

Central Avenue Proposed Street Concept

Community Workshop #3 | September 17, 2015

Project Team

- **City of Alameda Staff**

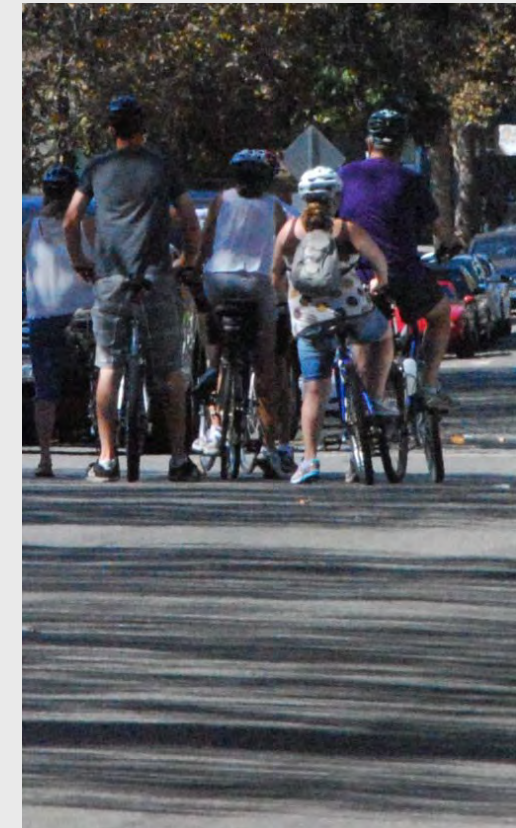
- Gail Payne, Public Works Transportation Coordinator

- **PlaceWorks**

- Sarah Sutton, Principal-in-Charge, Landscape Architect
- John Hykes, Senior Associate, Landscape Architect
- Christine Wilson, Project Landscape Designer

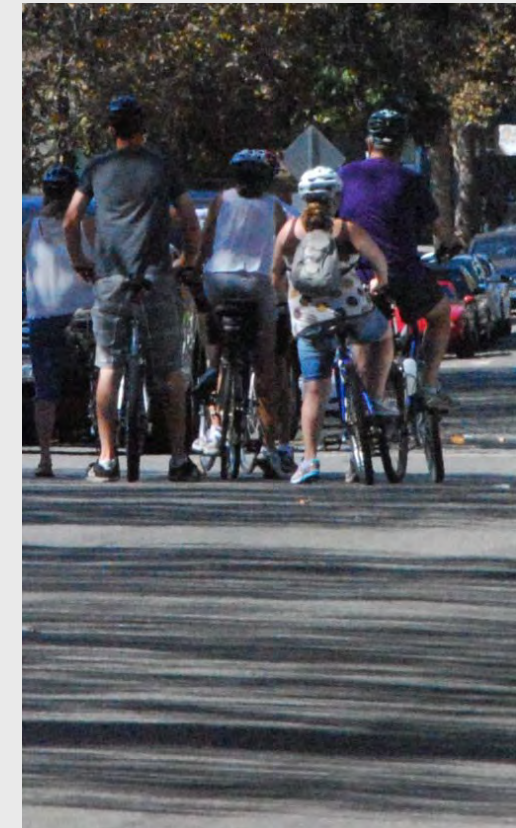
- **Kittelson & Associates**

- Alice Chen, Principal Planner
- Laurence Lewis, Associate Transportation Planner
- Erin Ferguson, PE, Associate Engineer
- Amy Lopez, Transportation Analyst



Agenda

- Project Overview
- Approaches
- Preliminary Recommendation
- Traffic Analysis
- Next Steps



Project Overview: Location/Context

- Multiple schools (approx. 4500 students/9 schools), residential area
- AC Transit, truck, commercial and jobs access
- 1.7 mile study area / Partial Caltrans facility – SR 61



Central Avenue Proposed Street Concept

Project Overview: Existing Conditions

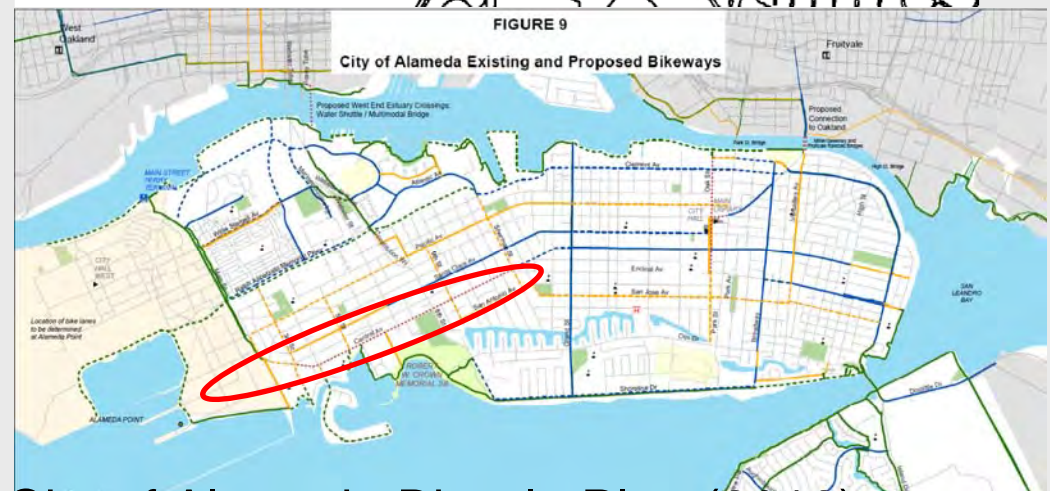
- General Plan - Transportation Element

- Goals

- Circulation
 - Livability
 - Transportation Choices

- Street Classifications

- Truck Route
 - Transit Priority Street
 - Bicycle Priority Street

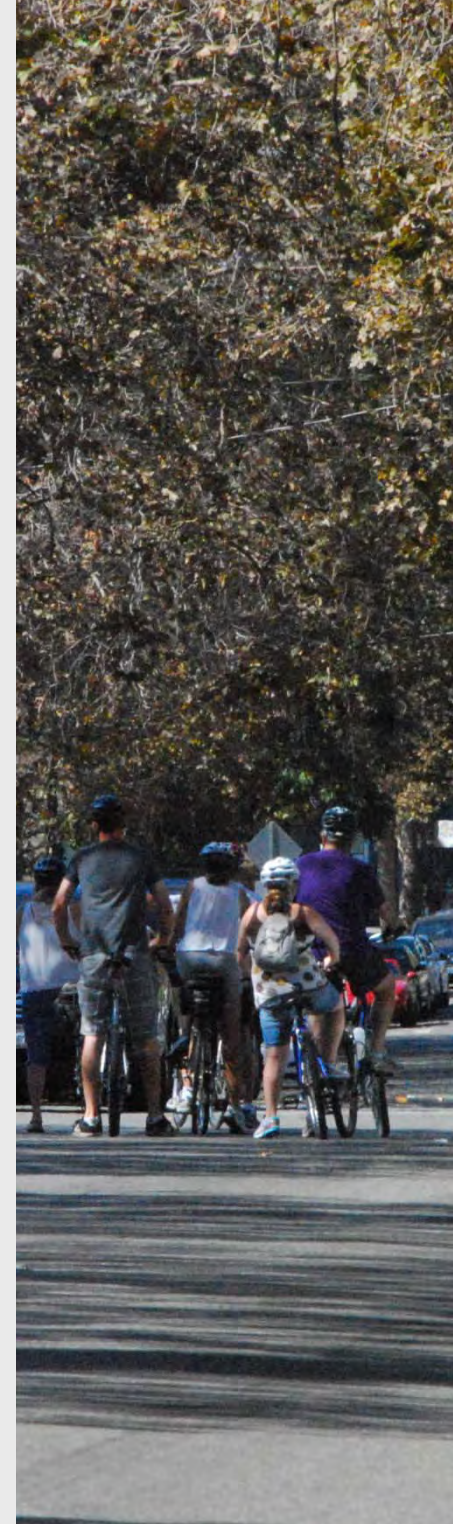
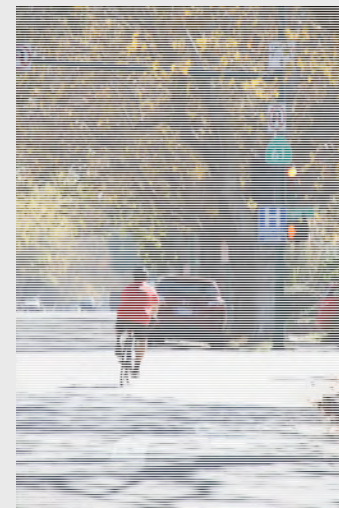


- City of Alameda Bicycle Plan (2010)

