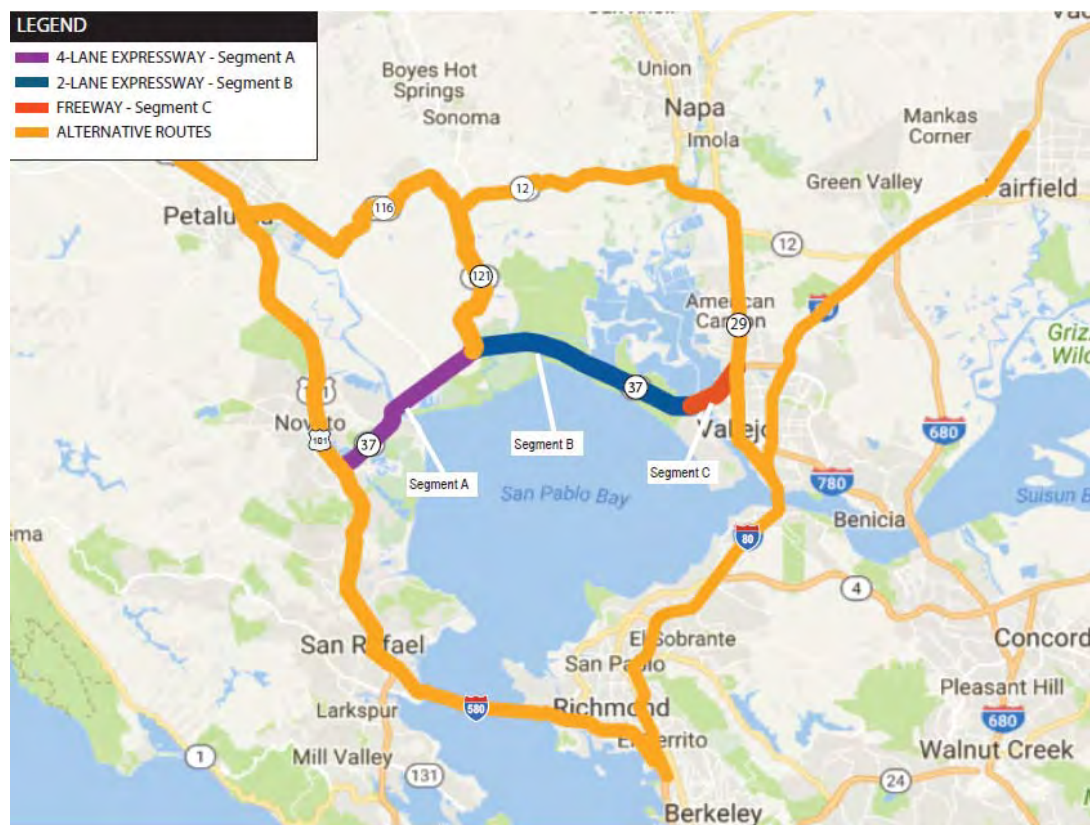
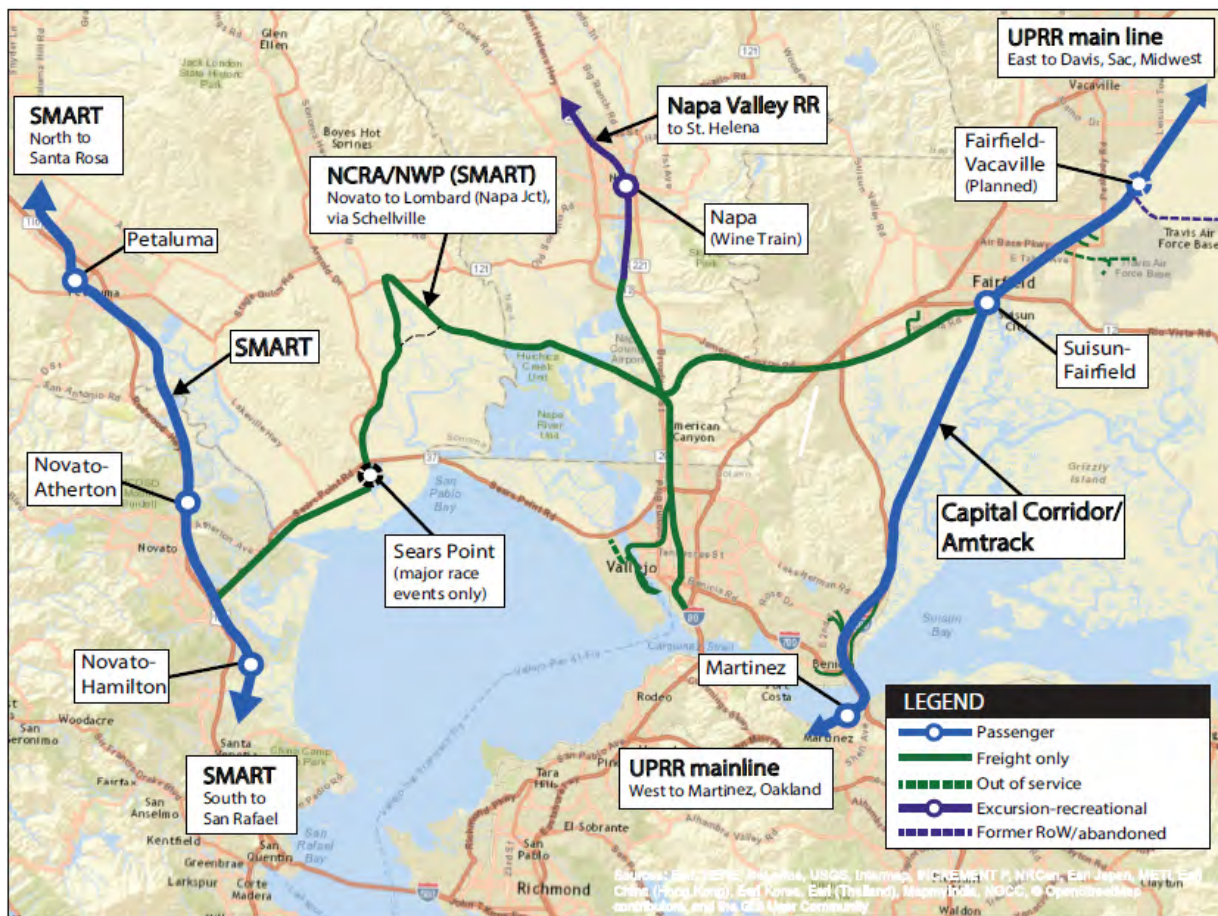


Exhibit 14: Alternate Routes

2. *Rail Alternative:* The rail alternative in the event of SR 37 closure due to inundation or flooding was considered but is not recommended for further analysis as part of SR 37 DAA due to the following reasons:
  - a. Rail has a longer and more circuitous route than SR 37 as shown in Exhibit 15, and the travel time would be high when compared to vehicular travel by road on SR 37.
  - b. The cost of needed rail improvements is significant as shown in the Table 2. The frequency of the rail service would also need to be high to accommodate the SR 37

traffic demand. The Napa/Solano Passenger /Freight Rail Study indicated relatively modest ridership projections in this corridor. However, it should be noted that the Napa/Solano study did not take a complete closure of SR 37 into account for ridership projections. Only peak hour and recreational passenger volumes were considered in the ridership projections. Detailed ridership projections are needed to truly compare road user cost and rail user costs. The additional cost of transit stations and ongoing rail maintenance and operating costs are not included in the assessment.

- c. Portions of the rail alignment, particularly in Segment A, have SLR and flooding vulnerabilities similar to the highway. Additionally, there is no real advantage of a rail alternative over roadway improvements in this segment in terms of environmental impacts.



