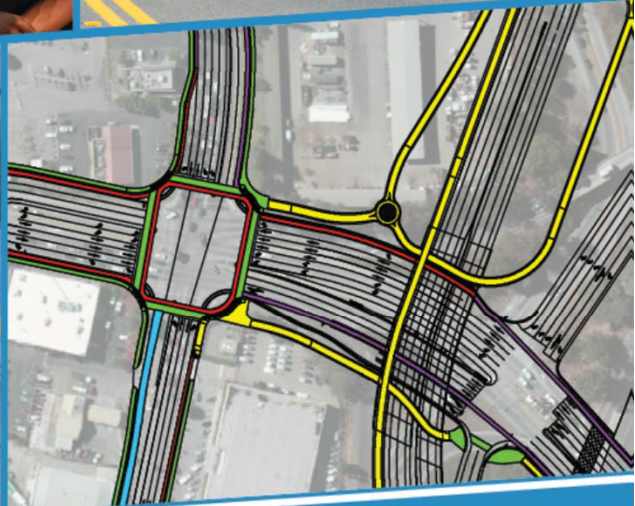


# Caltrans District 4 Bike Plan

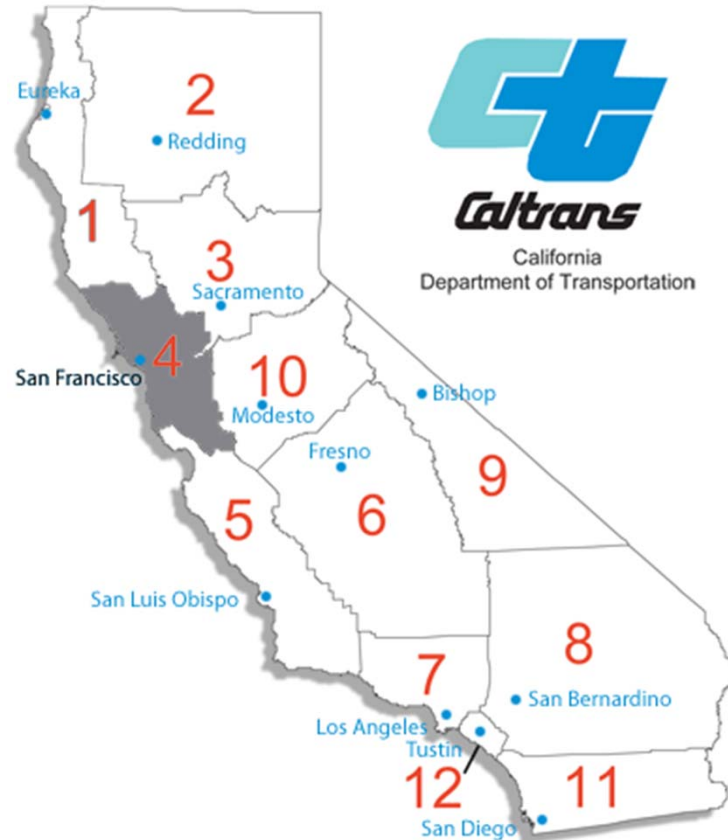
for the San Francisco Bay Area



C/CAG BPAC  
Oct 25, 2018

# Caltrans Mission

*Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability*





- Caltrans mission, goals, and targets on safety, health, sustainability
  - 3x biking trips
  - 2x walking and transit trips
- Statewide plan with vision, goals, and objectives to support walking and biking
  - Recommends district-level Active Transportation Plans
- District-level plan
- Identifies bicycle needs and prioritizes improvements on the State network
- Guides future investments by Caltrans and partner agencies

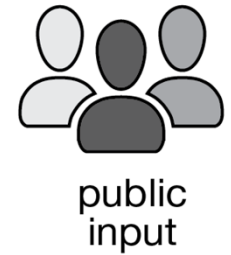


# Process



- Data collection
- Existing bicycle networks
- Where is there demand for bicycling?
- Where are there challenges?
- What projects can improve bicycling?
- Which projects will yield the greatest benefits relative to the cost of implementation?

# Public and Stakeholder Outreach



- Technical Advisory Committee
- Online mapping survey
- Focus groups
- Community workshops
- Local bicycle advisory committees
- Stakeholder meetings
- Online project commenting tool

