



NAPA VALLEY TRANSPORTATION AUTHORITY

Board Agenda Letter

TO: NVRTA Board of Directors
FROM: Kate Miller, Executive Director
REPORT BY: Danielle Schmitz, Director – Programs, Projects, and Planning
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SUBJECT: Approval of the State Route 37 (SR 3 Transportation and Sea Level Rise Corridor Improvement Plan

RECOMMENDATION

As a member of the SR 37 Policy Committee, the Napa Valley Transportation Authority (NVRTA) Board approve the SR 37 Transportation and Sea Level Rise Corridor Improvement Plan (Attachment 1).

COMMITTEE RECOMMENDATION

None. The Technical Advisory Committee (TAC) was informed of the draft SR Transportation and Sea Level Rise Corridor Improvement Plan when it was released in September 2017 for comment and was informed about public outreach opportunities such as the SR 37 Open House series and the online survey.

EXECUTIVE SUMMARY

The SR 37 Corridor Plan is complete with the Draft Plan released for comments in September 2017, followed by a series of Public Open Houses in September and October 2017 and an online survey, and focus groups conducted in each of the four North Bay counties that concluded in February of this year. The Plan 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 Plan offers near, mid 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 Project Initiation Document (PID) which is now underway. The PID document for

Segment B is being led by Solano Transportation Authority (STA). NVTA staff will continue to participate in the planning and design stages of the project.

PROCEDURAL REQUIREMENTS

1. Staff Report
2. Public Comments
3. Motion, Second, Discussion and Vote

FISCAL IMPACT

Is there a Fiscal Impact? No

CEQA REQUIREMENTS

ENVIRONMENTAL DETERMINATION: The proposed action is not a project as defined by 14 California Code of Regulations 15378 (California Environmental Quality Act (CEQA) Guidelines) and therefore CEQA is not applicable.

BACKGROUND AND DISCUSSION

SR 37 is a 21-mile long corridor from Hwy 101 in Marin County to I-80 in Solano County. It is recognized as the North Bay's most heavily used east/west highway serving commuters and visitors. The corridor is highly congested and travelers suffer significant travel delay. The corridor is also impacted by uneven subsidence and intermittent storm-related flooding in several areas. Almost the entire length of the corridor between Novato and Vallejo is predicted to become permanently submerged as sea levels rise if modifications are not made. This would result in traffic overflow on existing parallel corridors that are not equipped to handle it, causing economic loss and reduced opportunity for disadvantaged community residents who commute from Solano to Marin and Sonoma counties.

A significant portion of the corridor traverses one of the Bay Area's largest remaining tidal marsh environments, known as the San Pablo Baylands. Federal and state agencies, as well as numerous non-profit environmental conservation organizations, have invested concerted effort on ecosystem planning, wetland acquisition, and habitat restoration for over three decades, guided since 1999 by the comprehensive science-based Baylands Ecosystem Habitat Goals Report and its 2015 update.

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 are a result of the roadway in Segment B, from SR 37/SR 121 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.

In 2015, Marin, Sonoma, Napa, and Solano transportation agencies approved a Memorandum of Understanding (MOU) that committed them to cooperatively guide the intentions and strategies for the overall framework and funding strategy for the entire SR 37 Corridor. Oversight and policy direction is provided by a 12-person 4-County Policy Committee, comprised of 3 representatives from each county.

The Metropolitan Transportation Commission (MTC) and the four North Bay CMAs have funded a SR 37 Transportation and Sea Level Rise Corridor Improvement Plan in an effort to address congestion and sea level rise impacts on the corridor. The Corridor Plan sets the groundwork for the Project Initiation Document (PID) that is now being led by Solano Transportation Authority (STA). 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 PID will focus on project specific design alternatives and mid to long-term improvements for Segment B (SR 37 from Mare Island Intersection in Solano County to SR 121/SR 37 Intersection in Sonoma County).

The Project Leadership Team, made-up of staff from the four North Bay County CMAs, Caltrans and the Metropolitan Transportation Commission (MTC) is actively engaging the environmental community through several workshops, to take into account environmental objectives as part of Segment B design options.

Several comments were received on the Draft Plan and are provided in this report with responses from the Project Leadership Team (Attachment 2). Comments will be included in the Appendices of the Plan. The majority of the comments had reoccurring themes such as providing transit options and alternative commute modes along the corridor like rail and transit/vanpool, integrating not mitigating the environmental impacts to the wetlands and biological resources, concerns over equity issues around tolling and privatization of the roadway, and the need for near term improvements due to flooding and long-term sea level rise adaptation strategies.

In addition to the public open houses, the Project Leadership Team conducted an online survey which garnered over 3,700 responses (11% from Napa County). Most respondents worked in Marin and San Francisco counties and lived in Solano, Napa and Sonoma counties. Over 50% of the survey respondents used SR 37 daily or a few times a week for commute purposes. The majority of respondents drove alone (79%), and 19% carpoolled. Segment A was the most frequently traveled segment with many respondents using Lakeville Highway (SR 116) and SR 121 as alternate routes. Approximately 30% of respondents said they would use transit (bus/ferry/rail) if a viable option was available and 53% were willing to consider alternative funding options to help speed up improvements. The number one concern of survey respondents was traffic congestion (75%), followed by road safety concerns (35%), flooding (15%) and environmental concerns (8%).

Through the completion of the SR 37 Corridor Plan, the roadmap addressing current and anticipated issues on the highway has been set and the next step is to get into detailed design work to tackle some of the most pressing issues on the Corridor which are the near-term flooding issues and the traffic congestion choke point in Segment B. To kick-off this work, Solano Transportation Authority has committed \$5 million in State Transportation Improvement Program (STIP) funds to begin the PID process. In addition, if Regional Measure 3 passes in June there will be \$100 million dollars allocated to the four North Bay CMAs for SR 37. RM 3 funding should cover Design and Environmental work on segment B as well as near to mid-term flooding and sea-level rise improvements on other segments in the corridor.

On a parallel planning track to the PID, NVRTA will be taking the lead on a SR-37 Travel Behavior and Transit/Vanpool Feasibility Study. Since Fehr & Peers recently completed an origin and destination study in Marin County and is beginning the update to the Napa County Travel Behavior Study, the four North Bay CMAs will contribute additional funding to Fehr & Peers conduct this work, estimated to cost about \$40,000-\$50,000 in total. STA is also conducting a Ferry Feasibility Study, exploring the potential for an east-west Ferry connection from Vallejo to Marin.

Next Steps after the Corridor Plan is approved by the four North Bay CMAs is for the focus to shift on completing the PID. STA and Caltrans will be taking the lead on this effort, with the PID completion on an accelerated schedule anticipated for December 2018. Once the PID is complete the environmental and permitting phase of the project will begin. The environmental and permitting phase will take several years and involve coordination between multiple stakeholders and agencies. In the meantime, there are operational improvements being made to the corridor such as restriping and signage at the intersection of SR 121/SR 37 to mediate the lane cutting issues associated with the lane drop.

SUPPORTING DOCUMENTS

- Attachments:
- (1) SR 37 Transportation and Sea Level Rise Corridor Improvement Plan
 - (2) SR 37 Corridor Plan and Public Outreach Comments Matrix with Responses
 - (3) Full Plan with Appendices can be found at:
<http://www.nvta.ca.gov/highway-37>



SR 37 Transportation and Sea Level Rise Corridor Improvement Plan

PREPARED BY:

Kimley»Horn
AECOM

February 2018



METROPOLITAN
TRANSPORTATION
COMMISSION



Solano Transportation Authority



Transportation Authority of Marin



SAN MATEO COUNTY TRANSPORTATION AUTHORITY



25 NAPA VALLEY TRANSPORTATION AUTHORITY



Caltrans

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ACRONYMS USED

CA: California
CESA: CA Endangered Species Act
CNDDB: 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

PURPOSE

The SR 37 Corridor Plan (Corridor Plan) is a high-level assessment of key current and anticipated issues on California State Route 37 (SR 37) and lays out some near-, mid-, and long-term improvements that help to address such issues. Specifically, SR 37 (study corridor) currently experiences severe traffic congestion with extended congestion and delays in the morning and evening rush hours. With recent winter storms in 2017, SR 37 has experienced temporary flooding requiring immediate solutions to ensure the roadway is operational to the daily users. Thinking ahead about the anticipated Sea Level Rise (SLR), the frequency of flooding is expected to increase to a point where most of the existing roadway becomes permanently inundated. In such an event, vehicular traffic on the corridor would have no option than to divert to other already congested routes; and critical habitats for protected species, wetlands and baylands could be significantly altered.

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.

This corridor plan is a first step of many to proactively identify opportunities and solutions to the transportation, ecosystem and sea level rise for the SR 37 corridor. In addition to the corridor plan, the Metropolitan Transportation Commission (MTC), Caltrans and its four North Bay partners -- the Solano Transportation Authority (STA), the Sonoma County Transportation Authority (SCTA),

the Transportation Authority of Marin (TAM) and the Napa Valley Transportation Authority (NVTA) – are undertaking 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. With the support and input from a number of scientists, landowners, land managers, and environmental organizations, the DAA has refined its original scope to integrate the transportation and sea level rise adaptation with the ecology. In turn, this more comprehensive approach has helped us broaden our understanding of science-based approaches to identifying and assessing project concepts and our knowledge of evolving climate science. We are now more attune to the opportunities, constraints and impacts that any transportation improvement may have on the surrounding San Pablo Baylands, as well as more open to exploring new ideas. Improvements identified in this corridor plan, therefore, are not intended to preclude other project concepts, alternatives, or solutions. Given our interest to integrate transportation, ecology and sea level rise adaption elements into improvements, we would encourage and support improvements to consider and include nature-based solutions during the project development and implementation.

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

GOALS AND OBJECTIVES

This corridor plan encompasses three broad goals:

- Integrate transportation, ecosystem and sea level rise adaptation into one design
- Improve mobility across all modes and maintain public access
- Increase corridor resiliency to storm surges and sea level rise

The vision statement and guiding principles for the San Pablo Baylands developed by the SR 37 Baylands Group also further helps guide the region as it plans, designs and implements improvement strategies for the corridor, taking into account the rich ecology and evolving landscape, ongoing and future conservation and restoration efforts, opportunities to pursue ecological enhancements, and importance of making the SR 37 resilient to a number of natural and human stimuli.

SR 37 BAYLANDS GROUP's DRAFT VISION AND GUIDING PRINCIPLES (AUGUST 16, 2017)

Vision: *Integrate infrastructure improvements for SR 37 with existing and future habitat planning, conservation and restoration to ensure healthy ecosystem function and resilience to landscape scale change of the San Pablo Bay.*

Guiding Principles:

1. *The San Pablo Baylands are one of the largest open spaces remaining on the San Francisco Bay and provide a unique opportunity for improving habitat conservation. Improvements to the SR 37 corridor should be integrated with implementation of the Baylands Ecosystem Habitat Goals^{1 2} to ensure ecosystem function and landscape resiliency into the future.*
2. *We recognize the extensive ecological planning that has come before and seek to integrate it with SR 37 plans and design.*
3. *Multiple issues, including increased traffic, sea-level rise and land use changes, make implementation of both SR 37 redesign and habitat goals urgent and time sensitive; planning should lead to implementation.*
4. *Disadvantaged communities are disproportionately affected by tolls. Therefore, we seek opportunities to minimize financial impacts to disadvantaged drivers and to ensure that the highway design relieves, rather than redirects transportation pressure.*
5. *While the SR 37 corridor extends from east to west, ecological enhancement and flood protection opportunities occur from north to south across SR 37 as rivers and creeks (i.e., Napa River, Sonoma Creek, Tolay Creek, Petaluma River, and Novato Creek) connect the bay's mudflats and marshes to their watersheds.*
6. *The SR 37 design will not negatively impact the significant investment in existing and future conservation and restoration projects and associated public access and recreational facilities in the San Pablo Baylands, and will seek to enhance them wherever possible.*
7. *The SR 37 and ecological design will plan for and accommodate sea level rise through 2100, thereby increasing resilience and reducing future costs.*
8. *The SR 37 design will include opportunities for multi-modal transportation including bike paths and passenger rail.*
9. *We recognize design constraints related to federal, state and local transportation regulations and engineering guidelines, and we seek opportunities for ecological innovation recognizing these constraints.*
10. *By understanding that ecological and physical processes differ along the transportation corridor, it will be possible to develop ecologically appropriate design criteria for each section.*
11. *We understand that the language we use should be clear and recommendations feasible and practicable for the SR 37 design.*
12. *We acknowledge the importance of developing a SR 37 design that protects the mosaic of existing land uses, such as farming and ranching, and the ongoing operation of stormwater pumps and other infrastructure on public and private lands in the San Pablo Baylands.*

¹ Goals Project. 1999. Baylands Ecosystem Habitat Goals. A report of recommendations prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project. First Reprint. U.S. Environmental Protection Agency, San Francisco, Calif./S.F. Bay Regional Water Quality Control Board, Oakland, CA

² Goals Project. 2015. The Baylands and Climate Change: What We Can Do. Baylands Ecosystem Habitat Goals Science Update 2015 prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project. California State Coastal Conservancy, Oakland, CA.

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 relies on 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 relies on 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.

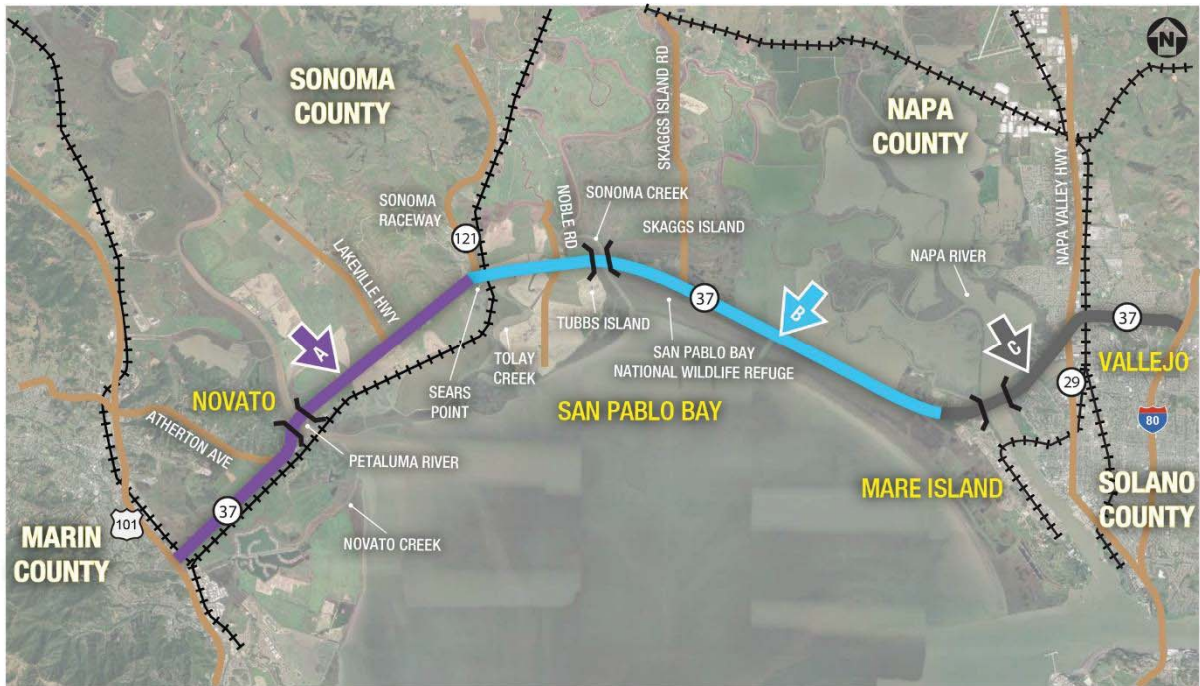


Exhibit 1: Study Corridor

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 concerted efforts have yet been taken to encourage car-pools, establish van-pools, or provide bus, ferry, or rail service connecting the Interstate 80 and US 101 corridors. 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.

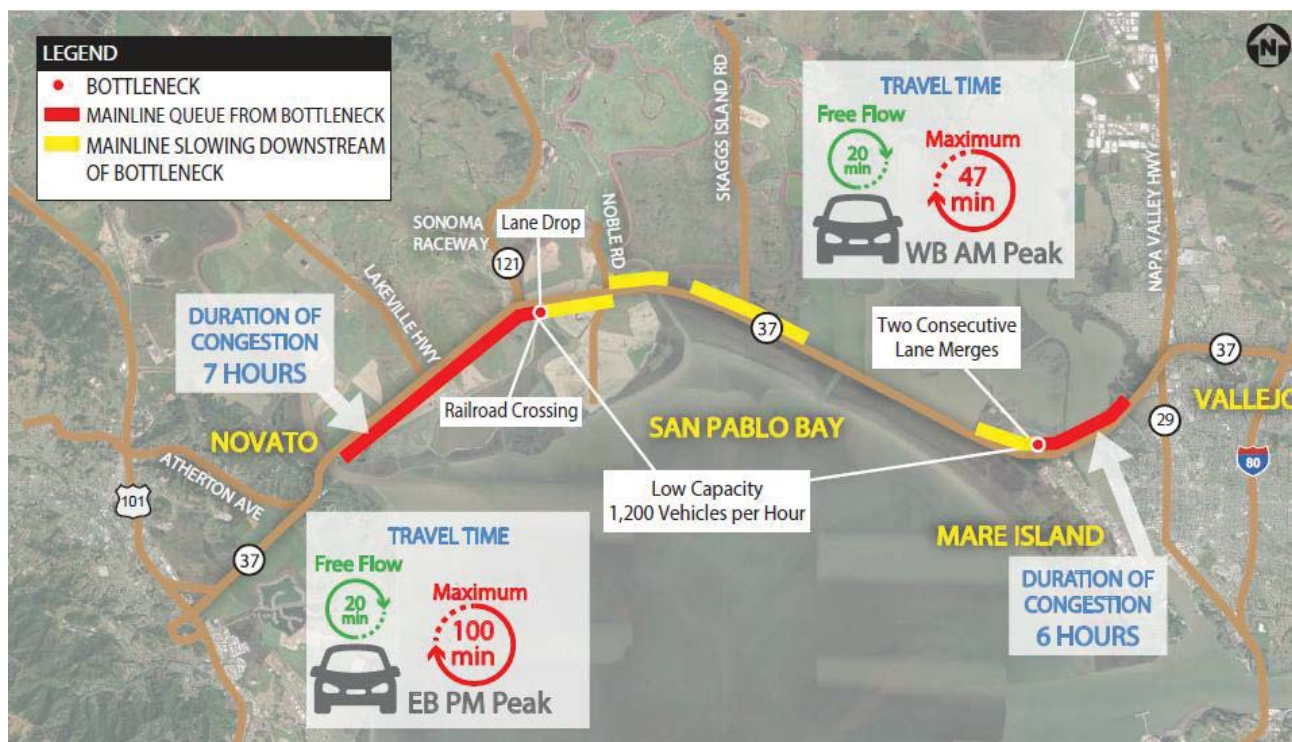


Exhibit 2: Bottlenecks and Queues

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 relies on a complex interconnected system of levees along Novato Creek, the Petaluma River, Tolay Creek, Sonoma Creek, the Napa River, and the San Francisco Bay for flood protection. 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 relies on existing 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.