Central Avenue Proposed Street Concept

Project Overview: Existing Conditions

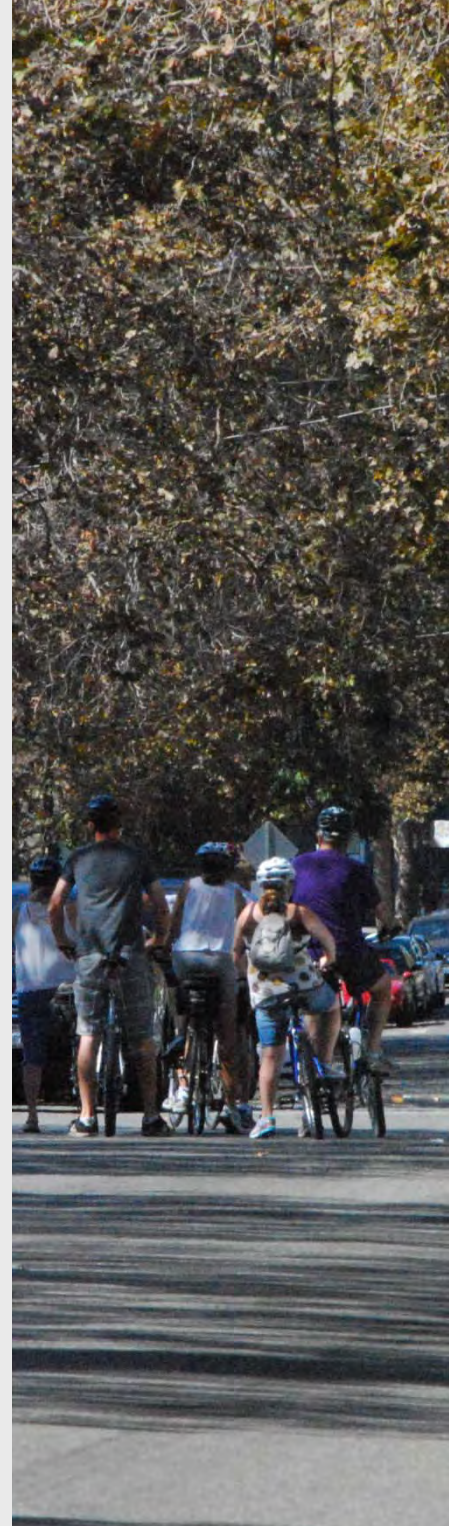
- Roadway Safety
 - Posted Speed Limit: 25 mph
 - Speeds between 30-33 mph
 - 68 collisions over the last 10 years
 - 16 pedestrian-involved injury collisions (1.6 per year)
 - 20 bicycle-involved collisions (2 per year)



Project Goals

Based on
community
input

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



Project Concept Components

- **Pedestrian Improvements**
- **Bicycle Facility Improvements**
- **Center Turn Lane**
- **Streetscape Improvements**
 - gateway, trees, stormwater, landscape
- **Accessibility**
- **Utilities: storm, sewer**
- **Pavement resurfacing**
- **Truck and bus access**



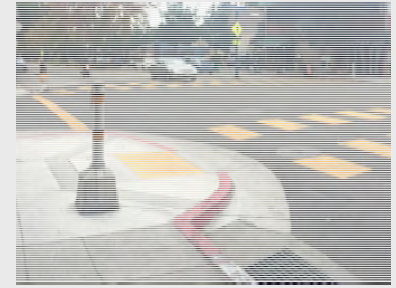
Pedestrian Improvements

Increase visibility of pedestrians:

- High-visibility ladder crosswalks (Like 8th & Santa Clara)
- Rectangular rapid flash beacons (Like Fernside)

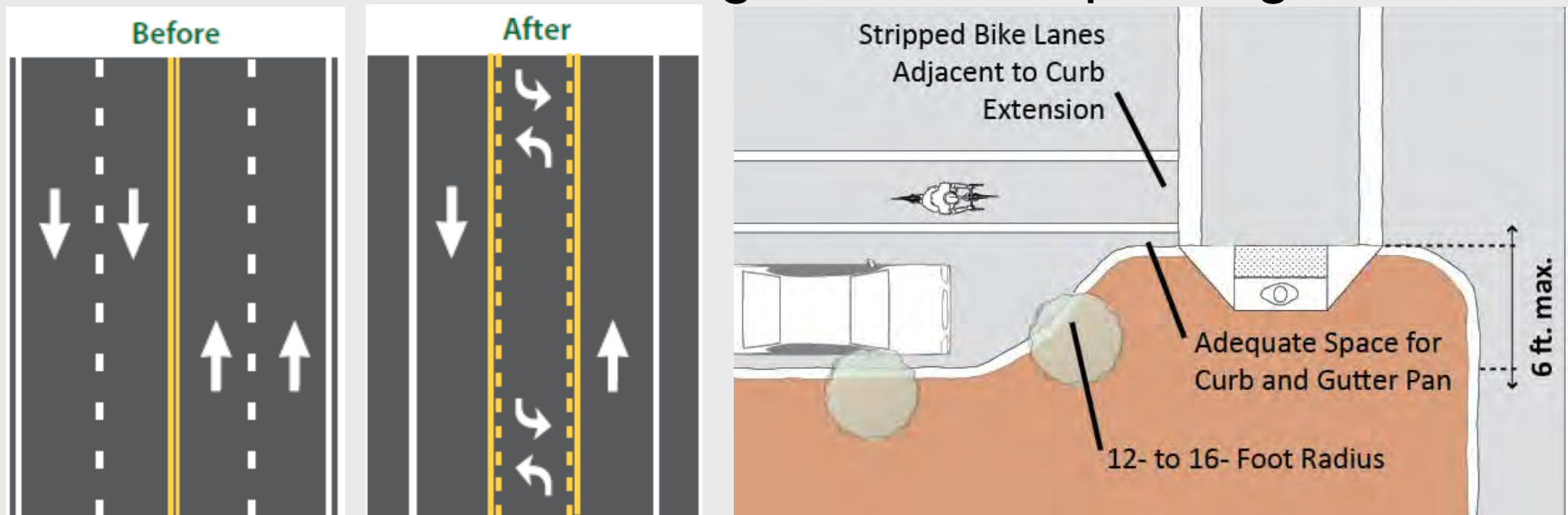


Pedestrian Improvements



Increase visibility of pedestrians

- Center Turn Lane- fewer motor vehicle lanes to cross
- Curb extensions shorten crossing distance and help reduce traffic speeds
- Curb extensions design to use no parking zone



Bicycle Facility Improvements

- 2 Way Cycle Track
- Class II Bike Lanes
 - Striping vs Green Treatment
- Bike Boxes & Intersection Treatments
- Class III Bike Sharrows

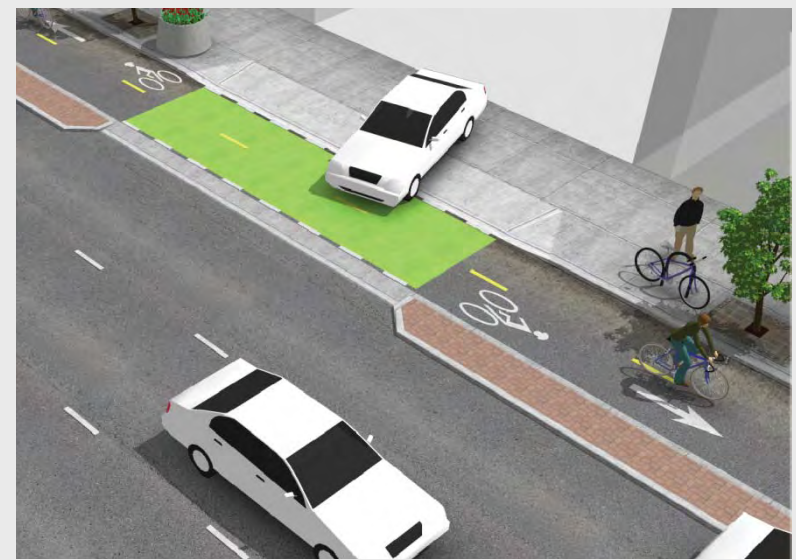


Image Source: Bikeway Design Guide: NACTO

Intersection Markings & Signage



Benefits (from NACTO):

- Raises awareness for both bicyclists and motorists to potential conflict areas.
- Increases the visibility of bicyclists.
- Reduces conflicts between bicyclists and turning motorists.



