

Central Avenue Complete Street Concept Proposal

Transportation Commission | May 27, 2015

Project Team

- **City of Alameda Staff**

- Gail Payne, Public Works Transportation Coordinator

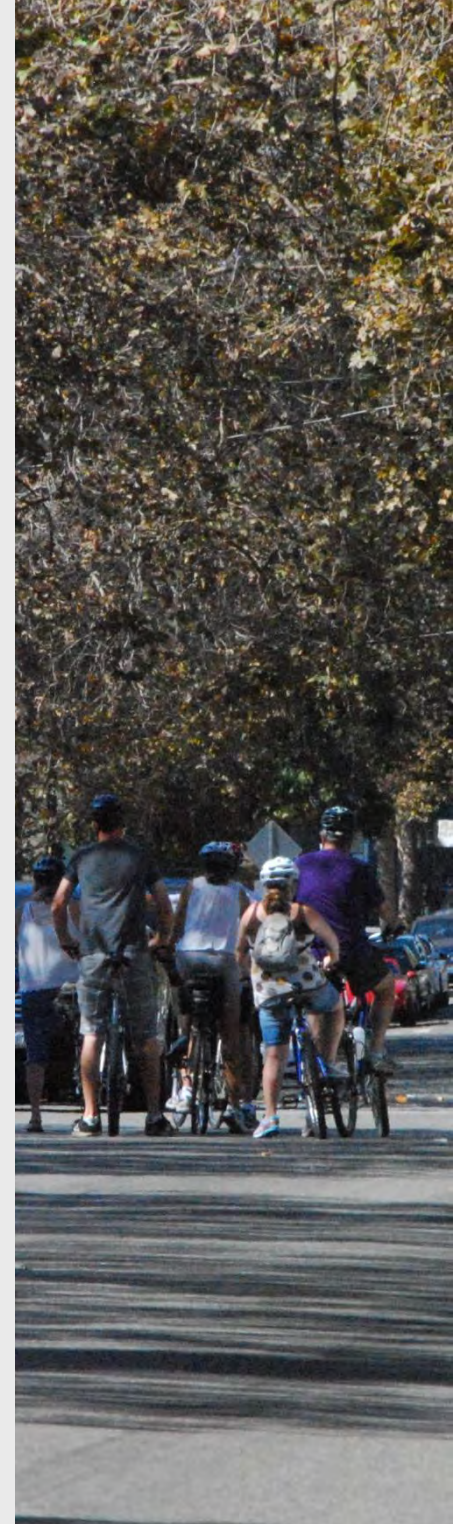
- **PlaceWorks**

- Sarah Sutton, Principal-in-Charge, Landscape Architect
- Melissa Erikson, Senior Associate, Landscape Architect
- Christine Wilson, Project Landscape Designer

- **Kittelson & Associates**

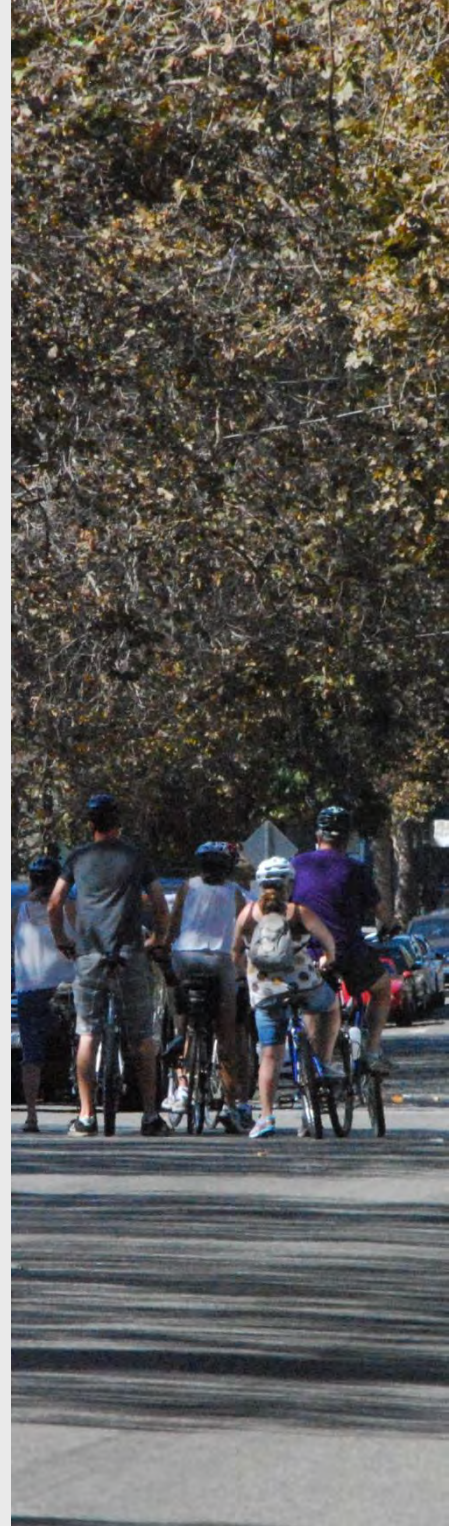
- Alice Chen, Principal Planner
- Laurence Lewis, Associate Transportation Planner
- Amy Lopez, Transportation Analyst

- **Bike Walk Alameda**

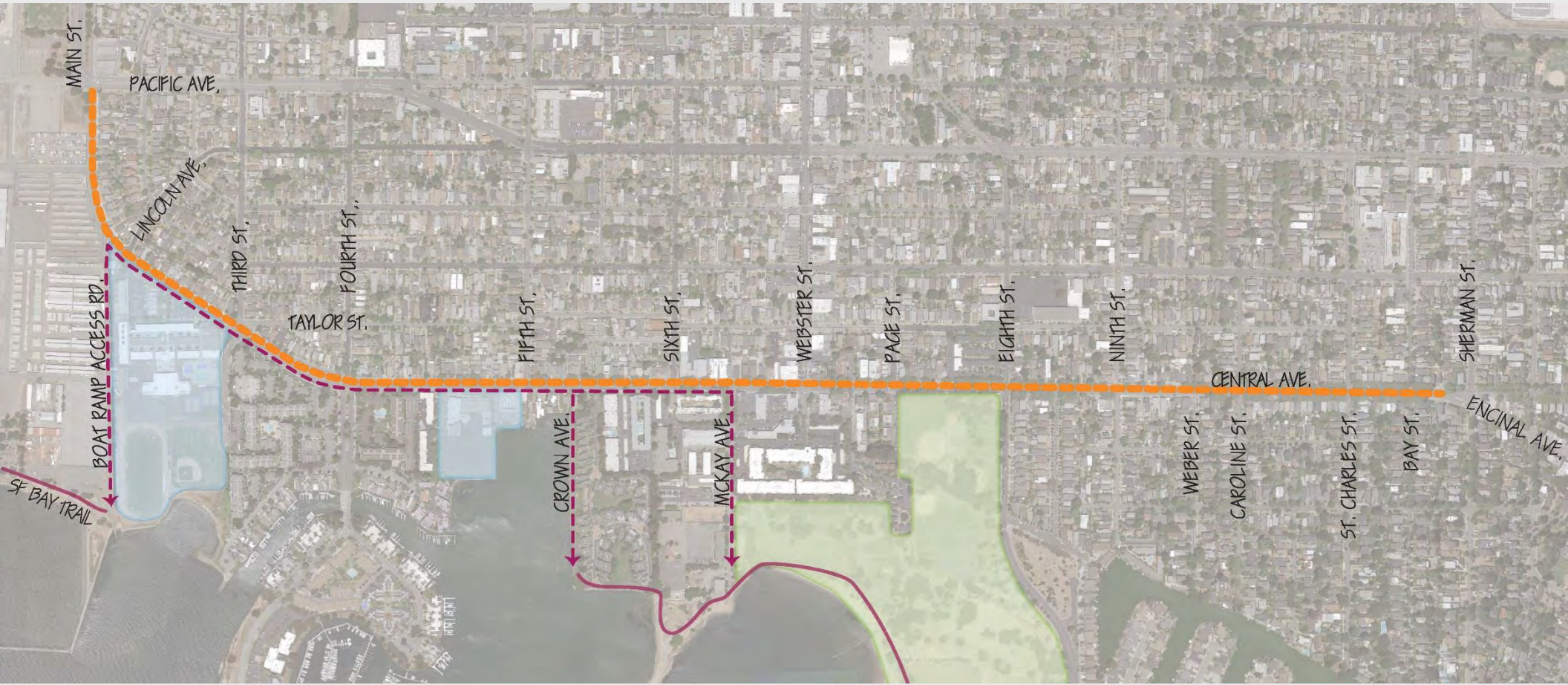


Agenda

- Project Overview
- Approaches
- Traffic Analysis
- Preferred Options
- Next Steps