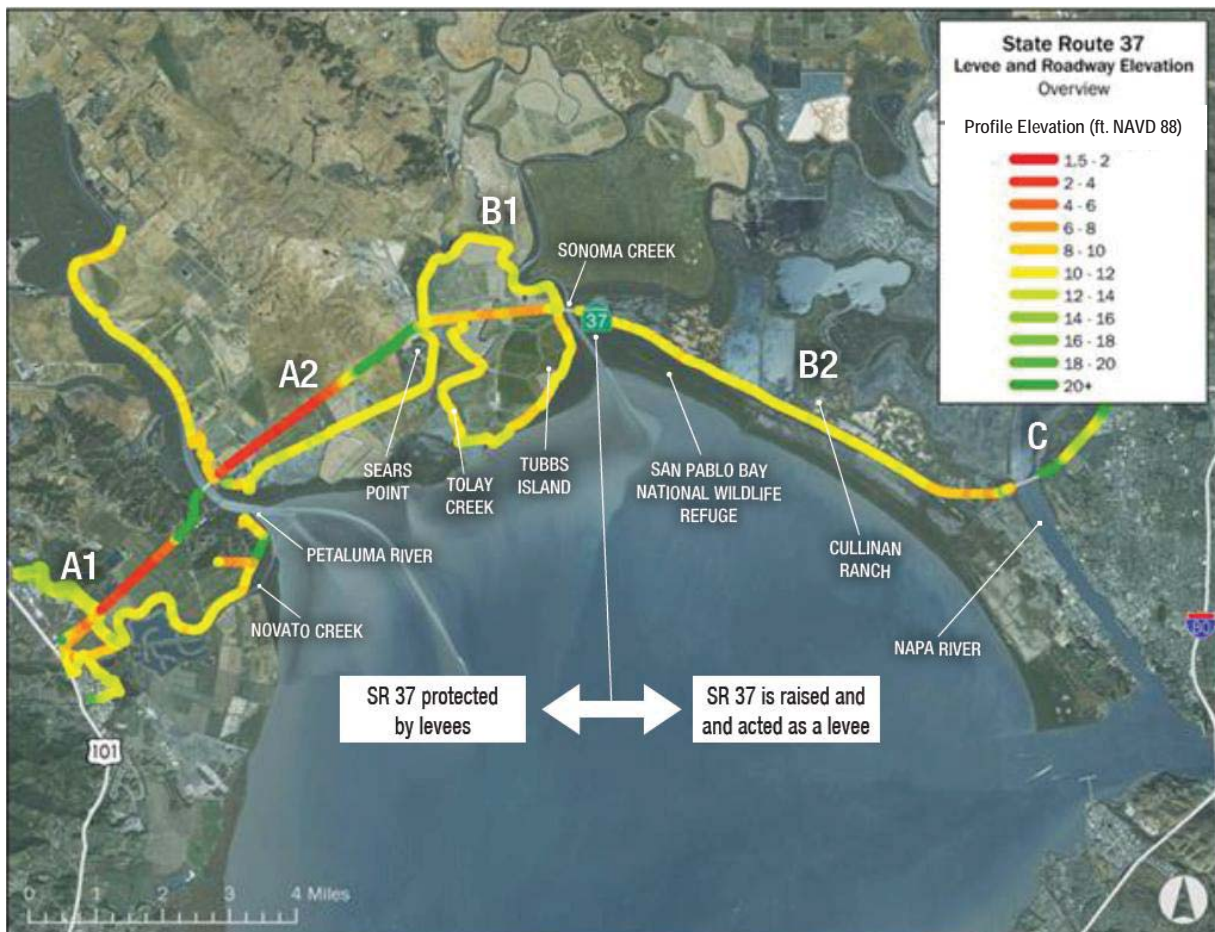


Exhibit 3: Levee and Roadway Elevation

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 help reduce the occurrence of 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

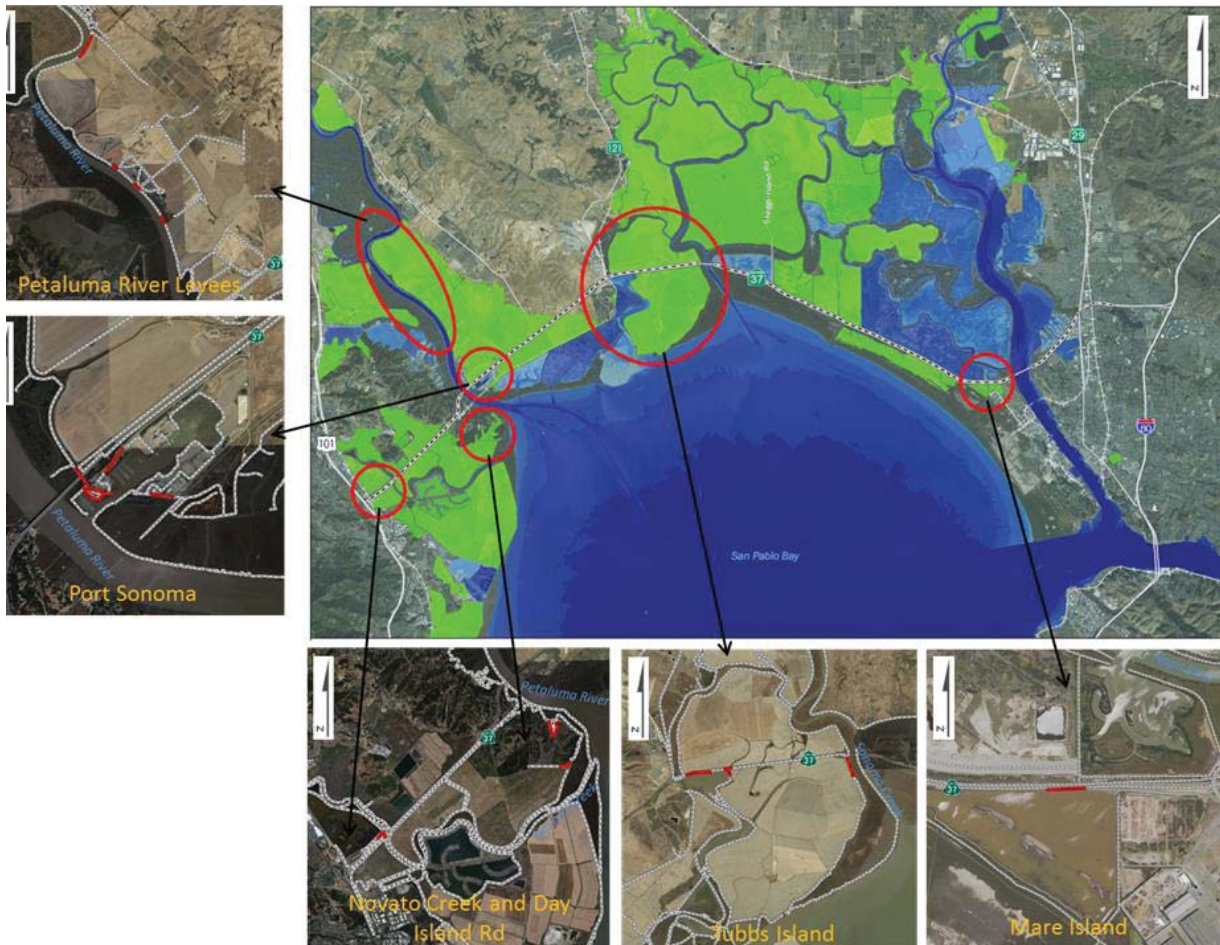


Exhibit 5: Weak Links Assessment

Lowlying Areas > 1 Acre

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).

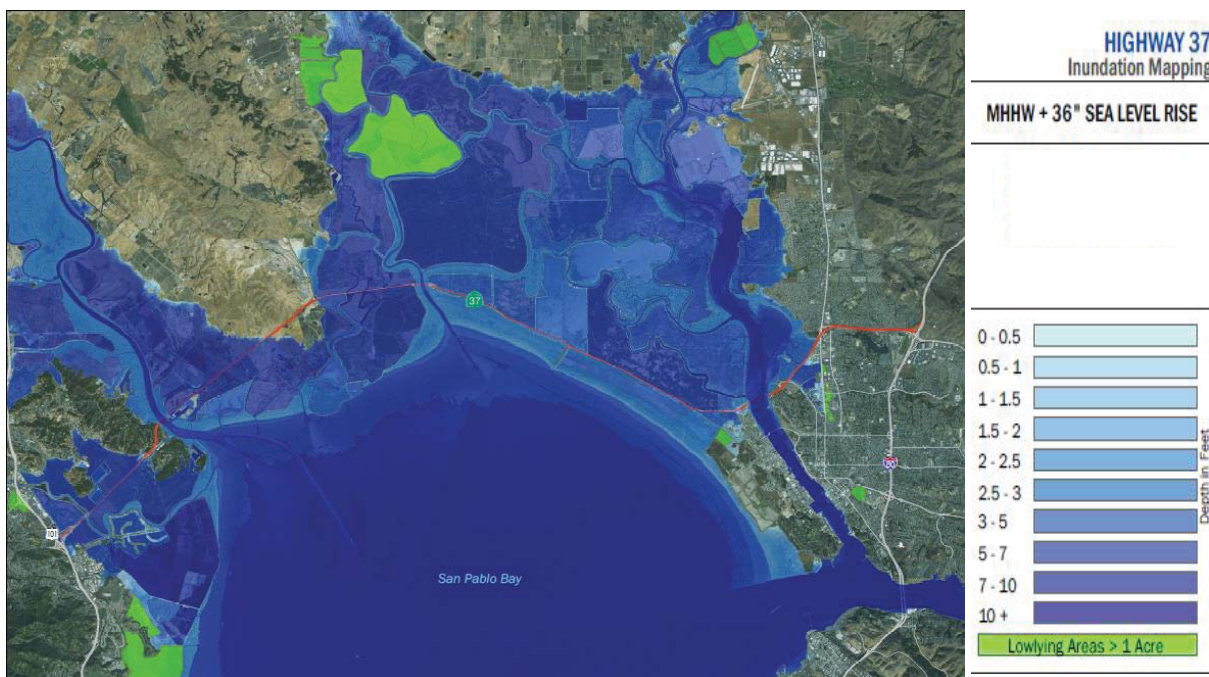


Exhibit 6: Inundation Map-MHHW+36" SLR Scenario

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 ± 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
2030	6 ± 2 in	2 to 12 in
2050	11 ± 4 in	5 to 24 in
2100	36 ± 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 surge 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).

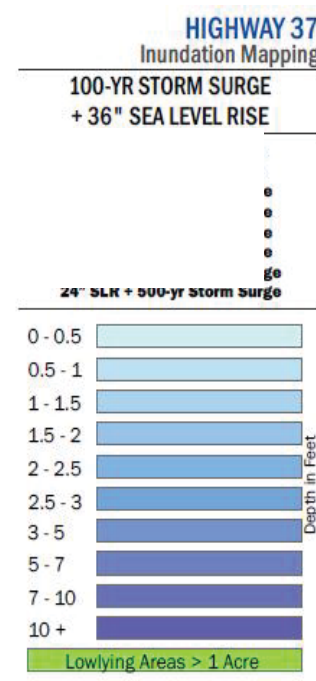
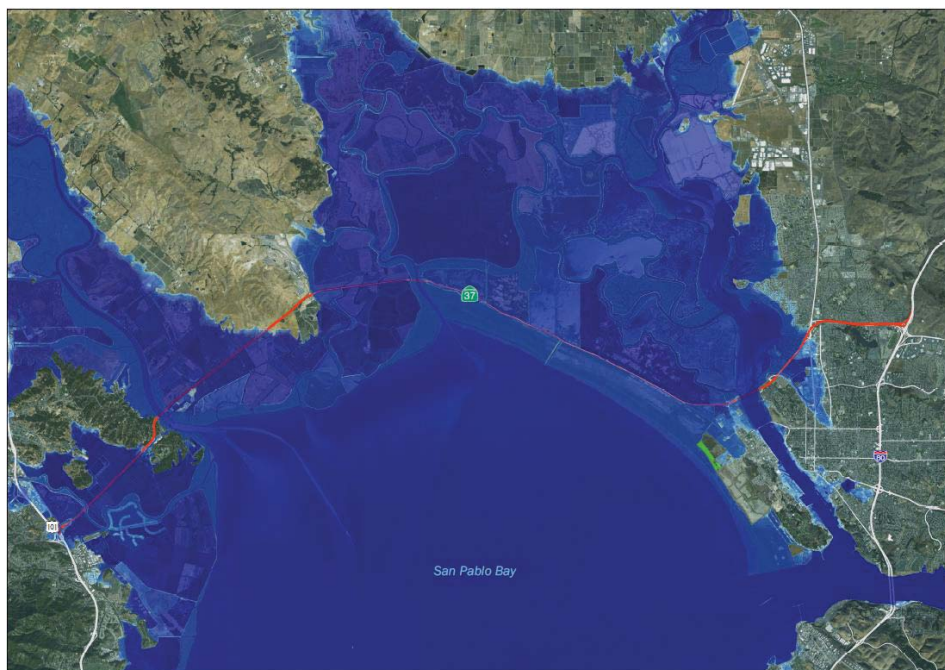


Exhibit 7: Inundation Map - 100-year Storm Surge+36" SLR Scenario

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.

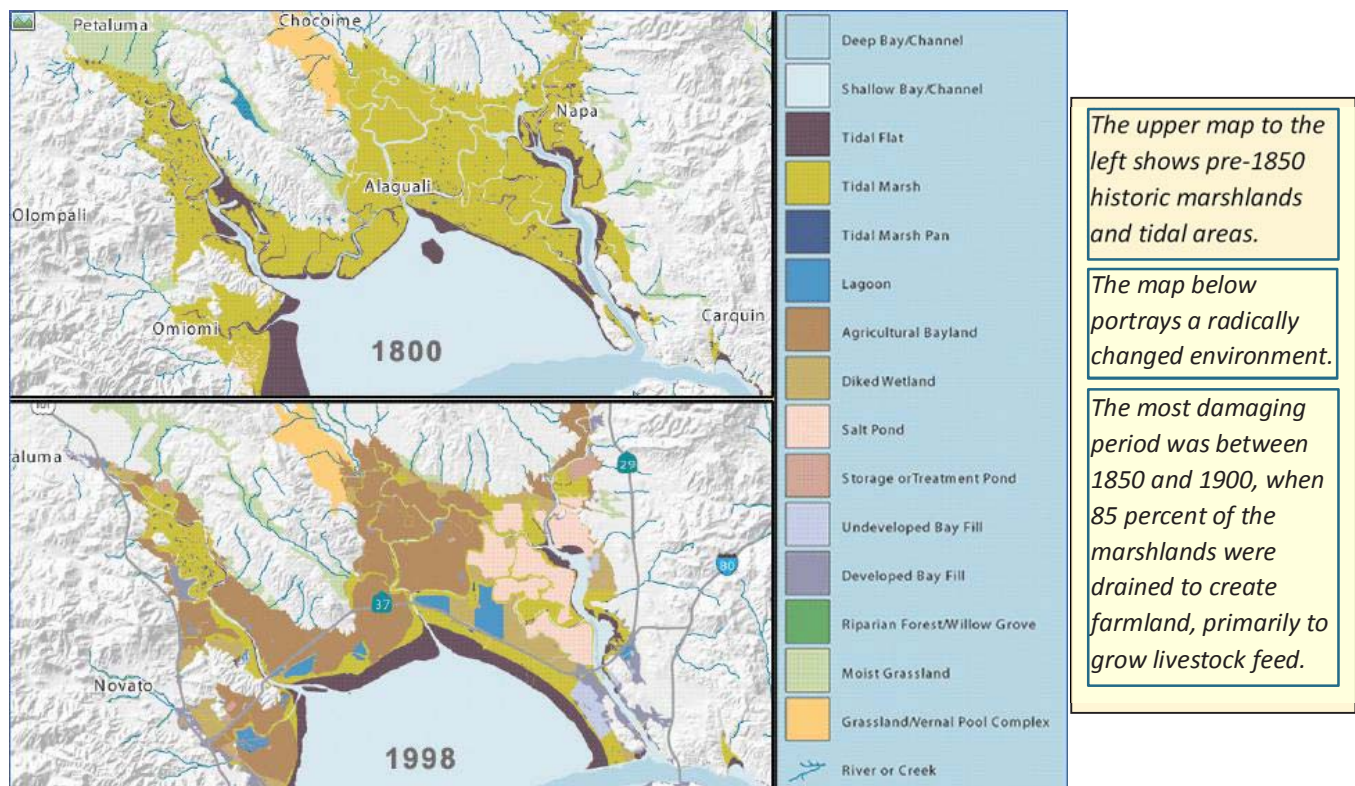


Exhibit 8: San Francisco Estuary Institute - North Bay marshlands

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)
- San Pablo Song Sparrow
- Chinook Salmon

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



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



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



0 4 Miles
N
AECOM
SR-37
DATA SOURCES: BAAQMD, NDR, 2016; AECOM Alex Rios, 6/25/2017
MAP PREPARED BY: AECOM Alex Rios, 6/25/2017
SAD 145, Statewide California
3 1/4\"/>

Exhibit 12: **Environmental Resources**
Wetlands

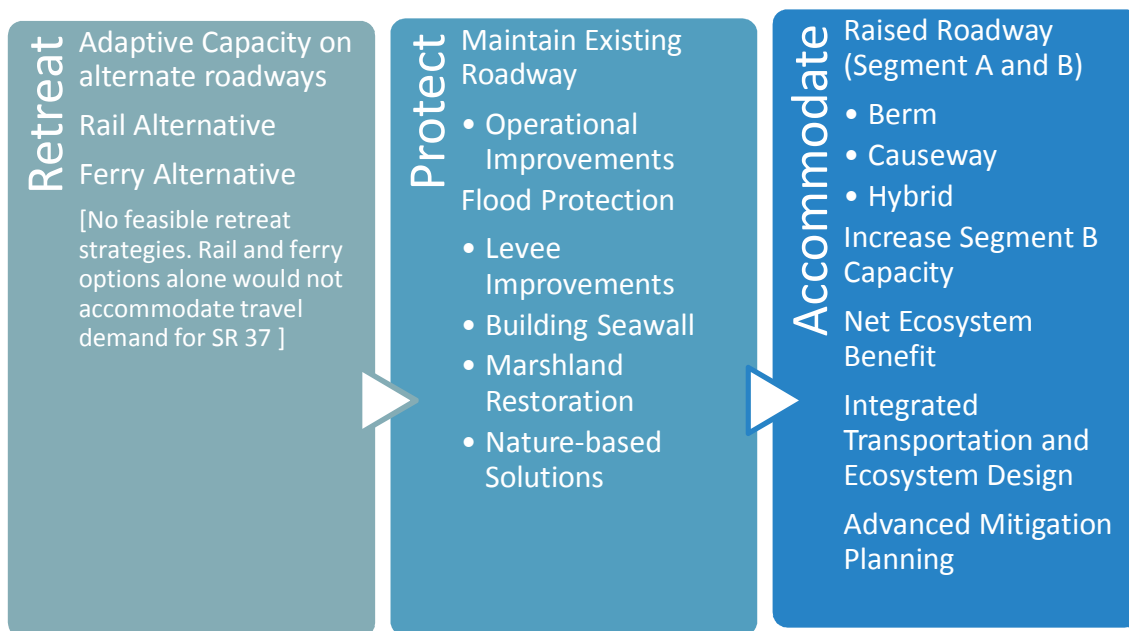


February 21, 2018

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. Rail and ferry options may be important within the next few decades and should be studied further.

