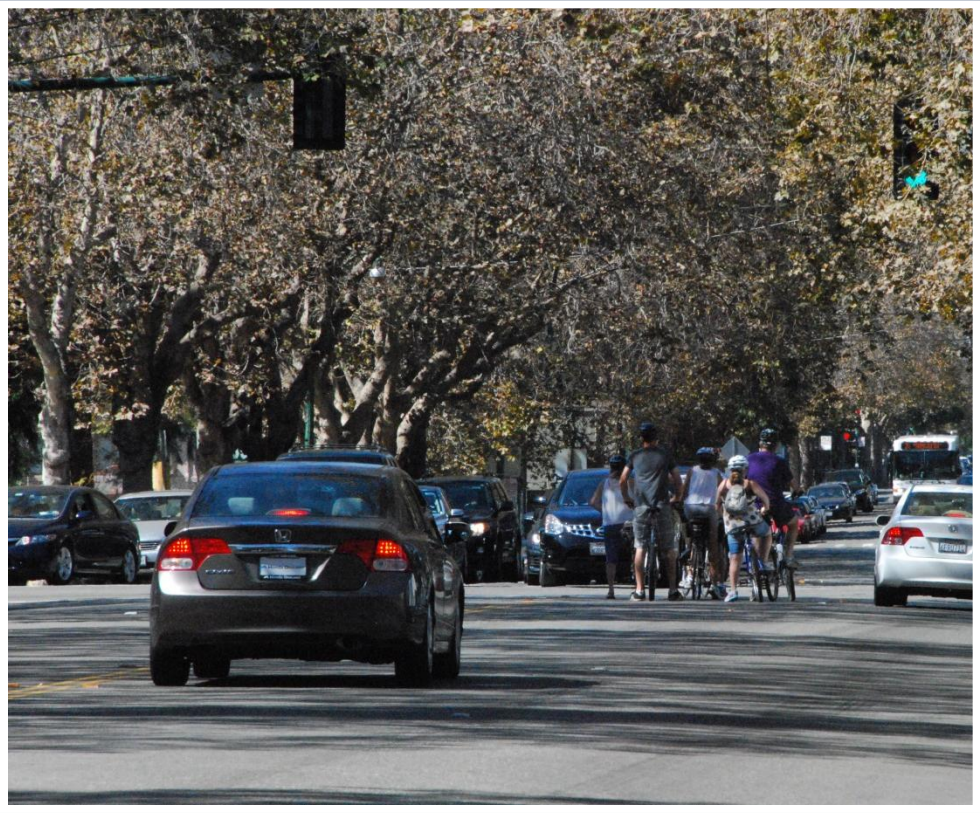
PLACEWORKS

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING



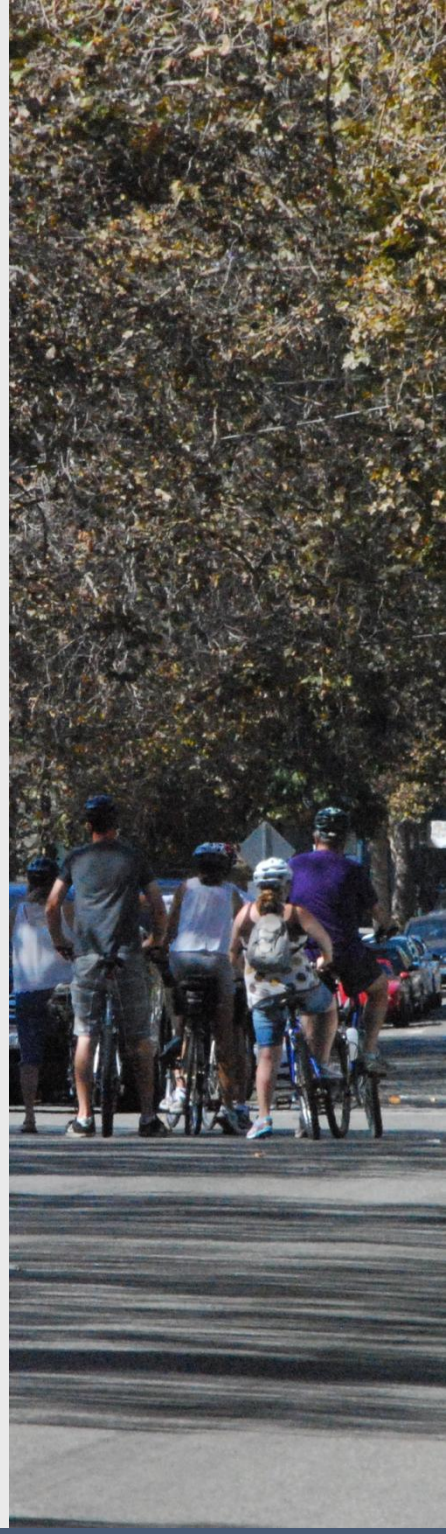
Central Avenue

Complete Street Concept Proposal

Transportation Commission | May 27, 2015

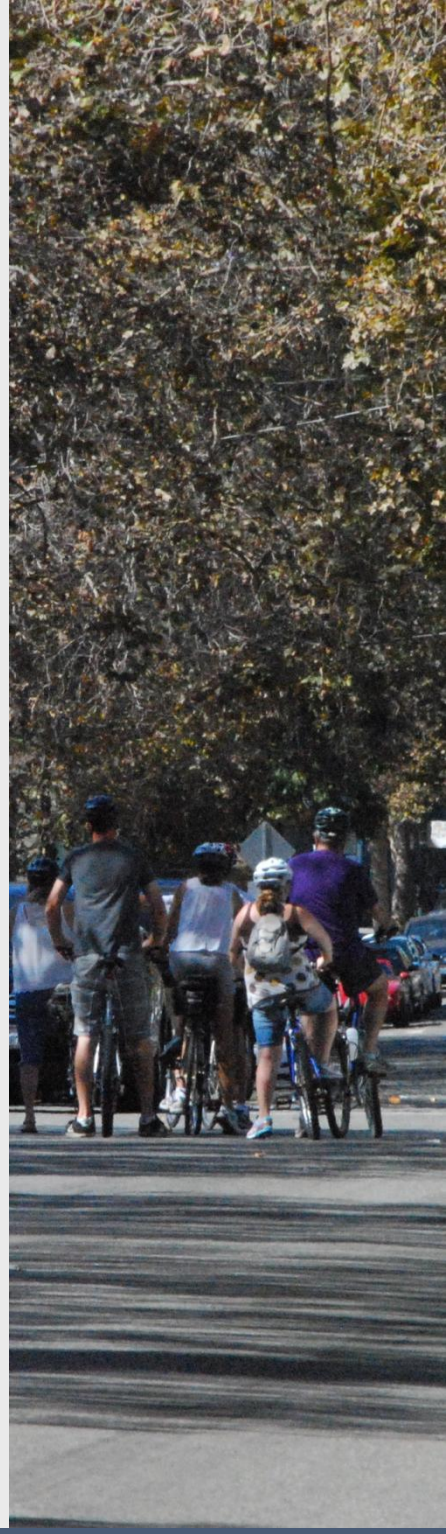
Project Team

- **City of Alameda Staff**
  - Gail Payne, Public Works Transportation Coordinator
- **PlaceWorks**
  - Sarah Sutton, Principal-in-Charge, Landscape Architect
  - Melissa Erikson, Senior Associate, Landscape Architect
  - Christine Wilson, Project Landscape Designer
- **Kittelson & Associates**
  - Alice Chen, Principal Planner
  - Laurence Lewis, Associate Transportation Planner
  - Amy Lopez, Transportation Analyst
- **Bike Walk Alameda**



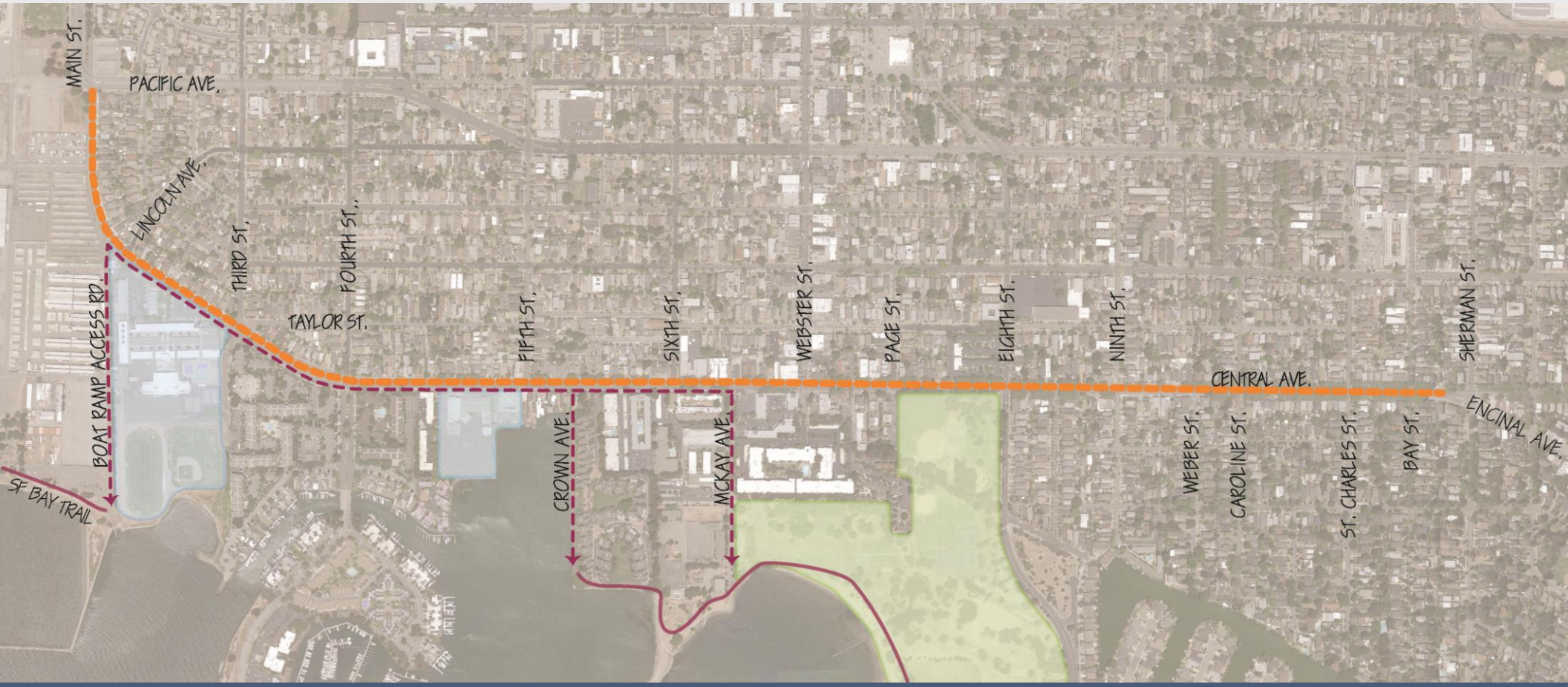
Agenda

- Project Overview
- Traffic Analysis
- Approaches
- Corridor Recommendations
- Next Steps