Project Overview



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



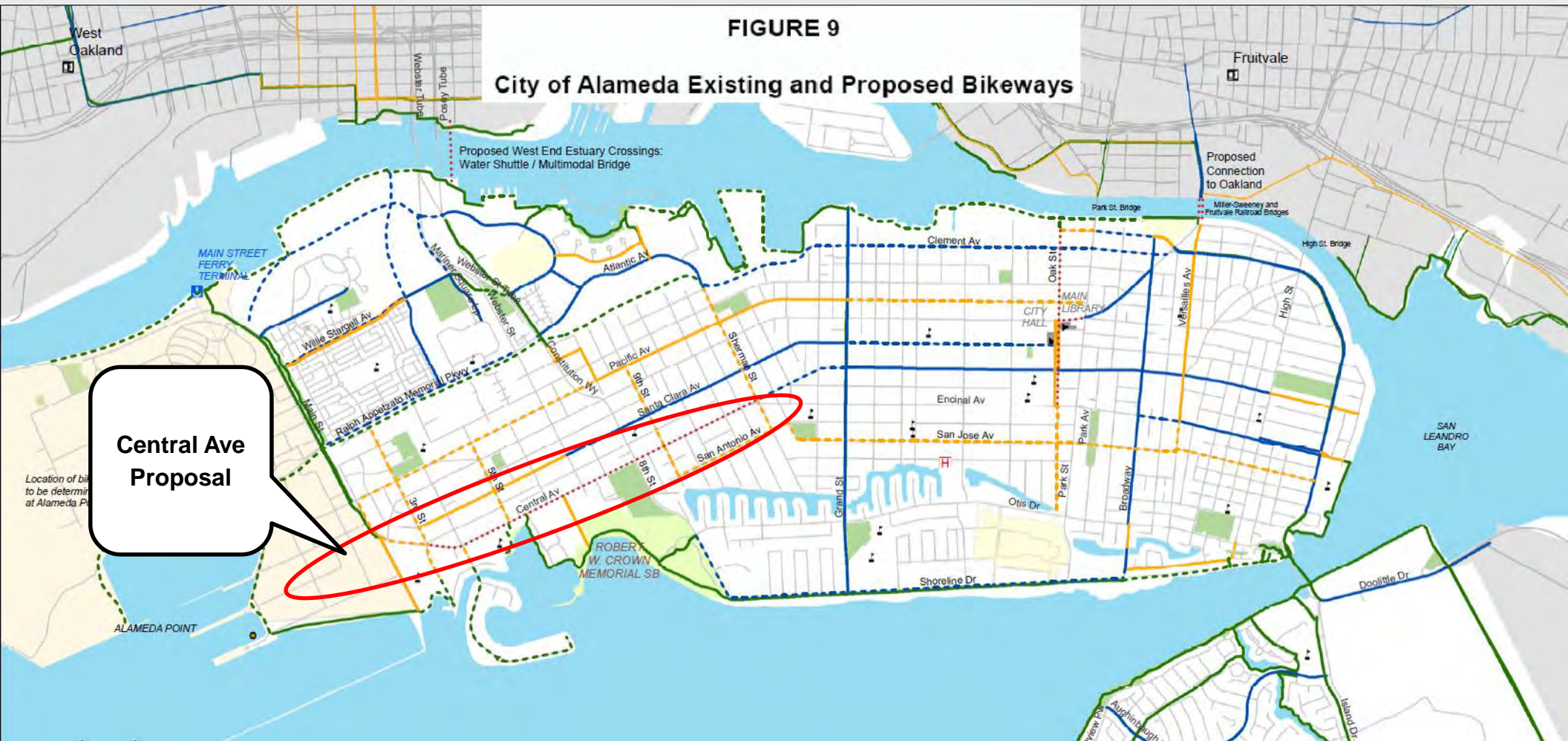
Project Overview (cont.)

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



Project Overview (cont.)

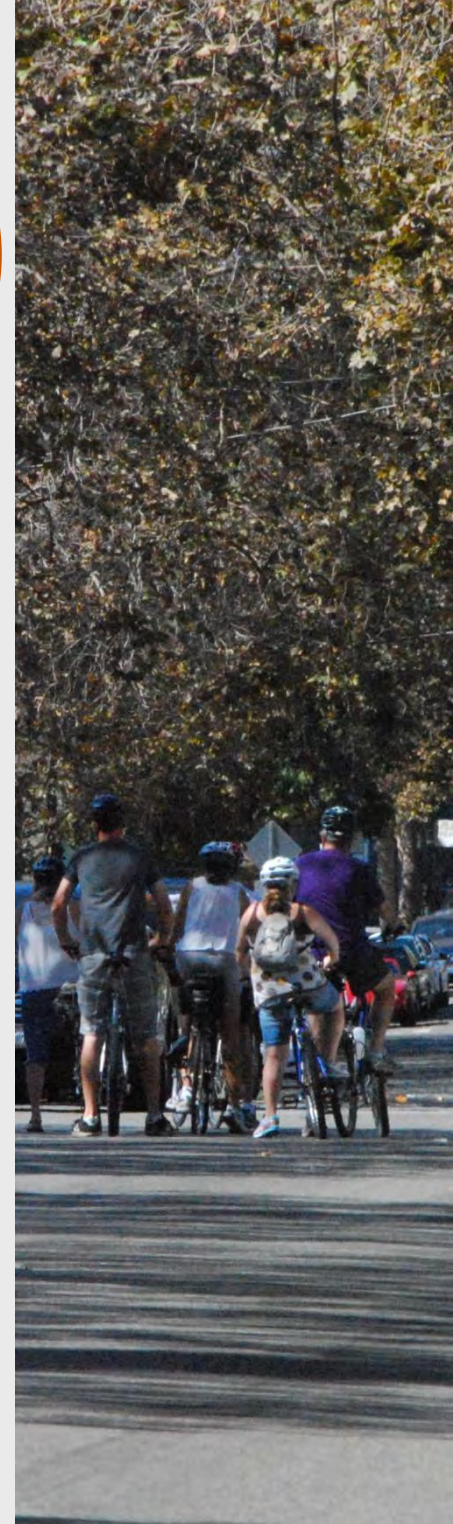
- City of Alameda Bicycle Plan (2010)