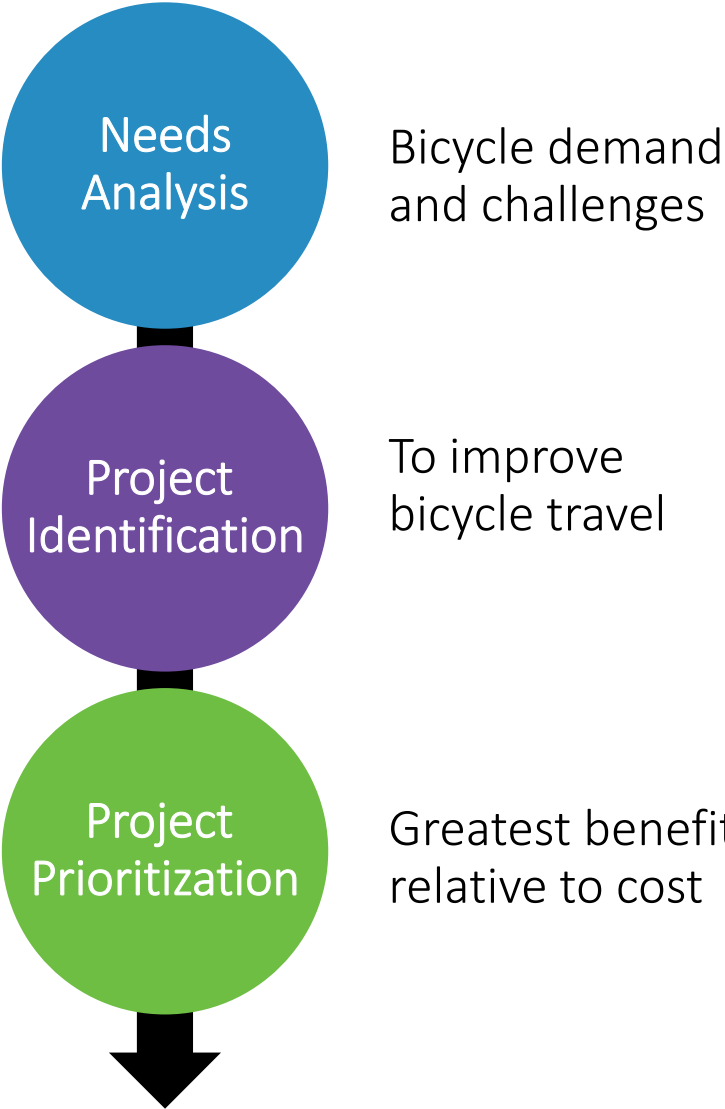


Round 2 community workshop in West Oakland

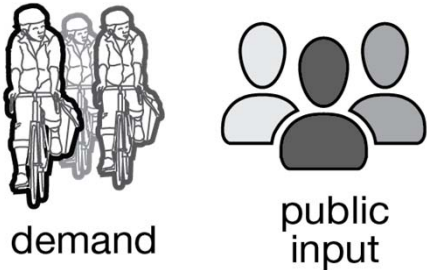


Focus group meeting with Rich City Rides

# Needs Analysis



## Demand and Use



## Challenges and Barriers

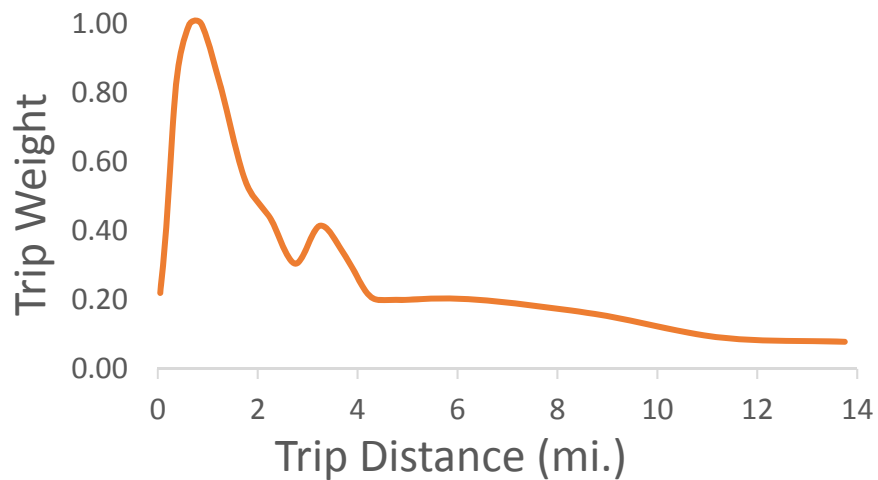
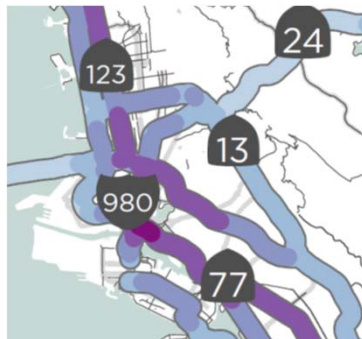
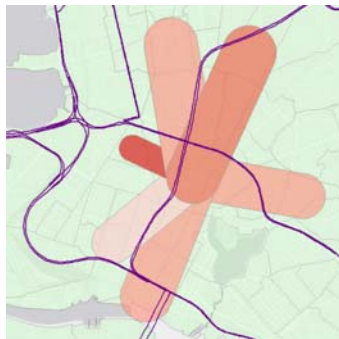