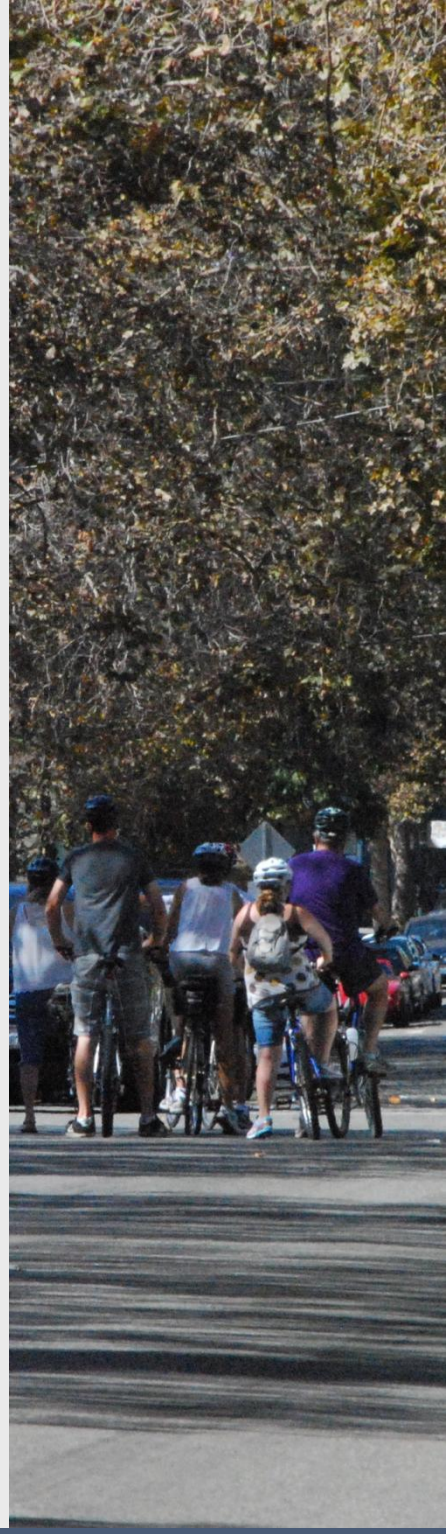
Project Overview

- School, transit, truck and neighborhood access
- Two five-legged intersections (Third/Taylor and Sherman/Encinal)
- Bikeway treatments
- Potential reduction of travel lanes, a “road diet”



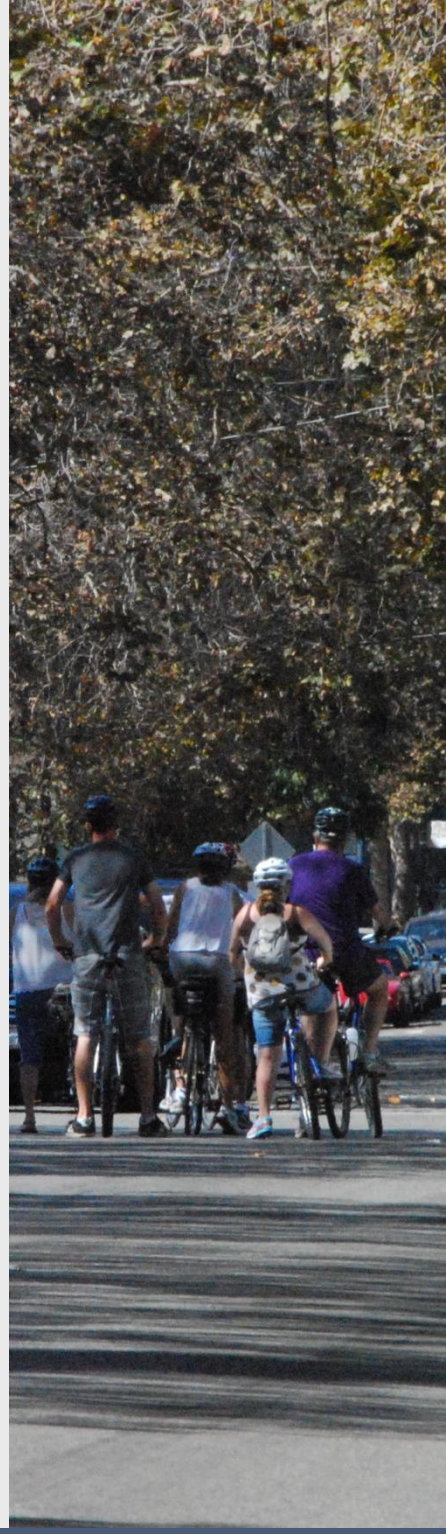
Project Overview: Schools

- Schools – West Alameda (approx. 4,500 students)
  - Academy of Alameda Middle School
  - Alameda Community Learning Center
  - Alameda Science and Technology Institute
  - Encinal High School
  - Junior Jets Middle School
  - Nea
  - Paden Elementary School
  - Ruby Bridges Elementary School



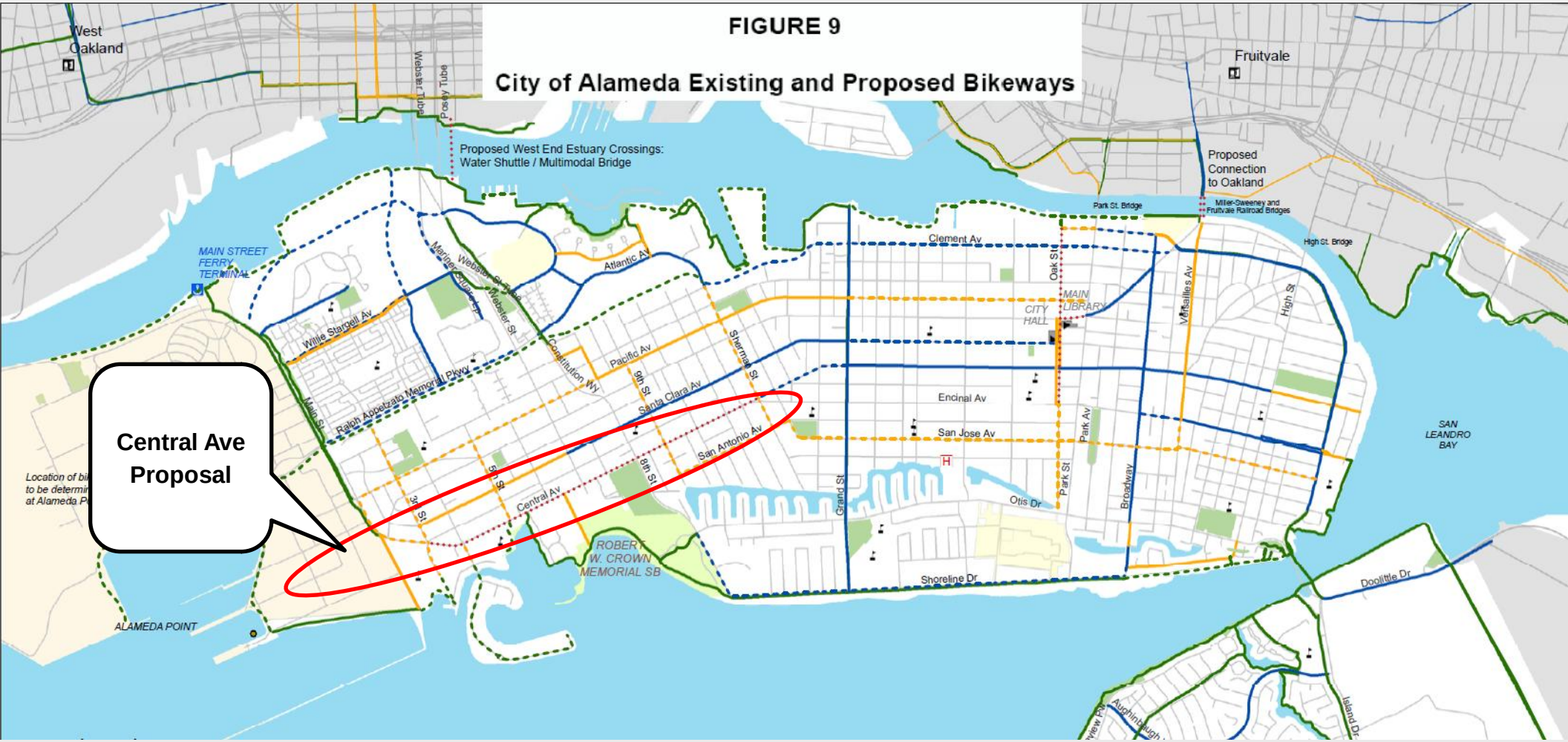
Project Overview (cont.)