**Exhibit 15: Existing Rail Facilities**



**Table 2 Rail Road Alternative Probable Construction Costs**

Segment	Capital Costs *
Novato to Sears Point	\$1.1 B
Sears Point to Napa Junction	\$0.2 B
Napa Junction to Vallejo	\$0.2 B
<b>Total</b>	<b>\$1.5 B</b>

\*2018 Dollars

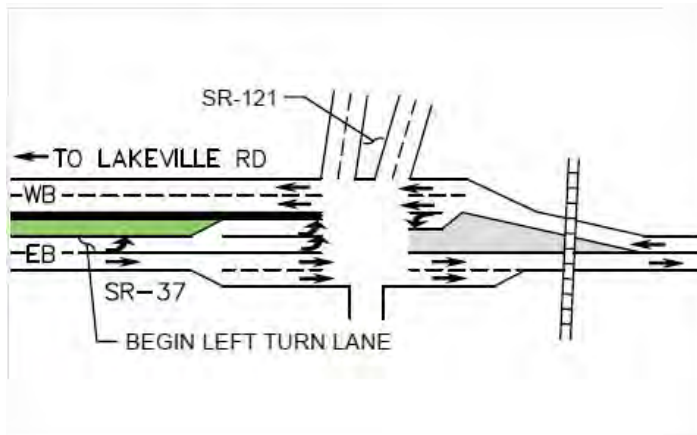
Source: Kimley-Horn 2017

3. *Ferry Alternative:* A ferry alternative is not viable as it is not possible to accommodate the traffic demand on SR 37.

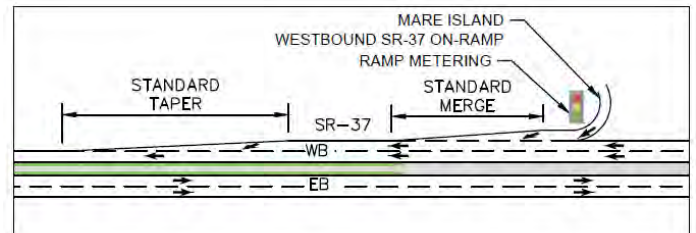
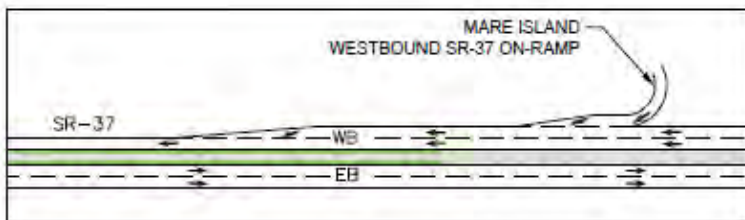
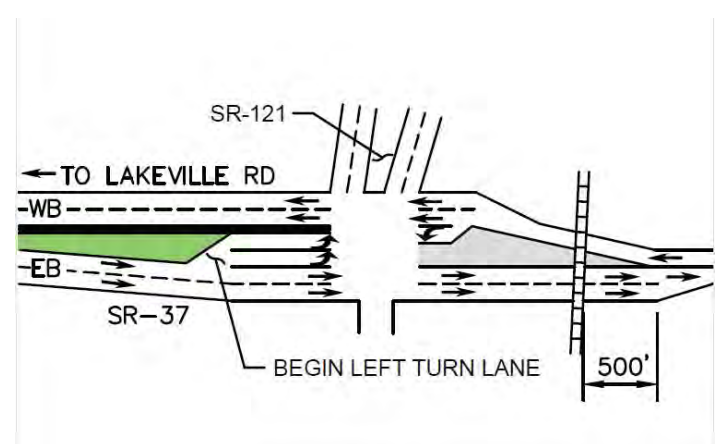
## Strategies to Protect

1. *Maintain Existing Roadway:* Traffic congestion on SR 37 can be attributed to the inefficient merging conditions approaching the lane drops and the lack of capacity in the two-lane section of the highway between SR 121 and Mare Island. Operational improvements, as shown, would improve merge conditions and help alleviate traffic congestion issues in the short-term.

**Existing Conditions**

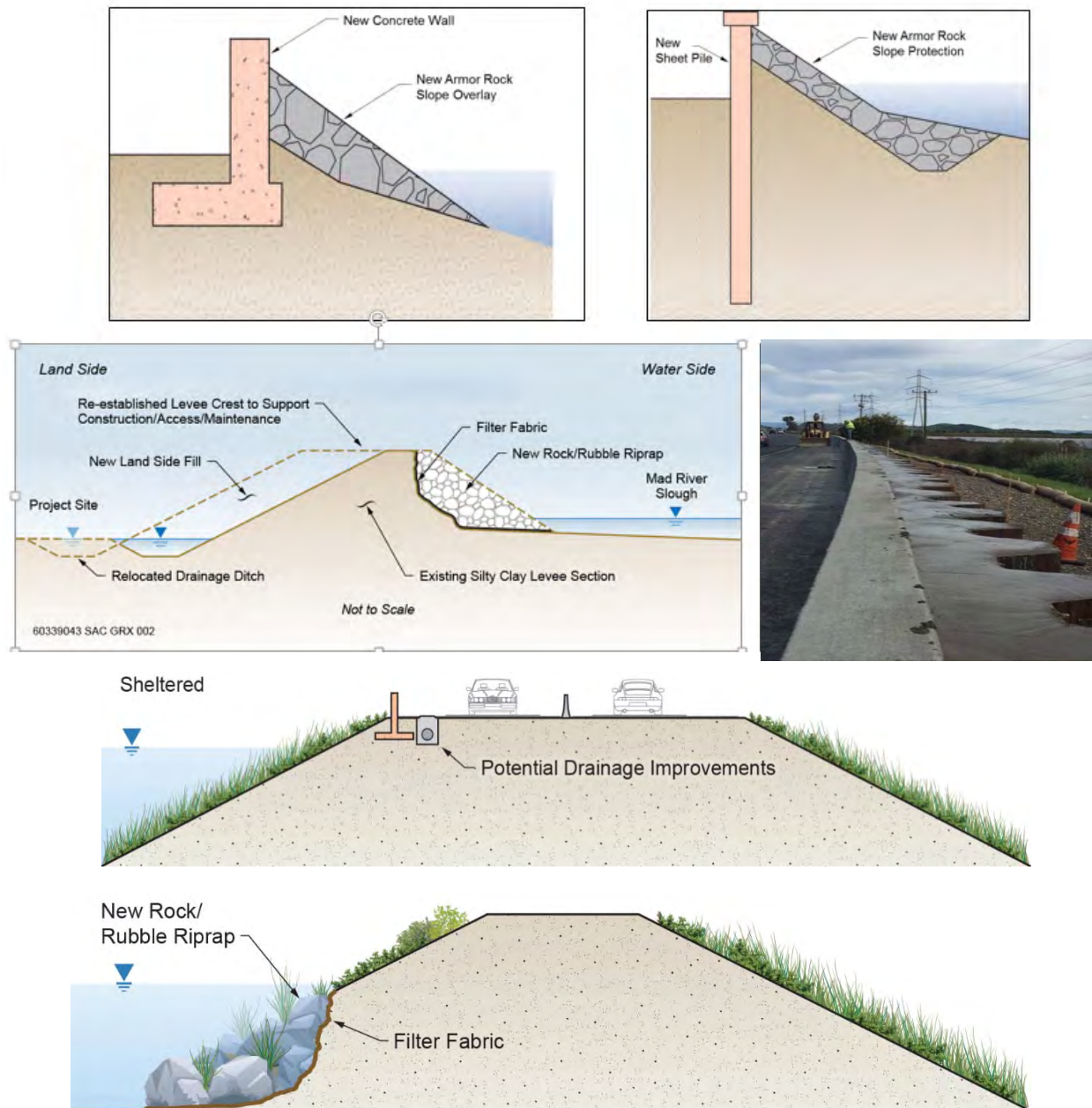


**Potential Improvements**



**Exhibit 16: Schematics of representative Intersection operation improvements and lane merge improvements**

2. *Flood Protection:* Shoreline features such as levees, berms and other topographic features currently protect SR 37 from inundation and flooding. Some of the shoreline protection strategies include raising levee crests with fill, installing sheet pile walls in the levees, installing flood barriers along the roadway and raising of some small sections of roadway at low spots.