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 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.

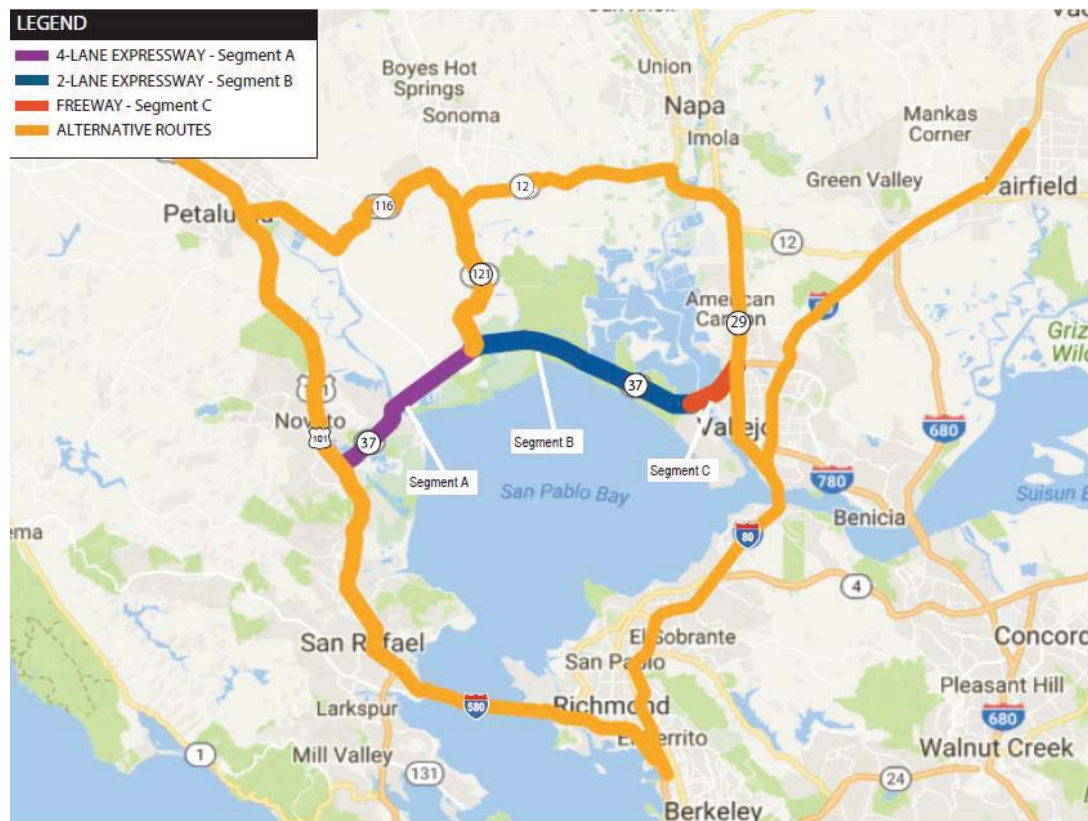


Exhibit 14: Alternate Routes

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.

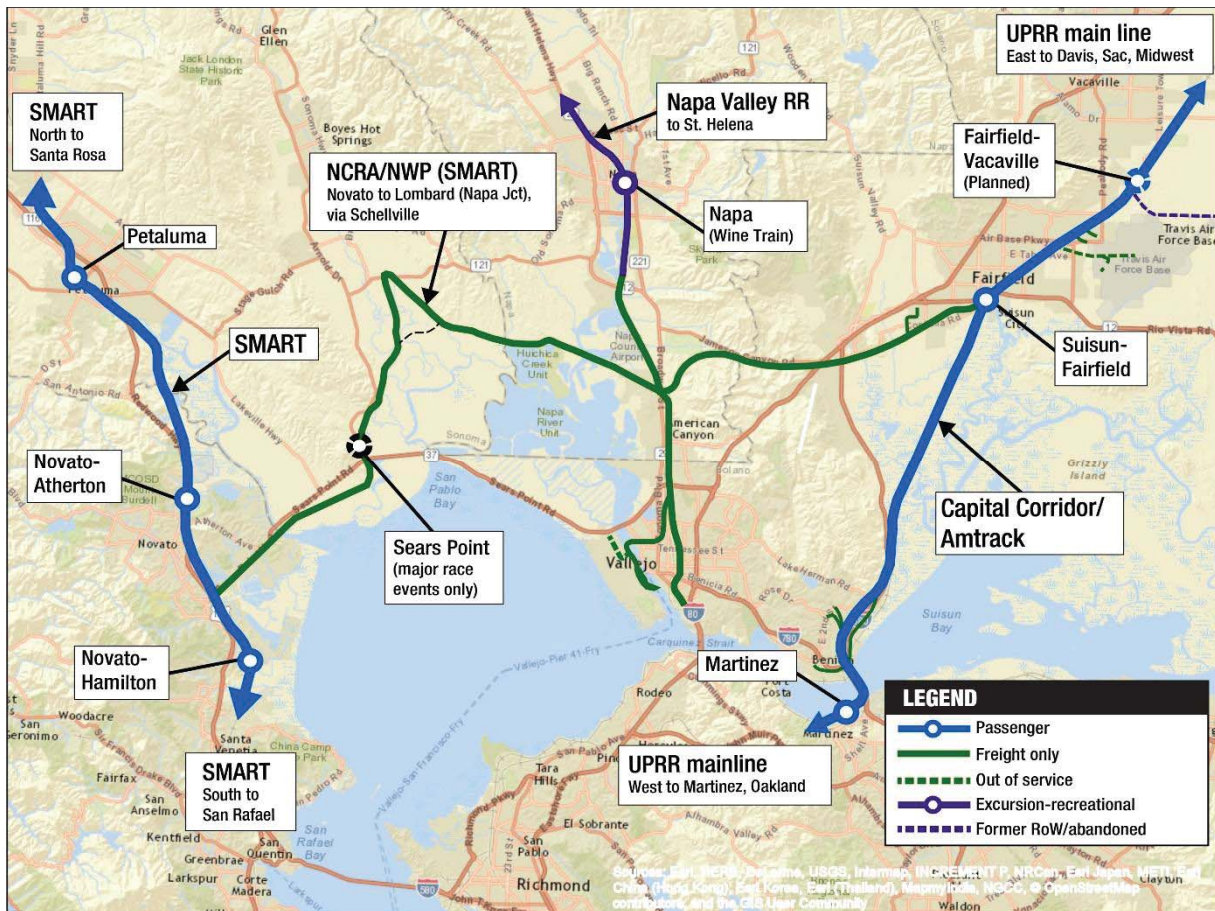


Exhibit 15: Existing Rail Facilities

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
Total	\$1.5 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.

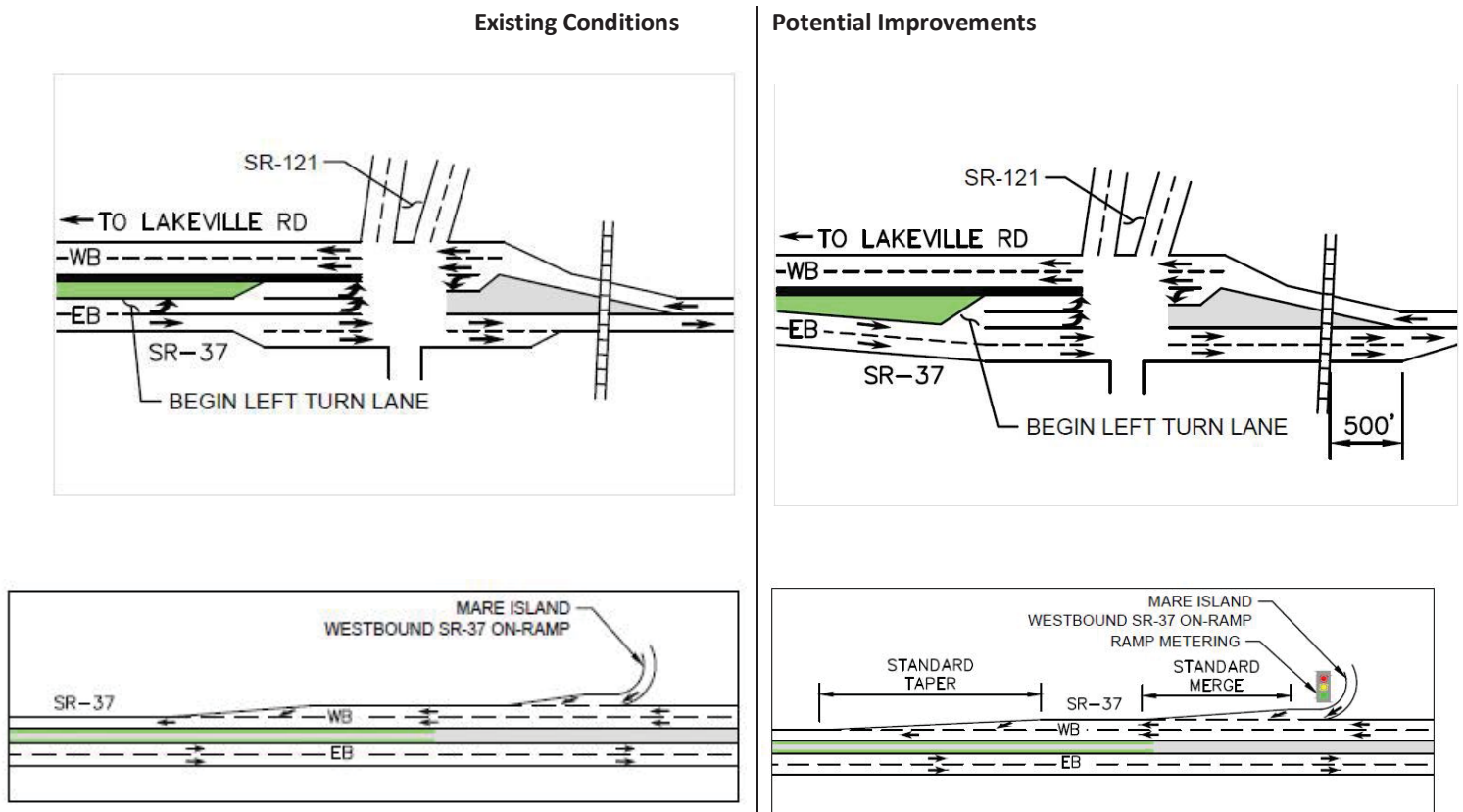


Exhibit 16: Schematics of representative Intersection operation improvements and lane merge improvements

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, and nature-based solutions such as erosion mitigation and living shoreline solutions.

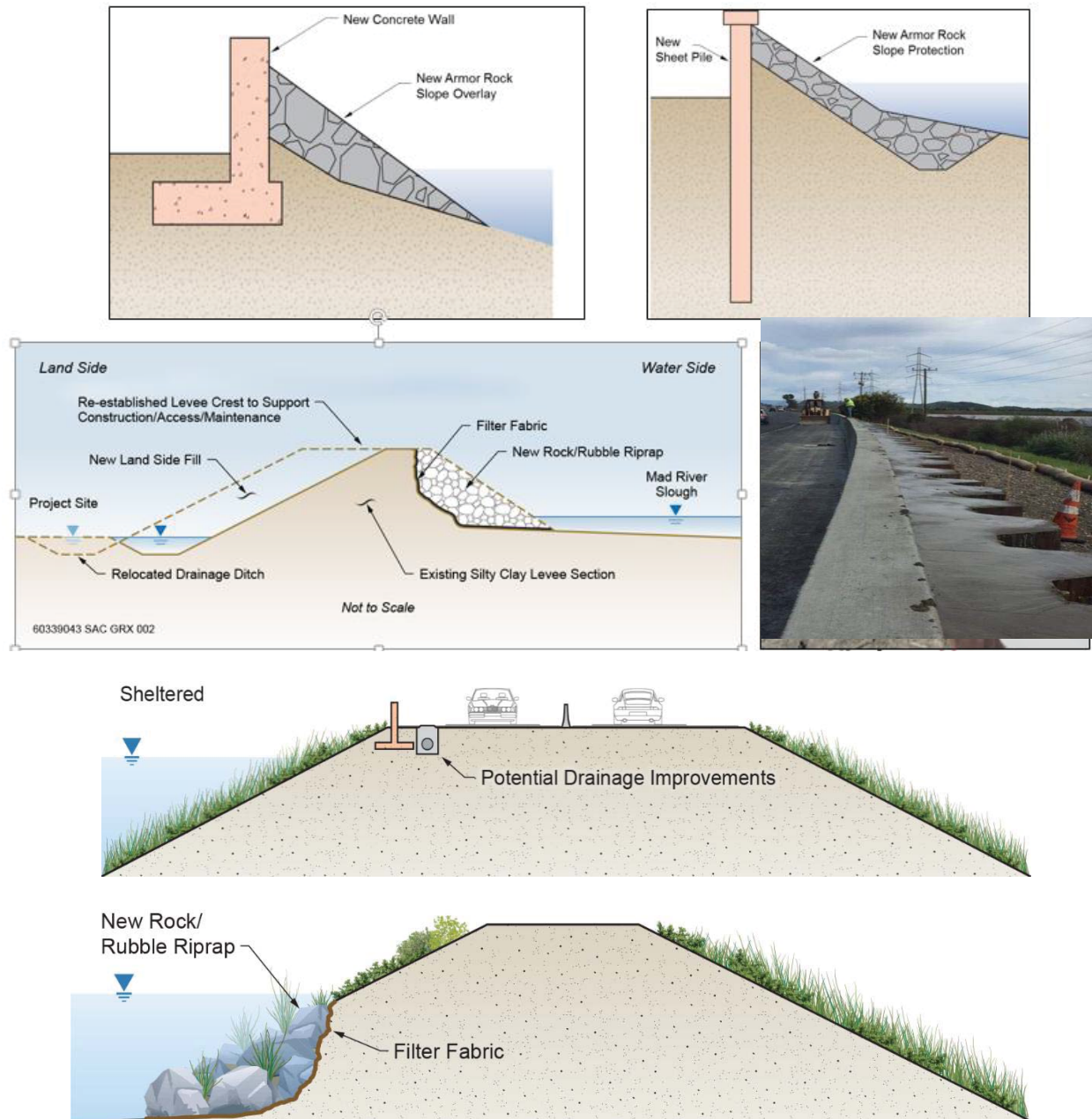


Exhibit 17: Schematics of representative shoreline protection features

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 geofoam 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

SR 37 is an over 20-mile linear transportation corridor with multiple segments that spans multiple jurisdictions, sits within an evolving San Pablo Baylands landscape and experiences varying degrees of flooding due to seasonal heavy storms, traffic congestion, and vulnerability to future sea level rise. The planning, design, construction and operations of any improvement strategies for SR 37 for near, mid, or long-term timelines must take into consideration transportation, ecological and climate change goals, policy, plans, as well as weigh the many benefits, dis-benefits, opportunities and costs of such improvements. Transportation improvement projects for SR 37 will likely go through the Caltrans project development process which involves planning/engineering assessments of improvement options, environmental review that includes detailed environmental studies and alternatives assessments, design of the proposed improvement and ultimately construction. Improvements implemented in the near or mid-term ought to address existing issues but are made compatible with and/or not preclude longer-term improvements. Integration of ecological enhancements as part of any improvement project would be most advantageous for any multifunctional solution. The implementation plan elements covering near, mid and long-term solutions, as described below, will be further refined and vetted through a more detailed assessment as the improvement concepts move forward into project development. The implementation of improvements will also incorporate multimodal access along the corridor. Exhibit 18A illustrates the existing and planned bike trails in the study area.



Exhibit 18A: Bicycle / Pedestrian access

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.