# Demand

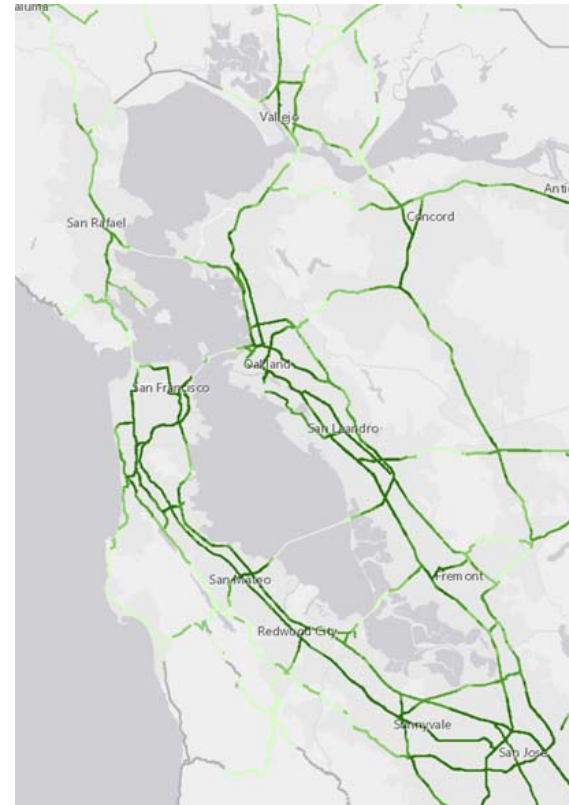


demand

Identify desire lines based on MTC Model



California Household Travel Survey bicycle trip rates



**TRANSPORTATION DEMAND**  
NON-RECREATIONAL DEMAND ALONG  
& ACROSS DISTRICT 4 FACILITIES



# Bicycle Collisions



safety

- Factors
  - Historic crash data
  - Physical street and roadway characteristics
- Data Sources
  - SWITRS\* collision data
  - TASAS\*\* database for physical street and road characteristics



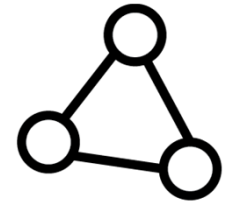
**BICYCLE COLLISIONS**  
**ALONG & ACROSS DISTRICT 4 FACILITIES**



\* SWITRS: Statewide Integrated Traffic Records System  
\*\* TASAS: Traffic, Accident Surveillance and Analysis System



# Level of Traffic Stress (LTS)



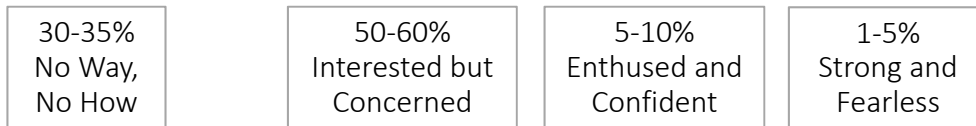
supply

Measures quality of facility, based on user type:

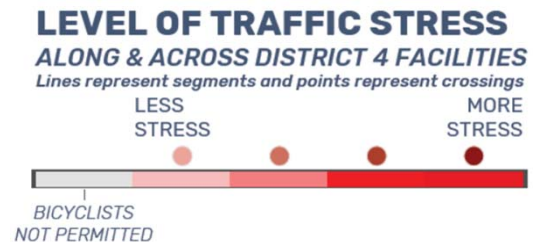
- LTS 1 – appropriate for all ages and abilities
- LTS 2 – “interested but concerned”
- LTS 3 – “enthused and confident”
- LTS 4 – “strong and fearless”

Factors:

- Physical characteristics (shoulder width, # of lanes, etc.)
- Bikeway type (if any)
- Traffic volumes
- Traffic control type (intersections)



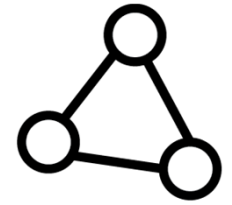
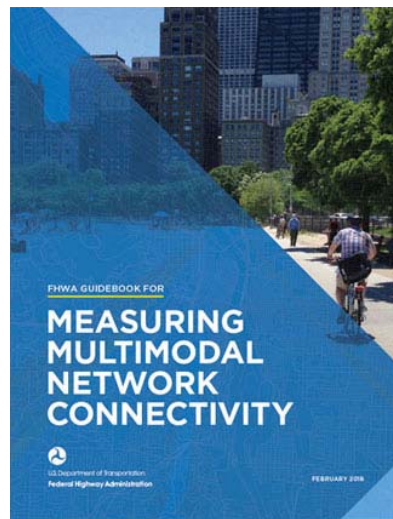
Jennifer Dill And Nathan Mcneil, Understanding Types of Cyclists Nationally, 2016  
 - adapted from *Toward an Active California*