Project Goals

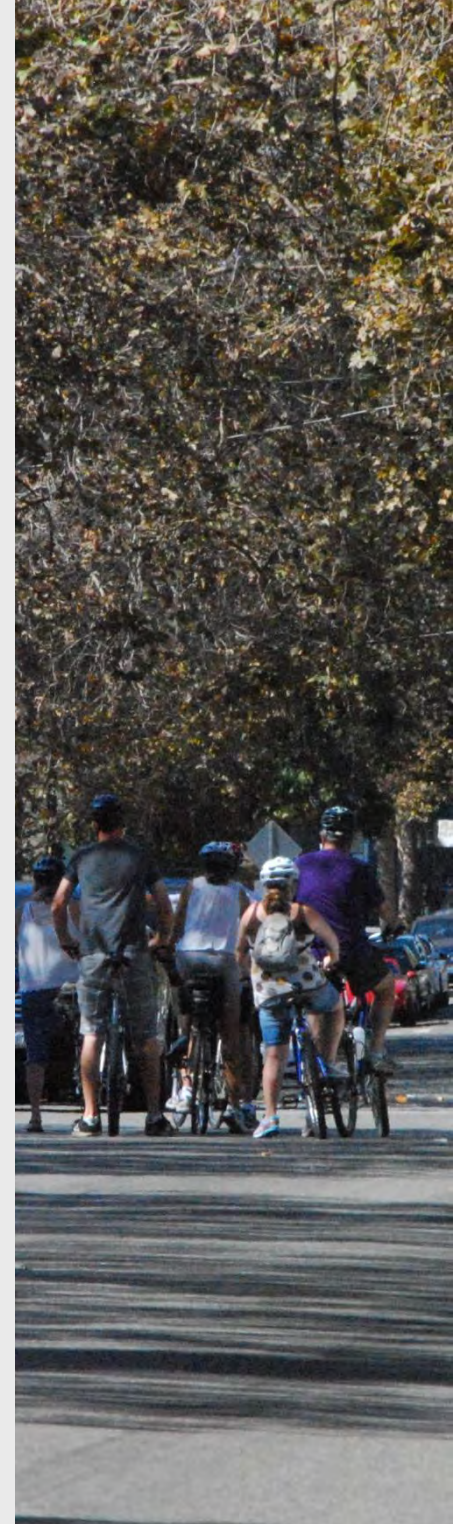
Based on
community
input

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

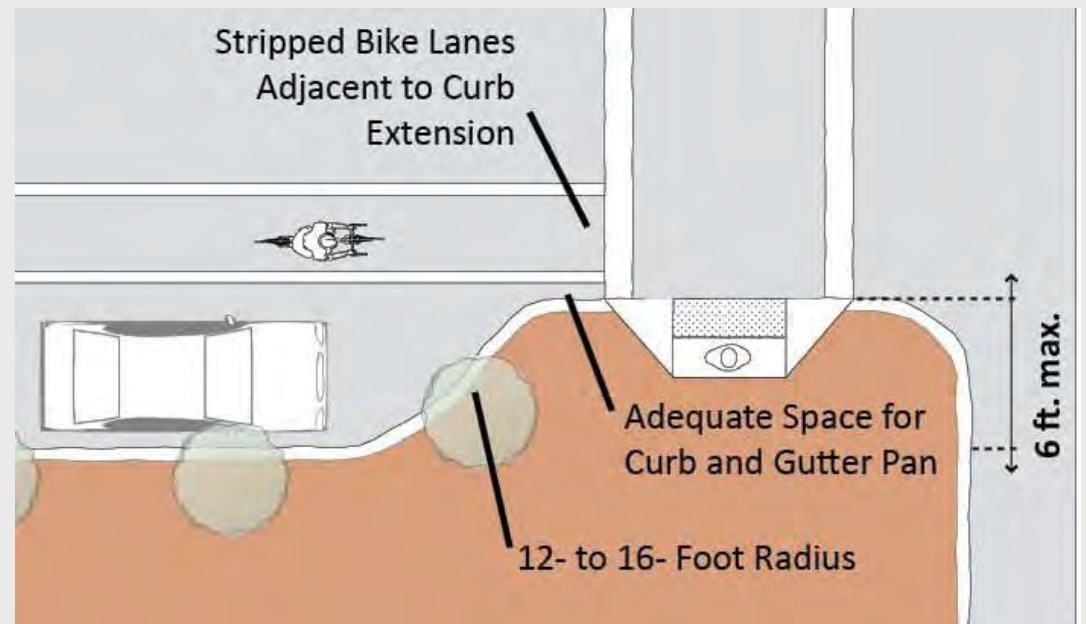
- **Pedestrian crossings**
- **Bikeway**
- **Road diet**
- **Accessibility**
- **Streetscape (e.g., gateway, trees)**
- **Utilities: storm, sewer and undergrounding**
- **Pavement resurfacing**
- **Truck and bus access**



Pedestrian Improvements

Considering:

- Road diets
 - Decreases number of vehicle lanes to cross
- 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



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

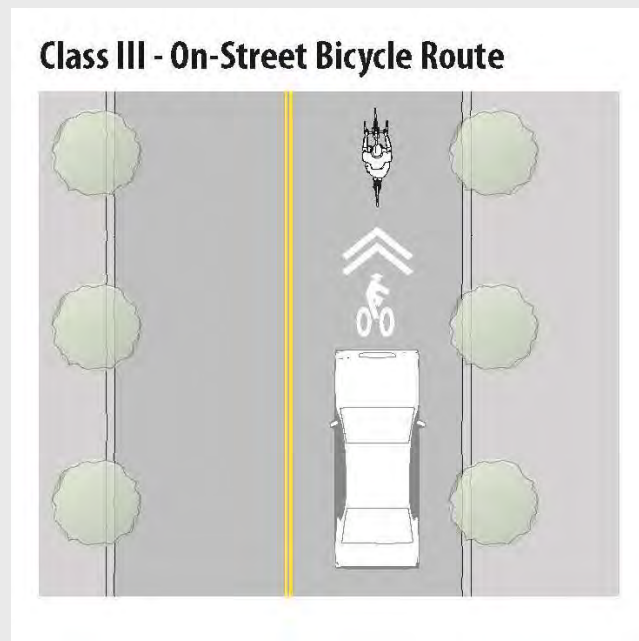


Option A: Do Nothing



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.bikearlington.com)