Design Guidance

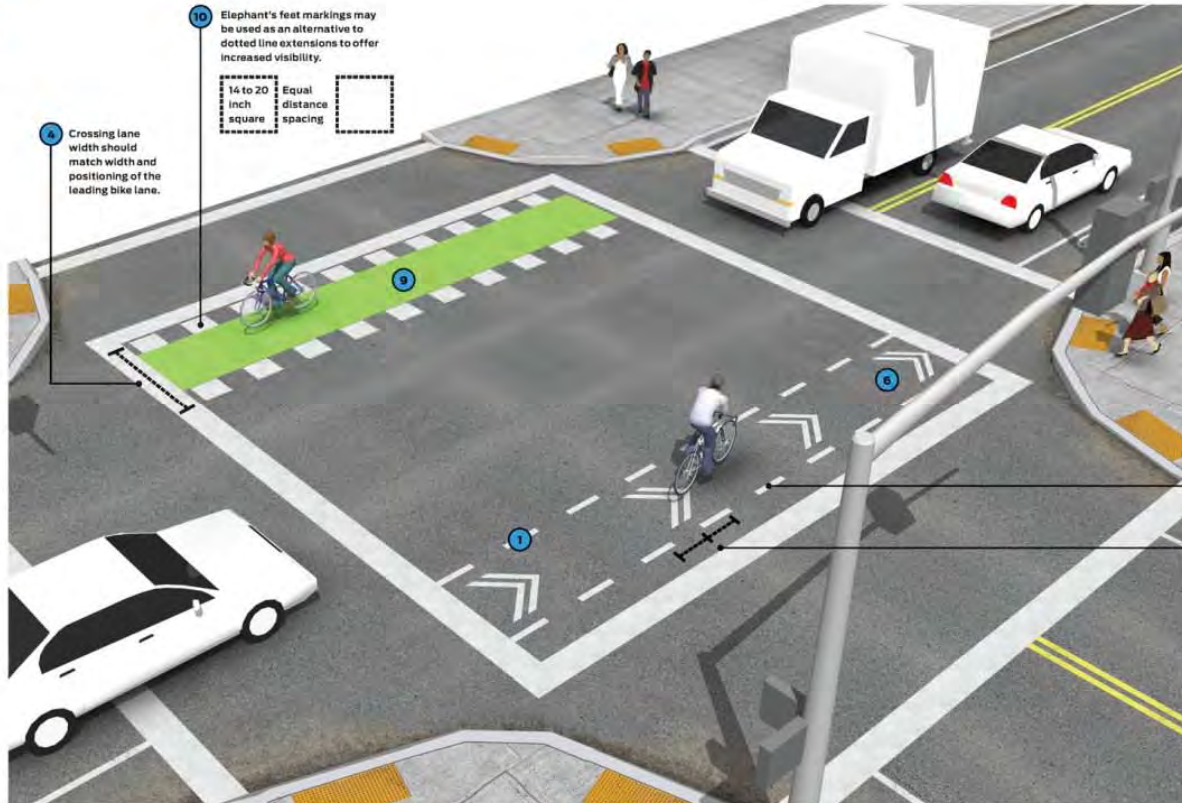
Intersection Crossing Markings

Required Features

- 1 Dotted lines shall bind the bicycle crossing space. See MUTCD Section 3B.08 for dotted line extensions through intersections.⁶⁴
- 2 Striping width shall be a minimum of 6 inches adjacent to motor vehicle travel lanes and shall otherwise match the width and lateral positioning of leading bike lane striping, except when using elephant's feet markings.⁶⁵

Recommended Features

- 3 Dotted lines should be 2 foot lines with 2 to 6 foot spacing. Markings should be white, skid resistant and retro-reflective.
- 4 Crossing lane width should match width and positioning of the leading bike lane.
- 5 On crossings of two-way paths and cycle tracks, markings should indicate that there is two-way traffic either by marking the path center line through the intersection, or by marking bicycle silhouettes and/or chevrons in opposite directions in the two lanes. See Two-Way Cycle Tracks.



Optional Features

- 6 Chevrons may be used for increased visibility within conflict areas or across entire intersections. Placement shall be in the middle of the moving lanes, and close to crosswalks.
- 7 Shared lane markings (MUTCD Figure 9C-9) may be used for increased visibility within conflict areas or across entire intersections. Placement shall be in the middle of the moving lanes, and close to crosswalks.⁶⁶
- 8 Helmeted rider or bicycle symbol pavement markings may be used for increased visibility within conflict areas or across entire intersections. Placement should consider a rotated symbol facing cross-traffic in the middle of the bicycle lane.⁶⁷
- 9 Colored pavement may be used for increased visibility within conflict areas or across entire intersections.⁶⁸
- 10 Elephant's feet markings may be used as an alternative to dotted line extensions to offer increased visibility. If used, the markings should be 14 to 20 inches square, with equal distance spacing between markings. Markings should be positioned on outside of lane.⁶⁹
- 11 Combinations of several of the listed strategies may be considered to increase visibility.
- 12 Yield Lines, also known as "Sharks Teeth" may be used when crossing driveways and alleyways to mark the edge of the bike lane.⁷⁰

2 Desired minimum stripe width: 6 inches

3 Dotted lines should be 2 foot lines with 2 to 6 foot spacing.



Image Source: Bikeway Design Guide: NACTO

Streetscape Improvements

- **Trees:** maintain and improve tree canopies
- **Gateway:** Webster Street visioning effort
- **Stormwater Management:** rain garden curb extensions, bio-filtration trenches, permeable pavers in parking lanes



Preliminary Recommendations:

- Vehicle Travel Lanes and Bicycle Facilities Diagram



Federal Guidelines:

Federal Highway Administration (FHWA) identifies volumes below 20,000/day as feasible for lane reduction.

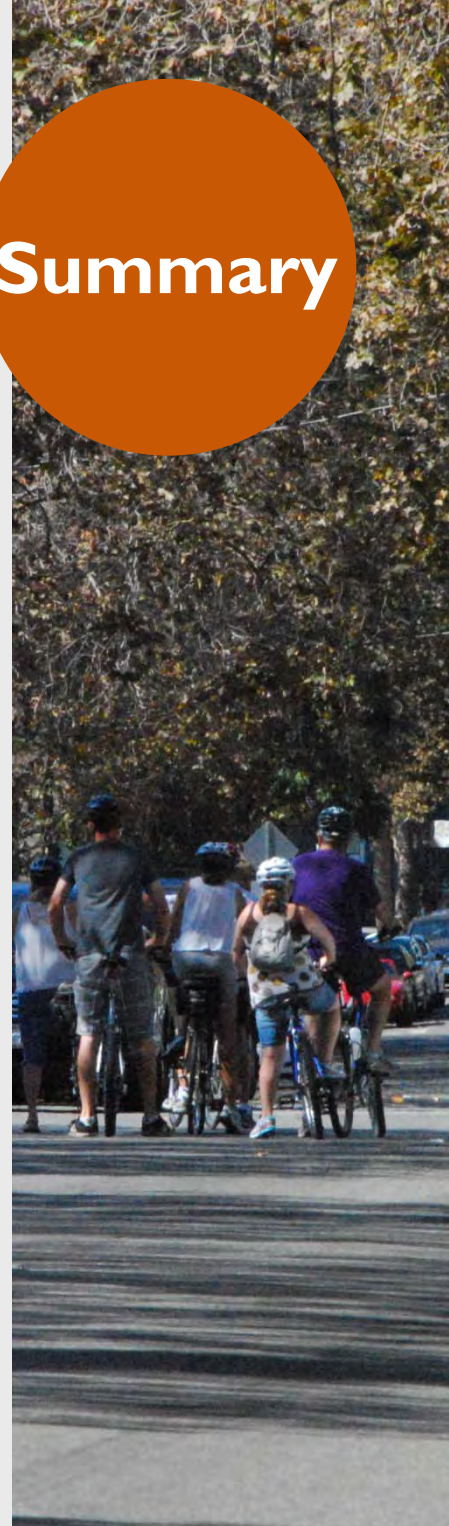
Street Name	Veh/Day
Atlantic Ave. (Buena Vista to Constitution)	10,956
Broadway (Santa Clara Ave to Otis Dr)	10,552
Fernside Blvd. (Tilden Way to High St)	8,550
Central Avenue	9,327
Central Avenue: FUTURE (average)	12,000
Central Avenue: FUTURE (max.)	16,000

Lane Reduction Benefits

According to FHWA:

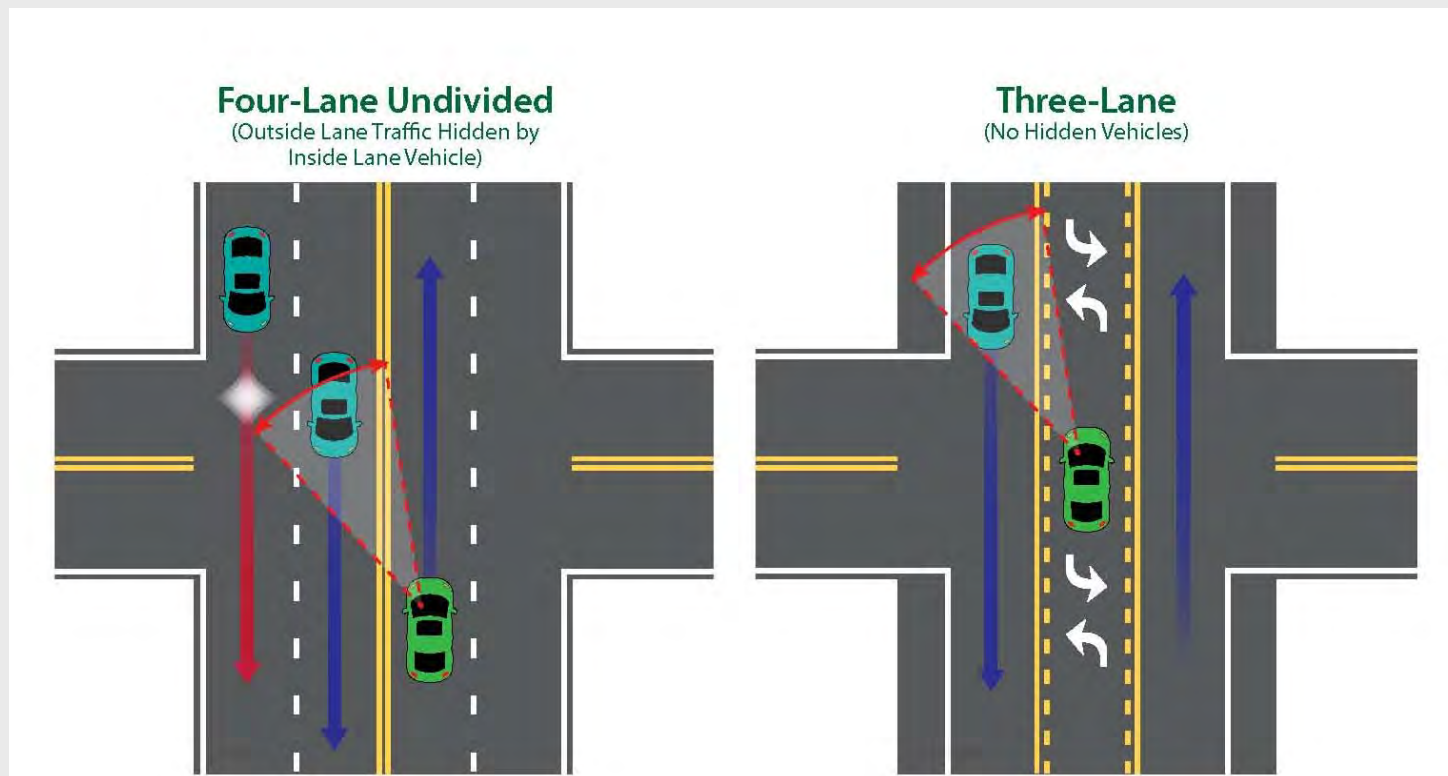
- Allocate space and improve circulation for bicyclists
- Reduce collisions by 20% with a center left-turn lane
- Reduce speeds by 3 to 5 miles per hour
- Smooth travel flow for all modes

Summary



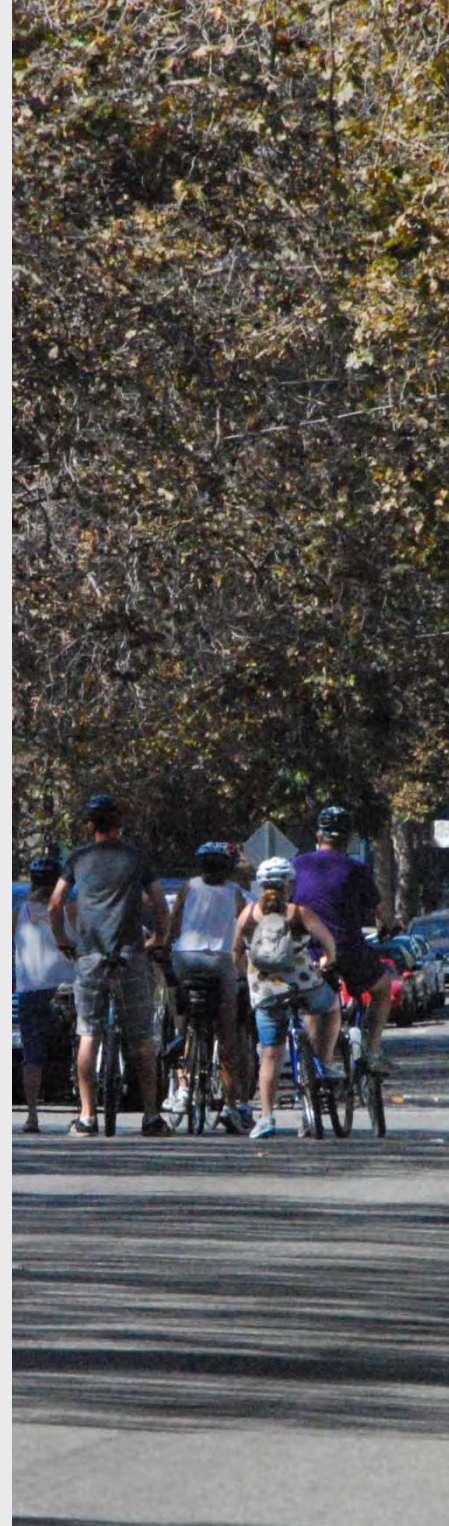
Automobile Safety Benefits

- Simpler crossings for side street vehicles
- Fewer conflict points for sideswipe and rear-end collisions
- More visibility for left turning vehicles



Pedestrian and Bicyclist Safety and LOS Benefits

- Slower vehicle speeds lead to fewer and less severe crashes
- Fewer motor vehicle travel lanes to cross
- Shorter Pedestrian Crossing Distances
- Provide space for bicycle travel lanes
- More visibility for pedestrians and bicyclists



Project Overview: Corridor Segments



- 1. Pacific/Main to Boat Ramp Access/Lincoln (Alameda Point)**
- 2. Boat Ramp Access/Lincoln to Fourth/Ballena (Cycle Track)**
- 3. Fourth to Sherman/Encinal (Class II Bike Lanes)**

Preliminary Recommendation: Segment 1: Pacific/Main to Lincoln Ave.

- Alameda Point MIP (2014)
 - Shift street towards Alameda Point
 - Remove offset
 - Provide on-street parking on both sides
 - Install bikeway