- General Plan - Transportation Element
  - Goals
    - Circulation
    - Livability
    - Transportation Choice
    - Implementation
  - Street Classifications
    - Truck Route
    - Transit Priority Street
    - Bicycle Priority Street

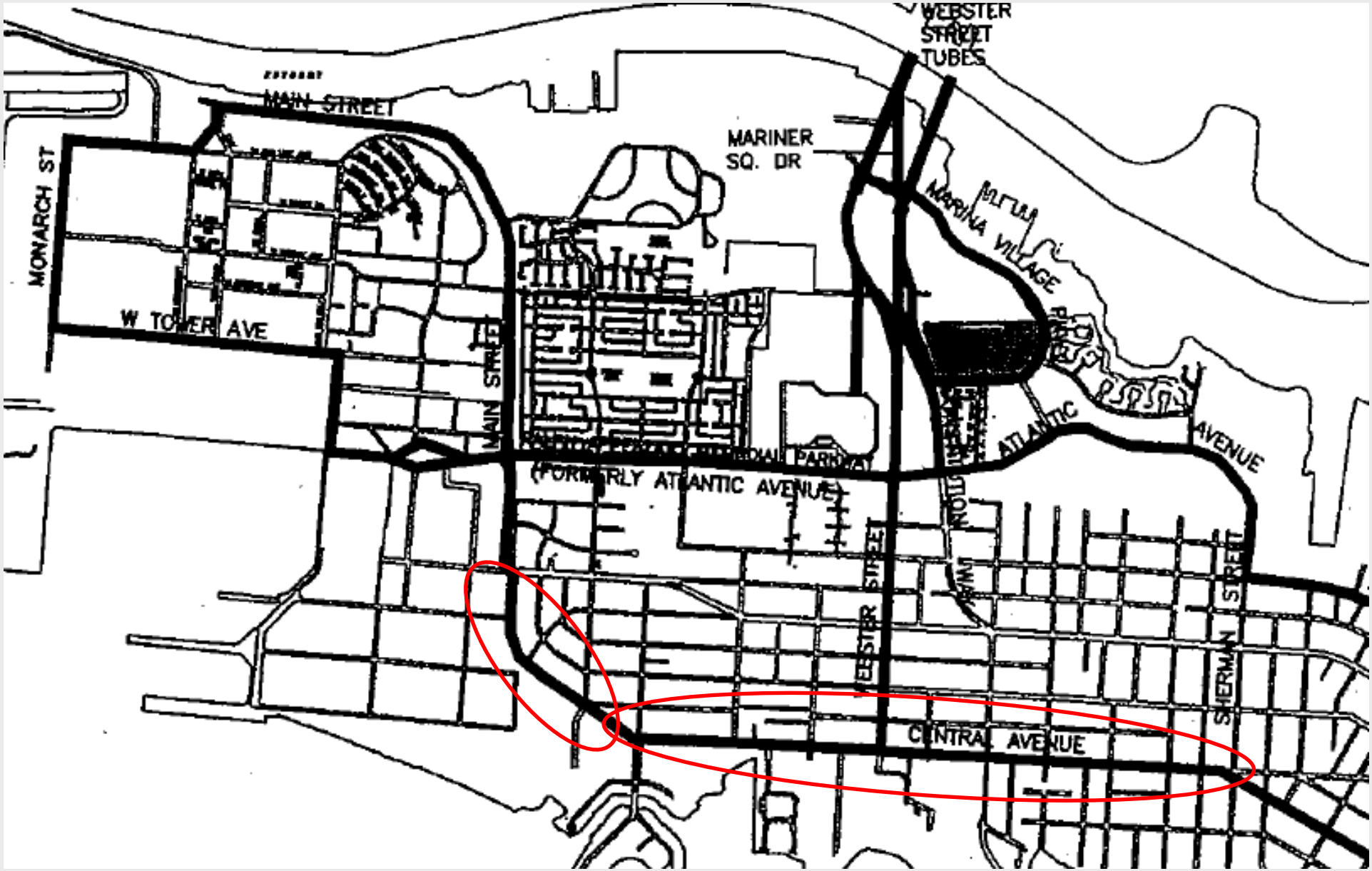


Project Overview (cont.)

- City of Alameda Bicycle Plan (2010)



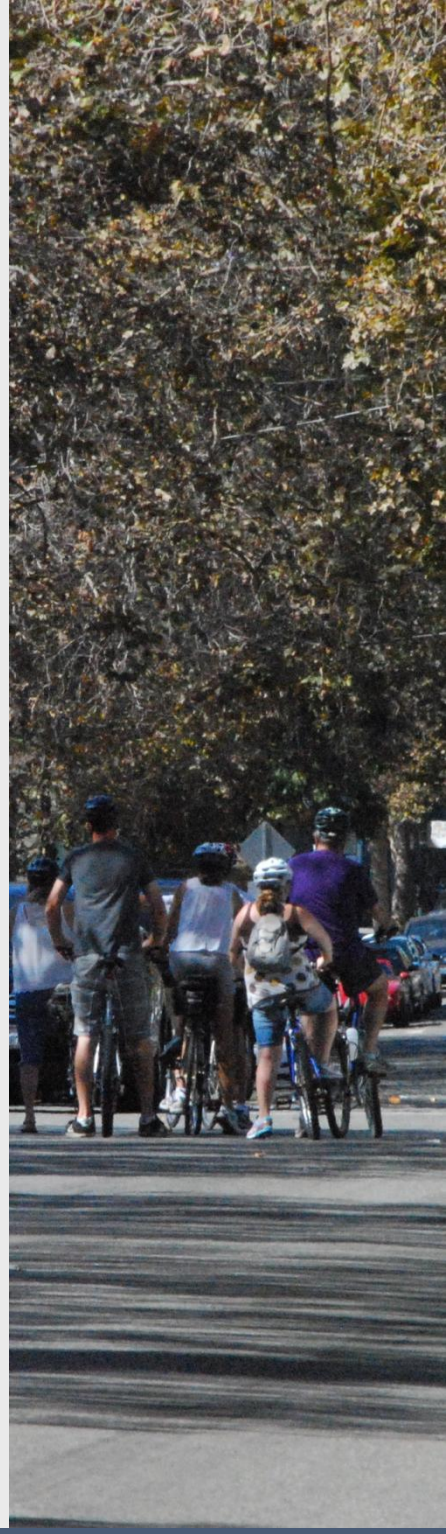
Project Overview: Truck Route Map



Project Goals

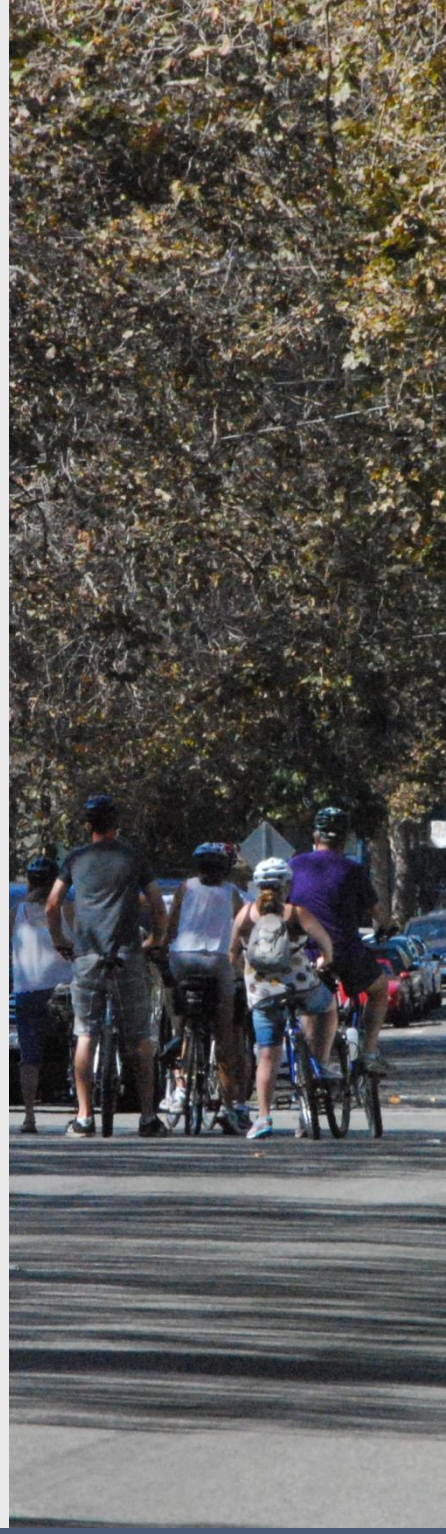
Based on community input

1. **Safety**
2. **Encourage bicycling and walking**
3. **Traffic calming**
4. **Minimize disruption to motorists**
5. **Improve the streetscape**
6. **Encourage transit use**
7. **Improve public access to the SF Bay**
8. **Revitalize West Alameda**
9. **Improve truck access**



Project Concept Components

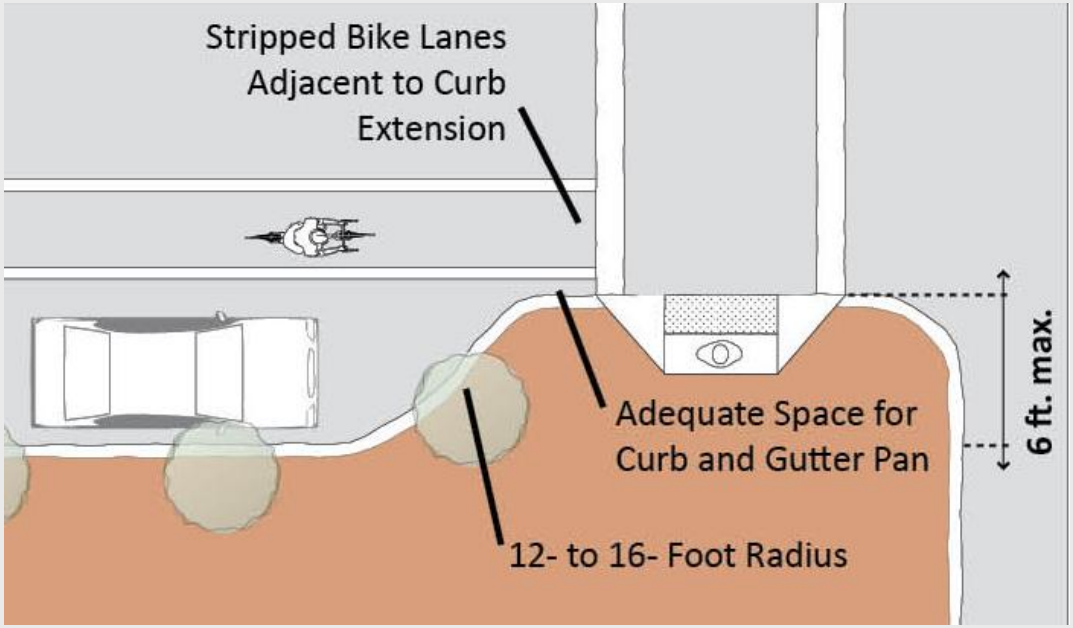
- **Pedestrian crossings**
- **Bikeway**
- **Road diet**
- **Accessibility**
- **Streetscape (e.g., gateway, trees)**
- **Utilities: storm, sewer and undergrounding**
- **Pavement resurfacing**
- **Truck and bus access**



Pedestrian Improvements

Considering:

- Curb bulb-outs:
  - Shortens crossing distances
  - Helps reduce speeds



Pedestrian Improvements (cont.)

