STATE ROUTE 37
RESILIENT CORRIDOR PROGRAM

Integrating transportation, ecology, and sea level rise adaptation into a more resilient SR 37

August 1, 2019

Image: San Pablo Bay National Wildlife Refuge, USFWS

RESILIENTSR37
100 MINUTES TO TRAVEL HOME TO SOLANO CO. EVERY DAY

Source: Kimley-Horn, 2017
6 KNOWN WEAK LINKS, SOME FLOODED IN 2017 AND 2019 STORMS

Source: AECOM, 2017

Weak Links

Spring 2017 Floods
- Novato Creek
- Tubbs Island

Spring 2019 Floods
- Mare Island
- Novato Creek
30 YEARS FROM TODAY SEA LEVEL RISE WILL INUNDATE SR 37

Source: UC Davis, AECOM, 2015
9 SPECIAL-STATUS SPECIES, PACIFIC FLYWAY AND MANY ACRES OF WETLANDS AND BAYLANDS
BREAK THE PROJECT DELIVERY PARADIGM

ROAD CONSTRUCTION AHEAD

EXPECT DELAYS

DETOUR

RESILIENTSR37
PUBLIC OUTREACH

What We Heard

Project Kick-Off
- Open Houses
  - Sept – Oct 2017

Key Issues
- Online Surveys
  - Dec 2017 – Jan 2018

Travel Patterns & Key Issues
- Focus Groups
  - Jan – Feb 2018

Design Alternatives
- Focus Groups
  - May – Jun 2018
ENVIRONMENTAL STAKEHOLDER OUTREACH SERIES

WHAT WE’VE DONE

- Coastal Conservancy
- Sonoma Land Trust
- SF Estuary Institute
- SF Bay Joint Venture
- Ducks Unlimited
- Point Blue
- Marin Audubon Society
- Solano Land Trust
- California Department of Fish and Wildlife
- U.S. Fish and Wildlife Service
- The Nature Conservancy
- BCDC
- SF Bay Regional Board
- Army Corps of Engineers
- National Marine Fisheries Service
- U.S. EPA
- State Lands Commission
- Vallejo Sanitation & Flood Control District
- Solano County Resource Management
- UC Davis
ONE VISION, ONE PROGRAM

Sea Level Rise
Ecological Restoration & Conservation
Multimodal Corridor
Access to Baylands
Equity

RESILIENTS龍37
## Resilient Corridor Program

### $5B+ Corridor Program Over 25 Years

<table>
<thead>
<tr>
<th>Highway</th>
<th>Transit</th>
<th>Environment</th>
<th>Bike/Ped &amp; Public Access</th>
<th>Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapt SR 37 from I-80 to US 101 to Sea Level Rise</td>
<td>Microtransit service</td>
<td>Advanced mitigation and enhancements</td>
<td>Shared use path</td>
<td>Means-based transit fare</td>
</tr>
<tr>
<td>Relieve congestion between Mare Island I/C and SR 121, including near-term operational improvements at SR 121 and Mare Island interchange</td>
<td>Regional express bus service between Vallejo and Novato, including support strategies (commuter parking, etc.)</td>
<td>Land acquisition for corridor restoration</td>
<td>Public access improvements to open space preserves, public viewing areas, trailhead, etc.</td>
<td>Means-based tolls</td>
</tr>
<tr>
<td>Interchange Improvements: Lakeville Highway, SR 121, Mare Island, Atherton, &amp; Fairgrounds</td>
<td>SMART rail service (TBD by others)</td>
<td>Targeted, smaller scale ecological enhancements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade separation with SMART rail crossing east of SR 121</td>
<td></td>
<td>Larger landscape-scale restoration</td>
<td></td>
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</tbody>
</table>
SR 37 OPERATIONAL EFFICIENCY IMPROVEMENTS (NEAR-TERM, DELIVER IN 3-5 YEARS)

SR 121 Intersection Improvements and Eastbound Lane Drop Extension

Mare Island Interchange Westbound Lane Drop Extension and Ramp Metering
SEGMENT A INTERIM/FLOOD PROTECTION PROJECT

Example Strategy A:  Roadway & Bank Protection
Floodwall and Sheet Pile Wall
Sheet Pile Wall and Concrete Apron

Example Strategy B:  Drainage Improvement
Controls for Slide Gate on Pipe through Levee
Outlet Pipes from Pump Station to Pond
SEGMENT B INTERIM/CONGESTION RELIEF PROJECT: SR 121 TO MARE ISLAND
(DELIVER IN 7 YEARS)

Existing 2-Lane Segment B

Option 1: 3-Lane Contra-Flow with Moveable Median Barriers

Option 2: 4-Lane Highway (requires mitigation for bike access)