⇒ Enhance Existing Crosswalk

Gateway/Activity Node

— Existing Bay Trail

◆ Existing Traffic Signal

⊕ Intersection Design

▬ Install New Pedestrian Crossing

★ Enhance Existing AC Transit Bus Stop

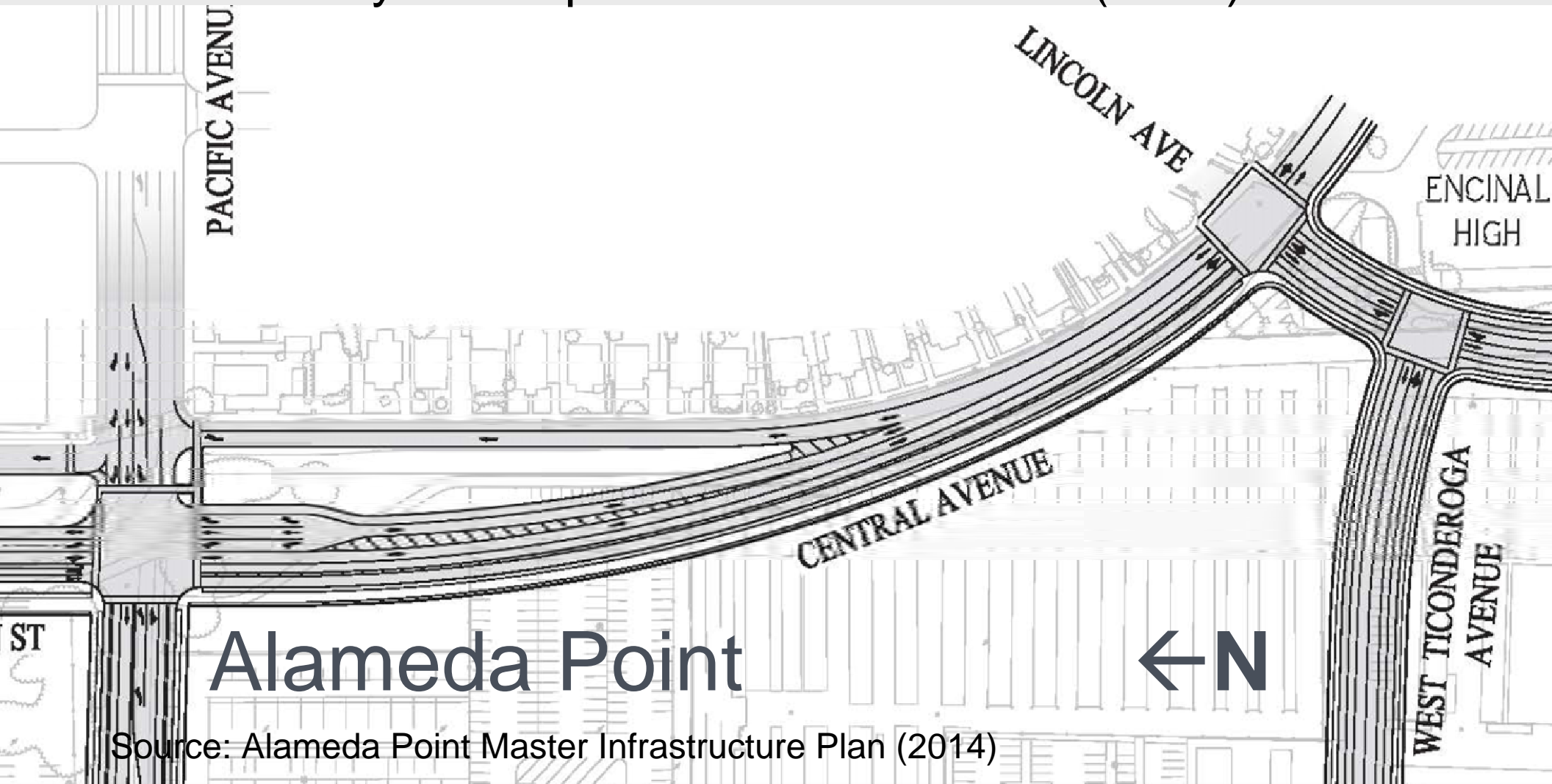
- - - Develop Bay Trail Connection

◆ Proposed Traffic Signal

Alameda Point Frontage

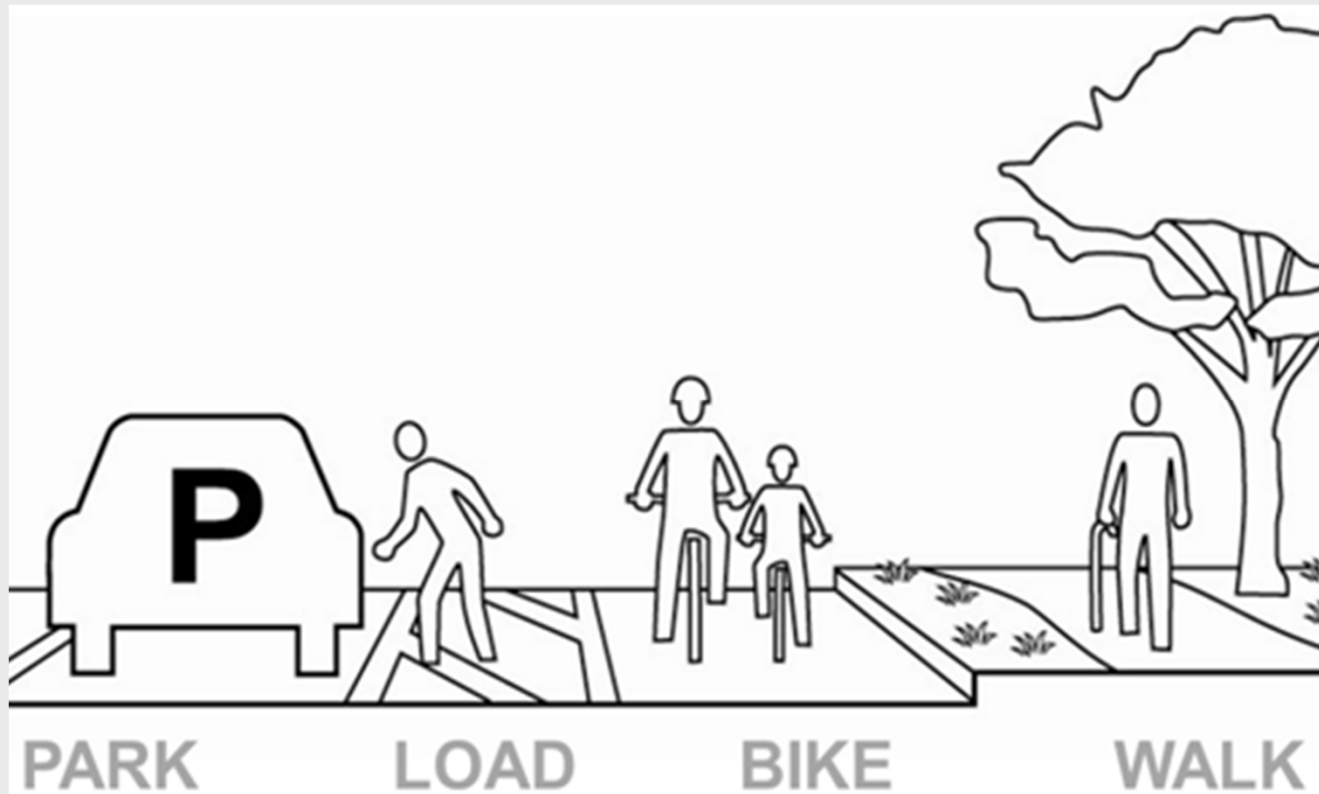
1) Pacific/Main to Lincoln

- Preliminary Concept Alameda Point MIP (2014)



1) Pacific/Main to Lincoln

- Preliminary Concept: Cycle Track and Westbound Class 2 Bike Lane
- = Fernside Blvd. model



Preliminary Recommendation:

Segment 2: Boat Ramp Access/ Lincoln to Fourth



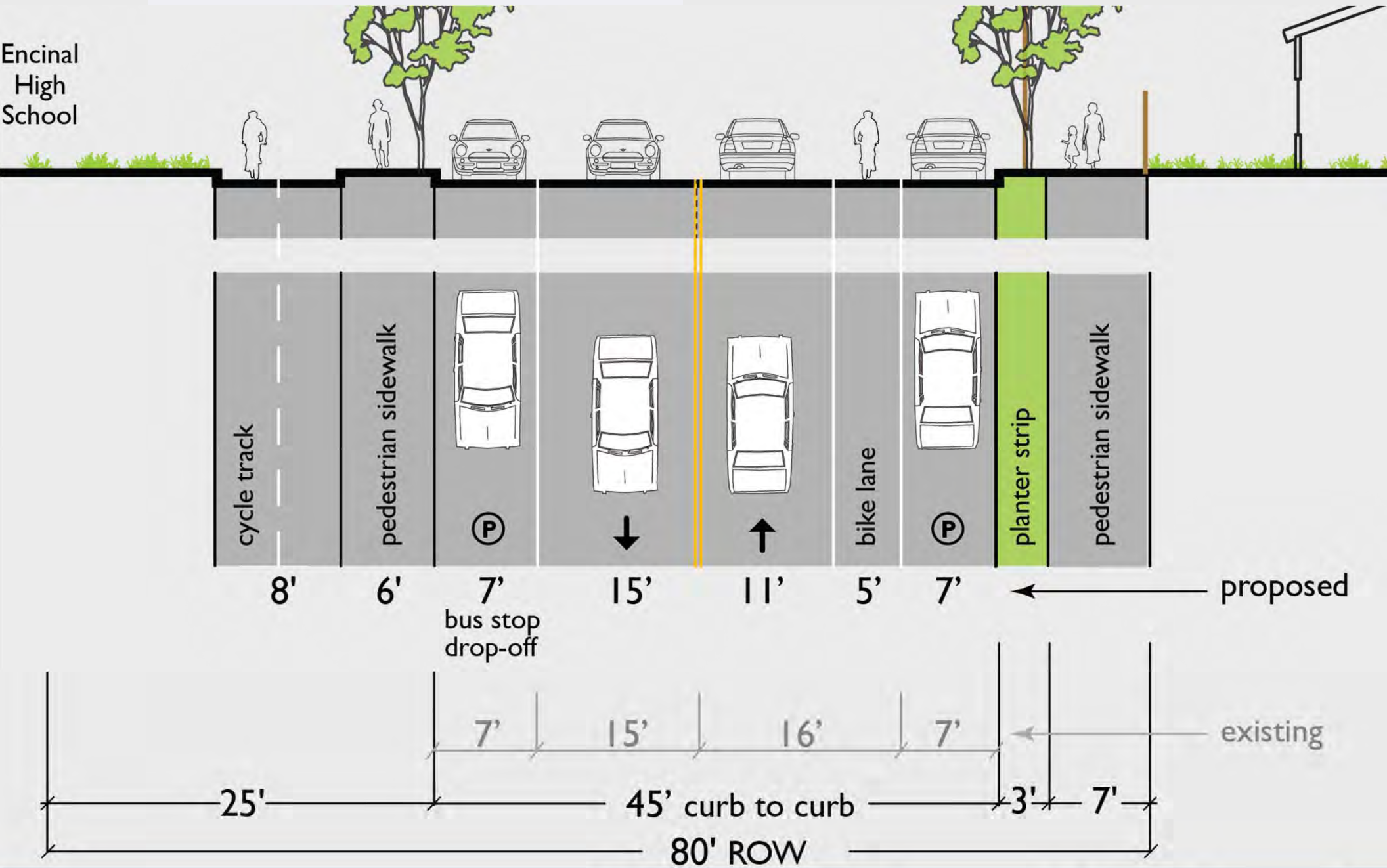
- Enhance Existing Crosswalk
- Install New Pedestrian Crossing
- Gateway/Activity Node
- Enhance Existing AC Transit Bus Stop
- Existing Bay Trail
- Develop Bay Trail Connection
- Existing Traffic Signal
- Proposed Traffic Signal
- Intersection Design
- Alameda Point Frontage