Considering:

- Ladder crosswalks and
- Rectangular rapid flash beacons

= Increases visibility of pedestrians

Streetscape Improvements

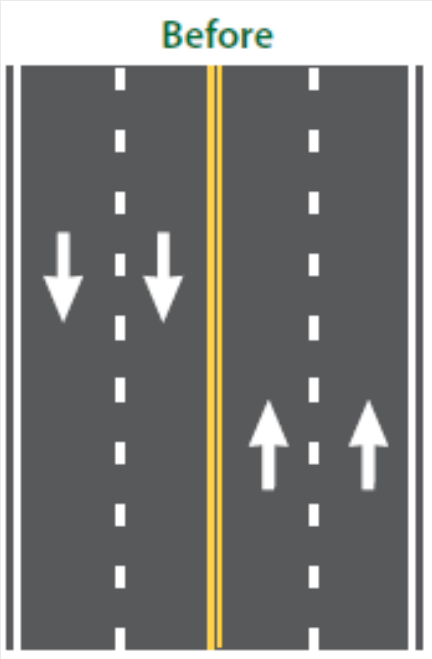
Street Trees

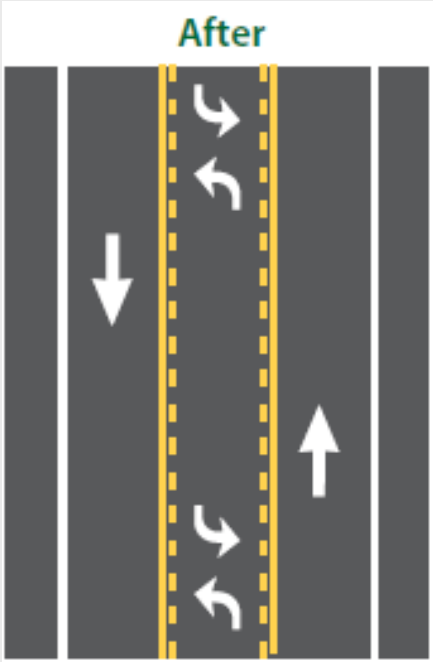
- Provide shade and beautify the streetscape
- Identify short-, medium-, and long-term goals for overall tree health and longevity
- Identify areas for new trees

Road Diet Benefits

According to FHWA:

- Decrease vehicle lanes for pedestrians to cross
- Allow better visibility of pedestrians
- Improve circulation for bicyclists
- Reduce collisions by 19% to 47% with a center left-turn lane
- Reduce speeds by 3 to 5 miles per hour
- Reduce severity of collisions
- Improve travel flow





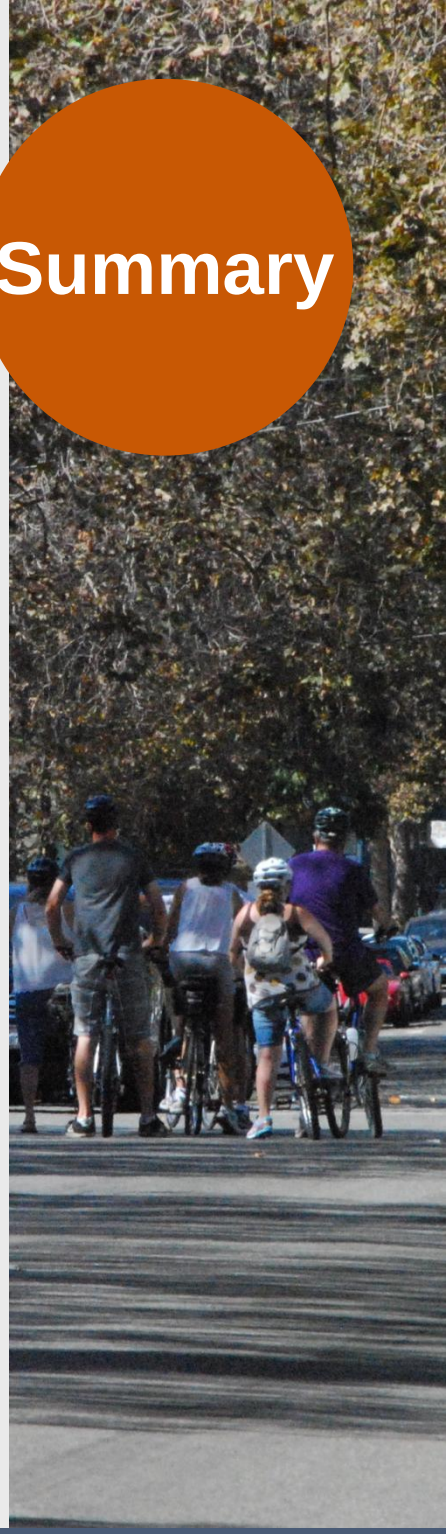
Road Diet Guidelines

FHWA identifies volumes below 20,000/day as feasible

Street Name	**Veh/Day**
Atlantic Ave. (Buena Vista to Constitution)	10,956
Broadway (Santa Clara Ave to Otis Dr)	10,552
Fernside Blvd. (Tilden Way to High St)	8,550
Central Avenue	**9,327**
Central Avenue: FUTURE (average)	**12,000**
Central Avenue: FUTURE (max.)	**16,000**

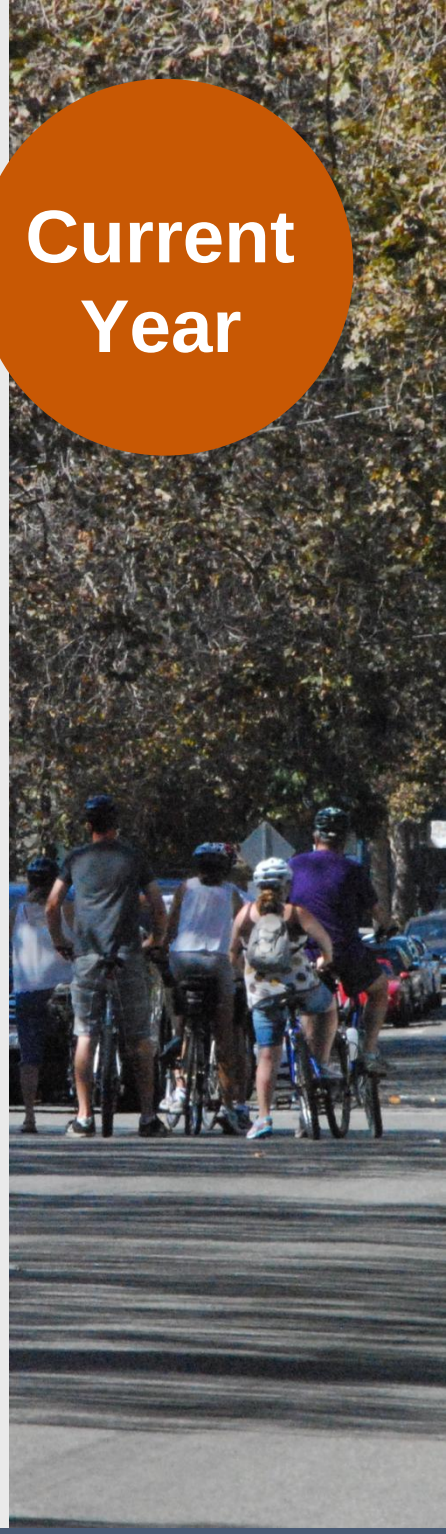
Traffic Analysis

- Based on 2015 counts
- High-level analysis to inform number of lanes
- Key intersections with signal or stop sign
- Highest traffic volumes



Traffic Analysis (cont.)

- With **existing conditions** (4 lanes), all intersections currently operate *below* capacity
- With **3-lane road diet**, there are two capacity constraints
  - Webster/Central intersection – delays on Webster southbound
  - Eighth/Central intersection – delays on Central westbound
- With **2-lane road diet**, there are no additional capacity constraints
  - Webster/Central and Eighth/Central both experience greater delays



Traffic Analysis (cont.)