**Exhibit 17: Schematics of representative shoreline protection features**

## Strategies to Accommodate

1. *Raised Roadway*: These strategies would elevate the roadway above the future projected limit of high tides, storm surge, and waves. State of California SLR Guidance Document recommends considering a range of SLR scenarios and planning for the “worst case scenario” for critical infrastructure, thus, long-term alternatives would need to plan for the 100-year storm+66” SLR scenario (approximately 17ft NAVD88 in sheltered areas and 20 ft. NAVD88 in areas exposed to waves).

Improvements to accommodate would address traffic congestion issues and offer SLR resiliency, as well as provide higher benefit to cost ratios and longer useful life. There are various options to constructing a raised Segment B that accommodate multi-modal transportation operations and SLR resiliency while minimizing environmental impacts and construction costs.

- An option of providing a 12’ barrier separated Class IV bicycle facility on the roadway connecting to the Class I bicycle facility on Bay Trail
- Pavement section options, along with construction staging for the permanent roadway section include:
  - Roadway elevated on an embankment
  - Roadway elevated on a box-girder causeway/box culvert
  - Roadway elevated on a slab-pier causeway/box culvert
  - Hybrid of embankment and causeway/box culvert
  - Roadway on geofabric lightweight material
- Options for constructing the roadway on north or south side of the existing SR 37 to minimize construction impacts on traffic and the environment.
- Managed lane options for any of the proposed roadway improvements in Segment B.

All the new structures will consider species migration. Center barriers on embankment sections will have openings for animal crossings and/or additional culverts to improve species migration.



**Exhibit 18: Conceptual Rendering of Embankment and Causeway Alternatives**



2. *Net-Zero Wetland Loss and Mitigation Integration:* Approaches to a goal of no-net loss of wetlands habitat to mitigate for project widening involve considering how to create opportunities for wetland restoration built into project design.
3. *Advanced Mitigation Planning:* Advanced Mitigation Planning process-ready and Early Stakeholder Coordination are key components of project success in this ecologically diverse and environmentally sensitive landscape.

Applying a Regional Advanced Mitigation Planning (RAMP) process-ready approach, is one potential approach to successful project implementation. While still in the development phase, RAMP allows natural resources protection/ restoration as compensatory mitigation before infrastructure project construction. RAMP is a voluntary, non-regulatory regional planning process resulting in higher-quality conservation outcomes. New legislation AB 2087 grants CDFW authority to approve RAMP mitigation credit agreements, which can be implemented following creation of a Regional Conservation Assessment (RCA).

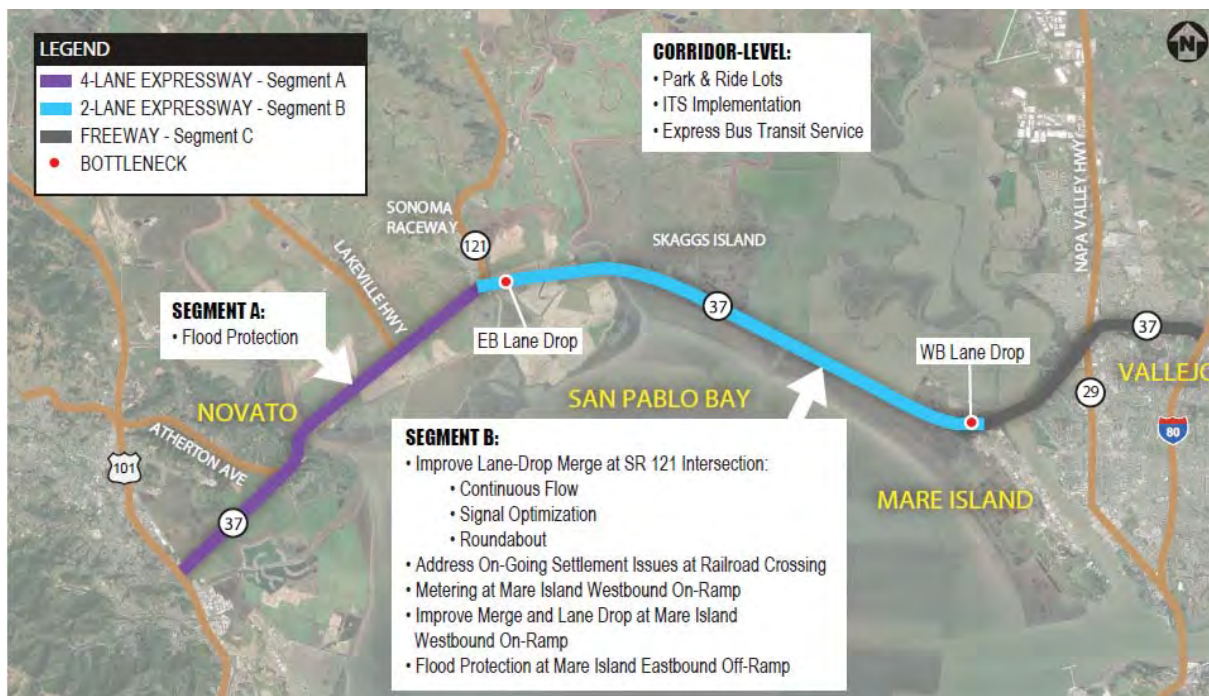
## IMPLEMENTATION PLAN

Consideration of existing environmental habitat and enhancement opportunities are important to create a multifunctional project solution that goes beyond traditional roadway corridor planning, particularly in the face of climate change and surrounding sensitive ecosystem. The implementation of any improvements along the study corridor will employ integrated transportation and environmental mitigation strategies.

### Near-term Solutions

While the mid- to long-term solutions will accommodate resiliency to SLR and ease traffic congestion, the Corridor Plan recognizes that there needs to be near-term strategies to improve existing traffic congestion and address flooding issues in the corridor.

Near-term improvements are estimated to take one to five years to implement, have minimal to no impact on the environment and provide cost-effective solutions to addressing immediate needs of the corridor. These potential improvements focused on corridor wide operational improvements and short-term flood protection. Exhibit 19 illustrates potential near-term improvements along the study corridor.



**Exhibit 19: Near-Term Improvements**

**Flood Protection Improvements:** Flood protection improvements will address weak links in Segment A (A1 and A2), B1, and C. Exhibit 20 shows the limits of individual reach within the segments. Existing roadway elevations, relative to existing and proposed future levee elevations, are shown in Table 3.

The extent of levee improvements to protect Segment A will be dependent on the design storm and planning horizon. Levee improvements to protect against the 100-year storm event would be costlier, require a longer implementation timeline, and have greater environmental impacts. The DAA will identify near-term roadway and levee improvements to address existing flood vulnerabilities and protect SR 37 to year 2050. Beyond 2050, the roadway will likely need to be raised as the scale of levee and shoreline improvements required would likely not be feasible – particularly for Segment A.

**Table 3 Road and Levee Characteristics**

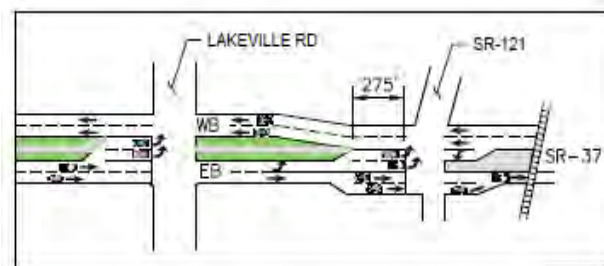
Reach	A1	A2	B1	B2	C
Roadway Elevation (ft. NAVD 88)	4 to 6	2 to 4	8 to 9	7 to 11	>13
Existing Levee Elevation (ft. NAVD 88)	10 to 13	9 to 10	9 to 12	N/A	N/A
2050 Levee Elevation (ft. NAVD 88) Segment A	12.5 to 12.9 (100-yr flood protection) 11.4 to 11.6 (10-yr flood protection)				
2050 Levee Elevation (ft. NAVD 88) Segment B	14.8 to 15.2 (100-yr flood protection) 13.7 to 13.9 (10-yr flood protection)				



**Exhibit 20: Study Corridor Segments**

The near-term traffic improvements focus on improving operations with minimal environmental impact and include the implementation of ITS elements.