# Permeability

- Frequency and availability of low-stress crossings
- Observed at ¼-mile, ½-mile, and 1-mile segments
- Sources:
  - Level of Traffic Stress (LTS)
  - OpenStreetMap data

Case Study:  
FHWA Guidebook for  
Measuring Multimodal  
Network Connectivity



supply



- Low Demand
- Poor Low Stress Connectivity
- Fair Low Stress Connectivity
- Good Low Stress Connectivity
- Excellent Low Stress Connectivity

# Equity

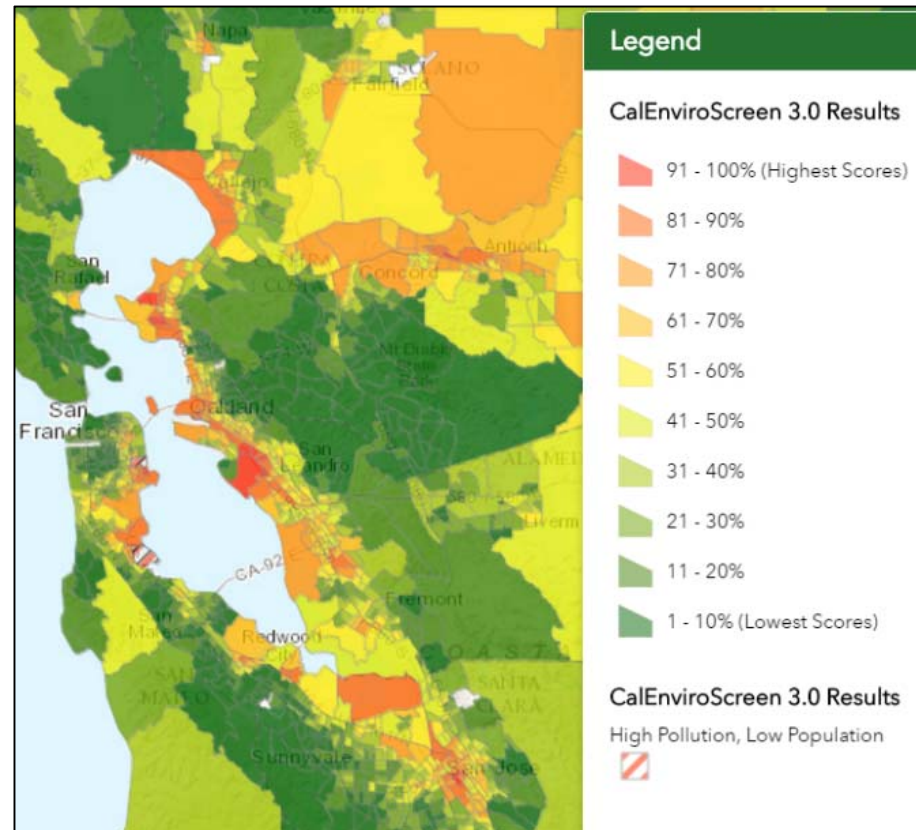


equity

- MTC Communities of Concern
- CalEnviroScreen 3.0
- Percent of project in a disadvantaged community



Railroad Avenue - State Route 4, Pittsburg



# Project Identification

## What is a Project?

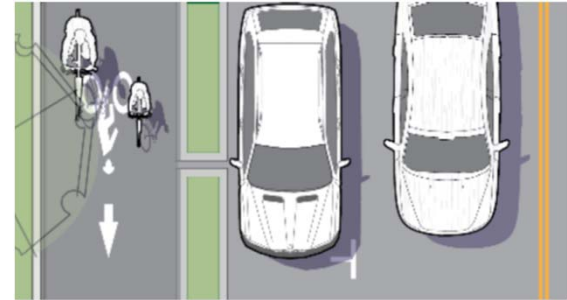
- Conceptual proposal
- Locally planned improvement
- Requires further study and coordination with local partners and stakeholders

## Project Types:

- Corridor improvements
- Interchange improvements
- Conventional highway crossings
- Separated crossings