Option B: Class III Bike Route

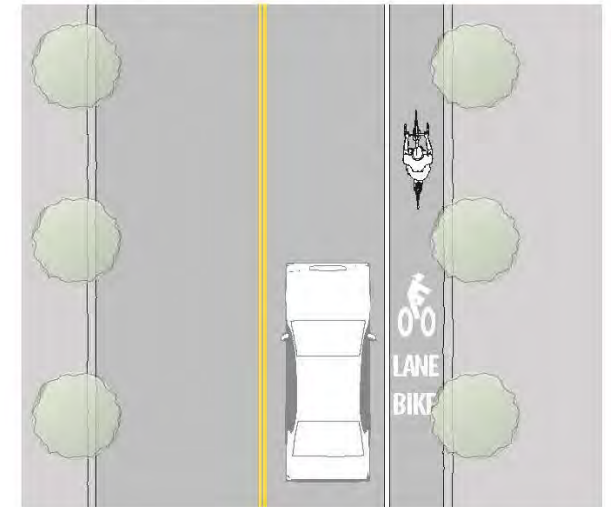


Option C: Class II Bike Lanes

- 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



Class II - On-Street Bicycle Lane



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

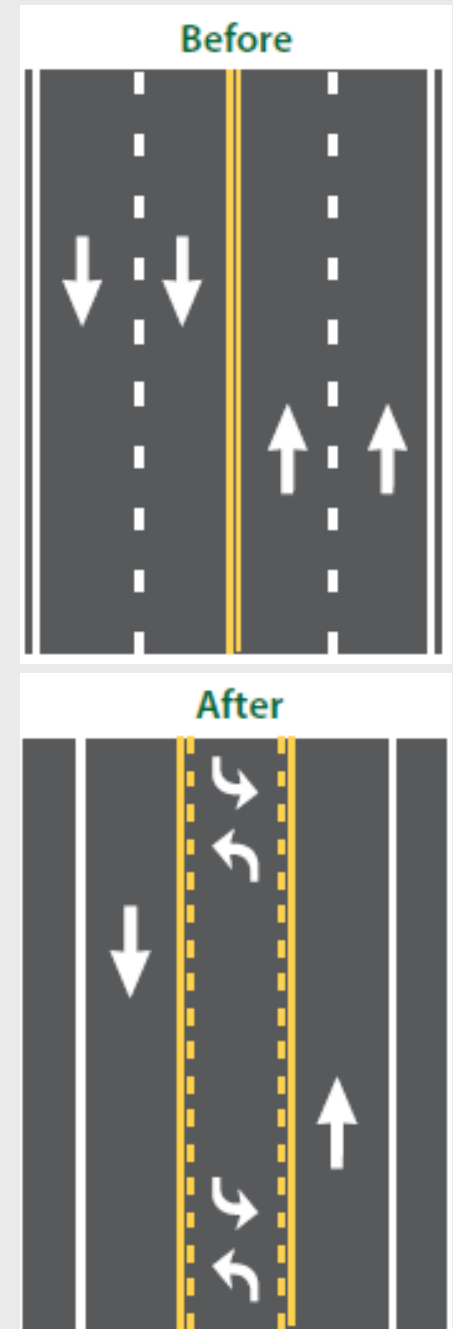
Option G: Median Cycle Track



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

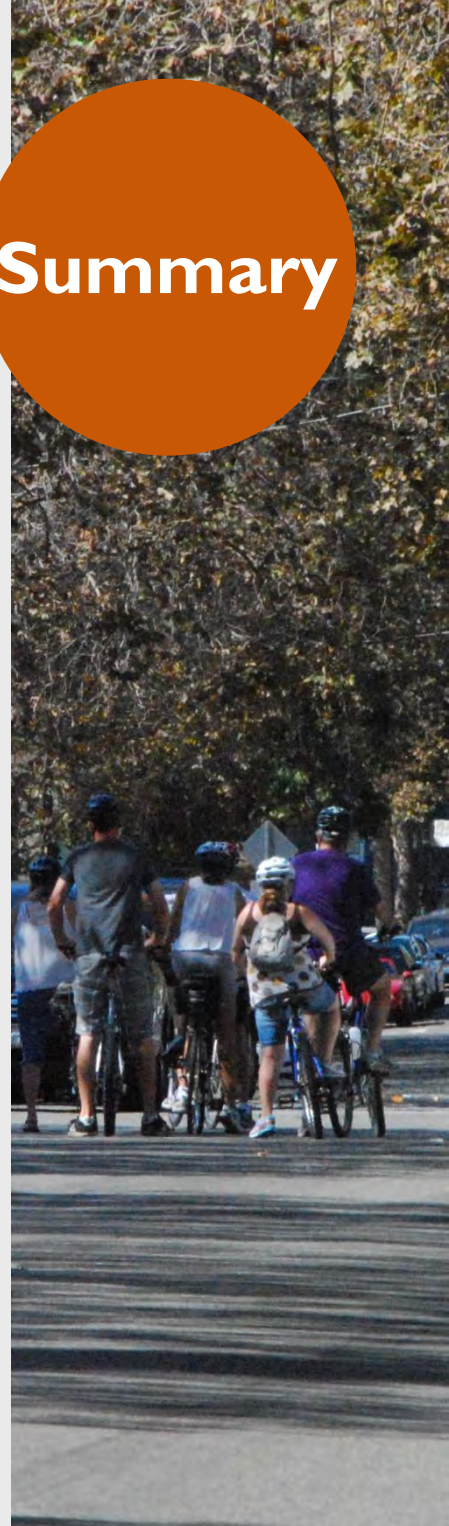
FHWA identifies volumes below 20,000/day as feasible

| 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

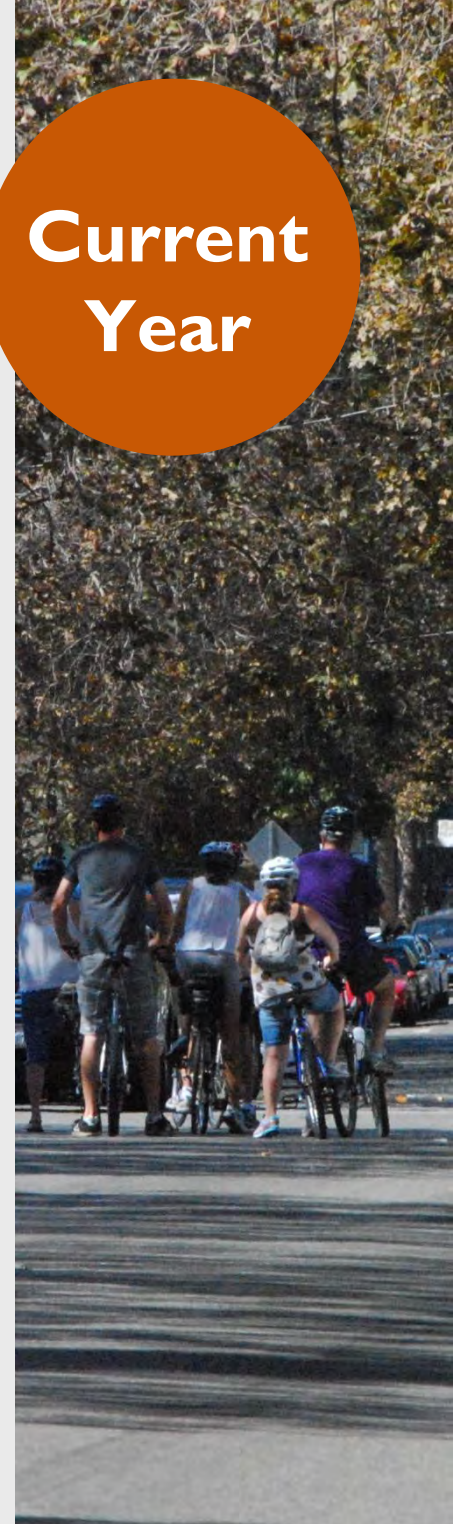
Summary



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

Current
Year



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

Year
2035
Conditions



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. |

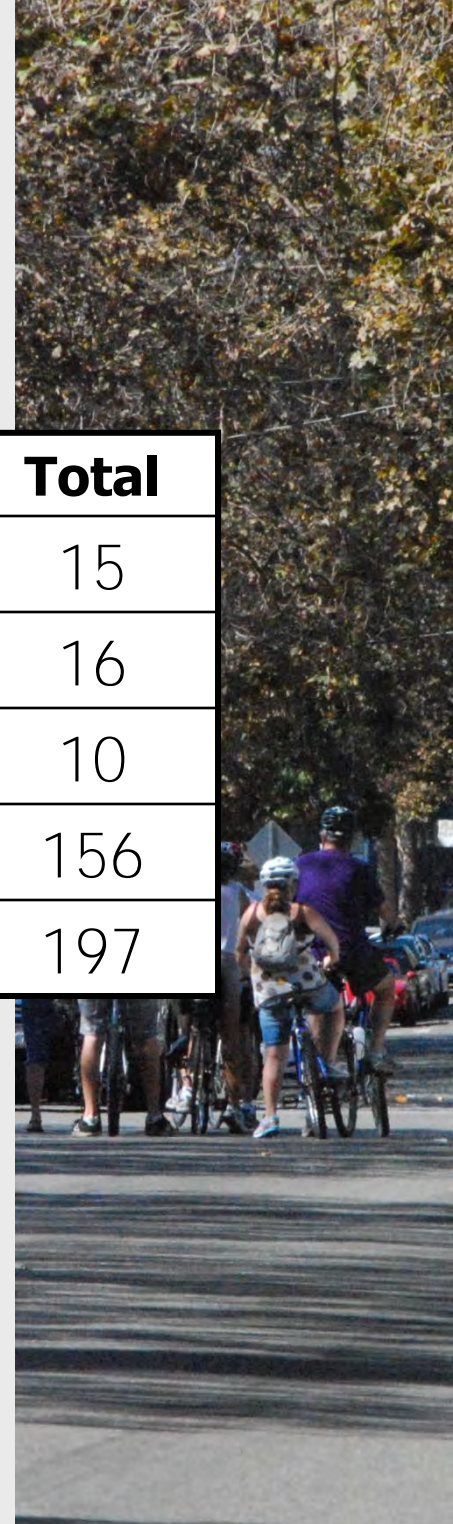
Notes:

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 |



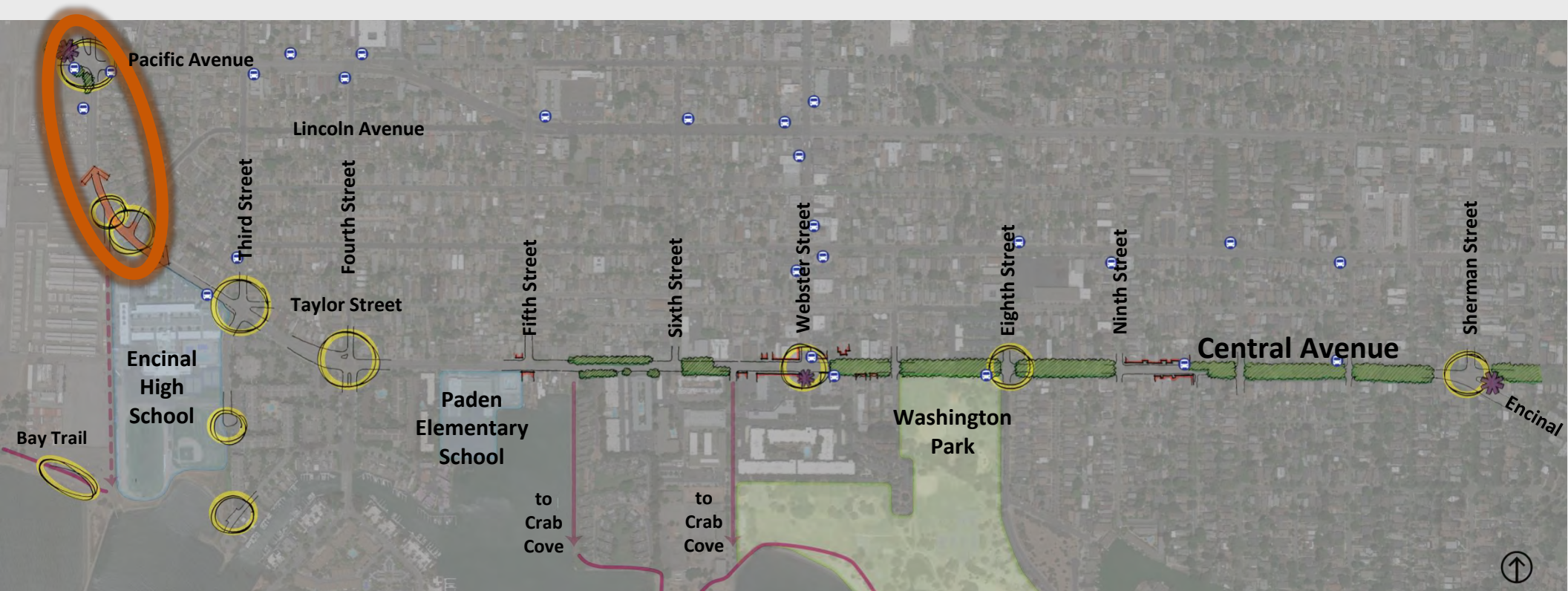
Preferred Options: Corridor Segments



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)