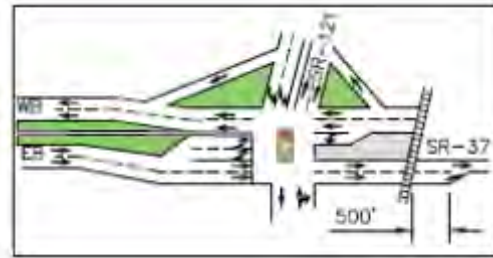
**Improve Lane-Drop Merge at SR 121 Intersection:** Currently, the lane configuration on EB approach of the intersection is two left turn only lanes and two through lanes through the intersection. The through lane drops from two lanes to one lane prior to the railroad crossing. During weekday PM peak periods, the EB approach becomes congested and motorists experience long queues and significant delays approaching the lane drop. Shifting the lane drop to east of the railroad crossing by about 500 feet and improving lane drop transition helps alleviate the traffic congestion approaching this location. In conjunction with this improvement, the following three options for the SR 37/SR 121 intersection are recommended to improve flows approaching and through the intersection.



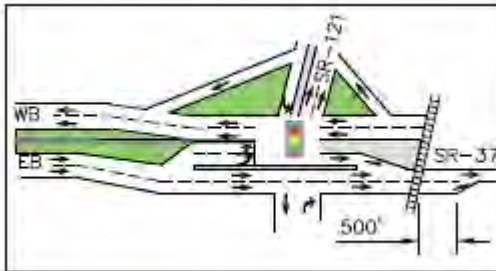
**Exhibit 21: Existing Condition**



- Signal optimization and roadway widening
- Continuous T intersection
- Roundabout with two EB by-pass lanes



**Exhibit 22: Signal Optimization**



**Exhibit 23: Continuous T Intersection**



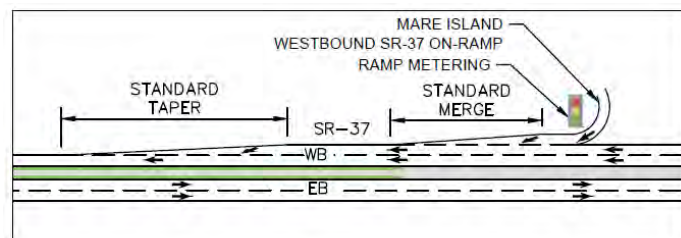
**Exhibit 24: Roundabout Intersection**

**Settlement Issues at Railroad Crossing:** The railroad crossing settlement east of SR 121 also slows down trucks and vehicles and reduces eastbound throughput of SR 121/SR 37 intersection. Northwestern Pacific Railroad is currently working on addressing the current settlement. Early coordination with the railroad will be critical if the settlement continues. This improvement is included in the corridor plan.

**Metering at Mare Island WB On-Ramp:** Improvements include ramp metering at the westbound SR 37 on ramp to smooth traffic flows and limiting the SB approach from the vista parking lot to right turn only movement.

#### **Improve Merge and Lane Drop at Mare Island WB On-Ramp:**

Improvements include modifying the lane drop and merge west of Mare Island on-ramp to provide a standard merge and taper. This will increase existing WB bottleneck throughput west of Mare Island.



**Exhibit 25: Improvements at Mare Island**

**Park and Ride Lots:** STA is studying potential locations for park and ride lots along the SR 37 corridor. These park and ride lots could provide opportunities for vanpool/carpool services and transit connections.

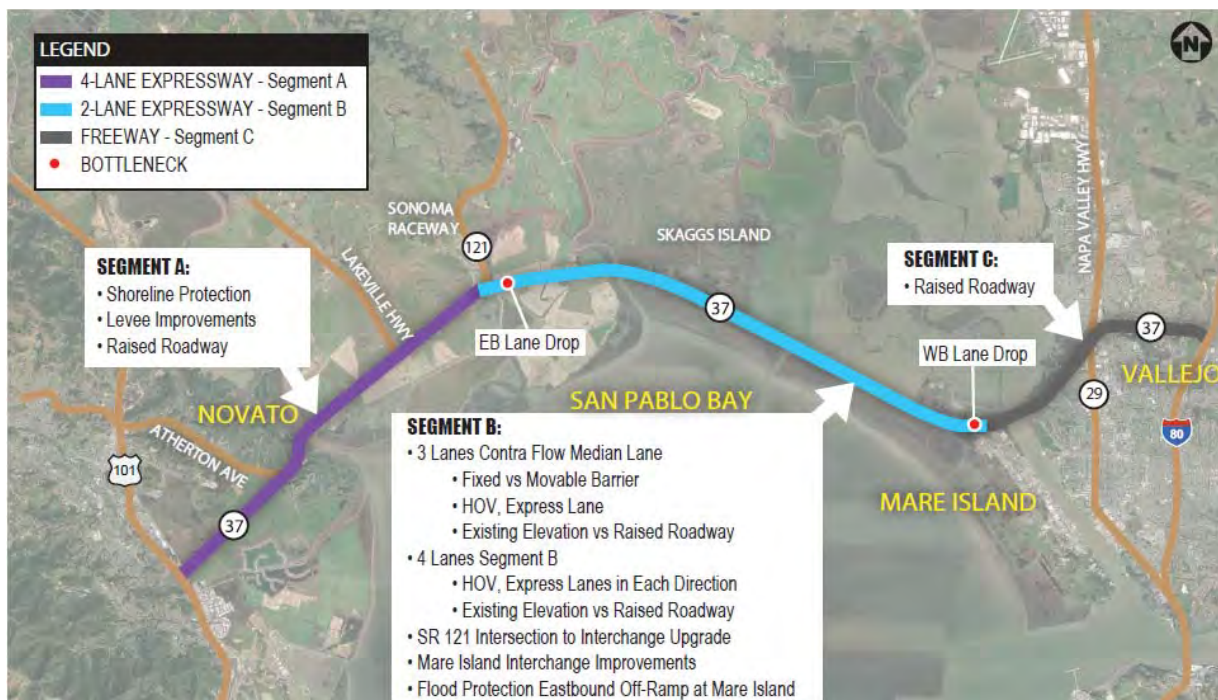
**Express Bus Transit Service:** There is currently no transit along the study corridor. With the implementation of near-term operational improvements on SR 37, the transit travel time reliability on the corridor should improve, providing opportunities for Express Bus Transit service. Express Bus Transit service connecting City of Vallejo transit hub with other transit hubs in the Cities of Novato and San Rafael during commute hours could be considered. Bus Transit between City of Vallejo and San Rafael

with a connection to Infineon raceway could address traffic issues related to raceway events. This corridor plan did not study opportunities for Express Bus Transit Service in detail. It is suggested that potential for Express Bus Transit Services be studied in more detail as part of a separate study.

**ITS Implementation:** The improvements include the installation of changeable message signs on SR 37 to give real time traveler information and better inform decisions.

## Mid- to Long-term Solutions

The long-term solutions are based on accommodation strategies addressing future SLR impacts to the highway and include opportunities for multi-modal operations and wetland restoration built into project design. For critical infrastructure such as SR 37, the lifespan of long term solutions is assumed to be beyond 2100. Mid- to long-term improvements are estimated to take more than five years to implement with moderate to high environmental impact, requiring intensive agency coordination and requiring greater funding to complete. Exhibit 26 illustrates potential mid- to long-term strategies along the study corridor.



**Exhibit 26: Potential Mid to Long-Term Improvements**

**Levee Improvements in Segment A:** Improvements include continuing to raise levee crests at low spots along Segment A to protect the highway from flooding. This is expected to be a mid-term solution for flood protection until Segment A is raised.

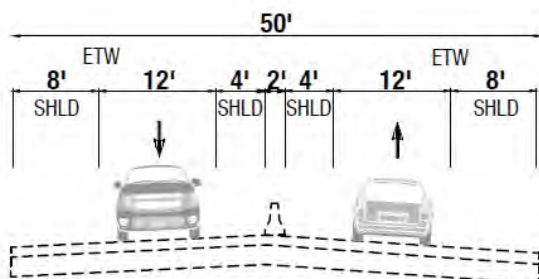
**Raised Roadway in Segment A:** Elevate roadway on causeway or embankment as a long-term solution for SLR adaptation. This will provide opportunities for wetland restoration and reconnection of Bay hydrology. Improvements include adding a grade separated Lakeville Highway Interchange.