2a)

Boat Ramp Access Road to Third/Taylor

Cycle Track + Bike Lane

Encinal
High
School

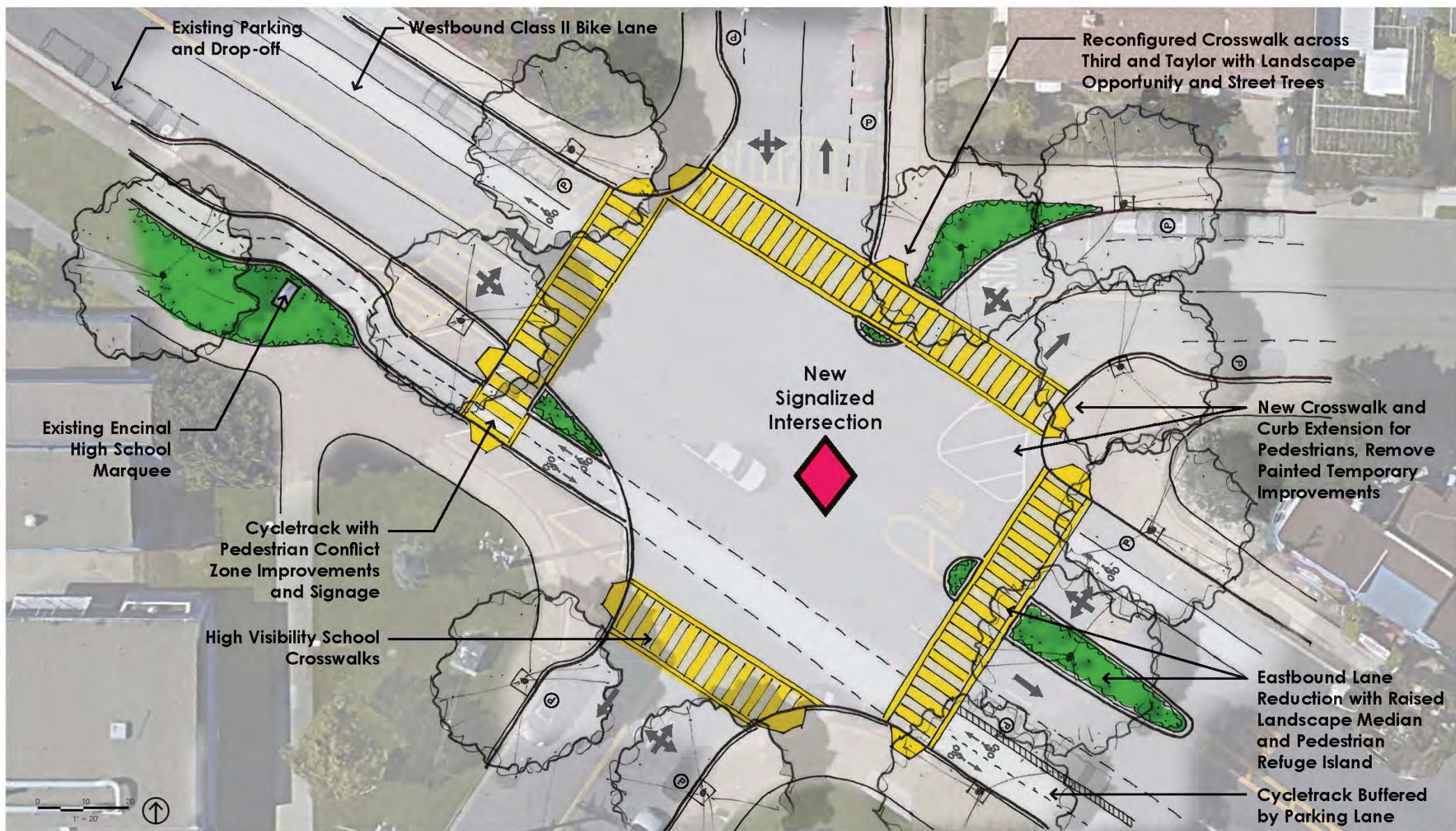


Central Avenue Proposed Street Concept

2a) Third/Taylor Intersection Improvements

- City conducted outreach in 2013
- Installed curb extension on south side
- Little community support for restricting movements to and from Taylor
- New intersection design and traffic signal will help improve pedestrian safety and traffic flow





PLACEWORKS

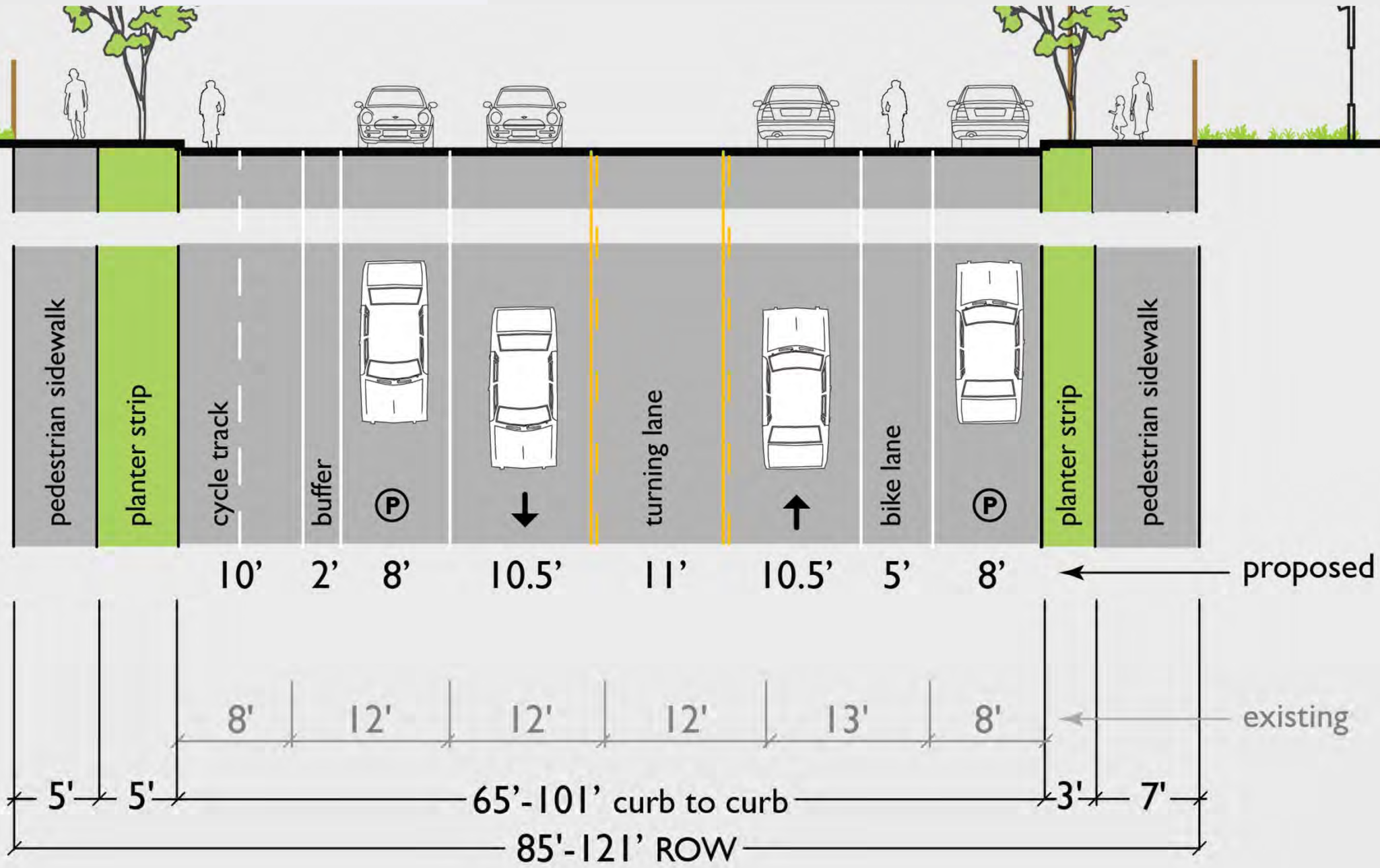
KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