Central Avenue Complete Street Concept Proposal

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



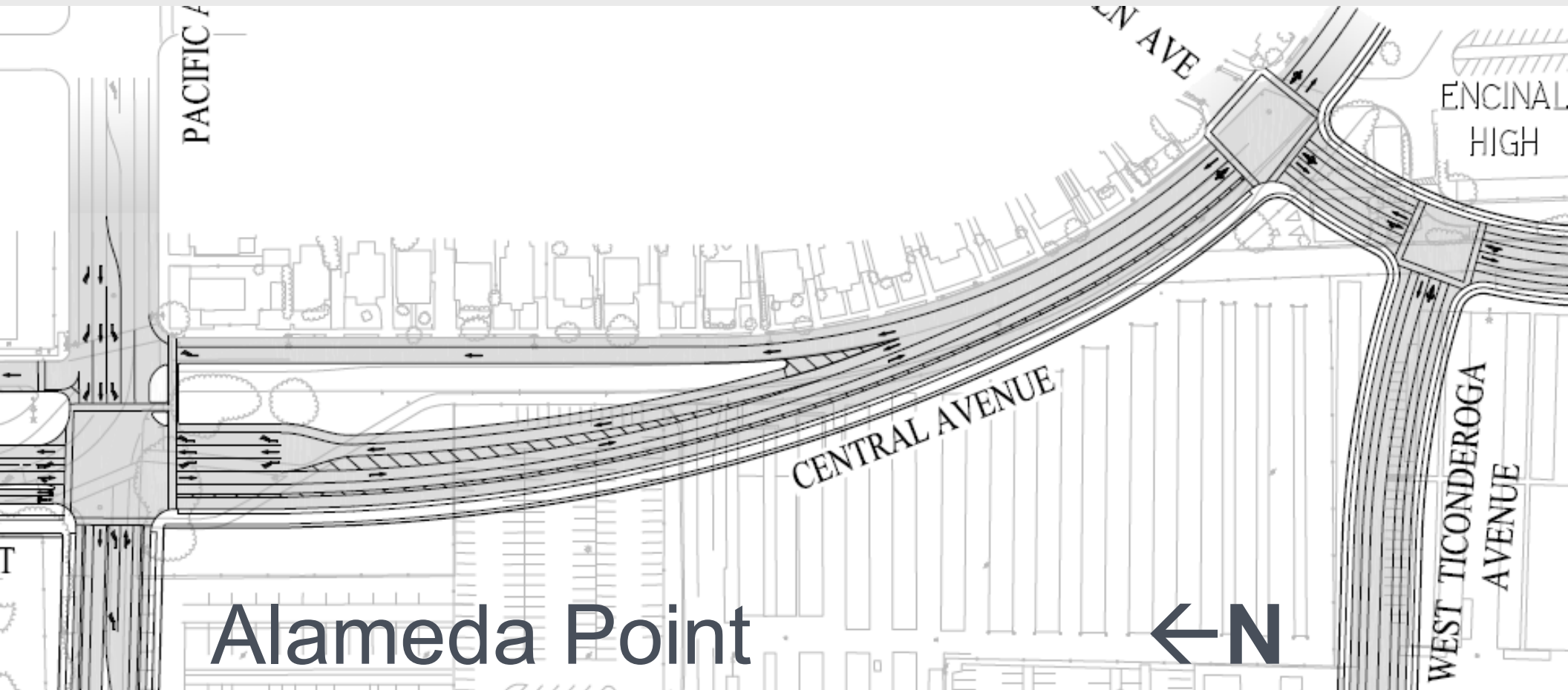
Central Ave @ Pacific Main



1. Alameda Point

Master Infrastructure Plan

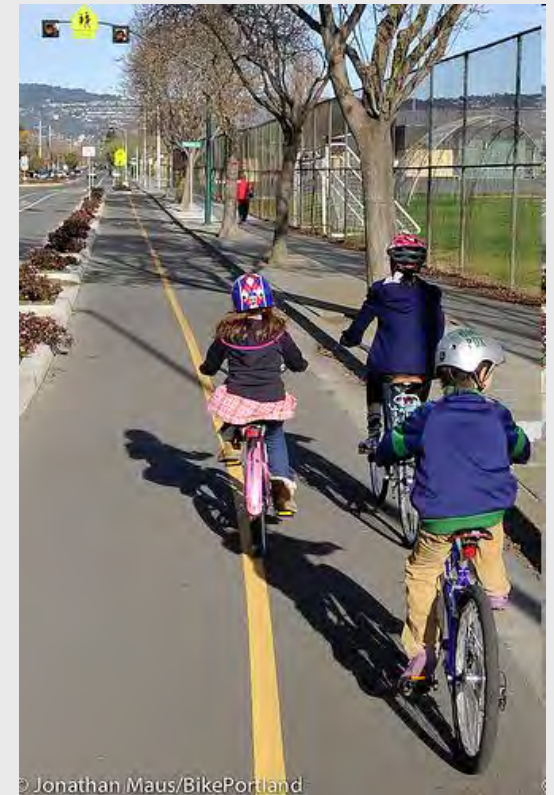
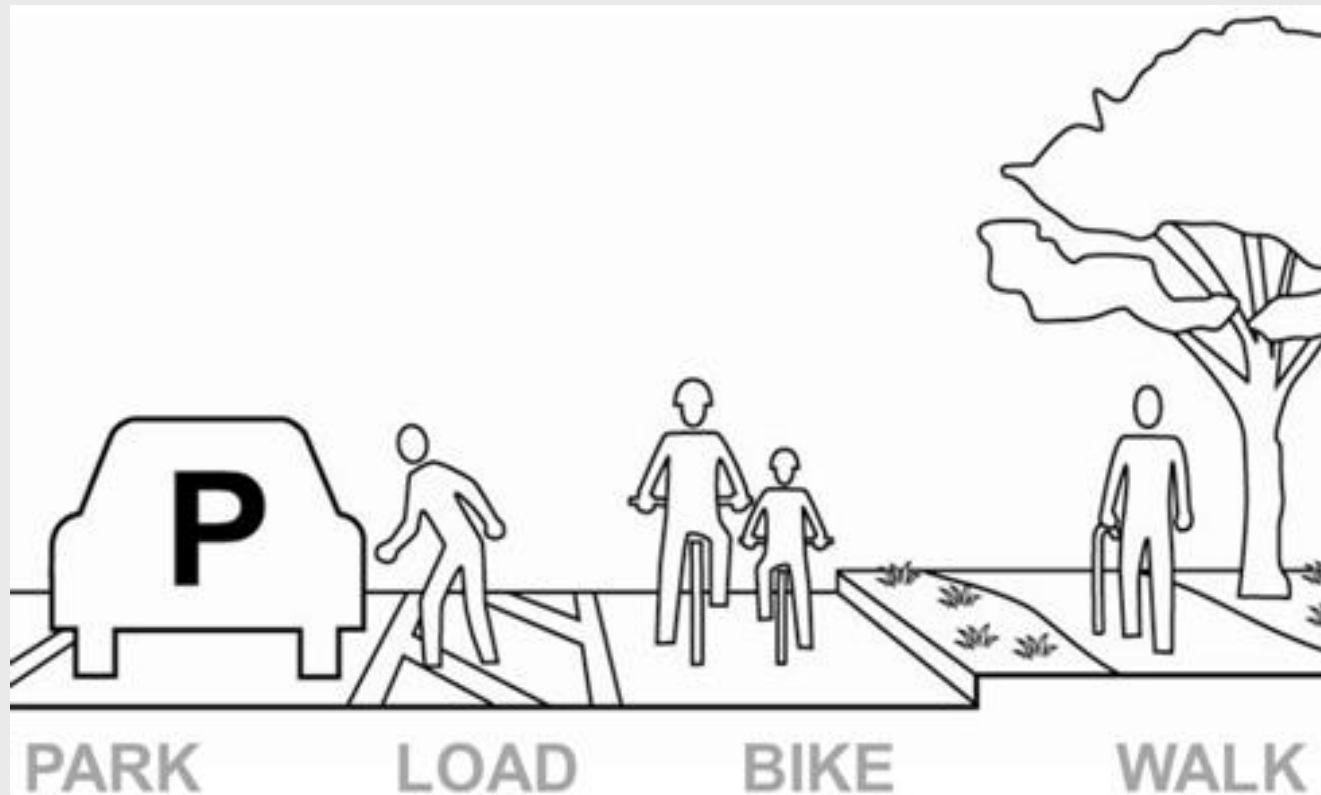
- Preliminary Concept for Pacific/Main to Lincoln



Source: Alameda Point Master Infrastructure Plan (2014)