Cost Range: $100M to $150M

Golden Gate Bridge Example

Richmond-San Rafael Bridge Example
FOUR DISTINCT BUT COORDINATED EFFORTS

1. SolanoExpress Bus Stops ($1.5M)
   ▶️ Opened on July 1, 2019
   ▶️ Coordinates with opening of SolanoExpress RedLine

2. Pedestrian Safety Improvements ($750k)
   ▶️ Currently In Design, CON in early 2020

3. Interchange Expansion ($24.5M)
   ▶️ Currently In Design, CON in 2021

4. Fairgrounds Dr Parking Demand Study
   ▶️ Part of Countywide study
   ▶️ Complete by December 2019
   ▶️ Park & Ride Lot planned for future development
SR 37 CORRIDOR SEA LEVEL RISE ADAPTATION PROJECT (ULTIMATE LONG-TERM, DELIVER IN 15-20 YEARS)
THE ULTIMATE SR 37 PROJECT WILL BE DESIGNED TO ACCOMMODATE YEAR 2100 SEA LEVEL RISE SCENARIO PLUS A 100-YEAR STORM SURGE EVENT

MHHW + 66” SLR
MHHW + 36” SLR
Existing MHHW

Design elevation also needs to accommodate for a 100-Year storm in addition to the projected sea level rise.

Note: Schematic not drawn to scale.
MHHW: Mean Higher High Water
Alt. 1: Elevated Structure Design

- Caltrans approved a Project Initiation Report (PIR) for Segment A1 that addresses recurring flooding and sea level rise (May 2019)

Alt. 2: Hybrid Design

- TAM’s conceptual plans on Segment A (A1 & A2) focuses on causeway designs to address flooding and sea level rise (2018)

- Marin County Public Works and TAM are investigating options to protect SR 37 with SB 1 Adaptation planning funds (underway since 2018)

- MTC, SCTA and TAM will conduct environmental stakeholder and public outreach on design options for Segment A with SB-1 Adaptation planning funds (coming soon)

Source: HNTB, 2018
## SEGMENT B ULTIMATE SLR ADAPTATION PROJECT — ALTERNATIVES ASSESSMENT SUMMARY

<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td>• Lowest travel times for Segment B, no increase in daily VMT</td>
<td>• Longest travel times, increase in daily VMT</td>
<td>• Impacts similar to Hybrid Existing and Causeway Existing</td>
<td>• Lowest travel times for entire corridor</td>
<td>• Results in induced demand</td>
</tr>
<tr>
<td></td>
<td>• Less right of way (ROW) acquisition</td>
<td>• Highest ROW acquisition</td>
<td>• Impacts primarily offshore habitats</td>
<td>• High right of way acquisition</td>
<td>• High right of way acquisition</td>
</tr>
<tr>
<td></td>
<td>• Similar GHG emissions compared to existing</td>
<td>• Avoids coastal areas, but transects more habitats</td>
<td>• Decreases public access</td>
<td>• Impacts offshore habitats</td>
<td>• Impacts offshore habitats</td>
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<td></td>
<td>• Hybrid results in greater biological resources and hydrology impacts</td>
<td>• Potential impacts to cultural resources</td>
<td>• Disliked by focus groups</td>
<td>• Potential land use conflicts</td>
<td>• Potential land use conflicts</td>
</tr>
<tr>
<td></td>
<td>• Minimizes impacts to existing land uses</td>
<td>• Potential to induce growth</td>
<td>• Decreases public access</td>
<td>• Decreases public access</td>
<td>• Decreases public access</td>
</tr>
<tr>
<td></td>
<td>• Favored by focus groups</td>
<td>• Disliked by focus groups</td>
<td>• Mixed results from focus groups</td>
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| Key Takeaways       | • Lowest travel times for Segment B, no increase in daily VMT | • Longest travel times, increase in daily VMT | • Impacts similar to Hybrid Existing and Causeway Existing | • Lowest travel times for entire corridor | • Results in induced demand |
|                    | • Less right of way (ROW) acquisition | • Highest ROW acquisition | • Impacts primarily offshore habitats | • High right of way acquisition | • High right of way acquisition |
|                    | • Similar GHG emissions compared to existing | • Avoids coastal areas, but transects more habitats | • Decreases public access | • Impacts offshore habitats | • Impacts offshore habitats |
|                    | • Hybrid results in greater biological resources and hydrology impacts | • Potential impacts to cultural resources | • Disliked by focus groups | • Potential land use conflicts | • Potential land use conflicts |
|                    | • Minimizes impacts to existing land uses | • Potential to induce growth | • Decreases public access | • Decreases public access | • Decreases public access |
|                    | • Favored by focus groups | • Disliked by focus groups | • Mixed results from focus groups | • Mixed results from focus groups | |

<table>
<thead>
<tr>
<th>ROW Acquisition (acres)</th>
<th>163</th>
<th>113</th>
<th>428</th>
<th>147</th>
<th>264</th>
</tr>
</thead>
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<tr>
<td>Total Cost (2018$)</td>
<td>$2.4B</td>
<td>$2.9B</td>
<td>$3.3B</td>
<td>$2.9B</td>
<td>$3.3B</td>
</tr>
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INTEGRATE, DON’T MITIGATE