**SR 121 Interchange Improvements:** Improvements include reconfiguring the SR 121 intersection to have a grade separation with SR 37. This also includes a grade separation of the railroad crossing east of SR 121.

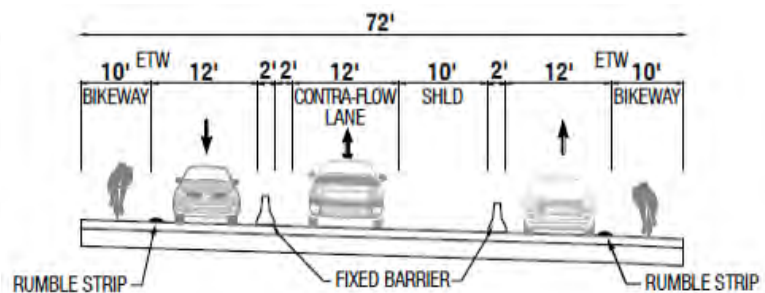
**Widen 2-lane segment from SR-121 to Mare Island:** Currently, Segment B is a two-lane conventional highway segment between SR 121 and Mare Island and is the primary cause of corridor congestion due to vehicular demand exceeding capacity. The DAA will provide detailed traffic analyses quantifying the benefits of the widening and potential of latent demand, the potential for HOV/managed lane options, and bus transit service along the corridor. Conceptual improvements in Segment B would be integrated with the surrounding ecosystem and will need to be coordinated with the ongoing restoration efforts in the area and build resiliency to SLR. To increase the capacity of the Segment B, the following options for widening Segment B are proposed for detailed traffic operations analysis.

- 3-lane section
- 4-lane section

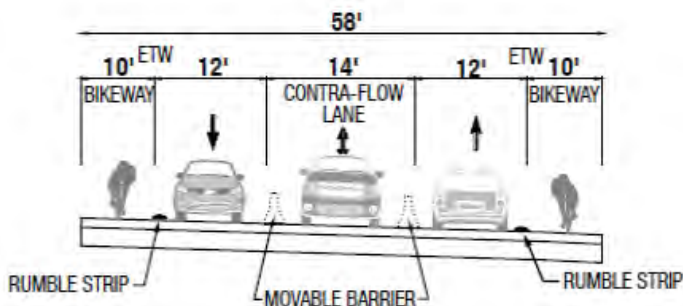
The typical sections for each of these alternatives are shown below. The three-lane contra-flow will include either a moveable barrier or a reversible median lane with fixed barriers. The fixed barrier reversible lane section will require a 12' lane with 2' left shoulder and a 10' right shoulder. Given the 2' width of each of the two permanent barriers, this option will not significantly reduce the roadway footprint compared to a 4-lane section with a median barrier. Both the 3 lane and 4 lane alternatives will provide for shared bicycle usage on 10' right shoulders. Current concrete barriers along the levee sections of SR 37 were designed with openings to allow small animals like the salt harvest mouse to cross the roadway. The proposed design, either fixed or movable barrier, will require same type of provision for any levee segments.



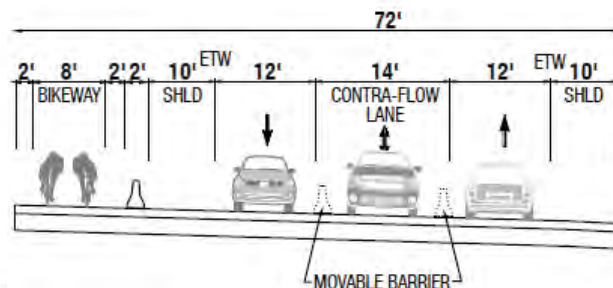
**Exhibit 27: Existing Segment B**



**Exhibit 28: Three Lanes Section with Fixed Barrier**

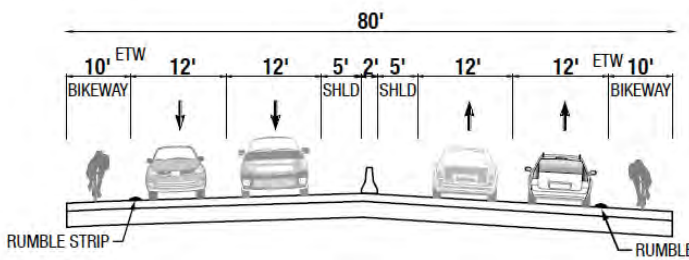


**Exhibit 29: Three Lanes Contra-Flow Section with Movable Barrier and Bikeways**

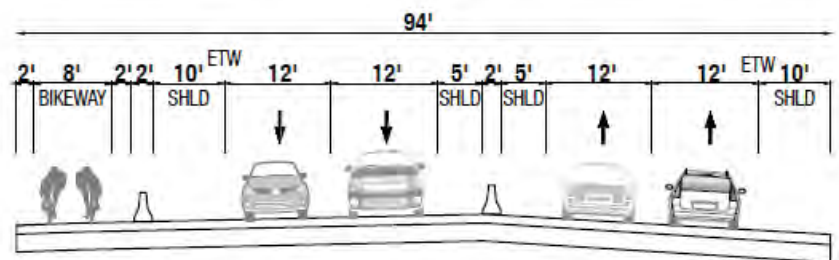


**Exhibit 30: Three Lanes Contra-Flow Section with Movable Barrier and Bikeway**





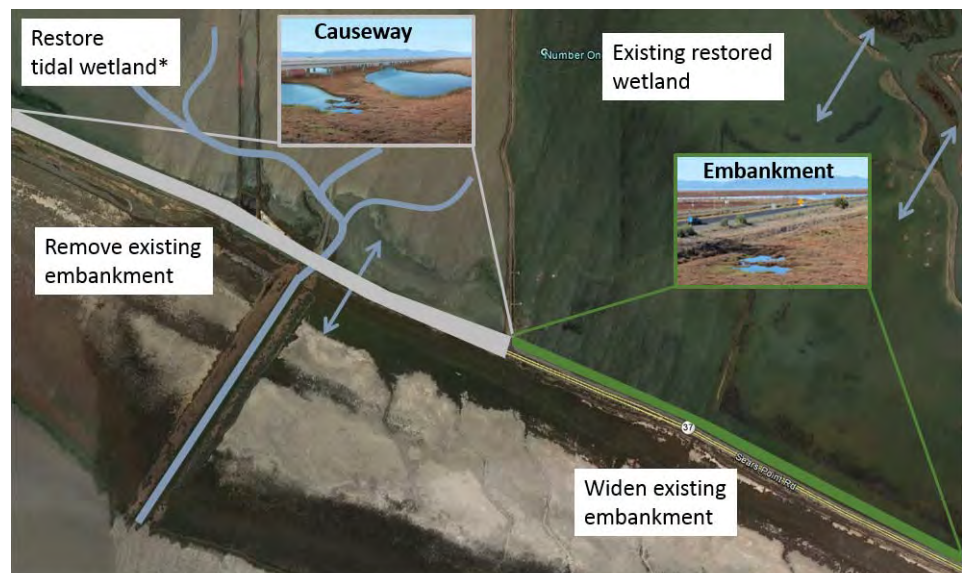
**Exhibit 31: Four Lane Section with Bikeways**



**Exhibit 32: Four Lane Section with Bikeway**

Highway modifications will integrate traffic improvements, environmental sensitivity and enhancement considerations, and flooding and SLR adaptation (as discussed in the Environmental Sensitivity section of this report). No-net loss mitigation for long-term SLR strategies could occur through:

1. Alternating fill embankment and causeway to raise road: The causeway would create wetland restoration opportunities by reconnecting the hydrologic and ecological landscape, providing a corridor for species to migrate upslope as sea level rises,



**Exhibit 33: Hypothetical Illustration of Restoration Scenario**

and offsetting fill. Other alternatives to reconnect hydrology and habitat, such as culvert connections underneath the highway, could also be considered. Culvert connections could be a more economical alternative to reconnect dike areas to the bay compared to an open channel connection with bridge/causeway, however, the ecological benefits would be less and embankment fill impacts would be mitigated through other methods.