1. Pacific/Main to Lincoln

- Preliminary Concept: Cycle Track
+ Class 2 Bike Lanes
= Fernside Blvd. model

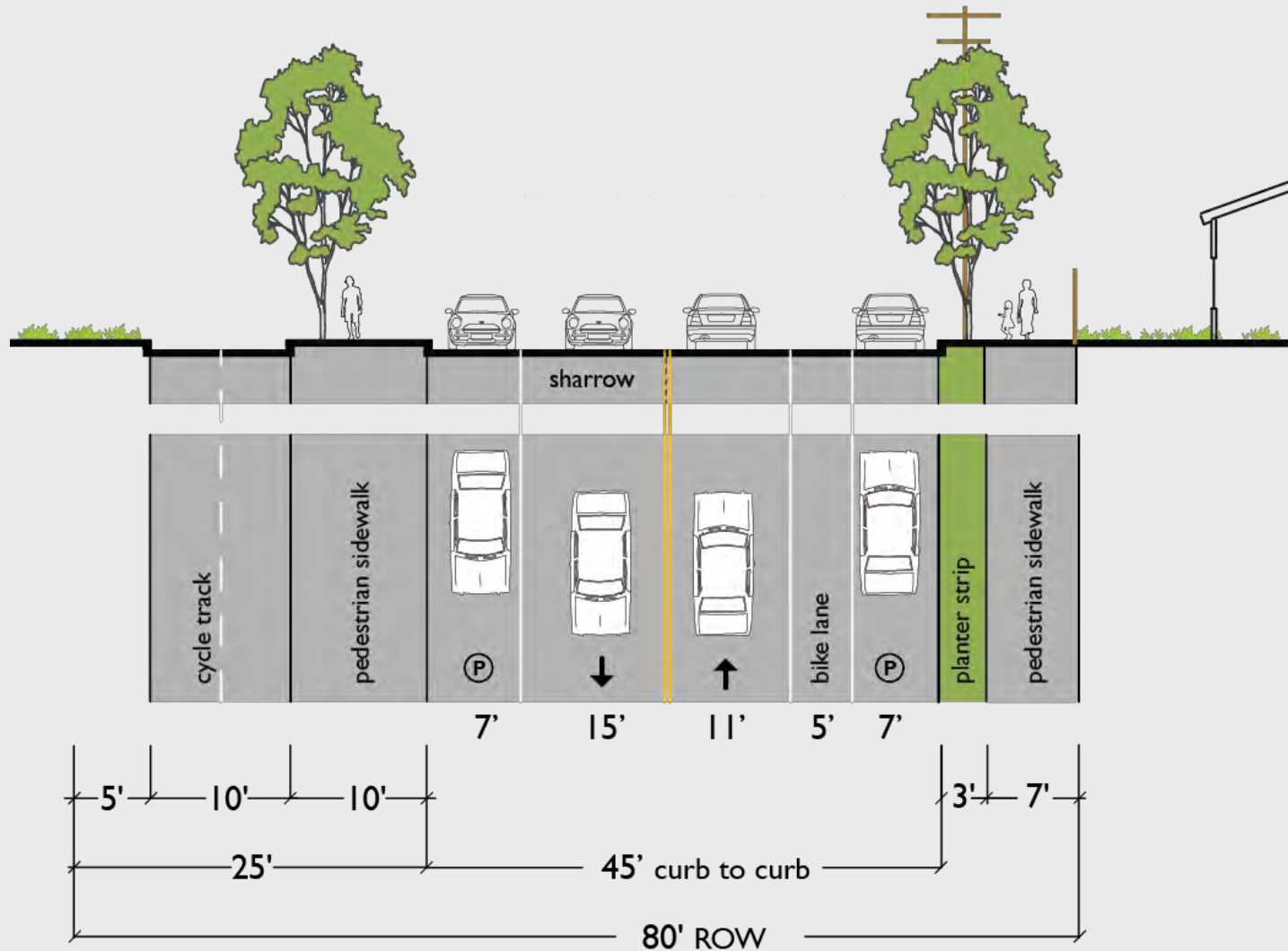


Preferred Options: Corridor Segments



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

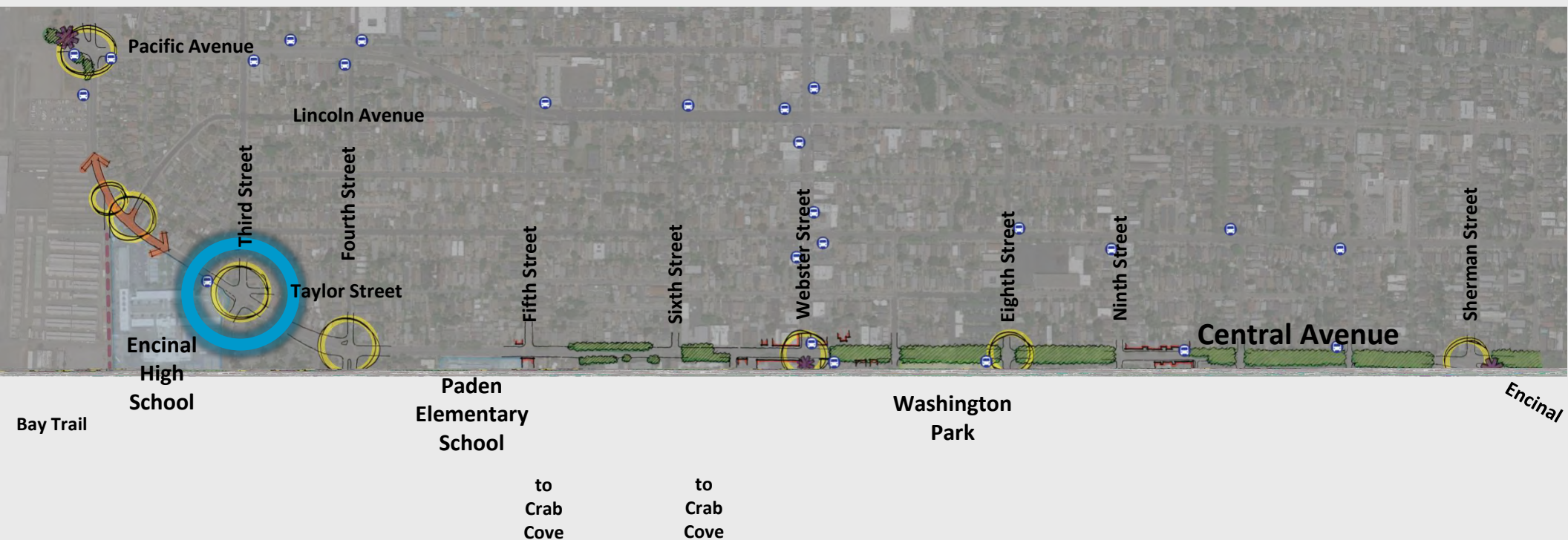
Corridor Segments: 2. Boat Ramp Access Road to Third/Taylor



proposed right-of-way realignment

Previous Planning Efforts

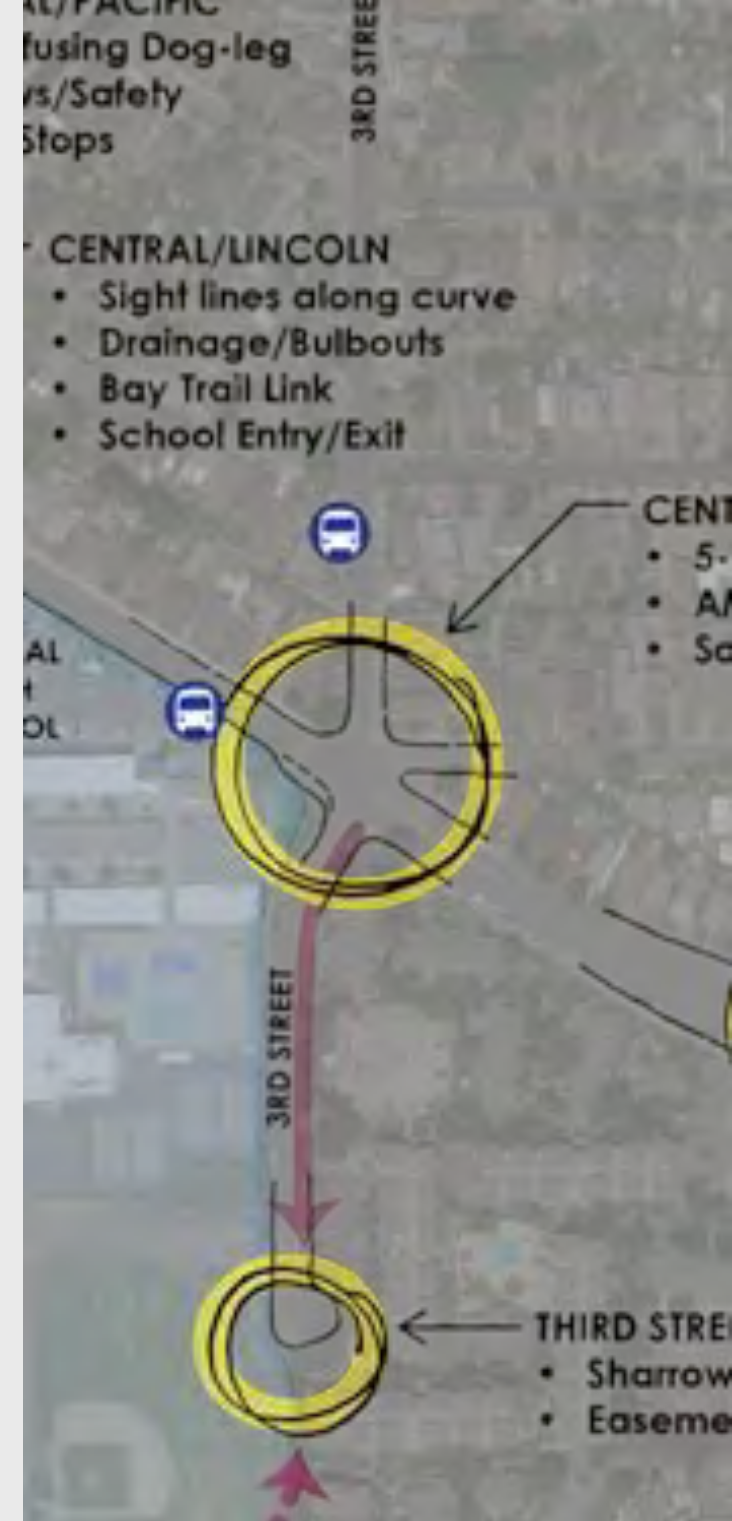
- Third/Taylor Intersection Improvements (2013)



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?