## Sources:

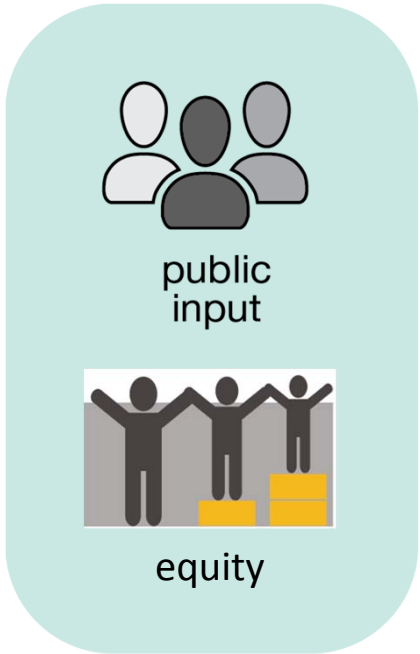
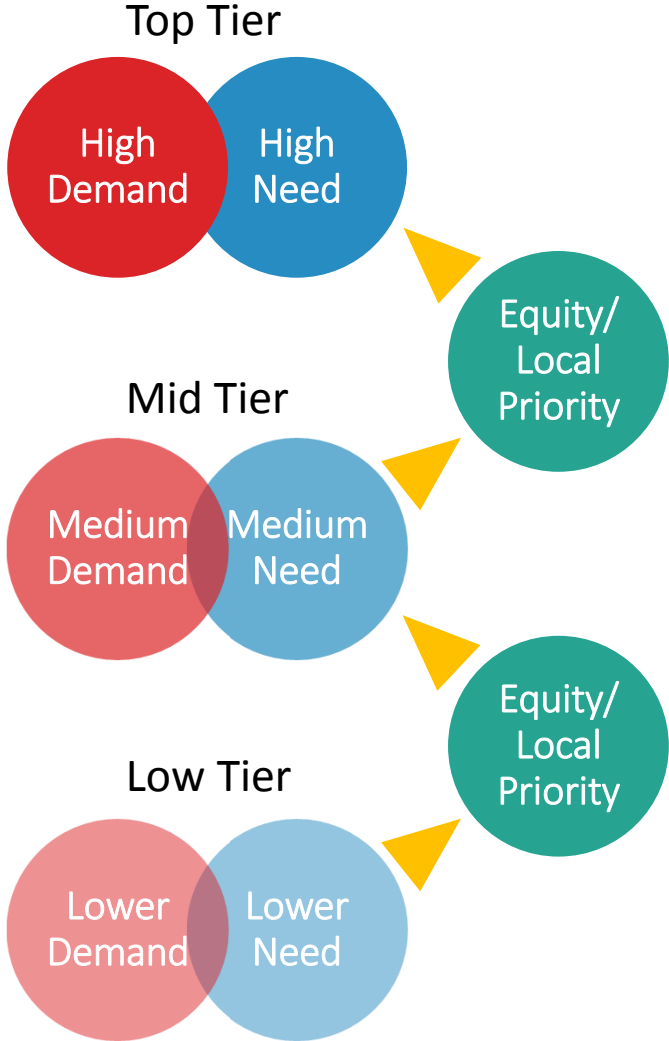
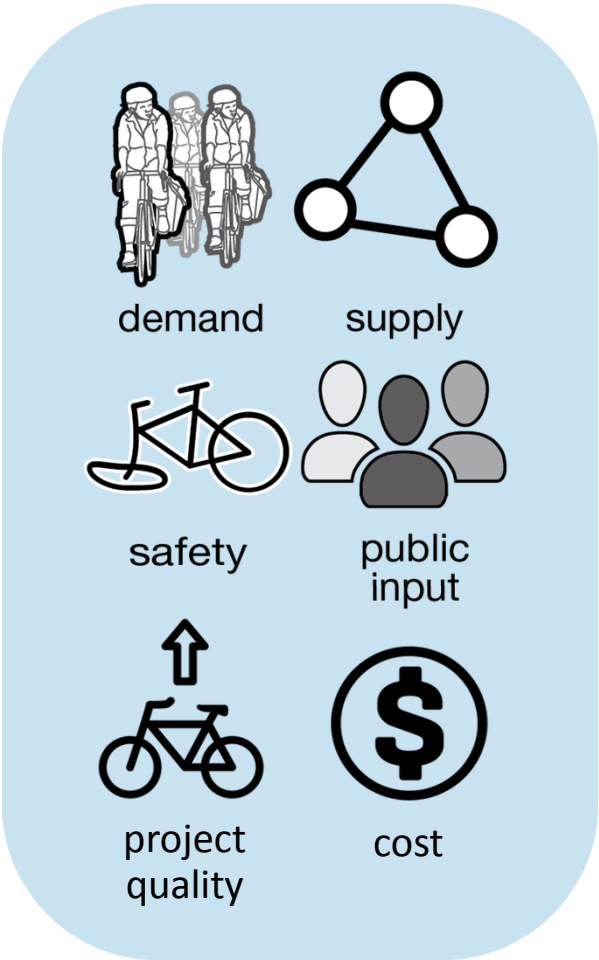
- Local plans and studies
- Meetings with local advisory committees, staff, and stakeholders
- Recommended based on needs analysis





