SR 37–Segment A
from US 101 to Sears Point

Sea Level Rise
Corridor Improvement Study
Significant Study Effort Completed to Date

UC Davies Study & AECOM engaged by Caltrans

SFEI Aquatic Science Center

SR 37 Transportation and Sea Level Rise Corridor Improvement Plan September 2017
Kimley Horn & AECOM engaged by MTC

San Pablo Baylands: Ensuring a Resilient Shoreline-October 2017
State Route 37 – Baylands Group

California Highway 37 Bridge Configuration at Novato Creek for Future Sea Level Rise – January 2018
Marin County Flood Control District, Schaaf & Wheeler
SR 37 - Segment A
A Deeper Look

Goals
• Gather information from key stakeholders, interest groups and landowners
• Integrated approach to optimize hydrologic and wildlife restoration, commuters and provide bicycle pedestrian connectivity and future access
  ➢ Develop Study Design Criteria

Targeted Scope
• Short study period – less than 3 months
Stakeholder and Interest Groups Integrated in the Study

- Marin County
- Sonoma County Transportation Authority
- SMART
- Caltrans
- City of Novato
- US Fish and Wild Life
- Sonoma Land Trust
- UC Davis
- Ducks Unlimited
- Marin Audubon Society
- Coastal Conservancy
Study Assumptions

• Maintain local access for key local roads as well as the Bay Trail
• Conceptual evaluation of US 101/SR 37 interchange for Sea Level Rise
• Conceptual review of transit
• Construction staging concepts were not developed
Study Design Criteria

• Re-establish connectivity and allow for future restoration

• Design to latest Sea Level Rise (SLR) projection

• Provide a four-lane conventional highway facility including a multi-use path
Historical Landscape – Sears Point, 1856
Low areas vulnerable to flooding.

Levees vulnerable to overtopping or failure.
Water Surface Elevations

- Tide Range: 6.2 ft NAVD
- 1:100 yr Storm: 3.6 ft NAVD
- 2100 Sea Level Rise: 6.9 ft NAVD
- 1:100 yr Waves: 3.0 ft NAVD
- Freeboard: 2.0 ft NAVD

Design Water Surface Elevation:
- 21.8 ft NAVD
- 19.8 ft NAVD
- 16.8 ft NAVD

Existing Roadway Elevation:
- 6.0 ft NAVD
- 4.0 ft NAVD
- 2.0 ft NAVD

East of Petaluma River:
- Novato Creek: 6.0 ft NAVD
- East of Petaluma River: 4.0 ft NAVD
Width of channel at Petaluma River Bridge

- **Historical**: 1250 ft
- **Current**: 755 ft
- **Future (max)**: 1500 ft

Photo: Google Earth
Alternatives Analyzed

Alt 1: Piled Causeway
- Elevate SR 37 on structure

Alt 2: Hybrid – Piled Causeway/Embankment
- Combination of embankment and structure

Alt 3: Novato Creek
- Elevate portion of SR 37 from US 101 to past Novato Creek only
Alternative 1 – Piled Causeway

- 5.8 miles of Piled Causeway/Bridge
Alternative 1 – Piled Causeway
Alternative 2 - Hybrid (Piled Causeway/Embankment)

- 3.2 miles of Piled Causeway/Bridge
- 2.6 miles of Embankment
Alternative 2 - Typical Embankment Section

- 104' & VARIES
- 0.67' AC 1.67' AB
- 0.33' HMA 0.7' AB
- THREE BEAM BARRIER
- DOUBLE THREE BEAM BARRIER
- EMBANKMENT FILL
- 5% 2% 2% 2%
- MIN 35' +/- 3' 10' SHLD 12' LANE 12' LANE 5' SHLD MIN 36' MEDIAN 5' SHLD 12' LANE 12' LANE 10' SHLD 5' 21 12' 3' MIN 25' +/-
Alternative 2 - Hybrid (Piled Causeway/Embankment) at Lakeville Rd
Alternative 3 – US 101 to Novato Creek

- 1.0 mile of Structure
Typical Section – Piled Causeway
Conclusion

• Segment A is vulnerable to flooding under existing conditions

• Two locations of particular concern for overtopping
  • Port Sonoma
  • Novato Creek

• Majority of the levees are in poor conditions

• A long term solution is needed now for specific project identification and environmental clearance.
Thank You

Questions?