End-to-End Travel Time Comparison:

Current Year

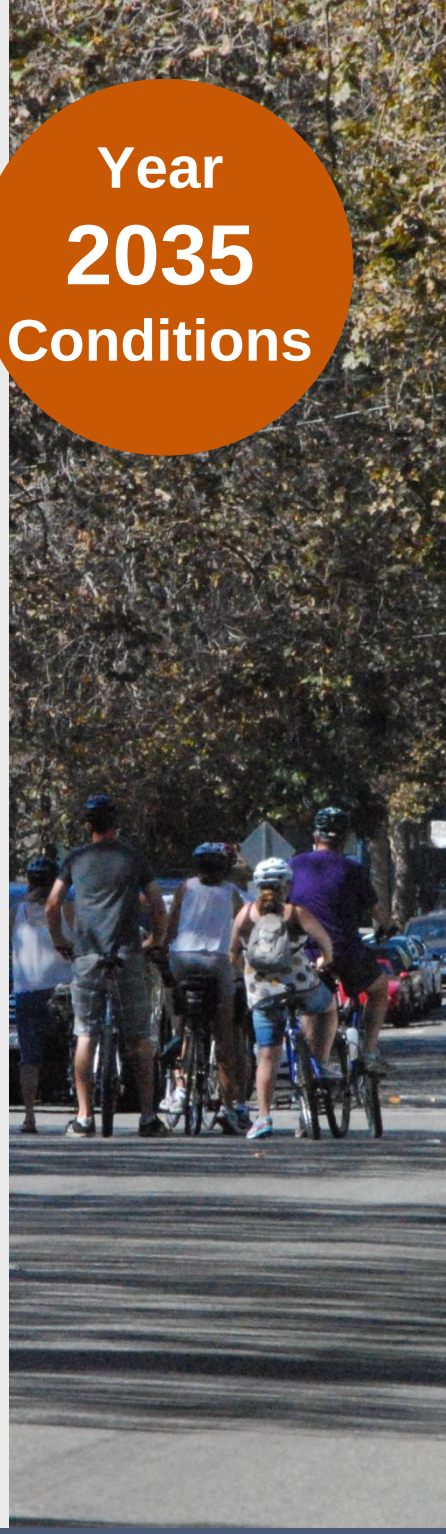
Time Period / Direction	Existing Conditions	3-Lane Road Diet	2-Lane Road Diet
Weekday AM Peak (7-9 AM)			
Eastbound	6.9 min.	7.6 min.	11.7 min.
Westbound	6.8 min.	15.2 min	16.8 min.
Weekday PM Peak (4-6 PM)			
Eastbound	6.5 min.	10.8 min.	17.4 min.
Westbound	7.0 min.	8.6 min.	14.1 min.

Notes:

1. Travel times do not include delays due to mid-block parking maneuvers and left-turn movements.
2. Travel times do not account for diversion to alternate routes during congested conditions.

Traffic Analysis (cont.)

- Traffic volumes include cumulative build-out
- With **existing conditions** (4 lanes), there is one capacity constraint
  - Webster/Central intersection – delays on Webster southbound
- With **3-lane road diet**, there are three capacity constraints
  - Fifth/Central intersection - delays at all-way STOP
  - Webster/Central intersection
  - Eighth/Central intersection
- With **2-lane road diet**, there are additional capacity constraints at Sherman
  - Delays for eastbound approach



Traffic Analysis (cont.)

End-to-End Travel Time Comparison:

Year 2035 Conditions

Time Period / Direction	Existing Conditions	3-Lane Road Diet	2-Lane Road Diet
Weekday AM Peak (7-9 AM)			
Eastbound	8.4 min.	9.4 min.	17.1 min.
Westbound	8.9 min.	22.4 min.	27.2 min.
Weekday PM Peak (4-6 PM)			
Eastbound	9.1 min.	20.0 min.	48.1 min.
Westbound	10.7 min.	14.5 min.	27.1 min.

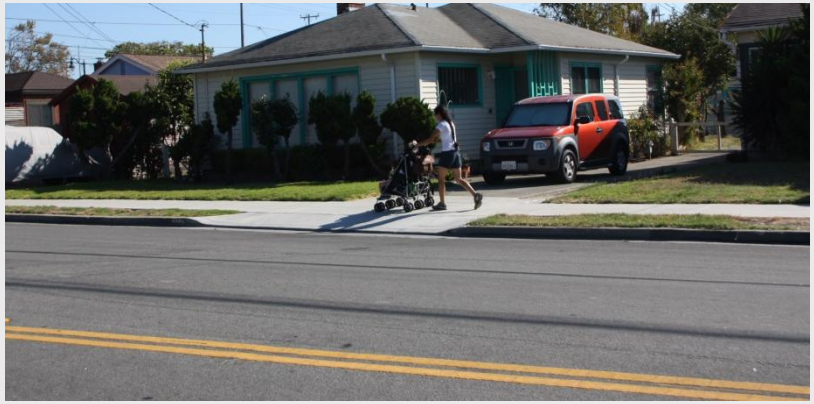
Notes:

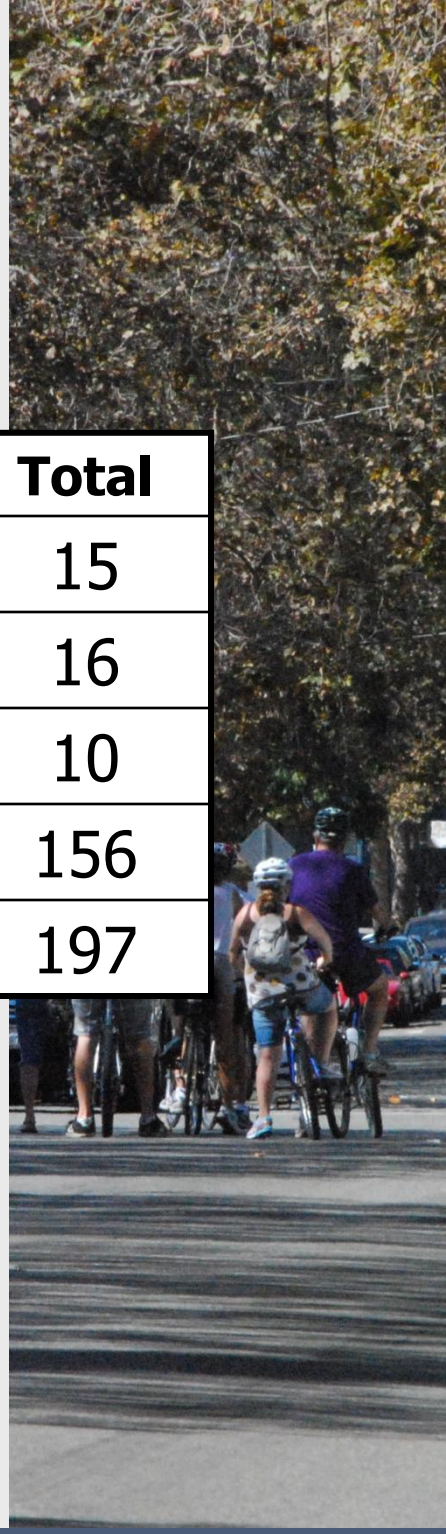
1. Travel times do not include delays due to mid-block parking maneuvers and left-turn movements.
2. Travel times do not account for diversion to alternate routes during congested conditions.

Traffic Analysis (cont.)

Driveway Counts:

	North/East	South/West	Total
Pacific/Main to Lincoln	14	1	15
Lincoln to Third/Taylor	12	4	16
Third/Taylor to Fourth	9	1	10
Fourth to Sherman/Encinal	86	70	156
Total	121	76	197





Bikeway Approaches

Within the roadway, between the curbs:

A. Do Nothing

B. Sharrow Markings (Class III Bike Route)

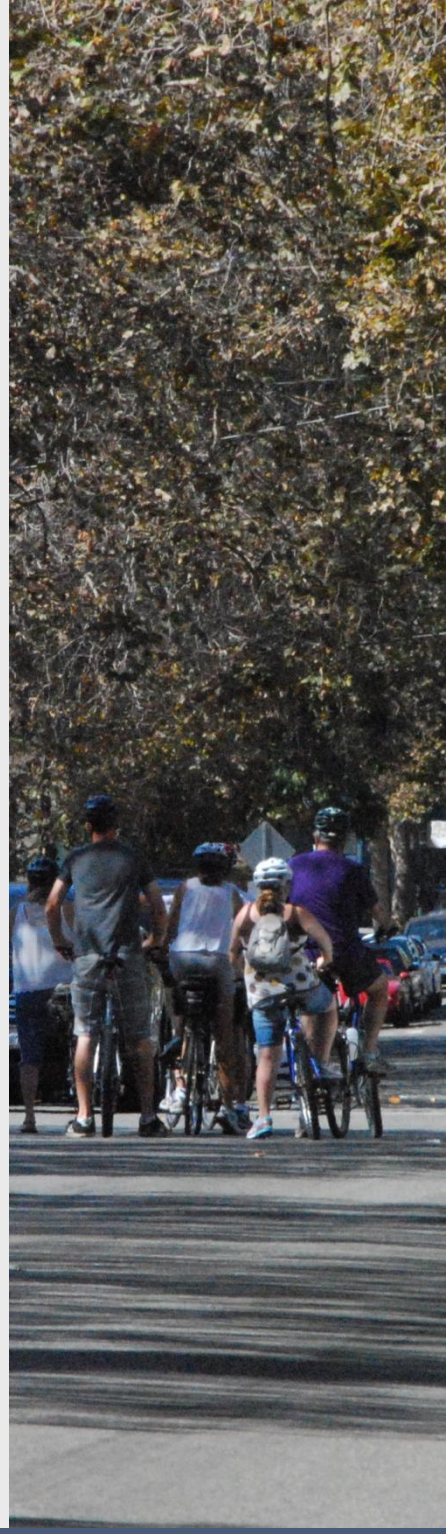
C. Class II Bike Lanes

D. Buffered Bike Lanes

E. One-Way Cycle Track (Protected Bike Lanes)

F. Two-Way Curbside Cycle Track

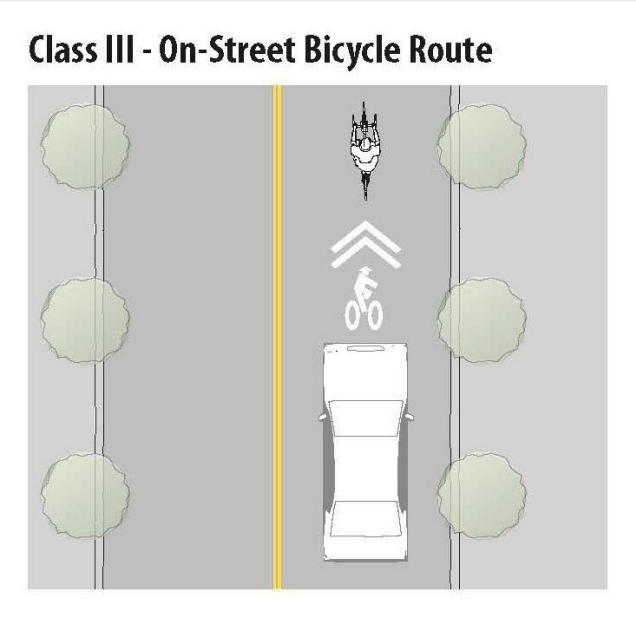
G. Two-Way Median Cycle Track



Option A: Do Nothing

Option B: Class III Bike Route

- Pros:
  - Indicates space in right-of-way for bicyclists
- Cons:
  - No separation between bicycles and motor vehicles
  - Bicycle speed can slow motor vehicles in shared lane