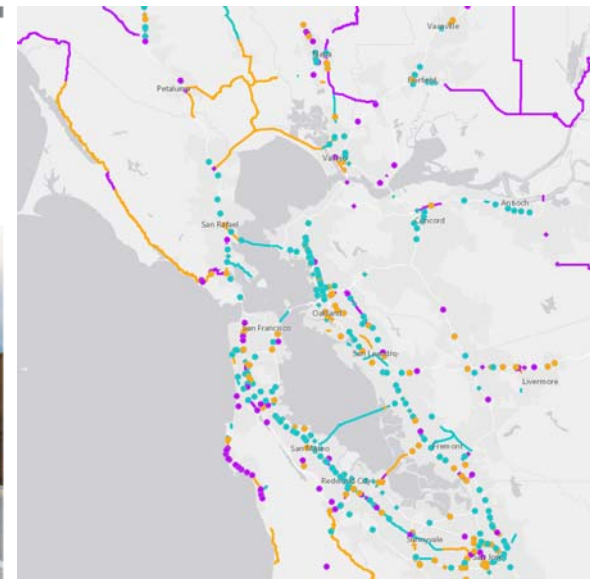
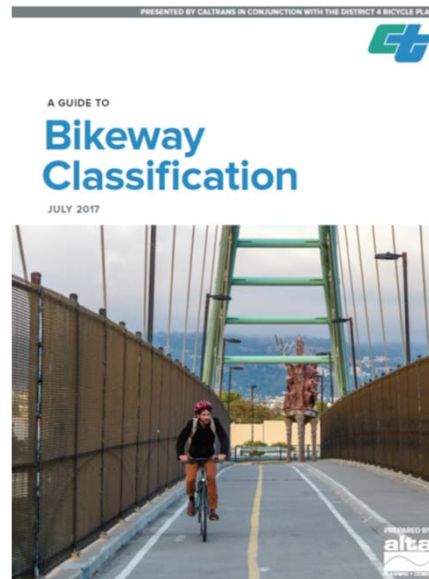
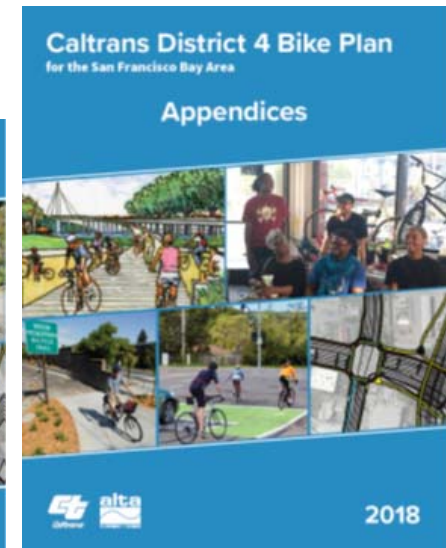
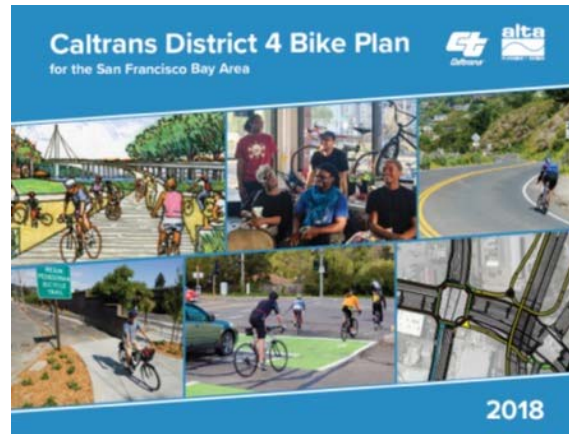
# Project Prioritization

Factors:

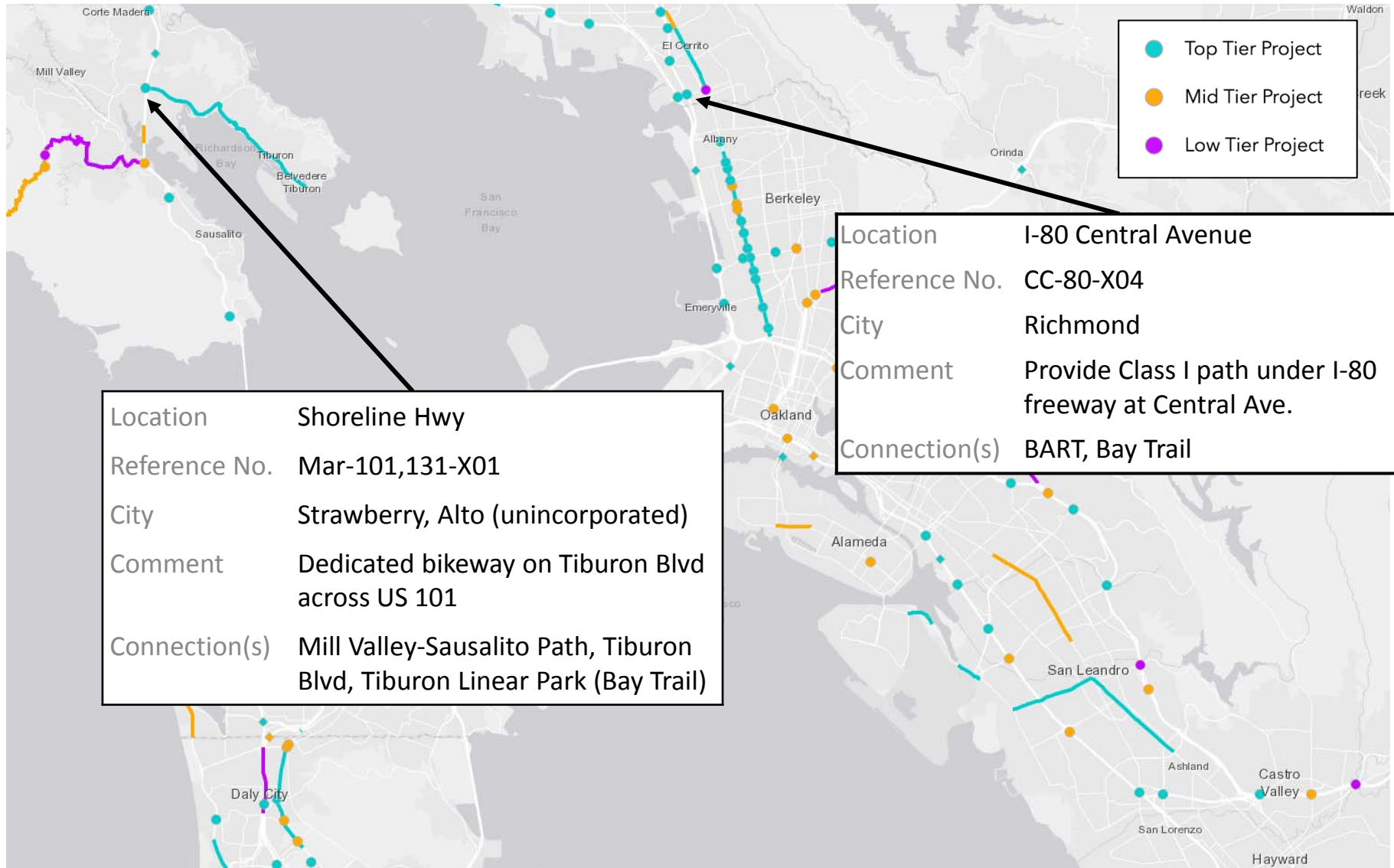


# Final Products

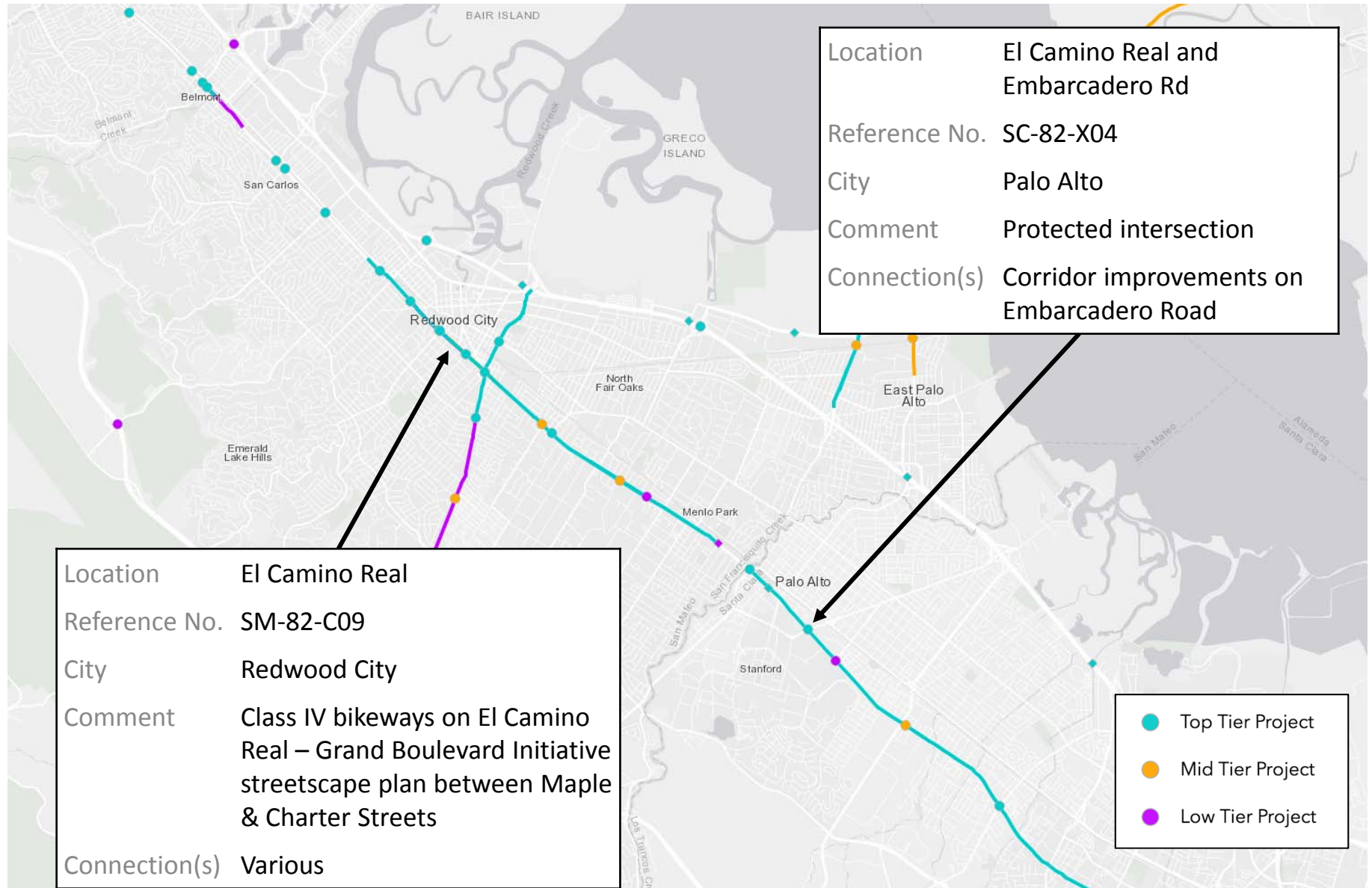
- Plan Report
- Appendices
  - A. Project List
  - B. Vision, Goals, & Objectives
  - C. Public Engagement Summary
  - D. Needs Analysis
  - E. Prioritization Methodology
- Bikeway Classification Brochure
- Web Map
- Web page:  
[www.dot.ca.gov/d4/bikeplan](http://www.dot.ca.gov/d4/bikeplan)



# District 4 Bike Plan Web Map



# District 4 Bike Plan Web Map





# Implementation

## Pathways for implementation:

- State Highway Operation and Protection Program (SHOPP)
  - Asset Management – complete streets elements
  - Identify bicycle improvements during project scoping
- Other programs
  - Active Transportation Program (ATP)
  - Senate Bill 1 programs
  - Locally-sponsored projects



# Implementation

## Next Steps:

- Track bike improvements in District 4
- Training for District and local staff
- Initiate bicycle count program
- Identify and promote best practices
- Update project list and web map as needs and opportunities are identified
- Continue stakeholder engagement

[www.dot.ca.gov/d4/bikeplan](http://www.dot.ca.gov/d4/bikeplan)



District 4 Class IV bike tour with Caltrans and local agency staff



Pop-up Bikeway on El Camino Real, Redwood City

# District 4 Pedestrian Plan

- Kicks off in late 2018