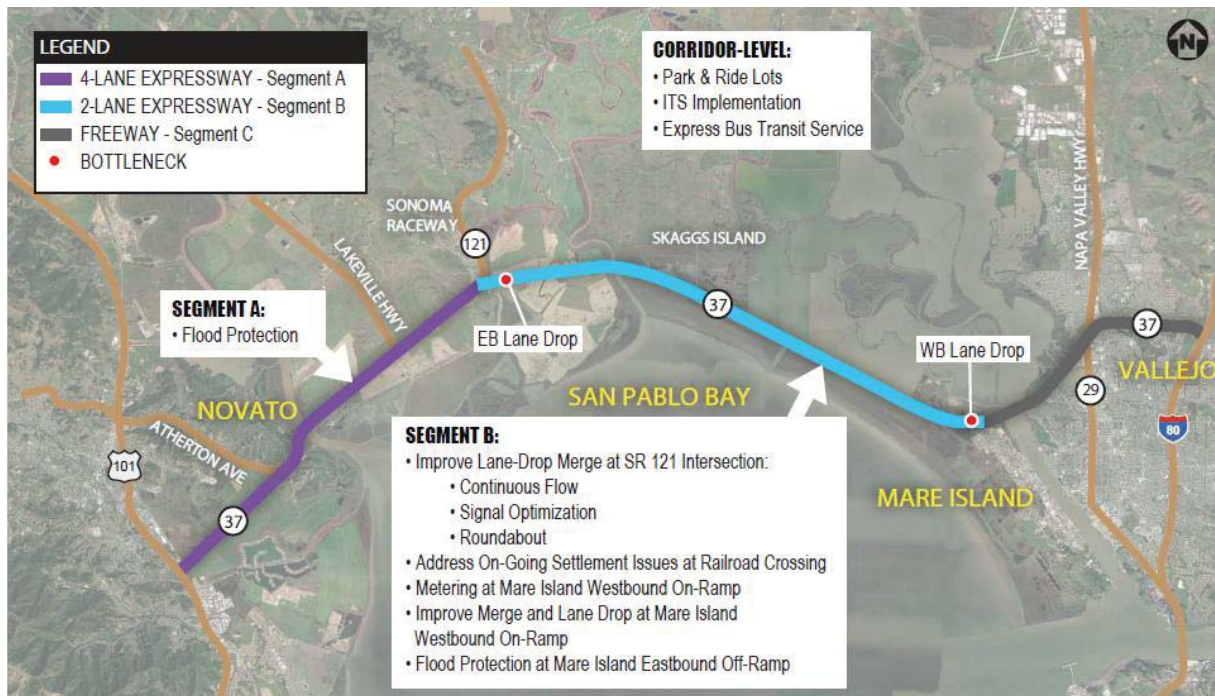


Exhibit 19: Near-Term Improvements

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.

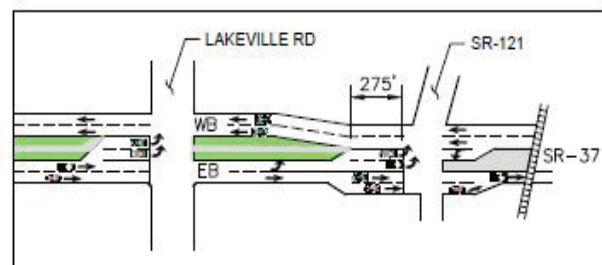


Exhibit 21: Existing Condition

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

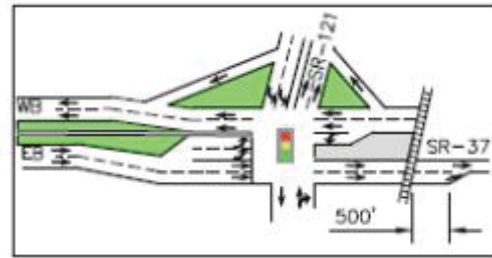


Exhibit 22: Signal Optimization

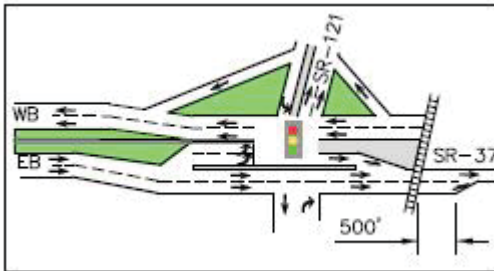


Exhibit 23: Continuous T Intersection



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.

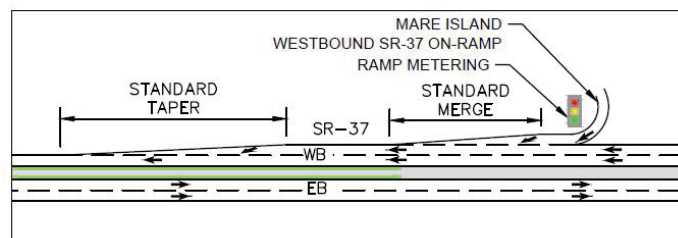


Exhibit 25: Improvements at Mare Island

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.

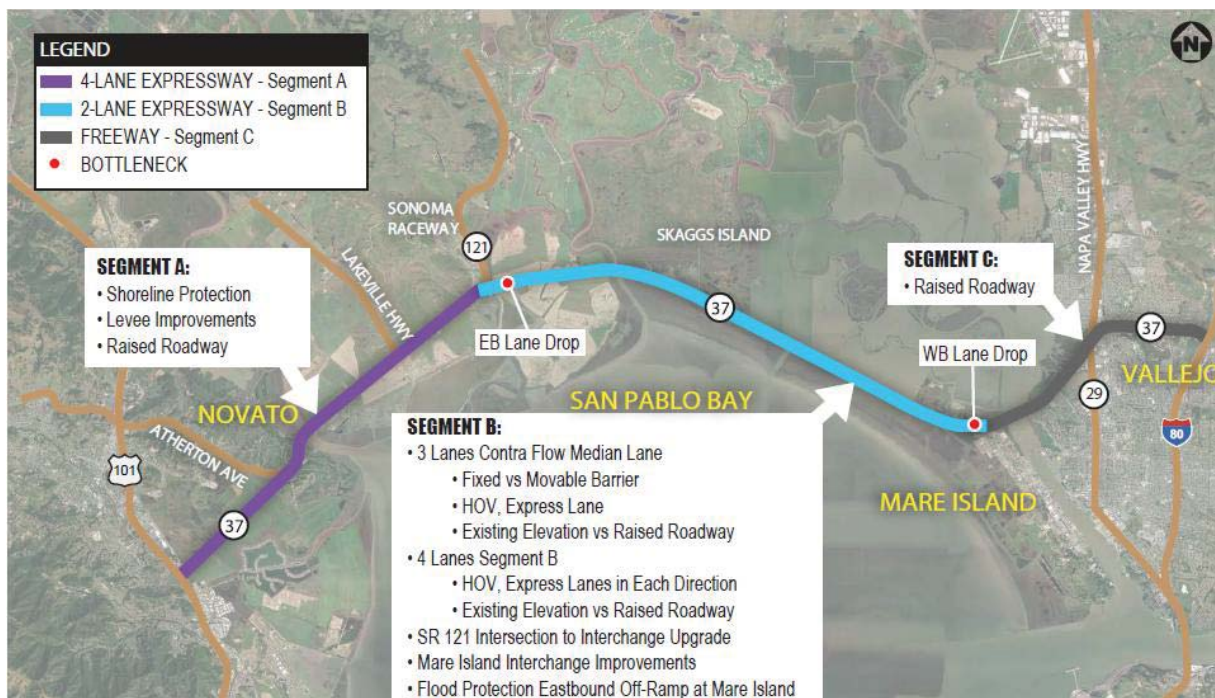


Exhibit 26: Potential Mid to Long-Term Improvements

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.

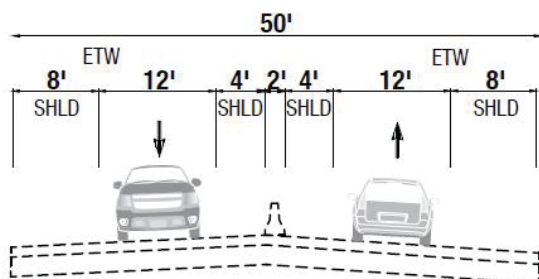


Exhibit 27: Existing Segment B

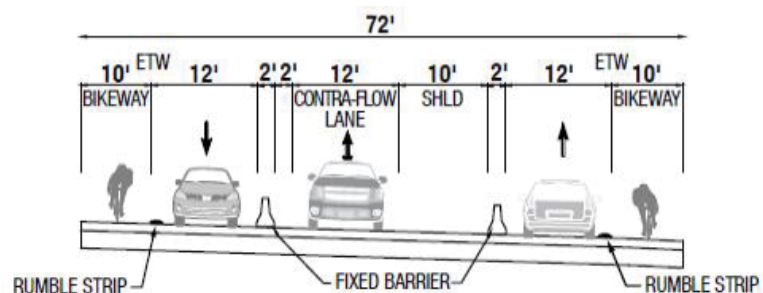


Exhibit 28: Three Lanes Section with Fixed Barrier

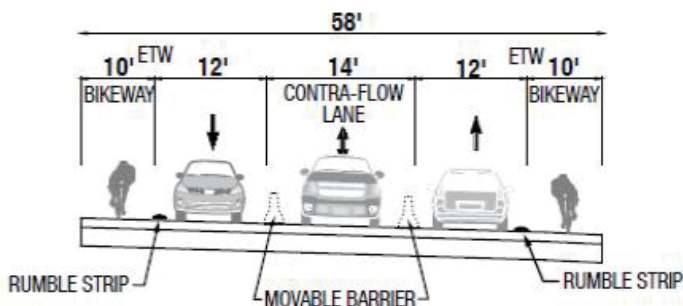


Exhibit 29: Three Lanes Contra-Flow Section with Movable Barrier and Bikeways

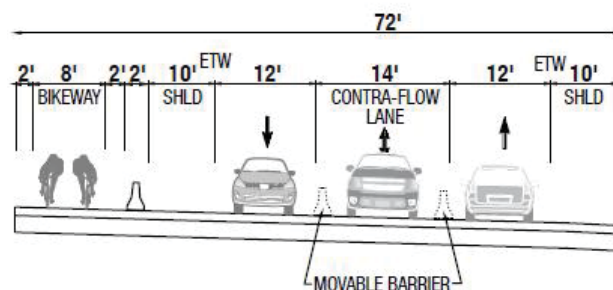


Exhibit 30: Three Lanes Contra-Flow Section with Movable Barrier and Bikeway

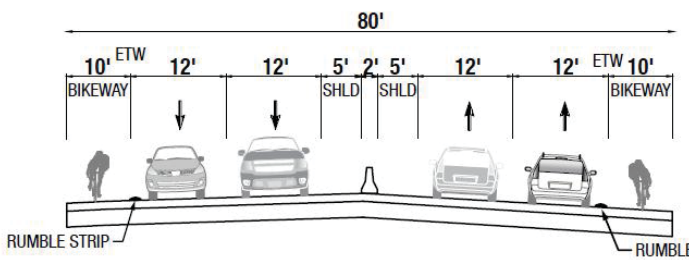


Exhibit 31: Four Lane Section with Bikeways

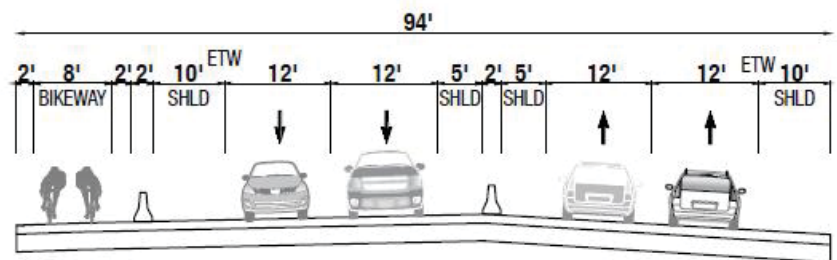


Exhibit 32: Four Lane Section with Bikeway

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,

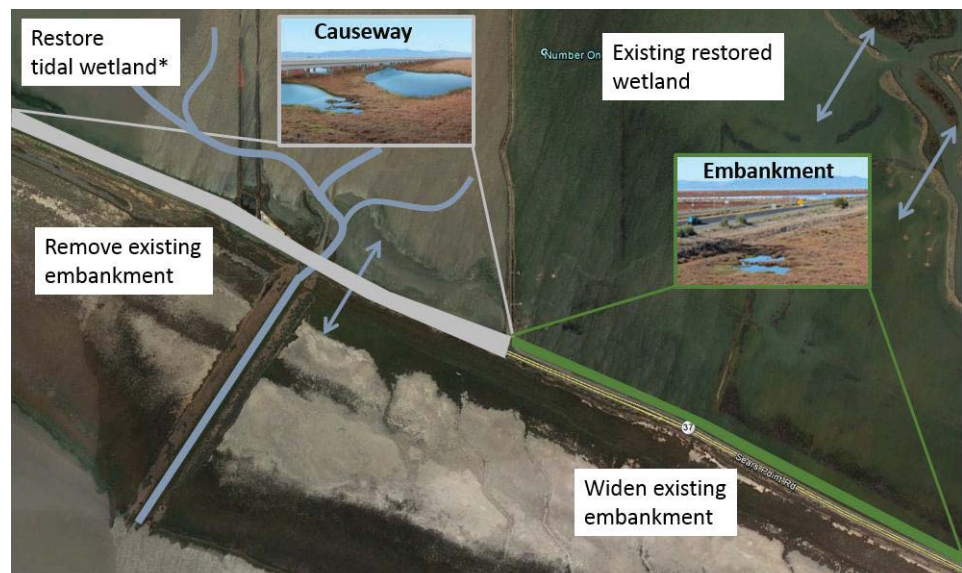


Exhibit 33: Hypothetical Illustration of Restoration Scenario

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

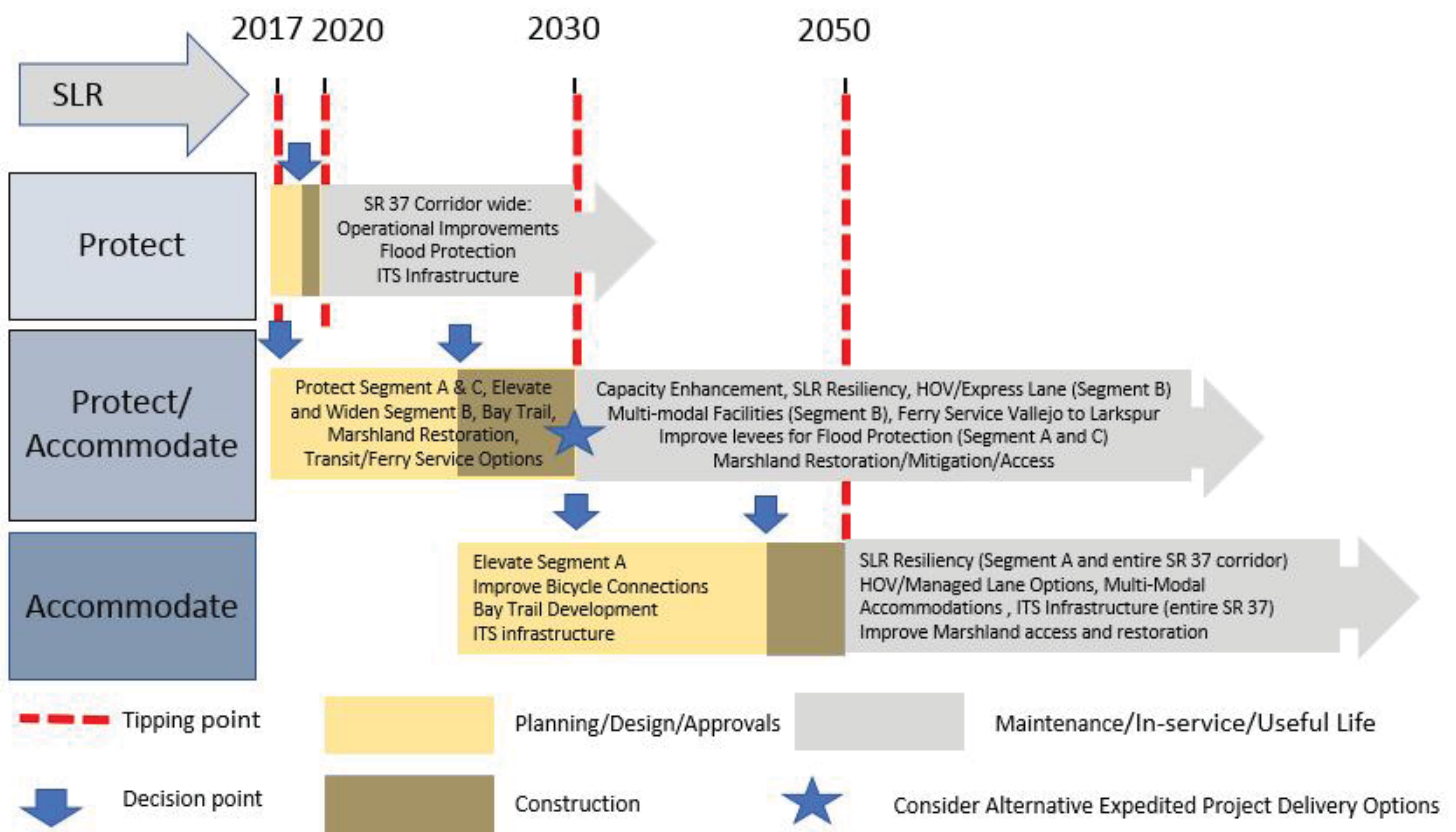


Exhibit 34: Implementation Timeline

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**		
	<ul style="list-style-type: none"> Raise levee crest at low spots (Novato Creek and Petaluma River) 	\$8M	3-5 years
	<ul style="list-style-type: none"> Shoreline improvements at Port Sonoma 	\$0.5M	3-5 years
Segment B	SR 37/SR 121 Intersection Improvements		
	<ul style="list-style-type: none"> Signal optimization and roadway widening 	\$5 M	1-3 years
	<ul style="list-style-type: none"> Option 1: Continuous T intersection 	\$7 M	5-7 years
	<ul style="list-style-type: none"> Option 2: Roundabout 	\$10 M	5-7 years
	Flood Protection**		
	<ul style="list-style-type: none"> Raise levee crest at low spots 	\$3.5 M	3-5 years
	<ul style="list-style-type: none"> Shoreline protection at Tolay Lagoon 	\$0.5 M	3-5 years
	<ul style="list-style-type: none"> Raise road at Mare Island 	\$4 to \$7M	3-5 years
	Fix Settlement Issues at Railroad Crossing (Work done by others)	TBD	1-2 years
	Metering at Mare Island WB on-ramp	\$4 M	5-7 Years
	Westbound merge and lane drop improvements west of Mare Island on-ramp	\$2.5 M	5-7 Years
Corridorwide	Park and Ride Lots (STA is leading a planning study)	\$2 M	3-5 Years
Corridorwide	Express Bus Transit Service (Suggested study by others)	TBD	3-5 Years
Corridorwide	ITS Improvements-Changeable Message Signs	\$4 M	3-5 Years

* Pending on funding availability, environmental review and approval process.