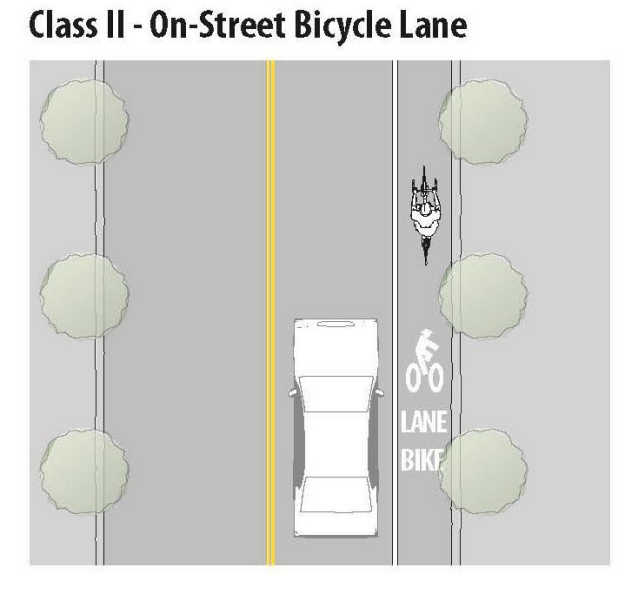
Source: NACTO Urban Bikeway Design Guide

Source: Bike Arlington, Bicycle Facilities (www.bikearlingtoncom)

Option B: Class III Bike Route

Option C: Class II Bike Lanes

- Pros:
  - Provides dedicated lane for bicyclists
  - Allows for a center two-way left-turn lane
- Cons:
  - Removes one motor vehicle travel lane on Central Avenue
  - No buffer between moving traffic, or from parked cars



Source: NACTO Urban Bikeway Design Guide

Option C: Class II Bike Lanes

Option D: Buffered Bike Lanes

- Pros:
  - Provides buffered space for bicyclists
- Cons:
  - Removes two motor vehicle travel lanes on Central Avenue
  - Prevents a center two-way left-turn lane

Option D: Buffered Bike Lanes

Option E: One-Way Cycle Track
(Protected Bike Lanes)

- Pros:
  - Creates a physical barrier between bikes and traffic
- Cons:
  - Removes two motor vehicle travel lanes
  - Prevents a center two-way left-turn lane
  - Conflicts with driveways
  - Prevents disabled parking spaces

Source: Active Transportation Alliance (https://activetrans.org)

Option E: One-Way Cycle Track
(Protected Bike Lanes)

Option F: Two-Way Cycle Track

- Pros:
  - Creates a physical barrier between bikes and traffic
- Cons:
  - Removes two motor vehicle travel lanes
  - Prevents a center two-way left-turn lane
  - Conflicts with driveways
  - Prevents disabled parking spaces

Option F: Two-Way Cycle Track

Option G: Median Cycle Track

- Pros:
  - Avoids driveway conflicts
  - Creates a separation between bicyclists and motorists
- Cons:
  - Removes two motor vehicle travel lanes
  - Prevents a center two-way left-turn lane
  - Requires separate signal phases for turning movements
  - Causes excessive intersection delays

Pennsylvania Avenue, Washington, DC

Option G: Median Cycle Track

Corridor Segments

1. Pacific/Main to Boat Ramp Access (Alameda Point)
2. Boat Ramp Access to Third/Taylor (EHS)
3. Third/Taylor to Fourth
4. Fourth to Sherman/Encinal

Previous Planning Efforts

- Alameda Point Master Infrastructure Plan (2014)

1. Alameda Point

Master Infrastructure Plan

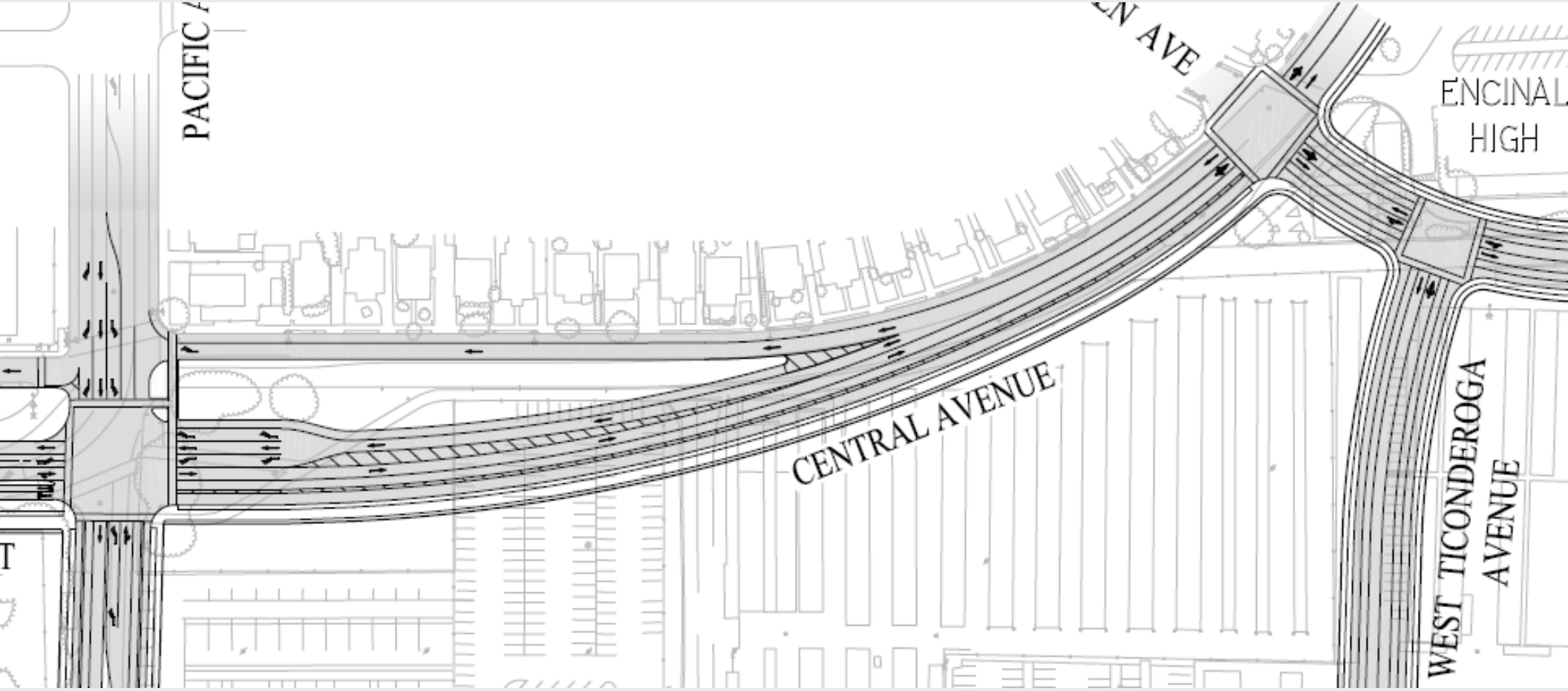
Pacific/Main to Lincoln:

- Shifts street towards Alameda Point
- Removes offset
- Provides on-street parking on both sides
- Installs bikeway