2. Large-scale offsite restoration: In this large-scale approach, large, contiguous parcels of land would be restored to wetland habitat, which would provide habitat of higher ecological value when compared to smaller parcels of land. A suitable site within San Francisco Bay (preferably within the San Pablo Bay) could be identified through stakeholder coordination.
3. Large-scale on-site restoration: Large-scale on-site restoration opportunities may be available, which would enhance the ecological value of landscape within the greater project corridor. Opportunity may exist for collaboration or contribution to on-going restoration projects in the area. A suitable site along the SR 37 corridor could be identified through stakeholder coordination.

**Mare Island Interchange Improvements:** Improvements include reconstruction of Mare Island Interchange to address traffic and flooding issues. Interchange improvements would need to align with widening and raising of the two-lane segment B.

**Raised Roadway in Segment C:** Improvement options include raising the highway between the Napa River Bridge and just west of SR29/SR37 Interchange for a length of approximately 1 mile, reconstructing the Sacramento Street Overcrossing, White Slough Bridge, the western approach of Napa River Bridge, and the westerly ramps at SR29/SR37 Interchange.

The DAA will develop near-term shoreline improvement scenarios based on different design storms and planning horizons to evaluate the cost-benefit of proposed improvements. The timeline of implementing traffic, flood control, and environmental improvements from near-term to long-term is shown in the implementation timeline Exhibit 34.

# SR 37 Corridor Plan

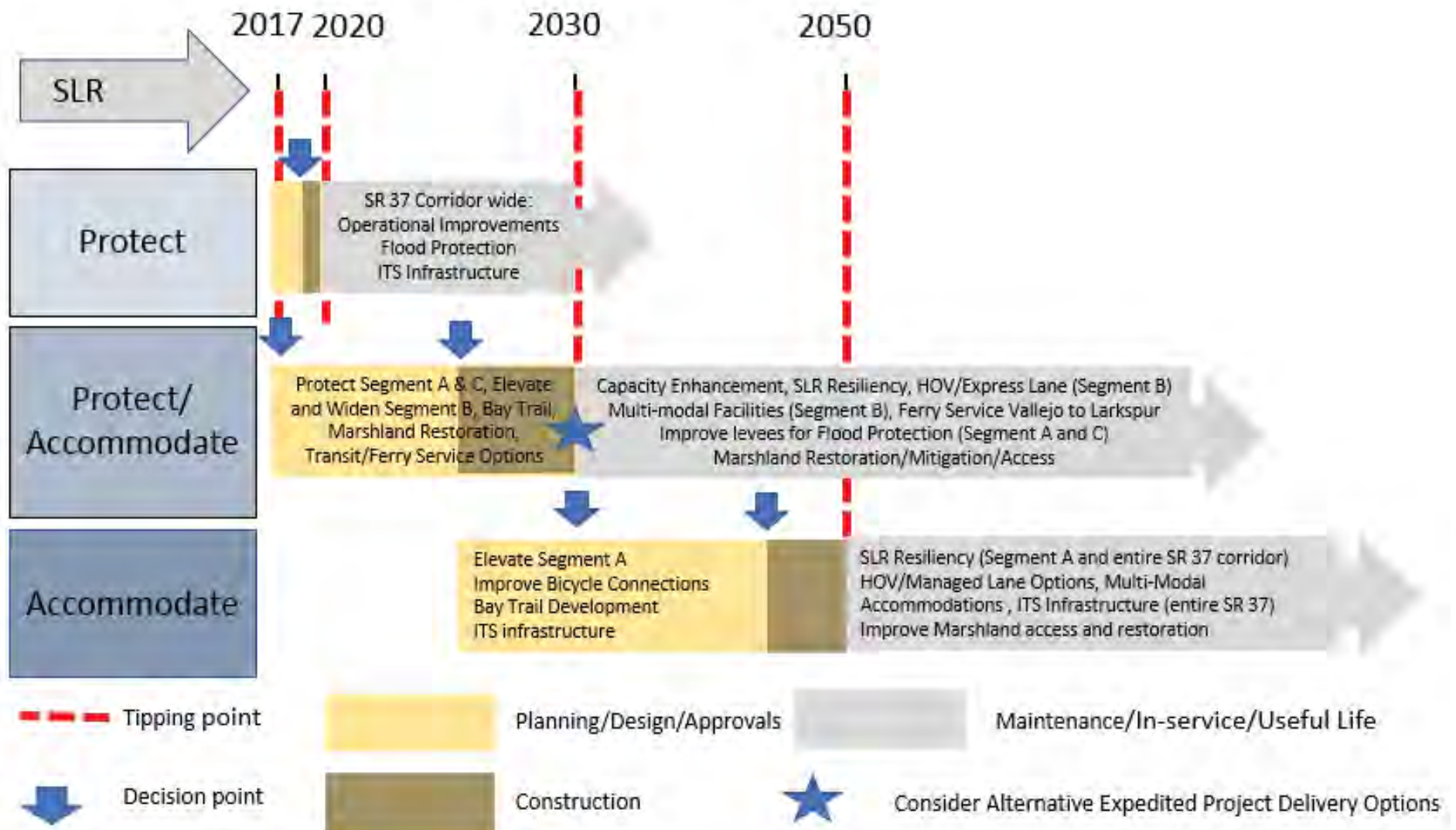


Exhibit 34: Implementation Timeline

## POTENTIAL IMPROVEMENTS-SUMMARY

Table 4 summarizes near-term improvements with total project cost estimates and implementation time-frame.

**Table 4 Near-Term Improvements Summary**

Location	Improvement	Total Project Cost (2017 \$)	Implementation Time Frame
Segment A	Flood Protection	\$7.5 M	1-3 years
Segment B	SR 37/SR 121 Intersection Improvements		
	• Signal optimization and roadway widening	\$5 M	1-3 years
	• Continuous T intersection	\$7 M	1-3 years
	• Roundabout with two EB by-pass lane	\$10 M	1-3 years
	Flood Protection		
	• Raise levee crest at low spots	\$3.5 M	1-3 years
	• Shoreline protection at Tolay Lagoon	\$3.5 M	1-3 years
	Fix Settlement Issues at Railroad Crossing (Work done by Northwestern Pacific)		1-2 years
	Metering at Mare Island WB on-ramp	\$4 M	3-5 Years
	Westbound merge and lane drop improvements west of Mare Island on-ramp	\$2.5 M	1-3 Years
	Flood protection-Raise road at Mare Island	\$5 M	1-3 years
Corridorwide	Park and Ride Lots (STA is leading a planning study)	\$2 M	1-2 Years
Corridorwide	Express Bus Transit Service (Suggested study by others)	TBD	1-2 Years
Corridorwide	ITS Improvements-Changeable Message Signs	\$4 M	1-2 Years

Notes: Costs Include PA/ED Support, PS&E Support, Right of Way Support, and Construction Support Costs



Table 5 summarizes mid- to long term improvements with probable cost estimates and implementation time-frame. It is proposed that the near-term flood improvements be implemented immediately (1-3 years) and the mid-term improvements be implemented in 10-20 years that can protect the highway from flooding till 2050.