** Pending on coordination and approval from private levee owners.

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	Flood Protection** (Mid-term improvements until the roadway is raised or reconstructed at higher elevation)		
	<ul style="list-style-type: none"> Continued levee improvements (Novato Creek and Petaluma River) until Segment A is raised or reconstructed at higher elevation 	\$37M	Mid-term improvements
	<ul style="list-style-type: none"> Continued shoreline improvements at Port Sonoma until Segment A is raised or reconstructed at higher elevation 	\$1.5M to \$2M	Mid-term improvements
	SR 37/Lakeville Highway Intersection Improvements	\$5M to \$10M	7-10 years
	Raised Roadway and Lakeville Highway Interchange Improvements	\$420 M - 1,600 M	20+ 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		
	Mid-Term Options		
	<ul style="list-style-type: none"> Roadway widening to 3 lanes at existing elevation (Phase 1-with new HOV/managed lane) 	\$210 M	7-10 years
	<ul style="list-style-type: none"> Roadway widening to 4 lanes at existing elevation (with new HOV/managed lane) 	\$350 M	7-10 years
	Long-Term Options		
	<ul style="list-style-type: none"> Roadway widening to 3 lanes, raised on berm/fill (Phase 2-with new HOV/managed lane) 	\$880 M	20+ years
	<ul style="list-style-type: none"> Roadway widening to 4 lanes, raised on berm/fill (with new HOV/managed lane) 	\$1,100 M	20+ years
	<ul style="list-style-type: none"> Roadway widening to 3 lanes, raised on causeway (with new HOV/managed lane) 	\$1,900 M	20+ years
	<ul style="list-style-type: none"> Roadway widening to 4 lanes, raised on causeway (with new HOV/managed lane) 	\$2,500 M	20+ years
	Mare Island Interchange Improvements-Complete reconstruction of Interchange	\$50 M	10-20 years

Location	Improvement	Total Project Cost (2030 \$)	Implementation Time Frame*
	Flood protection** (Mid-term improvements until the roadway is raised or reconstructed at higher elevation		
	Continued levee raising at low spots (Tubbs Island) until Segment B is raised or reconstructed at higher elevation***	\$23 M	Mid-term improvements
	Continued shoreline improvements at Tolay Lagoon until Segment B is raised or reconstructed at higher elevation	\$5 to \$7 M	Mid-term improvements
Segment C	Raised Roadway-From Napa River Bridge to just west of SR 29/SR 37 Interchange	\$150 M-\$370 M	20+ years

* Pending on funding availability, environmental review and approval process.

** Pending on coordination and approval from private levee owners.

*** Work may be funded or completed by others.

Notes: Costs Include

- 3 to 1 Environmental Mitigation
- Flood protection costs assume shoreline deficiencies are addressed to protect against a 10-year recurrence coastal flood event for near-term improvements and a 10-year recurrence coastal flood event with 1 ft of sea level rise for mid-term improvements. Mid-term flood protection strategies assume a 2.5% per year escalation rate to 2030 dollars.
- 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.

SR 37 Corridor Plan Appendix D - Response to Comments				
ID	Comment Origin	Name	Comment	Response
1	Napa Workshop		Suggests further consideration of public transit options, especially bus service.	There is a north bay transit operators group that meets quarterly that the CMAs participate in; the CMAs and transit operators are also in discussion about a origin/destination study to identify home and work destination sites for users of the corridor to see if transit would be feasible. There are also TDM strategies that could be implemented on the corridor, such as vanpools.
2	Napa Workshop		Supports preserving the function of wetlands, creating HOV lanes and an expanded ferry service between Vallejo and Marin.	MTC, the north bay CMAs and Caltrans are working with the environmental community to develop design options integrating transportation, ecology, and sea level rise adaptation. Ferry service between Vallejo and Marin is currently being studied by STA. As included in the corridor plan, HOV/managed lanes are being considered.
3	Napa Workshop		Suggests increasing the production of affordable housing in Marin to alleviate traffic; opposed to a fully private road; strongly supports the creation of HOV lanes, consider rail options.	The CMAs have no authority over housing production in any of the counties. It is understood that the jobs/housing imbalance is a contributor to traffic congestion. MTC and the CMAs continue to support policies and programs that foster affordable housing production throughout the Bay Area. There have been a myriad of funding options analyzed for the corridor which include full privatization; no decision on one particular funding strategy has been made. The preferred project alternative will not impede the ability for future rail to operate along the corridor. SMART is seeking funding to conduct an easterly study called the NOVATO - SOLANO HUB see pages 59-61 in the presentation at: http://scta.ca.gov/wp-content/uploads/2017/11/State-Rail-Plan_11.01.2017.pdf Although SMART was not successful in 2017 there are more funding opportunities in 2018.
4	Napa Workshop		Suggests car ferries to relieve congestion and offer a first and last mile option.	TDM strategies could be implemented on the corridor such as vanpools; STA is currently studying ferry service between Vallejo and Marin.
5	Sonoma Workshop		Prioritize HWY 121 interchange and all short-term improvements, supports elevated highway option and suggests looking into rail service, consider the freight usage of road.	The 121/37 intersection contributes to corridor congestion and potential intersection improvements are included in the Corridor Plan's near-term improvements. Caltrans will be implementing some of the near term improvements at this intersection in 2018. Elevated options are also included in the Corridor Plan's mid- to long-Term improvements and will be assessed in more detail in later stages of project development. Rail service will not be precluded.
6	Sonoma Workshop		Supports short-term improvements at 121/37 intersection, encourages more public transit options especially expanding smart.	The 121/37 intersection contributes to corridor congestion and potential intersection improvements are included in the Corridor Plan's near-term improvements. Caltrans will be implementing some of the near term improvements at this intersection in 2018. Travel Demand Management (TDM) strategies, including transit, will be further assessed in later stages of project development. SMART is also seeking funding to conduct an easterly study called the NOVATO - SOLANO HUB see pages 59-61 in the presentation at: http://scta.ca.gov/wp-content/uploads/2017/11/State-Rail-Plan_11.01.2017.pdf . Although SMART was not successful in 2017 there are more funding opportunities in 2018.
7	Sonoma Workshop		Supports short-term improvements, especially lengthening left turn lane eastbound at Lakeville road, extend 2 lanes eastbound past sears point for 2 miles, and activate passenger rail service to integrate with smart system.	Two eastbound lanes extending beyond the Sears Point intersection is included in the Corridor Plan's near-term improvements. Extension to eastbound left turn lanes to the Lakeville Highway has been added the mid-term projects. SMART is also seeking funding for a Novato Solano Hub, see response below
8	Sonoma Workshop		Support for smart train expansion along SR37 to Vallejo.	Agreed this is happening on a parallel track. SMART is seeking funding to conduct an easterly study called the NOVATO - SOLANO HUB see pages 59-61 in the presentation at: http://scta.ca.gov/wp-content/uploads/2017/11/State-Rail-Plan_11.01.2017.pdf Although SMART was not successful in 2017 there are more funding opportunities in 2018.
9	Sonoma Workshop		Supports toll road and widening of lanes.	Comment noted.
10	Marin Workshop		Suggests consideration of variable pricing toll lanes (express lanes). Need to study undesirable effects of tolling, such as increasing overall system congestion. Suggests creating a middle reversible lane for segment B with varying toll price.	Reversible lane scenarios have been considered in the Corridor Plan and will be further assessed in future stages of project development, where tolling concepts will also be explored.
11	Marin Workshop		Suggests doing a geotechnical survey to find bedrock, investing in ferry service, and considering floating roadway (like Bayou states).	More detail engineering will be conducted as project phases progress. STA is studying ferry service between Vallejo and Marin.
12	Marin Workshop		Encourages alternative transportation options, specifically public transit and ferries.	Agree. Any long term solutions will integrate multi-modalism. STA is studying ferry service between Vallejo and Marin.
13	Marin Workshop		Supports the protection of wildlife corridors in the project area.	MTC, the north bay CMAs and Caltrans are working with the environmental community to develop design options integrating transportation, ecology, and sea level rise adaptation.
14	Marin Workshop		Strongly supports implementation of near-term improvements to allow sufficient time for selection of long-term strategy.	Agree. Caltrans will be implementing various near term projects to address congestion and safety at Highway 121, starting in early 2018.
15	Marin Workshop		Safety should be prioritized along the corridor: the east bound lane reduction and merge before Sears Point needs to be improved for safety by adding permanent lane partitions.	Agree. Caltrans will be implementing various near term projects to address congestion and safety at Highway 121, starting in early 2018.
16	Marin Workshop		Insists on the need to lessen congestion at the 101/37 interchange.	Caltrans is updating its Highway 101 Corridor System Management Plan which addresses the continued operations of Highway 101 in the North Bay. Any future projects on Highway 37 will also necessitate formal environmental review, which will look further into any traffic impacts.
17	Solano Workshop		Opposed to tolls and private ownership of road; supports 4-lane road expansion as double-decker bridge, HWY 37 should be prioritized because of the urgency of climate change.	Comment noted.
18	Solano Workshop		SR 37 needs to be prioritized; the Sears Point intersection needs to be improved in the short-term, the economic impact of the congestion needs to be studied, suggests adding a reversible lane to segment B.	The 121/37 intersection contributes to corridor congestion and potential intersection improvements are included in the Corridor Plan's near-term improvements. Caltrans will be implementing some of the near term improvements at this intersection in 2018. Reversible lane option for segment B comment is noted and under consideration.
19	Solano Workshop		Suggests looking at Caltrans’ 1990 study of SR 37 and the Sonoma County Regional Parks Department’s Bay Trail feasibility study from 2005/2006. Insists on including the creation of a “quality” Bay Trail along the corridor to attract tourists.	The alternative included in the document are preliminary and include possible options for accommodating bicycles with roadway widening. They are not intended to preclude other alternatives that may be explored during later project development phases.
20	Solano Workshop		Opposed to tolling but recognizes the urgency of the situation; if tolling is inevitable preference for a toll road. Strongly opposed to full privatization, in favor of a public transit option.	Noted. There is a north bay transit operators group that meets quarterly that the CMAs participate in; the CMAs and transit operators are also in discussion about a origin/destination study to identify home and work destination sites for users of the corridor to see if transit would be feasible. There are also TDM strategies that could be implemented on the corridor, such as vanpools.
21	Solano Workshop		Concerned about the cost to senior citizens on fixed incomes.	Comment noted.
22	Solano Workshop		Suggests adding permanent barriers between lanes on eastbound 37 before the 121 intersections in the short term, and prohibiting cars altogether in the long-term to make room for buses.	Comment noted.
23	Solano Workshop		Suggests creating a 2nd eastbound lane with the shoulder room and adding permanent barriers to separate eastbound lanes before the 121 junction.	Comment noted.

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24	Solano Workshop		Strong support for a 4-lane causeway to be built urgently, and for improvements at the 121 intersection.	Comment noted.
25	Solano Workshop		Supports toll option as only realistic way to get project underway, and is in favor of creating a bike/ped path along the route.	Comment noted.
26	Solano Workshop		Encourages looking at public transit between Vallejo and Marin, such as a commuter bus.	There is a north bay transit operators group that meets quarterly that the CMAs participate in; the CMAs and transit operators are also in discussion about a origin/destination study to identify home and work destination sites for users of the corridor to see if transit would be feasible. There are also TDM strategies that could be implemented on the corridor, such as vanpools.
27	Solano Workshop		Supports widening segment B to 4 lanes, suggests building light rail tracks from Novato to HWY 12 junction, from Fairfield to Vallejo, and from Vallejo to Napa, with a free park and ride stations.	Widening segment B to 4 lanes is under consideration. Comment noted. SMART is seeking funding to conduct an easterly study called the NOVATO - SOLANO HUB see pages 59-61 in the presentation at: http://scta.ca.gov/wp-content/uploads/2017/11/State-Rail-Plan_11.01.2017.pdf Although SMART was not successful in 2017 there are more funding opportunities in 2018.
28	Solano Workshop		Supports a public/private finance option, as only viable solution for the corridor.	Public/Private finance options are under consideration.
29	Solano Workshop		Supports bicycle and rail solutions to ease traffic and provide access to piers and levee trails; also supports elevated roadway and increased lanes.	The alternative included in the document are preliminary and include possible options for accommodating bicycles with roadway widening. They are not intended to preclude other alternatives that may be explored during later project development phases.
30	Solano Workshop		Priority issues along the corridor are: Mare Island access ramp, merge from 2 to 1 lane, elevate and expand number of lanes, correct 121 intersection. Also in favor of tolling and providing ferry service.	Mare Island Interchange and SR 121 are included as priority projects as part of segment B with alternatives suggested being considered. Public/Private finance options are under consideration as well.
31	Solano Workshop		Strong opposition to privatization, and strong support for Class 1 Bike lanes.	The alternative included in the document are preliminary and include possible options for accommodating bicycles with roadway widening. They are not intended to preclude other alternatives that may be explored during later project development phases.
32	Solano Workshop		Supports creating a bike path along the corridor, elevating the roadway and developing hiking trails.	The alternative included in the document are preliminary and include possible options for accommodating bicycles with roadway widening. They are not intended to preclude other alternatives that may be explored during later project development phases.
33	Solano Workshop		Suggests considering realignment to SR12 and adding bike paths with viewing areas.	Comment noted.
34	Solano Workshop		Supports enjoyable bicycle and pedestrian facilities along the route, with better access to open space (mentions the east span of the bay bridge as a good example).	The alternative included in the document are preliminary and include possible options for accommodating bicycles with roadway widening. They are not intended to preclude other alternatives that may be explored during later project development phases.
35	Solano Workshop		Supports creating a Class 1 bike/ped path.	The alternative included in the document are preliminary and include possible options for accommodating bicycles with roadway widening. They are not intended to preclude other alternatives that may be explored during later project development phases.
36	Solano Workshop		Supports a ferry service from Vallejo to Larkspur, which connects to the SMART train.	STA has a Water Transit Study underway (which includes ferry service for the SR 37 Corridor). Details regarding the STA's Water Transit Study can be found at: http://www.sta.ca.gov/docManager/1000007094/Water%20Transit%20Plan%20-%20Scope%20of%20Work%20from%20RFP%202017-7a.pdf
37	Solano Workshop		Strong support for the creation of a public transit option between Vallejo and Marin, as well as exploring a floating 4-lane bridge option with HOV lanes. In favor of tolling but strongly opposed to privatization.	There is a north bay transit operators group that meets quarterly that the CMAs participate in; the CMAs and transit operators are also in discussion about a origin/destination study to identify home and work destination sites for users of the corridor to see if transit would be feasible. There are also TDM strategies that could be implemented on the corridor, such as vanpools.
38	Solano Workshop		Suggests using RM3 funding for initial feasibility studies and alerting state legislators of the urgency of the project.	SR 37 currently has \$100 million dedicated from RM3 should the measure pass.
39	Solano Workshop		Suggests considering the no project option and putting all funds towards public transit and home creation near jobs, would like to see a full VMT analysis and growth inducing impact analysis, recommends consideration of a floating bridge option, supports Bay Trail project.	Comment noted.
40	Solano Workshop		Recommends partitioning the road prior to the crest of the hill with a barrier to separate the traffic going EB to Vallejo/Mare Island from the traffic turning north into 121 to Sonoma. Prefers funding SMART train extension than a bike lane.	SR 121/SR 37 Interchange solutions near Sears Point are being considered as priority as part of Segment B of the Corridor Plan. Comment noted.
41	Solano Workshop		Advocates for a Class 1 fully separated multi-use path that accommodates both bicycles and pedestrians.	The alternative included in the document are preliminary and include possible options for accommodating bicycles with roadway widening. They are not intended to preclude other alternatives that may be explored during later project development phases.
42	DAA Public Comment	Marin County, Department of Public Works	<p>Pages 3 and 6, 7 (3 places) - There are several instances where language reads that a section of SR 37 is "protected by levees." Protect, by definition, implies that the levee owners are shielding the highway from harm or injury. It seems more accurate to say that the highway was constructed at an elevation that is below many high tides and that the original construction relied on a variety of existing levees and berms not owned by Caltrans to keep the roadway dry under most conditions. "Reliance" is used on Page 6, which seems a more accurate term than "protected". It should also be noted that this reliance is generally not based on any formal relationship between Caltrans and the levee owners. Care should be taken to distinguish the District-maintained flood control levees from Caltrans levees or other existing levees and/or berms.</p> <p>It is important to note that the existing levee/berm network along Novato Creek, especially those segments downstream of the SR 37 crossing, predate the highway's construction (see USGS Quadrangle Map, Petaluma River, 1914). It is not clear if the original highway design analyzed flood protection provided by existing levee/berms along Novato Creek, especially those south of the highway alignment. The Marin County Flood Control & Water Conservation District (MCFCWD) is not aware of an explicit acknowledgement or agreement that the Novato Creek levee/berms, both upstream and downstream of the highway alignment, would be maintained and operated to provide such protection. The primary use of the lands south of SR37 and downstream of highway is for irrigation reclamation/treated wastewater discharge with associated and complimentary agricultural uses (crop production and livestock grazing).</p>	Comment noted. "protected by" will be replaced with "relies on".
43	DAA Public Comment	Marin County, Department of Public Works	Page 3 states that Segment A is the most vulnerable to SLR -then provides the reasoning that it relies on levees for flood control. SLR is tied to daily tidal inundation, which is different than flood control, which is typically focused around rainfall events. Care should be taken to distinguish riverine flooding from inundation due to sea level rise.	Text will be revised as appropriate.