1. Alameda Point

Master Infrastructure Plan

- Preliminary Concept for Pacific/Main to Lincoln

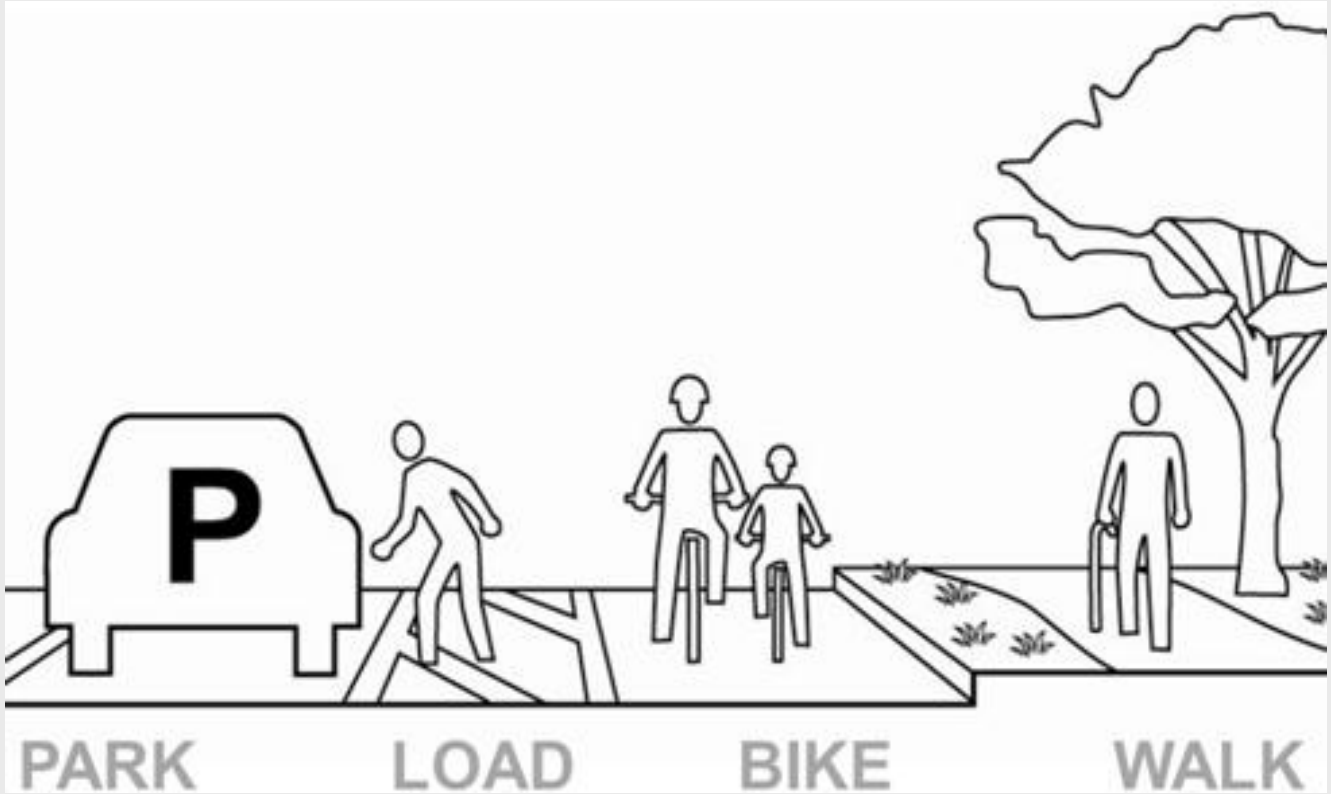


Source: Alameda Point Master Infrastructure Plan (2014)

1. Pacific/Main to Lincoln

- Preliminary Concept: Cycle Track
  + Class 2 Bike Lanes

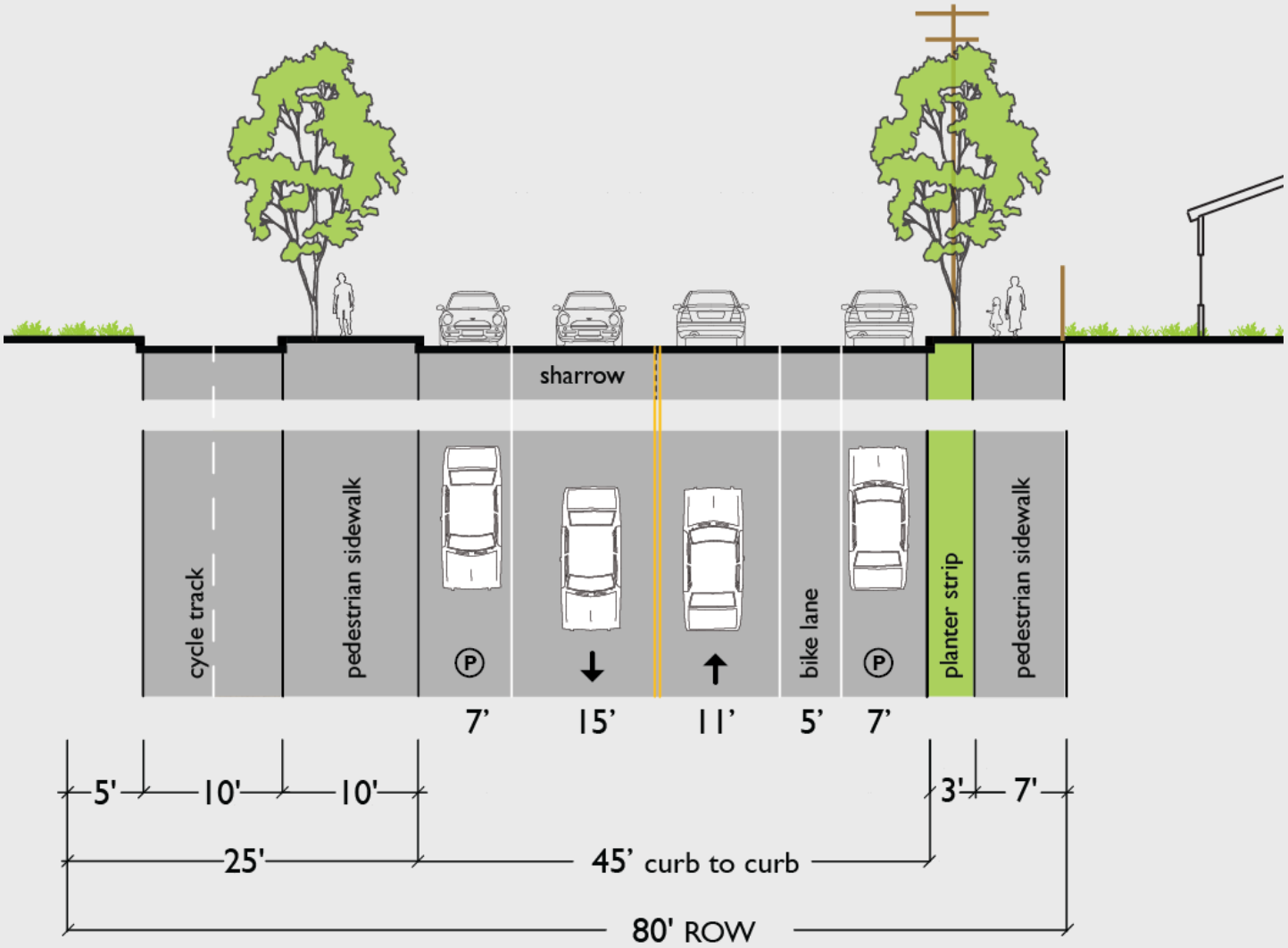
= Fernside Blvd. model



Corridor Segments

1. Pacific/Main to Boat Ramp Access (Alameda Point)
2. Boat Ramp Access to Third/Taylor (EHS)
3. Third/Taylor to Fourth
4. Fourth to Sherman/Encinal

Corridor Segments: 2. Boat Ramp Access Road to Third/Taylor



proposed right-of-way realignment

Previous Planning Efforts

- Third/Taylor Intersection Improvements (2013)

Third/Taylor

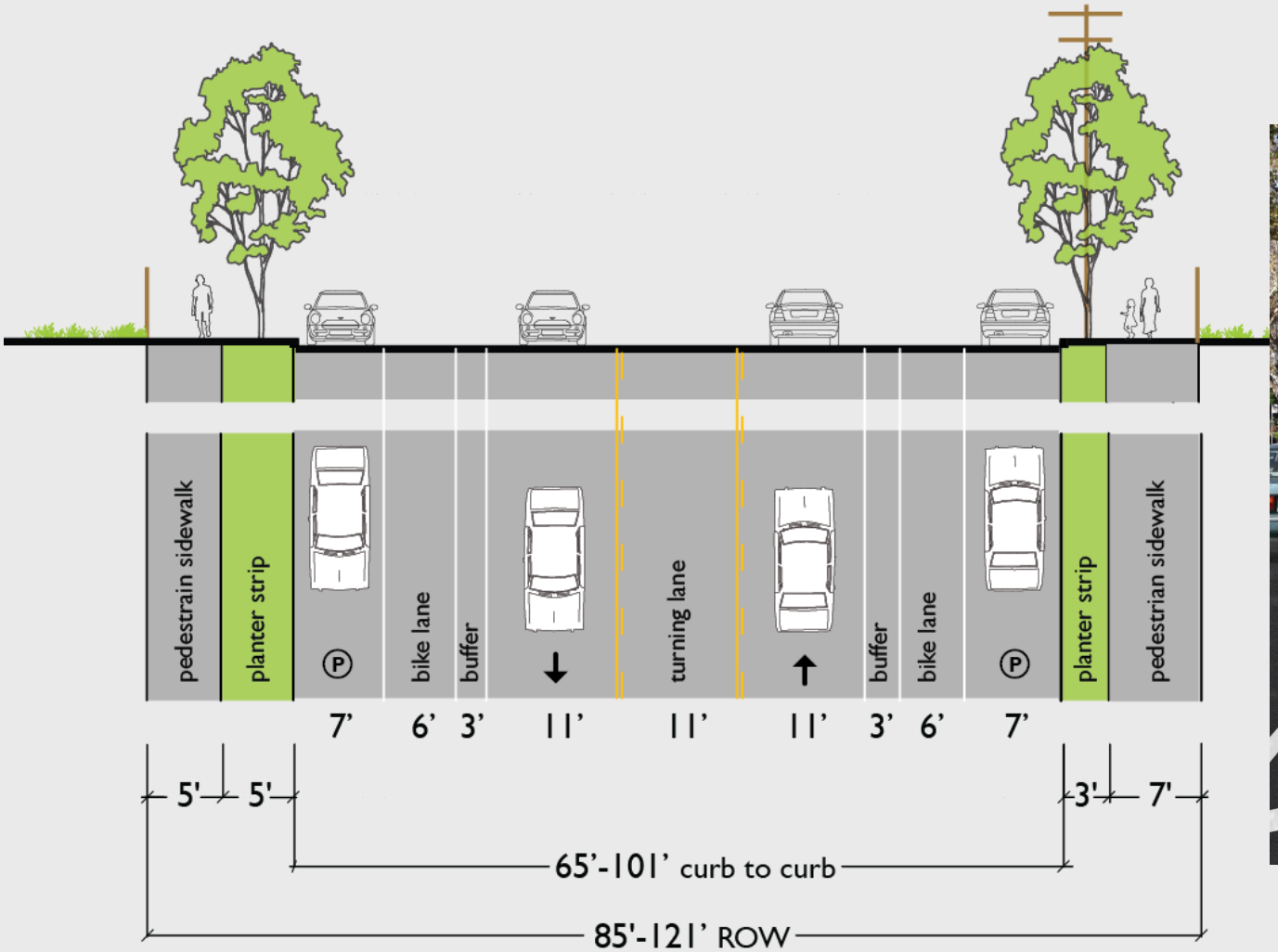
Intersection Improvements

- City conducted outreach in 2013
- Installed curb extension on south side
- Little support for restricting movements to and from Taylor
- Traffic signal?