Third Street, Taylor Avenue, and Central Avenue
Central Avenue Complete Street Concept Proposal
SEPTEMBER 2015

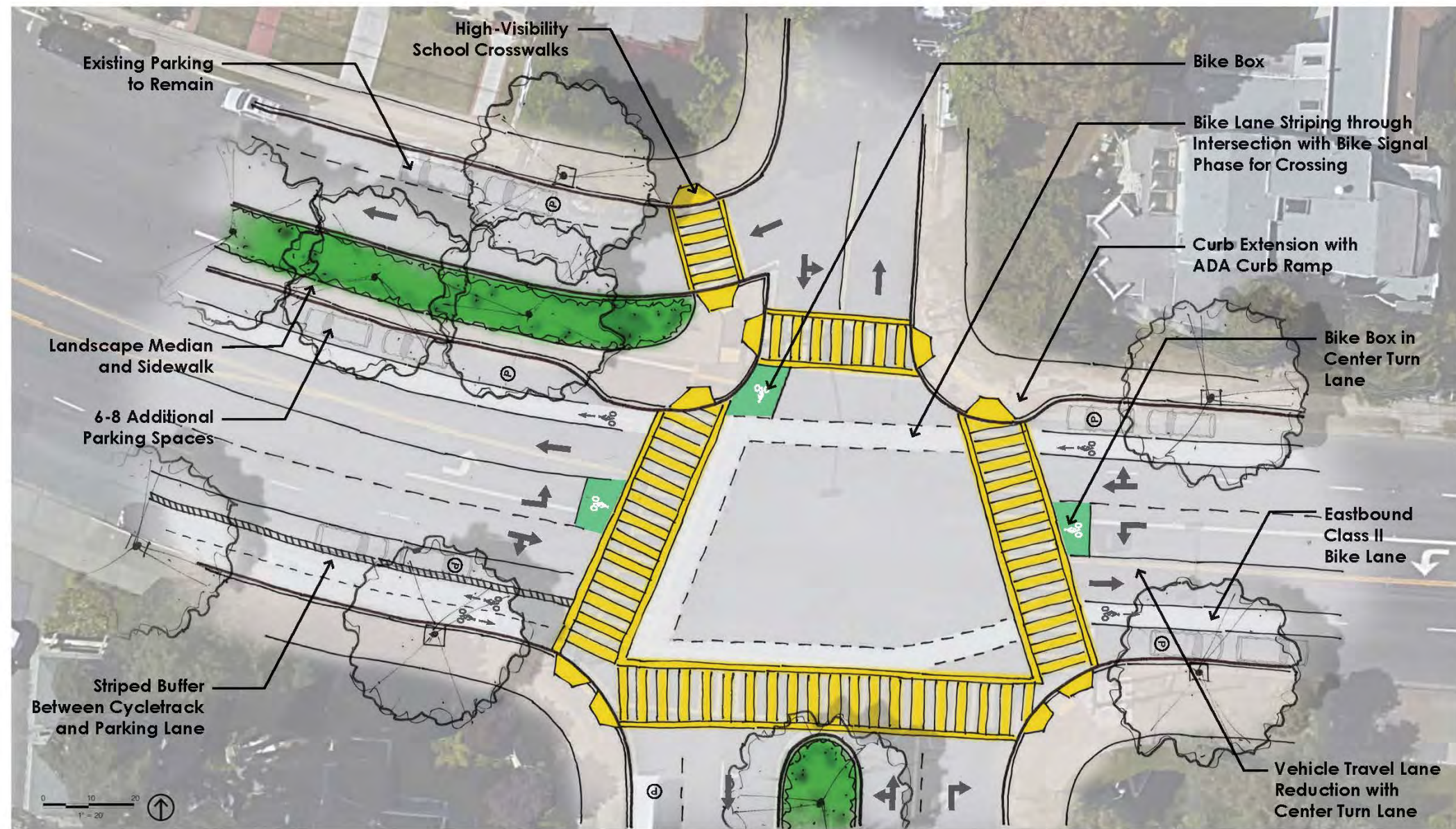
Central Avenue Proposed Street Concept

2b) Third/Taylor to Fourth/Ballena

Cycle Track + Bike Lane



Central Avenue Proposed Street Concept



PLACEWORKS











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Fourth Street and Central Avenue
Central Avenue Complete Street Concept Proposal
SEPTEMBER 2015

Central Avenue Proposed Street Concept

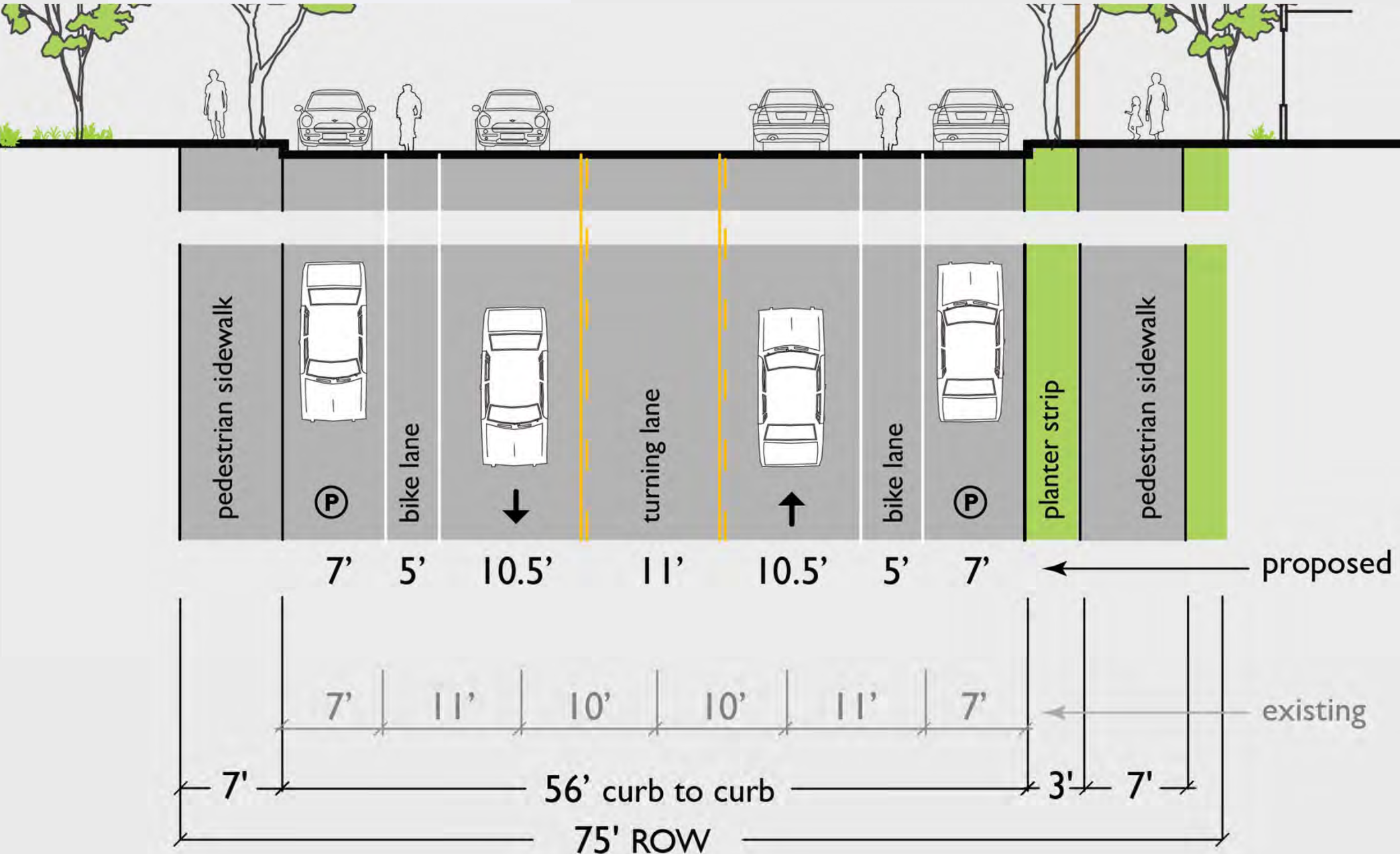
Segment 3: Fourth St. to Sixth St.