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ID	Comment Origin	Name	Comment	Response
44	DAA Public Comment	Marin County, Department of Public Works	Pages 3 and 7 - The emergency work that Caltrans performed should be more explicitly described in the Plan. Page 3 - To what elevation was the roadway raised? Page 7 - How long was the segment of roadway that was raised? It should clarify that only a short segment was raised. Page 7 indicates that Caltrans used "funds to address the flooding." To "address" implies that the flooding issue is resolved. It may be more accurate to say that they used funds to "reduce the occurrence of flooding."	The intent of the document was to identify near and long term improvements. Will revise narrative as appropriate: page 7, change "address" to "reduce the occurrence". The improvements at Novato Creek included raising the elevation of about 1000 feet of roadway by two feet in both directions using lightweight material, installing 1400 feet of sheet piles 20 feet deep along the eastbound shoulder, and replacing and extending three large, cross-highway culverts. The repaired roadway elevation averages about 7.47 feet (NAVD 88) between its lowest and highest points.
45	DAA Public Comment	Marin County, Department of Public Works	Page 7 - Exhibit 5 is difficult to read and to pull out the information about where exactly the weak links are.	Comment noted. Exhibit 5 is intended to show the general locations of the weak links.
46	DAA Public Comment	Marin County, Department of Public Works	Page 14 - Traffic is also displaced to Atherton Avenue when SR 37 is closed at Novato Creek. There is no capacity on that two lane road for SR 37 traffic.	Comment noted.
47	DAA Public Comment	Marin County, Department of Public Works	Page 16 - Exhibit 15. Sears Point/Infineon Raceway is north of SR 37; on this map the marker is south. And the train segment should be labeled Amtrak only (not Capital Corridor).	Graphic will be updated as appropriate.
48	DAA Public Comment	Marin County, Department of Public Works	Page 17 -Please provide details for costs shown in Table 2.	Preliminary cost estimates were included in the corridor plan, and may be refined in later project phases.
49	DAA Public Comment	Marin County, Department of Public Works	Page 18 - Item 2 should include the need for pump stations to move water, as gravity drainage may not work.	Comment noted. This is a planning level document, example features were included in the corridor plan, more specific designs shall be conducted in future project development phases.
50	DAA Public Comment	Marin County, Department of Public Works	Page 19 -the embankment option will also likely require the need for pump stations to move water, because the roadway will function as a levee.	Comment noted. This is a planning level document. More specific designs shall be conducted in future project development phases.
51	DAA Public Comment	Marin County, Department of Public Works	Page 21 - Again, it would be helpful to show and describe the weak links in more detail.	Comment noted. Exhibit 5 is intended to show the general locations of the weak links.
52	DAA Public Comment	Marin County, Department of Public Works	Page 21- Table 3 reaches with "2050." What does that imply? The text implies the DAA will identify near-term roadway and levee improvements. What are the near-term design heights?	The corridor plan identified levee elevation needs under different 2050 flooding scenarios. Interim levee heights and specific improvements will be determined in later project phases.
53	DAA Public Comment	Marin County, Department of Public Works	Page 23 - Exhibit 24. For this alternative, does the traffic model account for the EB portion of the roundabout being used as a third through lane for EB 37 traffic? There is no means to preclude drivers from making such a maneuver and without signal control, it becomes like any other mixed-flow lane. Any backup on EB 37 east of this location will likely encourage this behavior which will then effectively block any movement of drivers going north on 121.	The exhibit is a schematic of a potential roundabout design option. Detailed traffic operational analyses for the roundabout designs will be completed in a future project phase.
54	DAA Public Comment	Marin County, Department of Public Works	Page 24 - Include language that some levees also need to be rebuilt due to age and lack of engineered design. Simply raising the levees may not be enough. Segment B addresses the Bay Trail. Why is there no mention in Segment A? Please include an analysis of operational issues at the SR 101 interchange due to the change in westbound traffic volumes.	The corridor plan included a recommendation to raise Segment A as part of the Mid to Long-Term Improvements. Further field assessment/survey of the existing levee system will be required prior making specific levee improvements. The limits of the traffic operational analysis are between SR 29 to US 101.
55	DAA Public Comment	Marin County, Department of Public Works	Page 29 - Please provide details for the Segment A Flood Protection costs.	Preliminary cost estimates were included in the corridor plan, and may be refined in later project phases.
56	DAA Public Comment	Marin County, Department of Public Works	Page 29 - Near Term Improvements Summary table: With this generic improvement it would be helpful to break this out into A1 and A2 segments or list similarly to the B segment which has project items identified for specific locations in the segment.	Comment noted.
57	DAA Public Comment	Marin County, Department of Public Works	Page 30 - Please provide details for Segment 1 levee improvements and raised roadway costs. Please provide a basis why this work can't start in the 7-10 year timeframe.	Preliminary cost estimates were included in the corridor plan, and may be refined in later project phases. Work could start sooner for segment A should resources become available.
58	DAA Public Comment	Marin County, Department of Public Works	Page 30 - Mid-to-Long-term Improvements Summary table. Similar to the Near Term table, with this generic improvement it would be helpful to break this out into A1 and A2 segments or list similarly to the B segment which has project items identified for specific locations in the segment.	Comment noted.
59	DAA Public Comment	Marin County, Department of Public Works	Page 31- Priority Segment. Either the heading should be changed or the first sentence truncated to state it has been identified as the priority segment for the following reasons: (and then cite the reasons). Otherwise it suggests the corridor study is primarily about capacity enhancement/congestion mitigation. Please be open to the possibility to move forward with some strategic elements in Segment A concurrent with efforts to move forward Segment B.	Improvements were identified and phased based on availability information and not intended to preclude Segment A improvements to be concurrent with Segment B in future project development phases.
60	DAA Public Comment	SR 37 – Baylands Group	Improvements to the SR 37 corridor should be integrated with implementation of existing habitat goals and the extensive ecological planning for this region that has already occurred to ensure ecosystem function and landscape resiliency into the future.	The planning, design and implementation of improvements for SR 37, where possible, will aim to take advantage of and be compatible with the existing habitat goals and extensive ecological planning efforts that have already occurred in this region. The design options for potential improvements would accommodate existing habitats and land uses while anticipating future larger scale landscape changes that may occur in the future as a result of wetland restoration, habitat evolution in response to sea level rise, and land use changes.
61	DAA Public Comment	SR 37 – Baylands Group	The corridor improvement project should be defined as an array of alternatives that meet goals to relieve traffic congestion of SR 37 while adapting to sea level rise rather than assuming the road will be reconstructed in its current location. Integration of the project’s transportation and ecological goals could be achieved by elevating the highway on a bridge causeway, moving traffic inland, planning for alternative transportation options, or other alternatives.	A range of design alternatives that aim to address the purpose and need of improvement(s) for SR 37 will be developed and evaluated as part of the current design alternative assessment, and it is expected the range of alternatives will continued to be further refined and evaluated through the subsequent CEQA/NEPA environmental phase.

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62	DAA Public Comment	SR 37 – Baylands Group	A thorough examination of alternatives, including an inland highway and a North Bay bridge, is needed. Since the Corridor Improvement Plan is intended to feed into the California Environmental Quality Act (CEQA) process, it important not to rule out alternatives that would avoid impacts to baylands habitats at this stage. Redesign of the highway in its current alignment should be selected as the preferred alternative only if it is determined, through CEQA analysis, to be the least environmentally damaging option.	See Response to comment #61. In addition, the corridor plan is not intended to preclude other alternatives from being considered during later phases of the project development.
63	DAA Public Comment	SR 37 – Baylands Group	<p>In developing the alternative of reconstructing SR 37 along its current alignment, improved ecological connectivity should be a central objective. The primary means of achieving this objective is to “Elevate Highway 37 and modify or realign rail lines and other infrastructure to allow the full passage of water, sediment and wildlife.” This recommendation is found in The Baylands and Climate Change: What We Can Do, the 2015 update to the 1999 Baylands Ecosystem Habitat Goals report. The 2015 Science Update represents the consensus of over 100 scientists representing a cross section of expertise and experience gained through studying and working in the San Francisco Bay.</p> <p>Historical ecology should be the starting point for understanding the San Pablo Baylands and the need for improved connectivity. To support conservation and restoration of the Baylands, SR 37 corridor improvement should include consideration of:</p> <ul style="list-style-type: none"> a. Historical ecology; b. Changes that have occurred since the land was diked and drained for agriculture, including subsidence; c. Remaining historic habitats and other valuable existing habitats; d. Habitat conservation and restoration projects that have been completed or are ongoing or planned; e. The impacts of projected sea level rise on wetlands, including the need for marsh migration; and f. The needs of specific wildlife populations. 	The Baylands and Climate Change: What We Can Do, the 2015 update to the 1999 Baylands Ecosystem Habit Goals report is an important reference document for the design alternative assessment work for SR 37. The technical input and advice on ecological connectivity from the scientists that are participating in the environmental working group, which was established with the help of representatives from the SR 37 Baylands Group, will also inform the various design considerations. Improving ecological connectivity is a central theme. This stakeholder process is considering and evaluating all of the factors raised by this comment (historical ecology, land use changes, existing habitat, restoration plans, effect of SLR, and wildlife needs), and identifying through collaboration with project engineers, how those factors influence the design process for a more resilient SR 37. With the support of the environmental stakeholders, these factors have already influenced the design and will continue to do in subsequent phases of the project.
64	DAA Public Comment	SR 37 – Baylands Group	Direct impacts to habitats and wildlife, including endangered species, must be avoided or minimized. Any mitigation should be accomplished by supporting wetlands restoration in the San Pablo Baylands that is compatible with existing habitat goals for the area, not through offsite mitigation.	An evaluation of the direct and indirect environmental impacts of improvement(s) to SR 37, including identification of mitigations when needed, will be conducted during an SR 37 project's environmental phase, and specific consideration of mitigation supporting restoration of San Pablo Baylands (rather than off-site mitigation) would be most appropriate during the environmental review. Through the environmental working group process, the project team has already identified a number of near-term and long-term ecological enhancements or mitigation projects that could be implemented within San Pablo Bay and more specifically along the SR 37 corridor.
65	DAA Public Comment	SR 37 – Baylands Group	Near-term solutions should protect wetland resources and maintain restoration options to the maximum extent possible. They should be designed to avoid filling wetlands and the Bay and avoid placing infrastructure, such as sea walls, that would be barriers to tidal exchange. Near-term solutions that do not involve construction of new roadway elements (such as express bus service, park and ride lots and organized carpools and vanpools) are encouraged.	Near-term operational improvements are intended to address and rectify an existing traffic operations, traffic safety, or short-term flooding due to seasonal heavy storms and be implemented within a short-term period, ideally within five years when possible. Minimizing impacts to wetlands and the Bay is being considered as part of the near-term solutions design to alleviate corridor congestion. An environmental review of such operational improvements will be conducted, and the design of such improvements would aim to not preclude future design alternatives. Operational improvements such as bus service, park-ride lots, carpools/vanpools, and related demand management strategies would be pursued when possible to increase person throughput within the corridor.
66	DAA Public Comment	SR 37 – Baylands Group	Near-term solutions should avoid foreclosing design options. Near-term solutions should not foster an acceptance of the status quo or a premature commitment to incremental improvements rather than open-minded consideration of a design that is significantly different from the current one. Pursuing structural near-term improvements provided on Page 26 could narrow the full range of design options and could result in foreclosure of options for tidal wetland restoration and negatively impact the connectivity discussed above.	See Responses to Question #61, 63, and 65. In addition, a goal of the environmental working group is to better understand what the long-term vision for the corridor is in terms of future land use and restoration activities so that the highway itself does not preclude any future environmental opportunities that may arise and that the highway may, in fact, facilitate those opportunities to a greater extent than exists today.
67	DAA Public Comment	SR 37 – Baylands Group	Agencies leading the corridor improvement process should avoid piecemealing under CEQA. Given the limited utility of addressing current and future flood risk on one part of the highway without the others, pursuing road segment improvements as separate projects with their own environmental documents, rather than under a programmatic EIR for the whole corridor, could result in piecemealing under CEQA. CEQA does not allow piecemealing because it can result in underestimating significant impacts and can hinder development of a comprehensive solution.	<p>SR 37 is a 20-plus mile linear transportation corridor with multiple segments that span multiple jurisdictions and features differing levels of roadway improvements. These segments, to varying degrees, feature flooding due to seasonal heavy storms, experience high traffic congestion, and exhibit vulnerability to future sea level rise. MTC, Caltrans and the four North Bay congestion management agencies (CMAs) have identified a pressing regional need to separately evaluate Segment B’s 2-lane segment of SR 37 from SR 121 at Sears Point to Mare Island interchange in Vallejo because the combination of all three issues – flooding, congestion and sea level rise vulnerability – are most acute within that segment. Because the other segments of SR 37 feature four lanes, they do not experience the transportation capacity constraints and congestion seen in Segment B. Any proposed improvements to be implemented within Segment B would have independent utility and would not necessarily trigger any need to improve the other segments.</p> <p>Notably, opportunities to evaluate Segment A from US 101 to SR 121 and Segment C from the Mare Island interchange to I-80 are not foreclosed with the current design alternatives assessment efforts undertaken for Segment B. In fact, Segment A and Segment C will also be evaluated separately by Sonoma and Marin CMAs and the Solano CMA, respectively. The timing for the implementation of improvements will vary across the segments, given the different scopes, budgets, schedules, available funding and approval processes (to name a few) of improvements identified for each segment. That said, any project to implement improvements to Segment B will need to evaluate all impacts that may result from that project, as well as any cumulative impacts related to other potential projects. However, the fact that a project to improve Segment B may have impacts that are similar to future potential projects to modify other segments does not mean that separately evaluating the improvements to Segment B would constitute piecemealing, as that term is used with regard to the California Environmental Quality Act. Those future projects may not be implemented for some time and will likely be undertake by different lead agencies.</p>
68	DAA Public Comment	SR 37 – Baylands Group	<p>Project alternatives developed in the Design Alternative Assessment (DAA) for the segment between SR 121 and Mare Island should be evaluated based on their ability to achieve the following goals.</p> <p>a. As in the corridor-level analysis, connectivity that is restricted by the current form of the highway should be restored in areas where it is needed, based on consideration of the factors above (historical ecology, existing habitat, current and planned restoration projects, sea level rise projections and the need for marsh migration, needs of particular wildlife populations, etc.). Connectivity includes hydrologic connectivity needed to support wetland processes, such as sediment transport to enable marshes to keep up with sea level rise, as well as connectivity needed by fish, wildlife and plant communities.</p> <p>b. As in the corridor-level analysis, direct impacts to habitats and wildlife, including endangered species, must be avoided or minimized. Again, any mitigation should be accomplished by supporting wetlands restoration in the San Pablo Baylands that is compatible with existing habitat goals for the area, not through offsite mitigation.</p>	See Responses to Question #61 and #63. As part of environmental working group process, the factors described (historical ecology, existing habitat, current and planned restoration projects, sea level rise projections and the need for marsh migration, needs of particular wildlife populations), along with potential direct impacts to special-status and other wildlife species, are all being considered.