Corridor Segments

1. Pacific/Main to Boat Ramp Access (Alameda Point)
2. Boat Ramp Access to Third/Taylor (EHS)
3. Third/Taylor to Fourth
4. Fourth to Sherman/Encinal

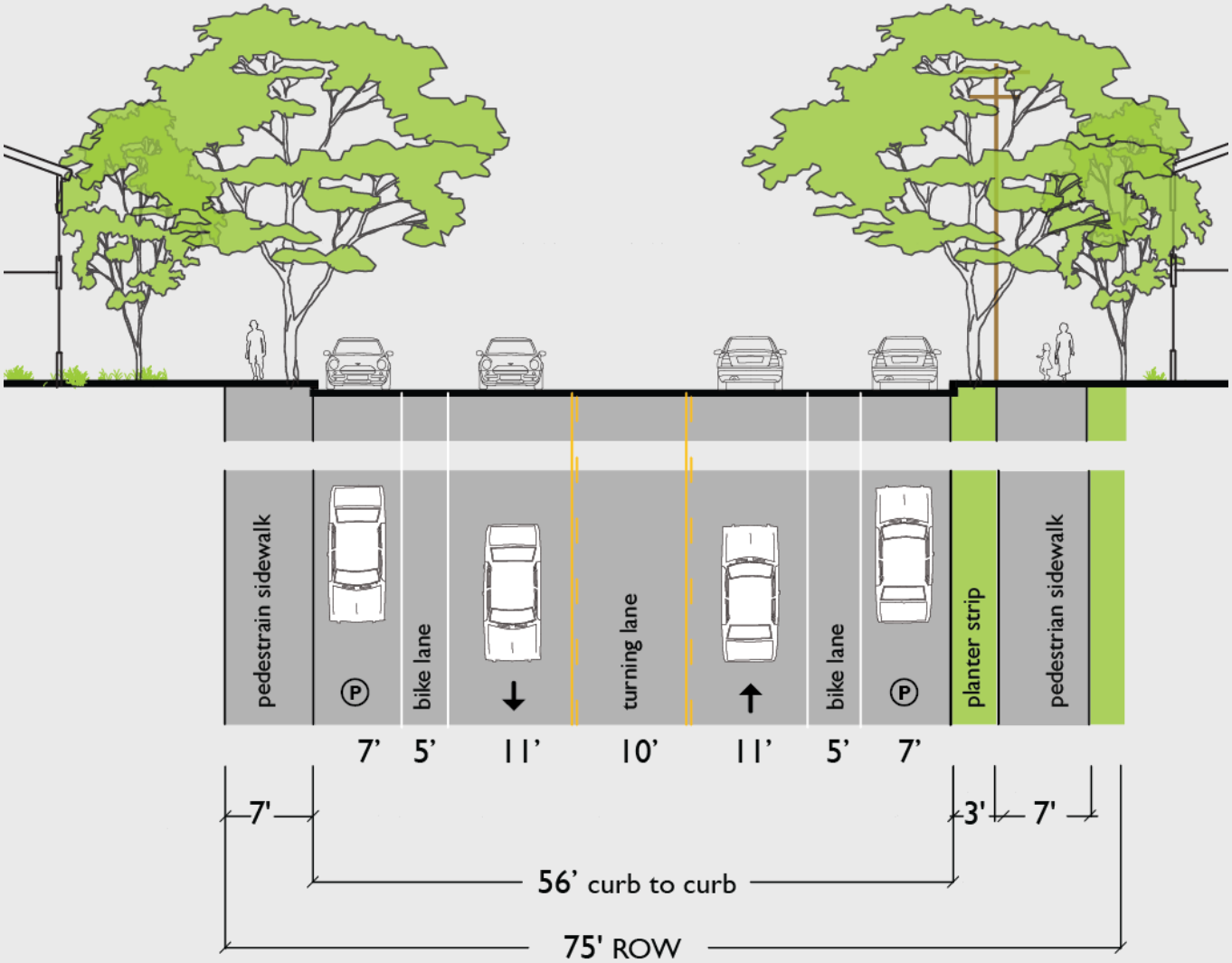
Corridor Segments: 3. Third/Taylor to Fourth



Corridor Segments

1. Pacific/Main to Boat Ramp Access (Alameda Point)
2. Boat Ramp Access to Third/Taylor (EHS)
3. Third/Taylor to Fourth
4. Fourth to Sherman/Encinal

Corridor Segments: 4. Fourth to Sherman/Encinal

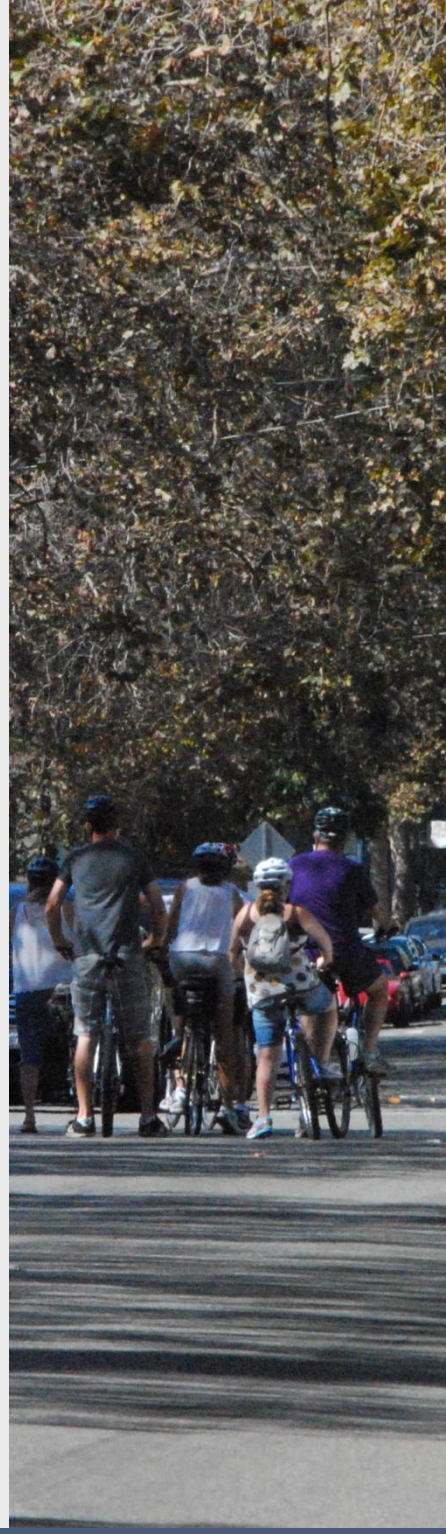


proposed curb-to-curb realignment

Option C: Class II Bike Lanes

Project Concept Components

- **Pedestrian crossings**
- **Bikeway**
- **Road diet**
- **Accessibility**
- **Streetscape (e.g., gateway, trees)**
- **Utilities: storm, sewer and undergrounding**
- **Pavement resurfacing**
- **Truck and bus access**



Next Steps

- Community Meeting #2: Concept Options
- Open Forum: http://alamedaca.gov/public-works/open-forum
- Community Meeting #3: Preferred Concept, September 17
- Transportation Commission: November 18

Comments or Questions?

- Open forum:
  http://alamedaca.gov/public-works/open-forum

- Contact: Gail Payne at 510-747-7948 or
  gpayne@alamedaca.gov

- Project web page:

http://alamedaca.gov/public-works/central-avenue-complete-street

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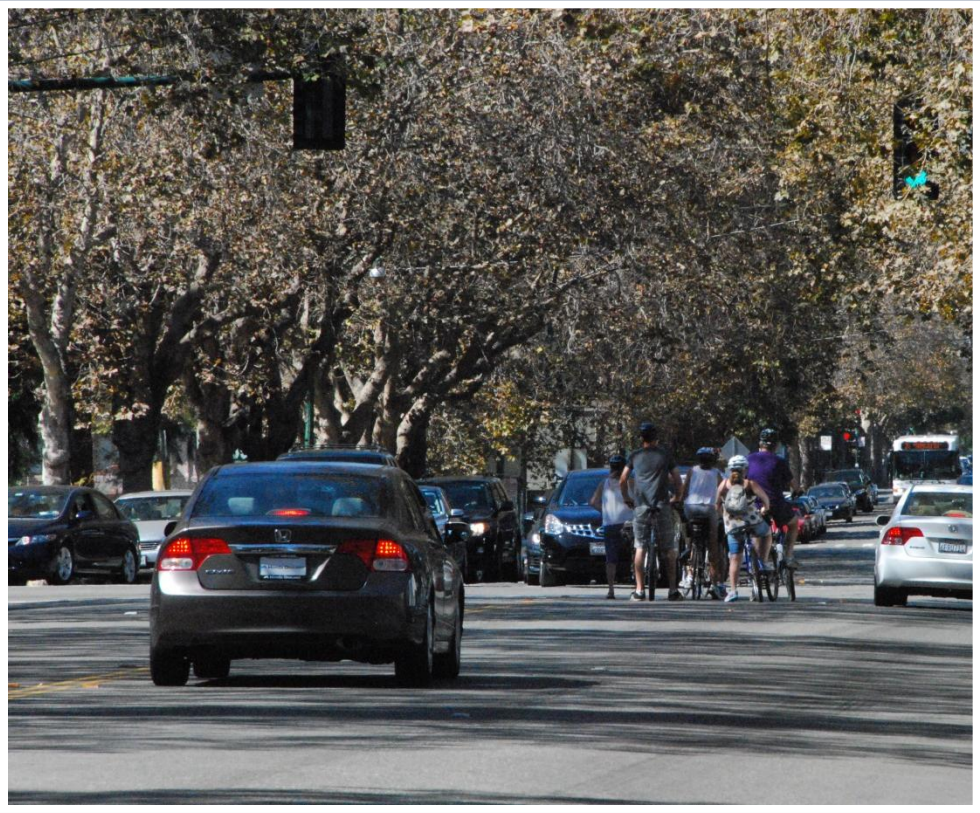

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Transportation Commission | May 27, 2015