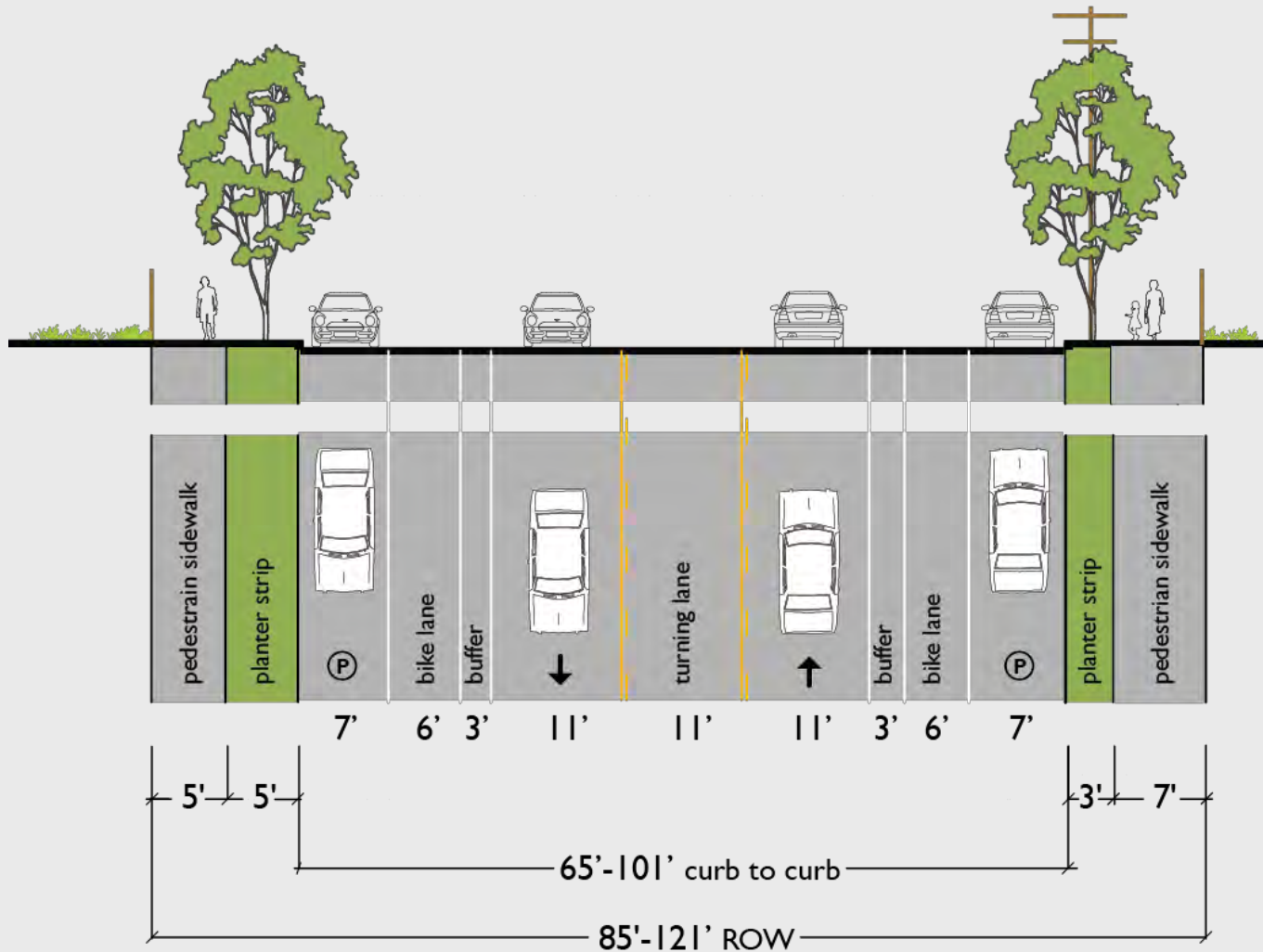


Preferred Options: Corridor Segments



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

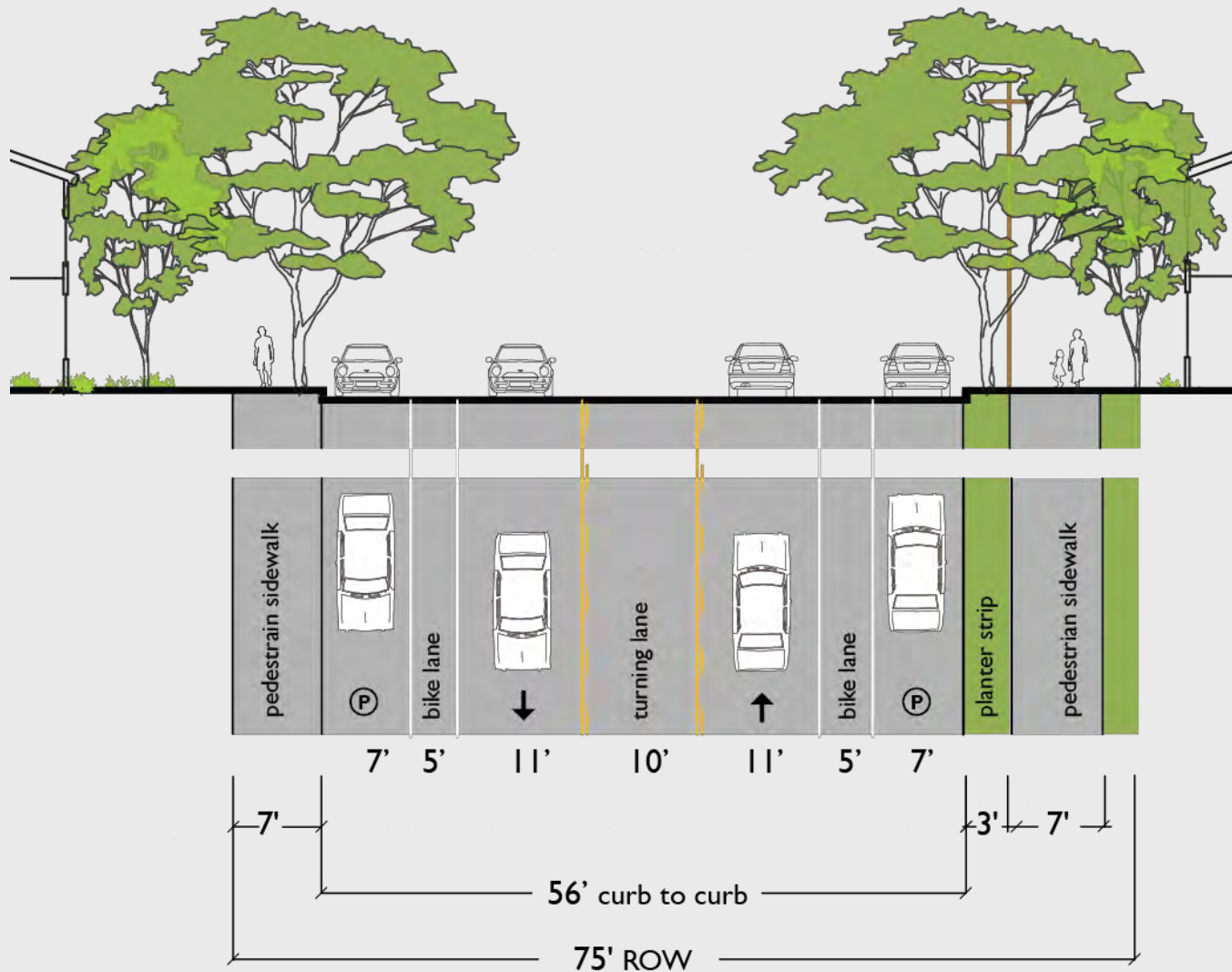


Preferred Options: Corridor Segments



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



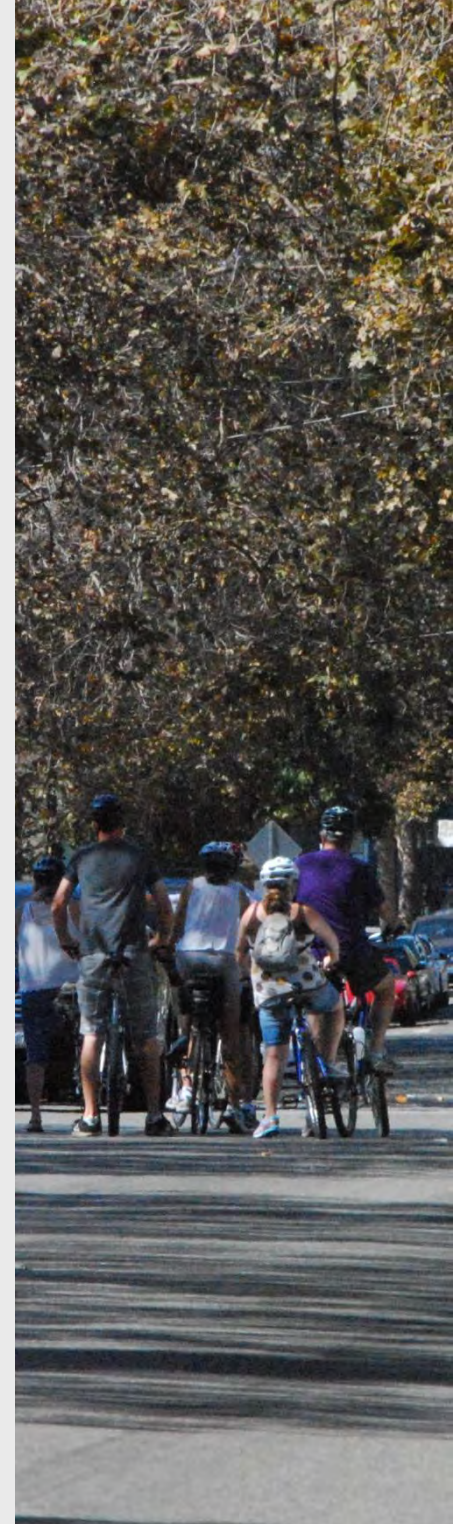
proposed curb-to-curb realignment

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, June 4
- Open Forum: <http://alamedaca.gov/public-works/open-forum>
- Community Meeting #3: Preferred Concept, September 17
- Transportation Commission: November 18



Comments or Questions?

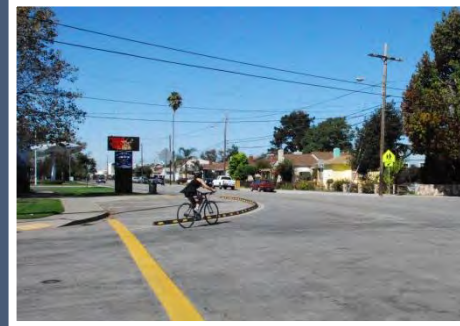
- Open forum:

<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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