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ID	Comment Origin	Name	Comment	Response
69	DAA Public Comment	SR 37 – Baylands Group	Pages 8 and 19. The study uses relatively old estimates of sea level rise projections. Newer models, based on more recent observations and modeling improvements, indicate higher rates of sea level rise are likely under more extreme greenhouse gas emission scenarios. Although the mean level of sea level rise in the study is consistent with the median projection of the most recent Ocean Protection Council (OPC) report (2017), the upper limits of projections are much higher (range of NRC 2012 at 2100 17-66 inches, range of OPC study 19.2- 120 inches). As the report acknowledges, the State’s guidance to plan for a worst scenario, planning for SR 37 should include the new 10-foot projections in their planning process. An adequate assessment of project risks and costs will need to include this larger rate of sea level rise with a 100-year storm. It is also worth noting that substantial portions of sections A2 and B1 are vulnerable to inundation with only 1.6 feet of sea level rise (see www.ourcoastourfuture.org and below).	<p>The corridor plan was prepared using the best available data, tools and models available to the preparers during the development of the plan, and the high-level assessment made based on available resources is appropriate level of detail for the purposes of this plan. Future phases of project design will accommodate the best available science at that time and would likely include an evaluation of risks and costs as suggested by the commenter.</p> <p>The long-term highway elevation is currently proposed to be approximately 20 ft NAVD88. This elevation is approximately 10 ft above the existing 1% annual chance tide level for north San Pablo Bay. The proposed highway facility (either embankment or structure) would accommodate the highest water levels anticipated during a 100-year coastal storm event coupled with 66 inches of SLR and provide additional freeboard of 1 to 2 ft. This means that the highway would not experience flooding during a 100-year storm event until approximately 7 ft of SLR occurred at which time minor wave overtopping onto the roadway could occur. Significant inundation (and presumably closure) of the highway would not occur until 10 feet of SLR occurred coupled with a 100-year coastal storm event. As an additional point of reference, it would require approximately 12 ft of SLR before a regularly occurring winter storm event (on the order of a 1-2 year storm) caused significant inundation of the highway.</p> <p>Regarding the 2017 OPC SLR projections, the upper range SLR projection (0.5% chance of exceedance) under the most extreme greenhouse gas emissions scenario (RCP 8.5) is 83" (or 7 ft). This is a scenario with an extremely low likelihood of occurrence. The new guidance provides asset managers with the information they need to perform risk-based evaluations and evaluate the design (and cost) trade-offs of different levels of SLR. Those evaluations may or may not lead to an asset manager to select the most precautionary SLR projection and that level of assessment (of risks and costs) has not yet been completed.</p>
70	DAA Public Comment	SR 37 – Baylands Group	Page 11. Add the following text to the end of the sentence in the green text box: “...using nature-based solutions.”	Comment noted. Nature-based solutions will be considered when appropriate in the improvement design development process.
71	DAA Public Comment	SR 37 – Baylands Group	Page 19. Add San Pablo Song Sparrow and Chinook salmon as protected species.	This technical information will be incorporated into the corridor plan as suggested.
72	DAA Public Comment	SR 37 – Baylands Group	Page 20. There should be net zero wetland loss. Many of the Baylands along the B2 section of the corridor are high quality habitat that will prove difficult to mitigate given the length of time needed for tidal marsh restoration and future projections of sea level rise.	Comment noted. Reducing impacts to existing wetlands along Segment B is being incorporated into the design process. The design process also includes identifying opportunities to enhance, restore, and reconnect existing wetlands along Segment B.
73	DAA Public Comment	SR 37 – Baylands Group	Pages 34. Wetland mitigation should be performed on site, not off site. Mitigation should be within the SR 37 corridor even if large-scale on site mitigation is not feasible. Smaller mitigation sites within the watershed have potential for connectivity and expanding habitat. These localized benefits would not be realized through restoration of a large, off site mitigation parcel.	See Response to #64. Please also note that offsite mitigation is included as a possible (not necessarily recommended) means for no-net loss mitigation. In addition, the project team is working to incorporate integrating wetland enhancement, reconnection, and restoration as part of the design process and agrees that wetland restoration in the SR 37 corridor is a preferred approach.
74	DAA Public Comment	SR 37 – Baylands Group	Throughout the document, the spelling for Ridgway’s rail should be corrected. There is no ‘e’ after the ‘g’.	Typo will be corrected as suggested.
75	DAA Public Comment	SR 37 – Baylands Group	<p>The Baylands Group is developing a Preliminary Vision for the four-county SR 37 corridor (San Pablo Baylands), which will include a map depicting existing habitats, completed, current, and planned habitat restoration projects, and conceptual diagrams of ecological processes illustrating the importance of connectivity across SR 37. We anticipate working with the Policy Committee to incorporate the Preliminary Vision into the SR 37 corridor plan and design process via collaboration between the Baylands Group and MTC’s Environmental Working Group</p> <p>The Bay Trail connection along Highway 37 is one of these critical trail connections for the Ridge Trail, Delta Trail and Vine Trail.</p>	Incorporate the working draft version of Baylands Group's Vision Statement and Guiding Principles as part of the Goals and Objectives section of the corridor plan (dated Aug. 16, 2017).
76	DAA Public Comment	Bay Area Ridge Trail Council	<p>The Ridge Trail Council feels that the five alternatives shown in the plan do not address pedestrian and bicycle access in a sufficient manner. For example, none of the options accommodate pedestrians and the majority do not separate bicyclists from the 55+ mph vehicular traffic.</p> <p>The Ridge Trail Council advocates for a Class 1, fully separated multi-use path that accommodates both bicycles and pedestrians as a baseline with additional opportunities for robust public access tiering off of whatever roadway facility is ultimately chosen.</p>	The alternative included in the document are preliminary and include possible options for accommodating bicycles with roadway widening. They are not intended to preclude other alternatives that may be explored during later project development phases.
77	DAA Public Comment	Marin Audubon Society	<p>Our recommendation is that an alternative which avoids impacts to the aquatic ecosystem of the Highway 37 area be considered and evaluated before alternatives involving mitigation are considered.</p> <p>The preferred mitigation in the CEQA is avoidance. In compliance with that guidance, MTC should first consider alternatives that would avoid adverse ecosystem impacts. Only after avoidance is determined to be infeasible should alternatives that would minimize and/or replace wetlands on or off-site, or through a bank be considered. We note also that both the Federal 404 Guidelines and the San Francisco Bay Regional Water Quality Control Board require an Alternatives Analysis which also must demonstrate that there is no practicable alternative which would have less environmental impact on the aquatic ecosystem.</p>	Comment noted.
78	DAA Public Comment	San Francisco Bay Trail	<p>We are concerned that the needs of the Bay Trail and the non-motorized users it serves are not adequately accommodated in the discussion or documents to date. Our main concerns are as follows:</p> <ul style="list-style-type: none">• Safety—All options need full barrier protection for non-motorized users• Pedestrians must be accommodated• That a complete and continuous multi-use pathway is a baseline element of any alternative and moves through planning, environmental review, design, permitting and construction in tandem.	The alternative included in the document are preliminary and include possible options for accommodating bicycles with roadway widening. They are not intended to preclude other alternatives that may be explored during later project development phases.

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79	DAA Public Comment	San Francisco Bay Trail	<p>Page 19 of the current Draft Highway 37 Corridor Improvement Plan portion of the Design Alternatives Analysis (DAA) states: “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 the Bay Trail.”</p> <p>It is unclear what “Class I bicycle facility on the Bay Trail” is being referenced here, but it is important to note that of the examples that follow on pages 25 and 26, only two of the five propose a barrier, three propose a rumble strip as separation from high-speed traffic, and not a single alternative proposes to accommodate pedestrians.</p>	The alternative included in the document are preliminary and include possible options for accommodating bicycles with roadway widening. They are not intended to preclude other alternatives that may be explored during later project development phases.
80	DAA Public Comment	San Francisco Bay Trail	<p>Bay Trail Project comments to date have repeatedly stated that regardless of what entity ultimately owns and operates this facility, inclusion of Class I, fully separated multi-use pathway along the entire length of the project is of paramount importance and must be and remain a baseline element of the project. The options shown that include a barrier do not illustrate an inviting condition. While understood that these are concept level plans, it is imperative that plans for Highway 37 include the following from the outset:</p> <ul style="list-style-type: none">• Minimum pathway width of 12’ clear with two 2’ shoulders. Current shown is an 8’ wide two-way bicycle only path with 2’ shoulders.• Positive barrier separating traffic from multi-use path, designed to protect pathway from debris while also allowing visual penetration.• Robust safety analysis—which side for path? Wind, pollution, debris, must be evaluated• Routine maintenance and repair of facility must be incorporated into project• High quality connections to existing and future segments of Bay Trail such as Port Sonoma, Sonoma Baylands, Sears Point, Tubbs/Tolay loop trail, Skaggs Island, White Slough Path, Wilson Avenue, the Vallejo Waterfront and ferry, and the Napa Valley Vine Trail and other important local destinations must be included and well designed.• Scenic viewing/resting areas, including access down to ground level boardwalk platforms with interpretive displays must be baseline elements of the project.• Pathway lighting to allow nighttime use• Tolling—the Bay Trail is and must remain free and accessible to the public at all times.• Design will be of particular importance due to the length of the facility. The East Span Bay Bridge represents good bike/ped design. Yolo Causeway on Highway 80 near Sacramento is poorly conceived and executed.• All aspects of the pathway—planning, designing, permitting, funding, construction—must move forward together.	The alternative included in the document are preliminary and include possible options for accommodating bicycles with roadway widening. They are not intended to preclude other alternatives that may be explored during later project development phases.
81	DAA Public Comment	San Francisco Bay Trail	<p>The importance of including the most robust version of bicycle and pedestrian facilities in the planning phases cannot be overstated. Some have noted over the past few years of discussion that the Bay Trail could be placed on the levees that may remain in place below an elevated structure, should that alternative move forward. While such an approach could provide value for a time, the underlying, fundamental reason for tackling the monumental Highway 37 challenge is that the current levees and roadways are being overtaken by sea level rise.</p> <p>Therefore, any scenario that leaves the Bay Trail below the future roadway structure either leads to a discontinuous trail or requires a massive parallel effort to build an entirely separate continuous trail off of the roadway.</p> <p>As the DAA moves to the next phase of more detailed design consideration, please ensure that bicycles and pedestrians are accommodated with the items listed above incorporated into any and all alternatives. Additionally, any near and mid-term projects to address traffic and/or SLR on Highway 37 should seek opportunities to advance the Bay Trail. The Sonoma County Regional Parks Department should be consulted regarding current efforts to connect the Sears Point Bay Trail (currently ending near the Hwy 121/37 intersection) to the Tubbs/Tolay Bay Trail. Several short-term fixes are proposed for the 37/121 and SMART Rail intersection, and opportunities to advance the goals of the Bay Trail, Sonoma County Regional Parks, and the traveling public should not be missed.</p>	The alternative included in the document are preliminary and include possible options for accommodating bicycles with roadway widening. They are not intended to preclude other alternatives that may be explored during later project development phases.
82	DAA Public Comment	The Marin, Sonoma, and Napa County Bicycle Coalitions	Provide a physically separated, continuous multi-use pathway that accommodates people travelling by foot and bike. In order for the corridor’s multi-use pathway to meet its potential as a world-class facility, we urge the agencies to 1) expand access to include those travelling by foot and 2) design it in a manner that is safe and appealing. On the latter, it’s crucial that the pathway is physically separated and protected from vehicular traffic. The use of rumblestrips as a buffer between people bicycling and heavy traffic travelling 50+ MPH is unacceptable.	Any long term solutions will integrate multi-modalism. Bicycle and/or pedestrian facilities will be integrated where feasible in future project phases.
83	DAA Public Comment	The Marin, Sonoma, and Napa County Bicycle Coalitions	The multi-use pathway described above should be included as a baseline element of the project. This multi-use pathway should be planned, designed, permitted, funded, and built in lockstep with the rest of the project.	Any long term solutions will integrate multi-modalism. Bicycle and/or pedestrian facilities will be integrated where feasible in future project phases.
84	DAA Public Comment	The Marin, Sonoma, and Napa County Bicycle Coalitions	The multi-use pathway must connect seamlessly with other regional and local bicycle and pedestrian networks. As noted above, a multi-use pathway along the Highway 37 corridor has the potential to connect to a number of existing and planned pathways. These connections should be prioritized as the design process advances.	Any long term solutions will integrate multi-modalism. Bicycle and/or pedestrian facilities will be integrated where feasible in future project phases.
85	DAA Public Comment	Sonoma County Transportation and Land Use Coalition	Page 3, line 6 “... and critical habitat would be lost.” Revise or delete. The relationship between habitat and permanent roadway closure due to sea level rise is complex, and would develop over many years. The environmental effects of inundation events would largely precede any final closure of the highway, and are not described further in the plan document.	Text will be revised to read "...critical habitat could be altered".

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86	DAA Public Comment	Sonoma County Transportation and Land Use Coalition	Page 4, Traffic Congestion, lines 3-4 “No transit opportunities are available along the study corridor to offset vehicular demand.” Revise this sentence to state that no concerted efforts have yet been taken to encourage car-pools, establish van-pools, or provide bus, ferry, or rail service connecting the Interstate 80 and US 101 Corridors.	Statement is correct and effort is underway. There is a north bay transit operator group that meets quarterly and Transportation Authorities participate in. Additionally, the Transportation Authorities are in discussions regarding an origin/destination study to identify home and work destinations and help determine transit feasibility. TDM strategies, such as vanpools, could also be considered to help alleviate corridor congestion.
87	DAA Public Comment	Sonoma County Transportation and Land Use Coalition	Page 15, lines 3-4 “... rail transit, ferry alternatives ... were evaluated as possible strategies to retreat and it was determined that none of these are feasible standalone strategies” Revise to state that rail, and ferry options may be important within the next three decades and should be studied further. No public transportation system ever stands alone. The region is best served when transit systems and roadways support one another.	Agree text will be revised similar to request, but ferry and rail studies will proceed on parallel tracks to the highway efforts. STA has a Water Transit Study underway (which includes ferry service for the SR 37 Corridor) and SMART is seeking funding to conduct an easterly study called the NOVATO - SOLANO HUB see pages 59-61 in the presentation at: http://scta.ca.gov/wp-content/uploads/2017/11/State-Rail-Plan_11.01.2017.pdf Although SMART was not successful in 2017 there are more funding opportunities in 2018. Details regarding the STA's Water Transit Study can be found at: http://www.sta.ca.gov/docManager/1000007094/Water%20Transit%20Plan%20-%20Scope%20of%20Work%20from%20RFP%202017-7a.pdf
88	DAA Public Comment	Sonoma County Transportation and Land Use Coalition	Pages 15 - 17, Rail Alternative. Revise to recommend further study. The “Rail Alternative” is described as a potential replacement for SR-37, when in fact it would supplement the roadway, particularly if population along the I-80 corridor continues to grow. To the extent that rail service could provide an option for people who commute from the City of Sonoma and the I-80 corridor to the US-101 corridor, it would reduce traffic on SR-37. These factors merit ongoing evaluation, and should not be dismissed. The estimated costs of various approaches to establishment of passenger rail service should be described in considerably greater detail.	Efforts on SR 37 will not preclude rail. See response #87.
89	DAA Public Comment	Sonoma County Transportation and Land Use Coalition	Page 17, Ferry Alternative. Revise to recommend further study of the costs, benefits, and implementation options for various ferry alternatives that would reduce dependence on the roadway. Knowledge of these factors provides a basis for determining relative value of widening the 2-lane section of highway.	STA has a Water Transit Study underway (which includes ferry service for the SR 37 Corridor). Details regarding the STA's Water Transit Study can be found at: http://www.sta.ca.gov/docManager/1000007094/Water%20Transit%20Plan%20-%20Scope%20of%20Work%20from%20RFP%202017-7a.pdf
90	DAA Public Comment	Sonoma County Transportation and Land Use Coalition	Page 17, Maintain Existing Roadway. Revise to call for improvement of the existing roadway in the next two or three years. In addition to the suggested lane modifications, features such as diamond lanes, lane-metering, and queue-jumping options should be evaluated to encourage use of carpools, van-pools, and to enable establishment of bus routes through the corridor.	These ideas, including TDM strategies, will be evaluated. Request for queue-jumping options will be passed on to Caltrans and evaluated as projects are identified and advanced.
91	DAA Public Comment	Sonoma County Transportation and Land Use Coalition	Page 19, Raised Roadway. Revise to describe the current state of knowledge about the depth of bedrock along SR-37. Feasibility of the various options depends greatly on foundation conditions and on forecasts of mud compaction beneath berms. It may not be possible to proceed much further with planning until more geological information is available.	Geotechnical investigation will be part of future studies.
92	DAA Public Comment	Sonoma County Transportation and Land Use Coalition	Page 20, Environmental Mitigations. Revise to address the potential noise, air pollution, and greenhouse gas impacts of an elevated and widened roadway.	These will be addressed in the CEQA/NEPA process when a project is selected and initiated.
93	DAA Public Comment	Sonoma County Transportation and Land Use Coalition	Page 22, Exhibit 20: Study Corridor Segments. Display all of the railroad track locations, including the eastern segment from the bridge over the Napa River to Napa Junction.	See Exhibit 15 for this information
94	DAA Public Comment	Sonoma County Transportation and Land Use Coalition	Page 22, Lane-Drop Merge at SR 121 Intersection. Add a description of queue-jumping options, diamond lane and lane-metering opportunities to encourage car-pools, van-pools, and to make bus service along SR-37 an attractive option. Without such features, it is likely that the Express Bus Transit Service discussed on page 23 would attract fewer riders, and there would be little likelihood of reducing the proportion of single-occupant vehicles in the corridor.	Request for queue-jumping options will be passed on to Caltrans and evaluated as projects are identified and advanced.
95	DAA Public Comment	Sonoma County Transportation and Land Use Coalition	Page 23, Paragraph 3: “Improve Merge and Lane Drop at Mare Island WB On-Ramp:” Add a description of diamond lane and lane-metering opportunities to encourage car-pools, van-pools, and to make bus service viable, as described above.	Same as above
96	DAA Public Comment	Sonoma County Transportation and Land Use Coalition	Pages 23-24, Express Bus Transit Service. Revise to include van-pool and car-pool improvements. Rather than calling for a separate study of ways to reduce reliance on single-occupant vehicles, make this a significant part of the Corridor Plan. Coordinate the Corridor Plan with Climate Action Planning by the four counties.	Study will be conducted as part of TDM options.
97	DAA Public Comment	Sonoma County Regional Parks	As stated above, the Bay Trail currently ends approximately 1,000 feet south of SR 37, and the Draft Corridor Improvement Plan should address the connection to the current endpoint of the trail.	MTC, the north bay CMAs and Caltrans are working with the environmental community, including Bay Trail, to develop design options integrating transportation, ecology, and sea level rise adaptation.
98	DAA Public Comment	Sonoma County Regional Parks	Near-term options for the SR121-SR37 intersection (pages 22-23) do not address bicycle and pedestrian facilities or connections to the Bay Trail.	Comment noted.
99	DAA Public Comment	Sonoma County Regional Parks	The "Potential Improvements" on Exhibit 16 (page 1 7) shows a proposal to increase the length of the eastbound right lane. The increased lane length would require widening of SR3 7 and could reduce the amount of land available to develop a proposed trailhead parking lot for the Bay Trail. Regional Parks is evaluating a trailhead parking lot at the southwest intersection of SR37 and railroad tracks.	Comment noted.
100	DAA Public Comment	Sonoma County Regional Parks	Many of the concepts (pages 25-26) indicate use of a Class IV bikeway along the reconstructed SR37. Class IV bikeway is intended for the exclusive use by bicyclists and no pedestrians. These options would require construction of a separate exclusive facility for pedestrian use that is not currently indicated. Some of the options being considered in the Bay Trail - Sears Point Connector Feasibility Study, such as an elevated boardwalk or floating boardwalk crossing of Tolay Lagoon may be compatible with SR37 vehicle options and would provide a separate pedestrian and bicycle facility. We recommend at a minimum a Class I bicycle path with a physical barrier separating vehicle traffic on the south side of the roadway facing San Pablo Bay. This will allow trail users to enjoy and experience the views of San Pablo Bay and beyond.	The alternative included in the document are preliminary and include possible options for accommodating bicycles with roadway widening. They are not intended to preclude other alternatives that may be explored during later project development phases.