**Table 5 Mid- to Long-term Improvements Summary**

Location	Improvement	Total Project Cost (2030 \$)	Implementation Time Frame
Segment A	Levee Improvements for flood protection	\$7 M	10-20 years
	Raised Roadway and Lakeville Highway Interchange Improvements	\$420 M - 1,600 M	20-30 years
Segment B	SR 121 Interchange Improvements including SR 37 and Rail Road grade separation	\$100 M	10-20 years
	Widen 2-lane segment from SR-121 to Mare Island + Mitigation		
	• Roadway widening to 3 lanes at existing elevation	\$210 M	7-10 years
	• Roadway widening to 4 lanes at existing elevation	\$350 M	7-10 years
	• Roadway widening to 3 lanes, raised on berm/fill	\$880 M	7-10 years
	• Roadway widening to 4 lanes, raised on berm/fill	\$1,100 M	7-10 years
	• Roadway widening to 3 lanes, raised on causeway	\$1,900 M	7-10 years
	• Roadway widening to 4 lanes, raised on causeway	\$2,500 M	7-10 years
	Mare Island Interchange Improvements-Complete reconstruction of Interchange	\$50 M	7-15 years
	Flood protection; Raise road at Mare Island to protect highway from future flooding (1 ft. SLR at 2050) (assumes short-term improvements were implemented previously)	\$8 M	7-10 years
Segment C	Raised Roadway-From Napa River Bridge to just west of SR 29/SR 37 Interchange	\$150 M-\$370 M	10-20 years

Notes: Costs Include

- 3 to 1 Environmental Mitigation
- PA/ED Support, PS&E Support, Right of Way Support, and Construction Support Costs
- Escalation Costs



## PRIORITY SEGMENT

Segment B between SR 121 (Sears Point) and Mare Island (Vallejo) was identified as a priority segment for capacity enhancement to close the gap between the two four-lane segments on either end. The UC Davis Study performed vulnerability and risk assessments related to SLR for each study segment by estimating and aggregating impacts to costs of improvements, recovery time, public safety impacts, economic impact on commuters and goods transport, impacts on transit routes, proximity to Communities of Concern, and impacts on recreational activities. Based on the results of the risk assessment, Segments A and C were assigned moderate risk ratings, while Segment B was assigned a high-risk rating. The Corridor Plan reevaluated the risk and vulnerability assessment, with the addition of alternate routes impacts, which ultimately concurs with the UC Davis assessment. Consequently, it was concluded that Segment B would be considered as the priority segment in the study corridor.

## NEXT STEPS

As next steps, detailed traffic operations analysis will be performed for the near-term and mid- to long-term improvements recommended in the Corridor Plan based on forecasted demand and growth in the corridor. Preliminary engineering design plans and cost estimates will also be developed for the Priority Segment B project.



# Highway 37 Improvement Plan

Join us for an **Informational Open House**  
Come to the one nearest you!

In response to impacts from **sea-level rise, flooding** and **increased traffic** along the corridor, the counties of Marin, Napa, Sonoma and Solano, in partnership with Caltrans and the MTC, are planning to **improve access and safety** along Highway 37.

The Open Houses will aim to:

- **Inform** residents and Highway 37 users about the status of the planning process
- Provide an opportunity for participants to share their concerns and **provide feedback**

## NOVATO - Wednesday, Sept. 20<sup>th</sup>

6 pm to 8 pm at The Key Room  
1385 Hamilton Parkway, Novato

## AMERICAN CANYON - Wednesday, Sept. 27<sup>th</sup>

6 pm to 8 pm at the American Canyon Council Chambers  
4381 Broadway Street, American Canyon

## SONOMA - Thursday, Sept. 28<sup>th</sup>

6 pm to 8 pm at Sonoma Veterans Memorial Building  
126 First Street West, Sonoma

## VALLEJO - Monday, Oct. 2<sup>nd</sup>

6 pm to 8 pm at the Vallejo Naval and Historical Museum  
734 Marin Street, Vallejo

Project led in partnership by:





## STATE ROUTE 37 IMPROVEMENT PLAN

# Upcoming Outreach Activities

As the planning process for State Route 37 moves forward, we anticipate hosting and conducting a number of different outreach activities to keep the public informed and provide opportunities for input. To ensure broad participation, outreach activities will provide opportunities for people to participate in-person, via the internet and by telephone. The outreach activities and opportunities for public participation proposed for the next year include:



### Open Houses

September 20th, 27th, 28th, and October 2nd



### Focus Groups



### Online Survey



### Community Workshops



### Telephone Town Hall

## Stay Engaged!

Learn more at:

[www.tam.ca.gov](http://www.tam.ca.gov) | [www.sta.ca.gov](http://www.sta.ca.gov) | [www.scta.ca.gov](http://www.scta.ca.gov) | [www.nvta.ca.gov](http://www.nvta.ca.gov)



DATE: September 19, 2017  
TO: SR 37 Policy Committee  
FROM: Robert Guerrero, Senior Project Manager  
RE: SR 37 Policy Questions: 1) Legal/Legislation/Finance Plan and 2) Contract and Agreement

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**BACKGROUND:**

Since July 2016, the SR 37 Policy Committee began to develop a series public policy questions and recommendations related to the financial management and administration of potential public private partnerships and full privatization of the SR 37 corridor. This effort was in response to an unsolicited proposal submitted by United Bridge Partners (UBP), a private investment firm that proposed to fully finance corridor improvements on SR 37 from Mare Island in Solano County to SR 121 in Sonoma County.

The four County Transportation Authority Executive Directors and the Project Leadership Team developed 25 questions with recommendations for the SR 37 Policy Committee to consider over several meetings. The questions were categorized as follows:

1. SR 37 Corridor Policy Committee Role and Responsibilities
2. Public Process
3. Project Delivery/Corridor Planning
4. Proposal Evaluation Criteria
5. Legal/Legislative Policies/Finance Plan
6. Contract/Agreements

Originally, the entire set of policy questions were in direct response to policy questions raised by UBP's unsolicited proposal. The questions evolved to be broadly applicable to help guide and evaluate other potential financing partners (and UBP) through an open public process.

**Discussion:**

The SR 37 Policy Committee will be presented with the last set of policy questions and recommendations at their September 25, 2017 meeting. This includes questions related to Legal/Legislative Policies/Finance Plan and Contract/Agreements.

In summary, the Legal/Legislative Policies/Finance Plan policy questions address the issue of which agency can enter into an agreement with a private partner through a letter of intent or other similar means. It also provides an overview of legislative actions required for four potential financing options as well as relinquishment of a facility and requirements related to a free lane facility. In addition, the Legal/Legislative Policies/Finance Plan policy questions address potential toll revenue sharing scenarios.



The Contract/Agreement policy questions focus on risk transfer and liability in the event that a private finance firm fails to deliver a project due to unforeseen circumstances. The policy questions under this category attempts to clarify the need for addressing risk transfer and liability as part of contract negotiations and agreements.

**Recommendation:**

Approve the Legal/Legislation/Finance Plan and Contract and Agreement Policy recommendations as shown in Attachment A.

Attachment: A. Legal/Legislation/Finance Plan and Contract and Agreement Policy  
Recommendations

## I. Legal/Legislation

1. Can a local agency sign a Letter of Intent (LOI) if they do not own the facility? What are the legal and financial risks if local agencies sign an LOI but legislation fails to pass in order to transfer the facility? What obligation does a LOI bind the JPA should legislation not be successful?

The MOU group is not in a position to sign a LOI as it currently holds no interest in the facility (it is Caltrans' facility). In order for the LOI to have any legal standing, the facility would need to be relinquished to one or more counties or to a JPA formed by the counties for this purpose. If the facility is relinquished to one of the counties, then no JPA would need to be formed for purposes of owning the facility. If the facility was relinquished to more than one county, the parties would have to determine the appropriate contractual vehicle between the participating counties and it would need to be executed prior to relinquishment by the state which most likely includes either a JPA or a Joint Exercise of Power Agreement. Since the state has no authority to relinquish a roadway to an entity other than a city or county, legislation would be required to allow the state to relinquish the roadway to a JPA formed for that purpose.

Unless they have potential ownership interest in the roadway, the CMAs should not sign a LOI with a concessionaire. If the counties were to sign the LOI, the LOI would need to explicitly state that there would be no obligation by the counties (or future JPA signatories), explicit or implicit, should the state fail to relinquish the facility, if P3 legislation and/or any necessary legislation fails to pass, or if Caltrans/CTC failed to authorize the collection of tolls on the facility, because the counties, under current law, would have no power to authorize a private party to collect tolls.

Unless Streets & Highway Code section 143 is not amended to allow for the execution of new lease agreements, the counties would need to provide an opportunity to potential private partners to provide proposals and establish the requirements (i.e. statutory, regulatory and goals) and evaluation factors (i.e. environmental, technical and financial) that a proposal will be evaluated against. Proposals should be solicited prior to entering into the LOI with any concessionaire. (Government Code sections 5956 et seq.)

If the counties were to first form a JPA to sign the LOI, rather than signing themselves, all of the same conditions listed above should be included in the LOI related to passage of legislation, etc. But by first forming the JPA and having the JPA enter into the LOI, the counties would be further insulated from any unforeseen issues related to the LOI.