Streamline Permitting Process

Resource Agency Collaboration

Corridor Restoration Program

Bay Restoration Regulatory Integration Team (BRRIT)
Assembly Bill 1282 Transportation Permitting Task Force
Regional Advanced Mitigation Program (RAMP)
COLLABORATE WITH RESOURCE AGENCIES AND CONSERVATION ORGANIZATIONS TO FULLY IMPLEMENT LANDSCAPE-SCALE RESTORATION EFFORTS ALONG SR 37 CORRIDOR

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LEGEND

- Historical Baylands Boundary
- Tidal Marsh
- Restoration in Progress or Complete
- Restoration in Planning
- Create/Enhance Wetland
- Enhance Shoreline
- Raise Levee/Improve Shoreline
- Ongoing Large-Scale Restoration Efforts
ADDITIONAL TARGETED, SMALLER SCALE ECOLOGICAL ENHANCEMENT OPPORTUNITIES

• There are a number of smaller scale, targeted ecological enhancement opportunities along the SR 37 corridor

• These enhancements could help mitigate near-term impacts and facilitate long-term ecological and hydrological goals

<table>
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<tr>
<th>Enhance Shoreline</th>
<th>Enhance Wetlands</th>
<th>Create Wetlands</th>
<th>Improve Access</th>
<th>Improve Connectivity</th>
</tr>
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<tr>
<td>Pilot living shoreline projects along Tolay Creek</td>
<td>Improve drainage of strip marsh south of SR 37</td>
<td>Remove debris and regrade upland on Mare Island north of SR 37</td>
<td>Improve public access at Sears Point and Tolay Creek</td>
<td>Improve tidal exchange upstream of Tolay Creek Bridge</td>
</tr>
</tbody>
</table>
On November 8, 2018, the SR 37 Policy Committee Agreed to the SR 37 Funding Plan:

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Amount</th>
<th>Description</th>
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<tbody>
<tr>
<td>STA</td>
<td>$15 M</td>
<td>Segment C – Fairgrounds Interchange</td>
</tr>
<tr>
<td>SCTA</td>
<td>$20 M</td>
<td>Interim/Congestion Relief Segment B</td>
</tr>
<tr>
<td>SCTA</td>
<td>$4 M</td>
<td>PA&amp;ED for SR 37/SR 121 Intersection Improvements</td>
</tr>
<tr>
<td>TAM</td>
<td>$3 M</td>
<td>Segments A1 and A2 Levee Study</td>
</tr>
<tr>
<td>SCTA/TAM</td>
<td>$58 M</td>
<td>Segments A &amp; B Ultimate Improvements</td>
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RESILIENT SR 37 PROGRAM — PHASED IMPLEMENTATION
CONCURRENT PROJECT DEVELOPMENT. DELIVER EARLY COMMUNITY BENEFITS.

- SR 37 Flood Protection Project (US 101 — Lakeville Hwy)
  - Early Ecological Enhancements
  - Reliability of people and goods movements
- SR 37 Congestion Relief Project (SR 121 — Mare Island)
  - Early Ecological Enhancements
  - Reimagine Transit With Emerging Technology
- SR 37 Corridor SLR Adaptation Project (I-80 — US 101)
  - Bike/Pedestrian/Public Access
  - Reimagine Transit With Tomorrow’s Technology

Early Benefits

RESILIENT SR 37

Today 2025 2040 2050
RESILIENT SR 37 PROGRAM MOU (FEBRUARY 2019)

Assignments

- Segment A (US 101 – SR 121)
- Segment B (Sears Point – SR 121)
- Segment C (Mare Island – I-80)

Legislation

Seek legislation for the segment of SR 37 from Sears Point to Mare Island to become a State-owned bridge, joining the toll bridge financial enterprise administered by BATA.
AB 1282 TASK FORCE: OPPORTUNITY FOR SR 37 RESILIENT CORRIDOR PROGRAM

to DEVELOP A COMPREHENSIVE CORRIDOR RESTORATION PROCESS to achieve common goal

Early Engagement in
- NEPA 404 (Purpose & Need)
- Scope, Design Concept, & Schedule
- Stakeholder Identification
- Restoration Opportunity

Streamlining of
- Permitting Schedule
  - Sequencing/ Phasing
  - Permitting Timelines
- Parallel Permitting Opportunities
  (State and Federal Processes)
- Dashboard/ Tracking Tool

Certainty in
- Availability of a dedicated staff
  with decision making authority
- Risk Identification & Assessment
- Mitigation & Restoration (Type, Ratios)
- Communication Ladder
- Conflict Resolution Process

Partnering Agreements (Charter, MOU)