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101	DAA Public Comment	Sonoma County Regional Parks	The existing and planned segments of the Bay Trail will be submerged due to sea level rise and will be inaccessible to pedestrians and bicyclists. Thus, any proposed mid-to long-term improvements to SR37 such as raised roadway or elevated causeway must include bicycle and pedestrian access along the entire length of SR37 as required by Caltrans Deputy Directive 64. The Bay Trail is a regional recreational trail but also serves as a non-motorized transportation route connecting all four counties: Marin, Sonoma, Napa, and Solano.	The alternative included in the document are preliminary and include possible options for accommodating bicycles with roadway widening. They are not intended to preclude other alternatives that may be explored during later project development phases.
102	DAA Public Comment	Sonoma County Regional Parks	Tables 4 and 5 (pages 29 and 30) should address Active Transportation components of the project, including completion of the Bay Trail.	The alternative included in the document are preliminary and include possible options for accommodating bicycles with roadway widening. They are not intended to preclude other alternatives that may be explored during later project development phases.
103	DAA Public Comment	Sonoma County Regional Parks	An elevated levee-like buttress fill option for the Bay Trail is also being considered along SR37, and could possibly be accommodated in several of the SR37 options. This may provide some sea level rise protection.	The alternative included in the document are preliminary and include possible options for accommodating bicycles with roadway widening. They are not intended to preclude other alternatives that may be explored during later project development phases.
104	DAA Public Comment	Sonoma County Regional Parks	The area immediately east of Tolay Lagoon is the Tubbs Island farmland operated by Vallejo Flood Control and Sanitation District. This area is protected from tidal action by a levee maintained by them. A sea wall and rock slope protection of the road embankment toe as shown on the preliminary sections may not be needed in this area.	Noted. This is a planning level document, example features were included in the corridor plan, more specific designs shall be conducted in future project development phases.
105	DAA Public Comment	Sonoma County Regional Parks	There could be several miles of SLR resilience if the buttress fill option were constructed together with the levee system maintained by Vallejo Flood Control and Sanitation District.	Noted. This is a planning level document, example features were included in the corridor plan, more specific designs shall be conducted in future project development phases.
106	DAA Public Comment	Sonoma County Regional Parks	A priority of the US Fish and Wildlife Service San Pablo Bay Wildlife Refuge resilience study is the enlargement of the current Highway 3 7-Tolay Creek culvert, to insure a better hydrologic connection between upper Tolay Creek and Tolay Lagoon. The final Corridor Improvement Plan should include this discussion.	MTC, the north bay CMAs and Caltrans are working with the environmental community, to develop design options integrating transportation, ecology, and sea level rise adaptation, including hydrologic connectivity.
107	DAA Public Comment	Sonoma County Regional Parks	Pedestrian/bicycle on-off ramps to and from the Class I bicycle path (serving as the Bay Trail) should be incorporated into the SR37 improvements. The on-off ramps will enable pedestrians and bicyclists to access existing trailheads, vista points, and future park and ride lots within the SR37 corridor. The future park and ride lots can also serve as trailheads. The Carquinez Bridge Bicycle and Pedestrian Path project is an example of where public access to a vista point and parking lot was provided.	Comment noted.
108	DAA Public Comment	Greenbelt Alliance	<p>As stated in the Corridor Plan, a net-zero wetland loss approach and large-scale on-site restoration should be prioritized throughout the DAA process.</p> <p>Achieving a self-mitigating project should be the ultimate goal, as suggest by Steven Moore of the California State Water Resources Control Board at a recent panel discussion hosted by the Bay Area Resilient by Design Challenge.</p> <p>As stated in the Corridor Plan, The creation and implementation of a Regional Advanced Mitigation Plan (RAMP) is one potential approach. We strongly support examining how participation in a RAMP program could foster robust, coordinated conservation activities along the SR 37 corridor.</p>	<p>A goal of the project is to integrate not mitigate transportation, ecosystem and sea level rise adaptation. A preferred alternative project would incorporate the wetlands.</p> <p>Currently, MTC, four CMAs and Caltrans are working with environmental stakeholders to determine their priorities for a successful project.</p> <p>As stated in the Plan, the implementation of RAMP has been identified as a potential conservation approach.</p>
109	DAA Public Comment	Greenbelt Alliance	The potential for new transportation investments in the SR 37 corridor to influence land use patterns within the corridor and across the North bay must be considered and fully analyzed in the Corridor Plan and DAA. While much of the land along SR 37 between US 101 and Interstate 80 is protected wetlands and open space by public and private entities, there are several privately owned undeveloped areas that could be greater risk of sprawl depending on how the corridor changes, such as Sears Point Raceway and Port Sonoma Marina. These risks could extend into other areas as well if not carefully addressed. These potential impacts should be studied and addressed to ensure that the envisioned improvements to the area's climate resiliency and mobility patterns come to fruition.	Induced growth impacts resulting from the project will be studied as part of the environmental process.
110	DAA Public Comment	Greenbelt Alliance	<p>Greenbelt Alliance urges a comprehensive analysis of public transit options and alternatives to single occupant automobile travel along the corridor as part of the Corridor Plan and DAA. The analysis should include a variety of modes including rail, ferry, express buses, car sharing, car pooling and emerging on-demand transportation models. Now that the SMART line is running, it is more timely than ever to consider improved east-west transit solutions.</p> <p>Trails that provide full accessibility for biking and walking should be an integral part of the SR 37 Corridor Plan. Given that the wetlands are an important part of the Pacific Flyway, the corridor should provide trail connectivity , public access and interpretive stations. Full funding for these components need to be included in the project budget.</p>	<p>The CMAs are actively participating in the North Bay transit operators group that meets quarterly; further, certain transit agencies such as NVRTA have studied future east/west connections that coordinate with SMART. The CMAs are in discussions to fund an origin/destination study to look at home and work origins/destination for travelers on the corridor to see if transit would be feasible. STA is currently studying ferry services from Vallejo to Marin; the CMAs are also in support of SMART studying an east/west connection along the corridor. SMART is seeking funding to conduct an easterly study called the NOVATO - SOLANO HUB see pages 59-61 in the presentation at: http://scta.ca.gov/wp-content/uploads/2017/11/State-Rail-Plan_11.01.2017.pdf Although SMART was not successful in 2017 there are more funding opportunities in 2018.</p> <p>The preferred project alternative would not prohibit public access to public lands or trails such as the Bay Trail. The preferred project alternative would also accommodate bicyclist along the corridor.</p>
111	DAA Public Comment	Greenbelt Alliance	Greenbelt Alliance urges a comprehensive analysis of the greenhouse gas emissions that will be generated by the SR 37 transportation and sea level rise solutions. In particular, the full scope of Vehicle Miles Traveled with various scenarios needs to be considered. Ultimately, any increases in GHGs and VMTs should be avoided or mitigated to meet state and local greenhouse gas emission reduction mandates and objectives.	With the passage of SB 743 any CEQA analysis on the project would have to evaluate VMT.

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112	DAA Public Comment	Greenbelt Alliance	The Corridor Plan and DAA must consider methods to equitably and sustainably address the social and economic impacts on low-income families that currently use SR 37, particularly if tolls are instituted. The options and costs for addressing this issue needs to be included in the financial analysis and should not be omitted from the Corridor Plan.	The CMAs completed a financial analysis of corridor funding options in November 2017. The preferred funding strategy is yet to be determined. The preferred funding strategy will address the social and economic impacts to low-income users.
113	DAA Public Comment	Sierra Club	Page 3, line 6 " ... and critical habitat would be lost." Revise or delete. The relationship between habitat and permanent roadway closure due to sea level rise is complex, and would develop over many years. The environmental effects of inundation events would largely precede any final closure of the highway, and are not described further in the plan document.	Text will be revised to read: "...and critical habitat could be altered".
114	DAA Public Comment	Sierra Club	Page 4, Traffic Congestion, lines 3-4 "No transit opportunities are available along the study corridor to offset vehicular demand." Revise this sentence to state that no concerted efforts have yet been taken to encourage car-pools, establish van-pools, or provide bus, ferry, or rail service connecting the Interstate 80 and US 101 Corridors.	Text will be revised.
115	DAA Public Comment	Sierra Club	Page 15, lines 3-4 " ... rail transit, ferry alternatives ... were evaluated as possible strategies to retreat and it was determined that none of these are feasible standalone strategies " Revise to state that rail, and ferry options may be important within the next three decades and should be studied further. No public transportation system ever stands alone. The region is best served when transit systems and roadways support one another.	Text will be revised.
116	DAA Public Comment	Sierra Club	Pages 15 - 17, Rail Alternative. Revise to recommend further study. The "Rail Alternative" is described as a potential replacement for SR-37, when in fact it would supplement the roadway, particularly if population along the 1-80 corridor continues to grow. To the extent that rail service could provide an option for people who commute from the City of Sonoma and the 1-80 corridor to the US-101 corridor, it would reduce traffic on SR-37. These factors merit ongoing evaluation, and should not be dismissed. The estimated costs of various approaches to establishment of passenger rail service should be described in considerably greater detail.	Text will be revised.
117	DAA Public Comment	Sierra Club	Page 17, Ferry Alternative. Revise to recommend further study of the costs, benefits, and implementation options for various ferry alternatives that would reduce dependence on the roadway. Knowledge of these factors provides a basis for determining relative value of widening the 2-lane section of highway.	Text will be revised.
118	DAA Public Comment	Sierra Club	Page 17, Maintain Existing Roadway. Revise to call for improvement of the existing roadway in the next two or three years. In addition to the suggested lane modifications, features such as diamond lanes, lane-metering, and queue-jumping options should be evaluated to encourage use of carpools, van-pools, and to enable establishment of bus routes through the corridor.	Maintain Existing Roadway strategy is intended identify near-term improvements within the existing footprint without substantial capital improvements.
119	DAA Public Comment	Sierra Club	Page 19, Raised Roadway. Revise to describe the current state of knowledge about the depth of bedrock along SR-37. Feasibility of the various options depends greatly on foundation conditions and on forecasts of mud compaction beneath berms. It may not be possible to proceed much further with planning until more geological information including fault zones and liquefaction risk is known.	This is a planning level document, further studies will be conducted during later phases of the project development.
120	DAA Public Comment	Sierra Club	Page 20, Environmental Mitigations. Revise to address the potential noise, air pollution, and greenhouse gas impacts of an elevated and widened roadway.	Comment noted. This is a planning level document, the CEQA process will proceed as a future phase of the project development.
121	DAA Public Comment	Sierra Club	Page 22, Exhibit 20: Study Corridor Segments. Display all of the railroad track locations, including the eastern segment from the bridge over the Napa River to Napa Junction.	Figure will be revised.
122	DAA Public Comment	Sierra Club	Page 23, Paragraph 3: "Improve Merge and Lane Drop at Mare Island WB On-Ramp:" Add a description of diamond lane and lane-metering opportunities to encourage car-pools, van-pools, and to make bus service viable, as described above.	Near-term operational improvements are intended to restore lost operational efficiencies of the current roadway without substantial capital improvements.
123	DAA Public Comment	Sierra Club	Pages 23-24, Express Bus Transit Service. Revise to include van-pool and car-pool improvements. Rather than calling for a separate study of ways to reduce reliance on single-occupant vehicles, make this a significant part of the Corridor Plan. Coordinate the Corridor Plan with Climate Action Planning by the four counties. Also, address the equity issues presented by low-income families that would not be able to afford tolls.	Comment noted. Opportunities to improve vanpool/carpool is described on page 23.
124	DAA Public Comment	Friends of SMART	We are concerned that the plan neglects the future mobility in the corridor that will be provided by train service, while focusing on the very slight and temporary improvement offered by an added traffic lane in the "B Segment" of the highway. Caltrans has been expanding roadway capacities for 75 years; and the verdict is in: we can't pave our way out of congestion. Added traffic lanes will attract more traffic, while moving us away from the important goal of reducing vehicle miles traveled. We urge that the Plan incorporate steps to encourage car-pooling, van-pools, and public transportation that will provide better options for those using the highway during rush hours, without encouraging more solo drivers. We are especially concerned about the recommendation to drop consideration of passenger rail service in the corridor. We ask that plans for this corridor explicitly include passenger rail on the existing right-of-way. The benefits of eventual rail service need to be acknowledged, and the conditions under which passenger trains could best serve the corridor should be described.	Comment noted. The corridor plan had identified considerations for HOV/managed lane options, and bus transit services.

SR 37 Corridor Plan Appendix D - Response to Comments				
ID	Comment Origin	Name	Comment	Response
125	DAA Public Comment	Friends of SMART	<p>It is also important to attend to sea level rise impacts on the tracks so that SMART and NCRA are not cut off from the national rail network. Passenger rail services linking Sonoma and Napa county cities with the 1-80 and US-101 corridors are likely to be needed eventually, and SMART should be able to bring in new rolling stock and rail maintenance equipment.</p> <p>Unless transit options such as bus, ferry and rail services are implemented as integral parts of the Plan, it is destined eventually to fail. It is important to consider the needs of the highway and rail service at the same time.</p>	<p>Comment noted. SMART is seeking funding to conduct an easterly study called the NOVATO - SOLANO HUB see pages 59-61 in the presentation at: http://scta.ca.gov/wp-content/uploads/2017/11/State-Rail-Plan_11.01.2017.pdf Although SMART was not successful in 2017 there are more funding opportunities in 2018.</p>
126	DAA Public Comment	TRANSDEF	<p>TRANSDEF believes that ongoing traffic congestion is the the motivation to "do something" about Highway 37, despite efforts to characterize the project as sea level rise mitigation. However, considering the Highway 37 problem to be a transportation problem is a misdiagnosis. The current traffic congestion is the direct result of a jobshousing imbalance, caused by a failure of local and regional planning. A transportation "solution" for this problem would only be addressing the symptoms and not the causes of the problem. This is a formula for long-term failure.</p>	<p>The Bay Area is acutely aware that the regional jobs and housing imbalance (affordable housing in particular) is a regional issue that must be addressed, and efforts such as the long-range planning effort through Plan Bay Area 2040 and CASA (the Committee to House the Bay Area) initiative that brings leaders across the regional to focus on housing production are indeed directly addressing the jobs/housing imbalance. So while we agree about the need to address the jobs/housing imbalance, we disagree that the transportation and traffic congestion issues in the corridor should not be addressed.</p>
127	DAA Public Comment	TRANSDEF	<p>The analysis of a Retreat strategy was half-baked. Whether future traffic could fit on existing alternate roadways (p. 15) was the only consideration given to a Retreat alternative that would avoid spending many billions of dollars to construct a new causeway across the wetlands. This is insulting to the intelligence of readers of the study, and damning proof that no serious effort was made to consider an alternative. Spending far less money to upgrade SR 116 and SR 12 to freeway status connecting Hwy 101 to I-80 is an alternative that must be evaluated.</p>	<p>The corridor plan is not intended to preclude other alternatives from being considered and analyzed as part of the project development planning/environmental phases.</p>
128	DAA Public Comment	TRANSDEF	<p>The reasons given for rejecting a rail alternative (p. 15) do not stand up to scrutiny:</p> <p>(a). While a rail route might be longer than the existing roadway, it it untrue that travel times would necessarily be longer. Because rail vehicles do not suffer congestion on their own ROW, travel would be much faster than congested road travel (the appropriate comparison, given that congestion is the driver for this project). Second, a rail vehicle on dry land would provide far more reliable travel than a roadway subject to periodic innundation.</p> <p>(b). The cost projections are grossly out of proportion to recent commuter rail projects. They are closer to BART costs than commuter rail. The final Corridor Plan must provide an appendix documenting the estimates, if they are to be given any credibility. A highway toll should be imposed to fund a rail project and provide a cost differential to induce transit use by drivers. Excerpts of the draft State Rail Plan (See attachment) propose to study and possibly build passenger rail in this corridor. The Corridor Plan should fully support the State Rail Plan proposals.</p> <p>(c). While portions of the rail alignment do have flooding vulnerabilities, it is far less costly to raise tracks than raise a roadway. It is entirely untrue that " Additionally, there is no real advantage of a rail alternative over roadway improvements in this segment in terms of environmental impacts." (p. 16.) First, the rail ROW is largely not in wetlands. Second, a well-used rail line will have the environmental benefit of reducing GHG emissions, while an expanded roadway will significantly increase GHG emissions. The only reason this false statement could have been put into the Plan is the refusal of highway interests to acknowledge the GHG emissions impact of highwav widening.</p>	<p>The Bay Area transportation agencies support multimodal transportation solutions. As stated in the corridor plan, rail and ferry options must be considred but on their own they would not accommodate travel demand for SR 37. The transportation agencies will continue to coordinate with SMART, WETA and others on providing a wide range of transportation services that support and complement SR 37. It is worth noting that SMART continues to seek fundingin 2018 to conduct an easterly study called the NOVATO - SOLANO HUB see pages 59-61 in the presentation at: http://scta.ca.gov/wp-content/uploads/2017/11/State-Rail-Plan_11.01.2017.pdf</p>
129	DAA Public Comment	TRANSDEF	<p>Improved lane drop at SR 121: A major constraint on the flow of traffic in Segment B is the traffic light at SR 121. The roundabout plan, with EB bypass (pp. 23 & 29) would significantly increase the throughput of the intersection, if it can be feasibly constructed while under traffic.</p>	<p>Further analysis will be conducted during the project development phase of the intersection improvements at SR 121.</p>
130	DAA Public Comment	TRANSDEF	<p>Express bus service between transit hubs would be a desirable near-term addition to the corridor.</p>	<p>The Bay Area transportation agencies support bus service in the SR 37 corridor.</p>
131	DAA Public Comment	TRANSDEF	<p>TRANSDEF would support the following near-term solution, if paired with a statelevel commitment to fund passenger rail service in the corridor: A movable barrier to replace the existing fixed median barrier would allow SR 37 to return to its former 3-lane configuration without requiring any additional ROW. Since the travel demand is highly directional, a movable barrier would provide capacity roughly equivalent to a 4-lane system, at a far lower cost and with fewer environmental impacts. The reversible center lane would be restricted to HOVs. A toll would be charged for all lanes.</p>	<p>The near-term solutions suggested are noted.</p>
132	DAA Public Comment	TRANSDEF	<p>As stated earlier, it is far too early to commit to a long-range plan, when less costly and less impactful alternatives have not been adequately explored. The Next Steps proposed on page 31 are thus inappropriate, for the reasons discussed above.</p>	<p>The corridor plan is a high-level assessment of key current and anticipated issues on California State Route 37 (SR 37) and lays out some near-, mid-, and long-term improvements that help to address such issues. As project concepts move into project development, it is expected that potential benefits, impacts, cost-effectiveness and project delivery timelines (to name a few) will be thoroughly vetted.</p>