2. What legislative actions are necessary for charging a toll without a free alternative given the current facility is free? Which agency will be responsible to sponsor any required legislation for the corridor?

There are several approaches to financing/delivering the project. Staff has so far evaluated 4 potential models: Traditional Public; Private; Public/Private, Public/Public. Below is a summary of the legislation that would be required for each model.

1. Traditional Public – under this model, the four agencies and Caltrans would use traditional funding mechanisms to rebuild the facility. As a reminder, this model assumes that each county would contribute all of its Regional Transportation Improvement Program (RTIP) funds and that Caltrans would contribute Interregional Transportation Improvement Program (ITIP) funds. Under this scenario, the project would be completed in 2088. No legislation would be required because there would be no transfer of the facility from Caltrans and tolling the facility would not be a factor.
2. Private – under this model, the State would relinquish the facility to a private funder/contractor. State legislation would be required to permit tolling on the facility. Legislation permitting the privatization of the facility would probably need to be added under the public private partnering legislation eliminating the public/private sunset providing currently being considered (AB 1454 (Bloom)) by the state legislature. No federal legislation to toll seems to be necessary as SR 37 is not an interstate<sup>1</sup>. No federal restrictions for privatization of the facility appear to be an issue.
3. Public/Private – under this model, for the purposes for this discussion, we’re assuming that the private entity would design, finance, build, operate, and maintain the facility. Under this scenario, state legislation would be required to both toll the facility and to permit a public/private partnership arrangement (i.e. AB 1454 (Bloom)). No federal legislation appears to be necessary under this scenario.
4. Public/Public – under this model, the Bay Area Toll Authority (BATA) would issue debt against future tolls to design, build, and maintain the facility. Legislation would likely be required to designate it as a Bay Area State-Owned Bridge and/or to just toll the facility. No federal legislation appears to be necessary under this scenario.

Federal law currently prohibits the imposition of a toll on an existing “free” lane Interstate facility. But it is our understanding that if a non-Interstate, federal aid, facility

<sup>1</sup> Federal regulation does not currently allow tolling on existing interstate highway lanes. If SR 37 was an interstate, legislation would be required if it was deemed necessary to toll existing lanes.



is being reconstructed, rehabilitated, or replaced, it can be converted to a toll facility without a free alternative. (23 U.S.C. §129 (a)(1)(F).)

Legislation may be needed to allow for tolling if the facility is relinquished to a county or a multi-county JPA. If the roadway was to remain with the state, California legislation currently limits tolling to four projects and SR 37 is not included on this list. Therefore, legislation would need to be passed at the state level to authorize tolling on SR 37. Regarding who should sponsor such legislation, depending on the structure of the project that moves forward and who is the lead agency, collaboration with Caltrans and/or MTC and the four northern counties will be needed.

## **II. Finance Plan**

What provisions are included for toll revenue sharing? For example, if there is a revenue threshold that is exceeded, how will the revenue be split with the proposer and local/state agencies?

If a concessionaire wants to fully privatize or long-term lease SR 37, any revenue sharing would need to be agreed to in the LOI and in future development agreements, and would depend on the structure of the project. Possible revenue sharing scenarios include:

- a. Concessionaire has proposed that it would collect the tolls, and that an unspecified portion of the revenue would be available to fund environmental initiatives benefiting the San Pablo Bay region. The proposal does not recommend a specific level of revenue sharing, or any revenue sharing for projects other than environmental initiatives, presumably to avoid being undercut by other proposers in a future public bidding process. Any concessionaire would need approval from the CTC/Caltrans to collect tolls (if it's a lease agreement), etc.
- b. Alternatively, MTC/BATA could assume project oversight and bridge administration. Under this scenario, MTC/BATA would manage the facility, similarly to the other bridge tolls. This would require authorization from CTC/Caltrans, or special legislation, as MTC's authority to collect tolls is currently limited to specified bridges. Revenue sharing between local/regional agencies would come through regional measure-funded projects. RM1 paid primarily for new bridge facilities and maintenance. RM2 primarily paid for transit projects that relieve congestion in the bridge corridors and strategic highway projects. RM 3, if passed, may be to be a combination of RM1 and RM2 type projects.
- c. One or more of the Counties, or the JPA (if formed), could also assume project oversight and bridge administration. The CTC/Caltrans would have to authorize the Counties or JPA to collect tolls, or special legislation may be required. And an agreement would need to be reached between two or three of the four counties, and an oversight body would likely need to be formed to administer bridge maintenance and toll administration. An equitable approach would be to distribute any excess revenues after maintenance, operations, and

recapitalization is considered through a return to source (i.e. percentage of toll payers) for projects that can demonstrate a toll nexus.

## **Contract / Agreement Policy Questions**

1. What provisions will the proposer have in time of extreme events such as earth quakes or flooding? How does the proposer demonstrate their ability to reestablish corridor operations after a force majeure event?
2. Are there special provisions provided in the event of special circumstantial corridor closures which may limit toll revenue collection (e.g. enforcement and construction/maintenance activities)?
3. What financial provisions are included to address financial risk sharing between the Proposer and local agencies?
4. What provisions does the proposer have in place if SR 37 is relinquished to them and they default resulting in the need to the corridor back to Caltrans or the MOU Group? What happens if the facility is transferred to a private venture and the challenges are too great resulting in bankruptcy or insolvency during any phase of the project? Does the facility get transferred back? And to whom the local agency, JPA or Caltrans? What provisions should a private venture provide if the project happens to be relinquished back to the local agency after all phases of the project is constructed?

### **Recommended Aggregate Response:**

Collectively, these policy questions relate to the contractual assignment of risks from the local agencies to the private sector partner, also known as the Special Purpose Vehicle, under a P3 project delivery model.

For example, under the Design-Build-Operate-Maintain (DBOM) or Design-Build-Finance-Operate-Maintain (DBOFM) model, the concept of “transferring risk” typically requires that the private partner will be responsible for cost overruns or expenses associated with the occurrence of that risk. Risk transfer can include a number of issues, including construction risk, traffic demand risk (i.e., risk of lower-than expected), and operation and maintenance risk.

It is the transfer of risks that provides incentives to the private partner to innovate in the approach it takes to deliver a project. Transferring too little risk to the private sector would constrain the “value for money” that could be achieved. Conversely, transferring too much risk will result in high-risk premiums, making the project more costly and driving down the value for money. If a risk is difficult to assess or manage, it may be appropriate to share it between the public and private sectors. Once these risks are defined and quantified, they can be negotiated and allocated contractually. Table 1 below, from the P3 Toolkit, published by the Federal Highway Administration, provides a typical assignment of risk.



Risk	Traditional (Design-Bid-Build)	Design-Build	Design-Build Finance- Operate-Maintain
Change in Scope	Public	Public	Public
NEPA Approvals	Public	Public	Public
Permits	Public	Shared	Private
Right of Way	Public	Public	Shared
Utilities	Public	Shared	Shared
Design	Public	Private	Private
Ground Conditions	Public	Public	Private
Hazmat	Public	Public	Shared
Construction	Private	Private	Private
QA/QC	Public	Shared	Private
Security	Public	Public	Shared
Final Acceptance	Public	Private	Private
O&M	Public	Public	Private
Financing	Public	Public	Private
Force Majeure	Public	Shared	Shared

*Table 1. Common Risk Allocation Under Traditional and P3 Procurement.*

*Note: NEPA = National Environmental Policy Act, QA = quality assurance, QC = quality control, O&M = operation and maintenance.*

*Source: Virginia DOT's PPTA Risk Analysis Guidance, September 2011.*

Any assignment of risks and terms will likely be done under an agreement, determined to be the “Best Value,” between the private partner and the legal public entity deemed most appropriate to carry out the project at that time; most likely a JPA or Caltrans.

In a scenario where a facility is transferred to a private venture and the challenges are too great resulting in bankruptcy or insolvency, the risk analysis for such an event are truly difficult to assess and would likely result in a risk price that is too large to bear for the project. In the current project-delivery landscape, a full-privatization model for transportation infrastructure is rare and atypical.