State Route 37 Design Alternative Assessment

Policy Committee Meeting: March 2, 2017
SR 37 Corridor Issues and Constraints

Segment A:
- Eastbound Congestion Due to Lane Drop in Segment B: Weekday & Weekend PM
- Flooding
- Sea Level Rise Vulnerability
- Lakeville Hwy Intersection Operations

Segment B:
- 2-Lane Capacity Constraint
- Low Vehicle Throughput: ~1,300 vehicles per hour in each direction
- Sea Level Rise Vulnerability
- SR 121 Intersection Operations
- Flooding
- Railroad Crossing East of SR 121

Segment C:
- Westbound Congestion Due to Lane Drop in Segment B: Weekday AM and Weekend Mid-Day
- Flooding
- Mare Island Interchange

Corridor-Level:
- Environmental Sensitivity (Wetland, Tidal Marsh, Natural Habitat)
- Traffic Congestion: 7-Days a week
- Temporary Flooding and Road Closures
- Sea Level Rise Vulnerability and Permanent Inundation
Project Approach

• California Coastal Commission Sea Level Rise Policy Guidance (2015) - Project Shall:
  ▪ Be designed to accommodate worst case SLR scenario
  ▪ Minimize risks to other coastal resources
  ▪ Allow for future adaptation

• Use Best Available SLR Science in the Analysis

  ▪ Understand Timing of Sea Level Rise Impacts
    ▪ Use SLR inundation maps to identify timing of impacts to highway and levees
    ▪ Inform short and long-term adaptation strategy development
    ▪ Consider permanent inundation versus temporary flooding

• Traffic Forecast and Operational Analysis
  ▪ Near Term (2022)
  ▪ Long Term (2040)
Flooding and SLR Solutions

Near-term to Long-term Solutions

**Drainage Improvements**
- SR 37 at Novato Creek
- SR 37 at Tolay Lagoon

**Shoreline Improvements**
- Port Sonoma at Petaluma River

**Levee Improvements**
- Petaluma River
- Novato Creek
- Tolay Creek
- Sonoma Creek

**Raise Roadway**
- Short-term: Mare Island
- Long-term: Corridor-wide + Restoration
Natural Adaptation Solutions

Small-scale Wetland Restoration
- Mitigate impacts of roadway widening
- Moderate wave attenuation
- Minor habitat improvements

Living Levee (mild, natural slope)
- Allows for habitat transition
- Reduces wave runup
- Lessen or eliminate need for armoring

Elevate Roadway on Causeway
- Increase hydrological connectivity
- Restore large contiguous parcels
- Help meet bay-wide environmental goals
- Moderate wave attenuation
Phase 1 – Corridor Plan

1. Data Collection and Assessment
   A. Supplemental Ground Survey to Confirm Critical Elevation
   B. Supplemental Traffic Data Collection
   C. ROW
   D. Levee Ownership

2. Corridor Plan
   A. High Level Framework
      i. Capacity Constraints
      ii. Sea Level Rise Vulnerability
      iii. Flooding Concerns
   B. A “No-Build” Assessment
   C. Phased Improvements
   D. Identify Priority Segment

Optional Task: Shoreline Protection Strategies for Up to 3 Locations
Phase 2 – Alternative Development for Priority Segment

1. Identification of Potential Improvement Strategies
   A. 3-Lane Segment B w/Median Contra-Flow Lane/Express Lanes (Fixed/Movable Barriers)
   B. 4-Lane Segment B
   C. Toll Road Consideration
   D. Improve Travel Modes:
      i. Express Buses/Commuter Parking
      ii. Bus on Shoulder
      iii. Bicycle Facilities
   E. Interchange/Intersection Reconfiguration
      i. SR 37 & Mare Island
      ii. SR 37 at SR121, SR 37 at Lakeville Hwy
   F. Operational: ITS, Merge Improvements
   G. Sea Level Rise Adaptation

2. Detailed Analysis
   A. Traffic Operations
   B. Design
   C. Cost Estimates
   D. Environmental Screening
SR 37 DAA Schedule

Phase 1

1. Data Collection & Assessment  
   April/May 2017
2. SR 37 Corridor Plan  
   June/July 2017

Phase 2

3. Alternative Development for Priority Segment  
   Oct/Nov 2017
4. DAA Documentation  
   Dec 2017/Jan 2018
Extra Slide
Implementation Timeline Consideration

- **2017**
  - SLR

- **Protect**
  - Maintain Roadway, ITS Operational Improvements
  - Flood Protection

- **Protect, Accommodate**
  - ITS, Multi-Modal
  - Enhance Habitat
  - Capacity Enhancement, ITS Flood Protection

- **Protect/Adapt**
  - Marshland Restoration
  - Bike Facility
  - Elevated Roadway/Structure
  - Multi-modal/Bike, ITS

**Tipping point**

**Decision point**

**Planning**

**Implementation**