- Outreach in every Bay Area county
- Develop priority project list





# Pedestrian Safety Monitoring (Pilot) Program 2016/2017



**Toward Zero Deaths**

- Identify and investigate High Collision Concentration Locations (HCCLs)
- Implement pedestrian safety countermeasures:
  - Enhanced pavement marking and signing
  - Lighting
  - Accessible pedestrian signal (APS)
  - Rectangular Rapid Flashing Beacon (RRFB)
  - Pedestrian hybrid beacon (PHB)



<http://www.dot.ca.gov/d4/pedestrianbeacons/>

Drivers	Pedestrians
Proceed with Caution	Push the Button to Cross
Slow Down (Pedestrian has activated the push button)	Wait
Prepare to Stop	Continue to Wait
STOP! (Pedestrian in Crosswalk)	Start Crossing
STOP! Proceed with Caution if Clear	Continue Crossing (Countdown Signal)
Proceed if Clear	Push the Button to Cross



# Bicycle Safety Improvement Monitoring (Pilot) Program 2018/2019

- Identify and address bicyclist-involved high collision concentration locations (HCCLs) and corridors
- Long-term goal of substantially reducing bicyclist fatalities and serious injuries on the California State Highway System
- Pilot Bicycle Road Safety Audit on El Camino Real, Redwood City



Web Page:

[www.dot.ca.gov/d4/bikeplan](http://www.dot.ca.gov/d4/bikeplan)

Contact:

[sergio.ruiz@dot.ca.gov](mailto:sergio.ruiz@dot.ca.gov)