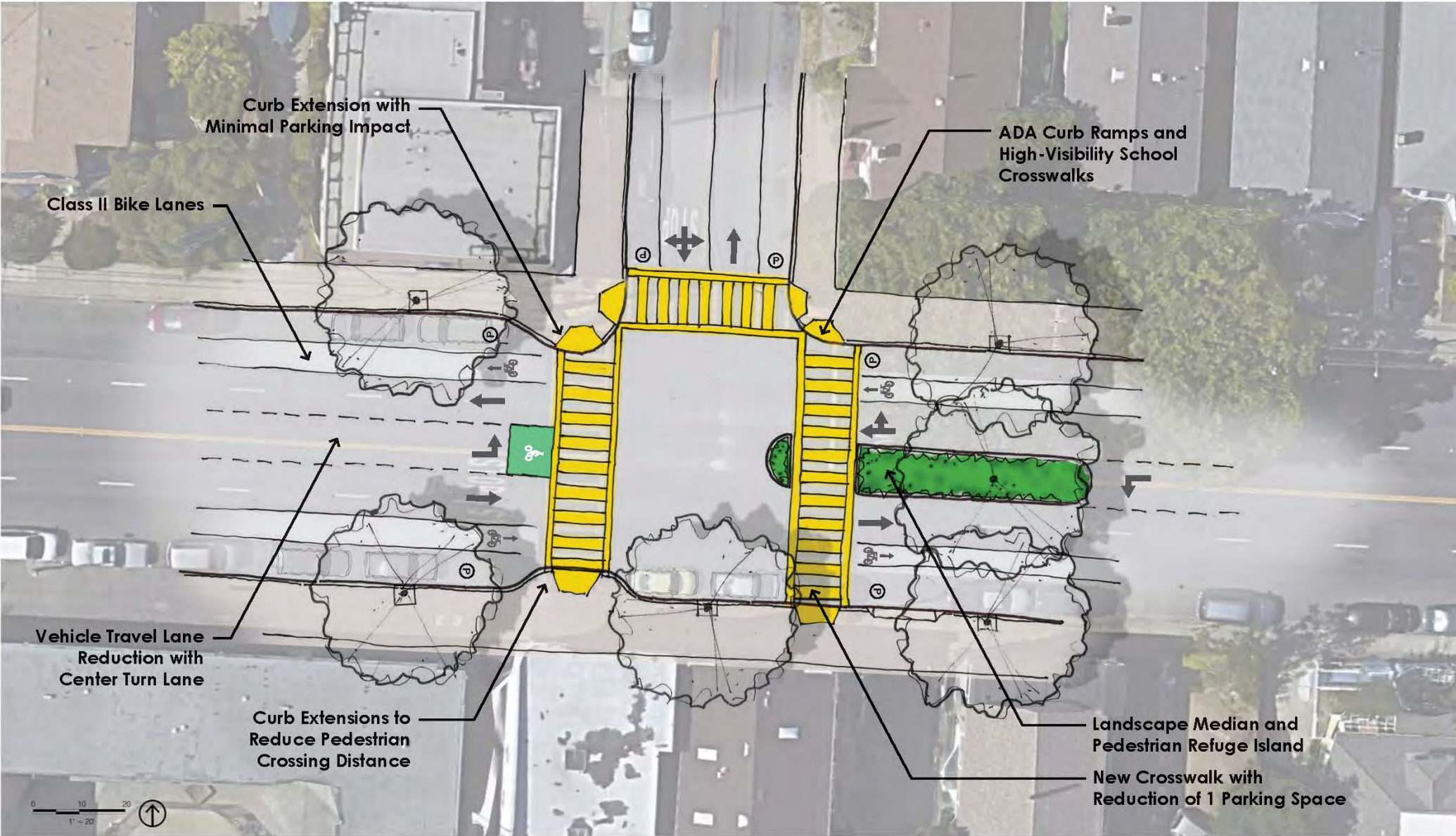
-  Enhance Existing Crosswalk
-  Gateway/Activity Node
-  Existing Bay Trail
-  Existing Traffic Signal
-  Intersection Design
-  Install New Pedestrian Crossing
-  Enhance Existing AC Transit Bus Stop
-  Develop Bay Trail Connection
-  Proposed Traffic Signal
-  Alameda Point Frontage

3) Fourth/Ballena to Sixth Street

Class II Bike Lanes



Central Avenue Proposed Street Concept



PLACEWORKS

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TRANSPORTATION ENGINEERING/PLANNING

Fifth Street and Central Avenue
Central Avenue Complete Street Concept Proposal
SEPTEMBER 2015

Central Avenue Proposed Street Concept

3 Fourth/Ballena to Sherman/Encinal

Class II Bike Lanes



Note: Exceptions @ Webster & Eighth

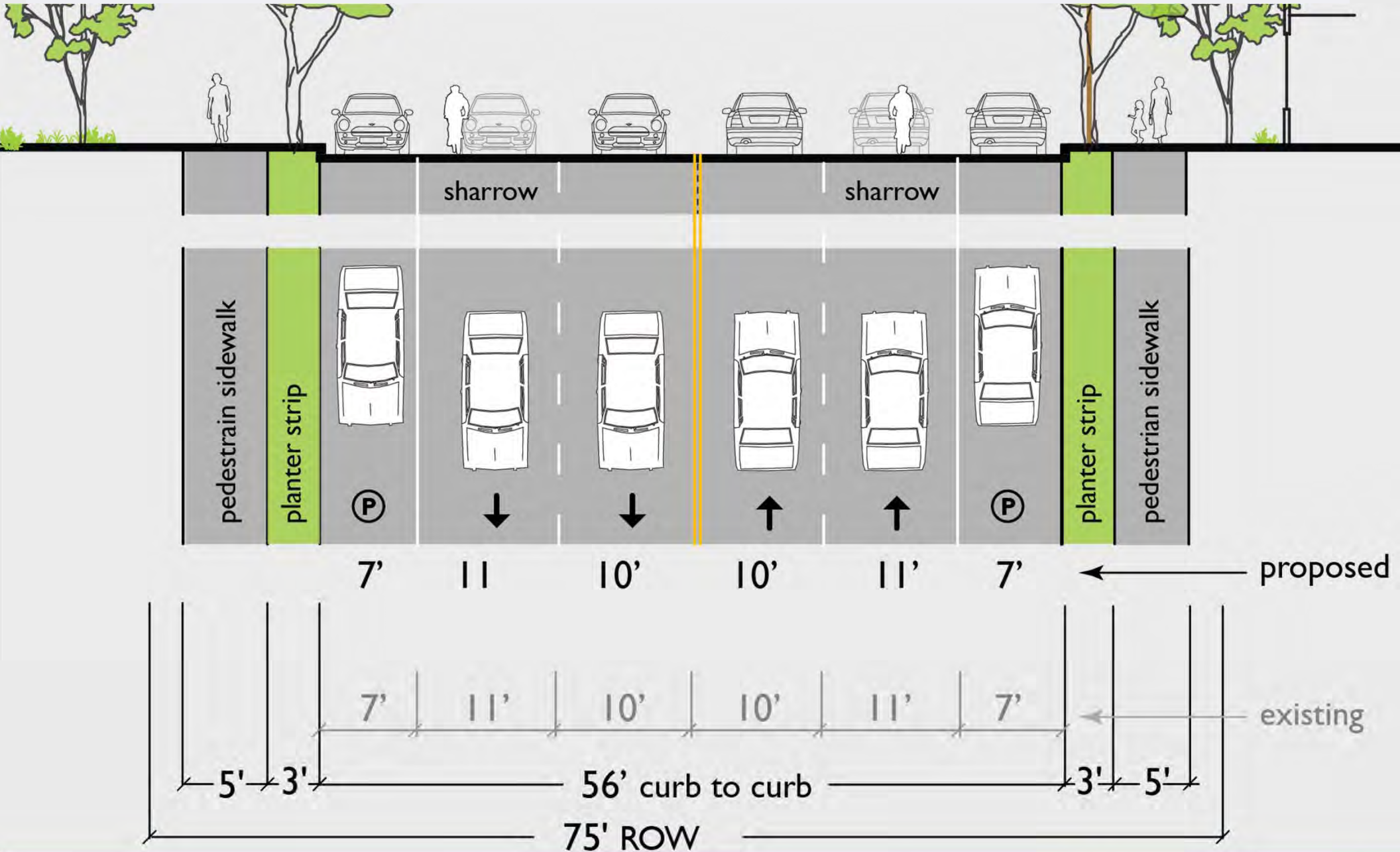
Segment 3: Webster St. to Eighth St.



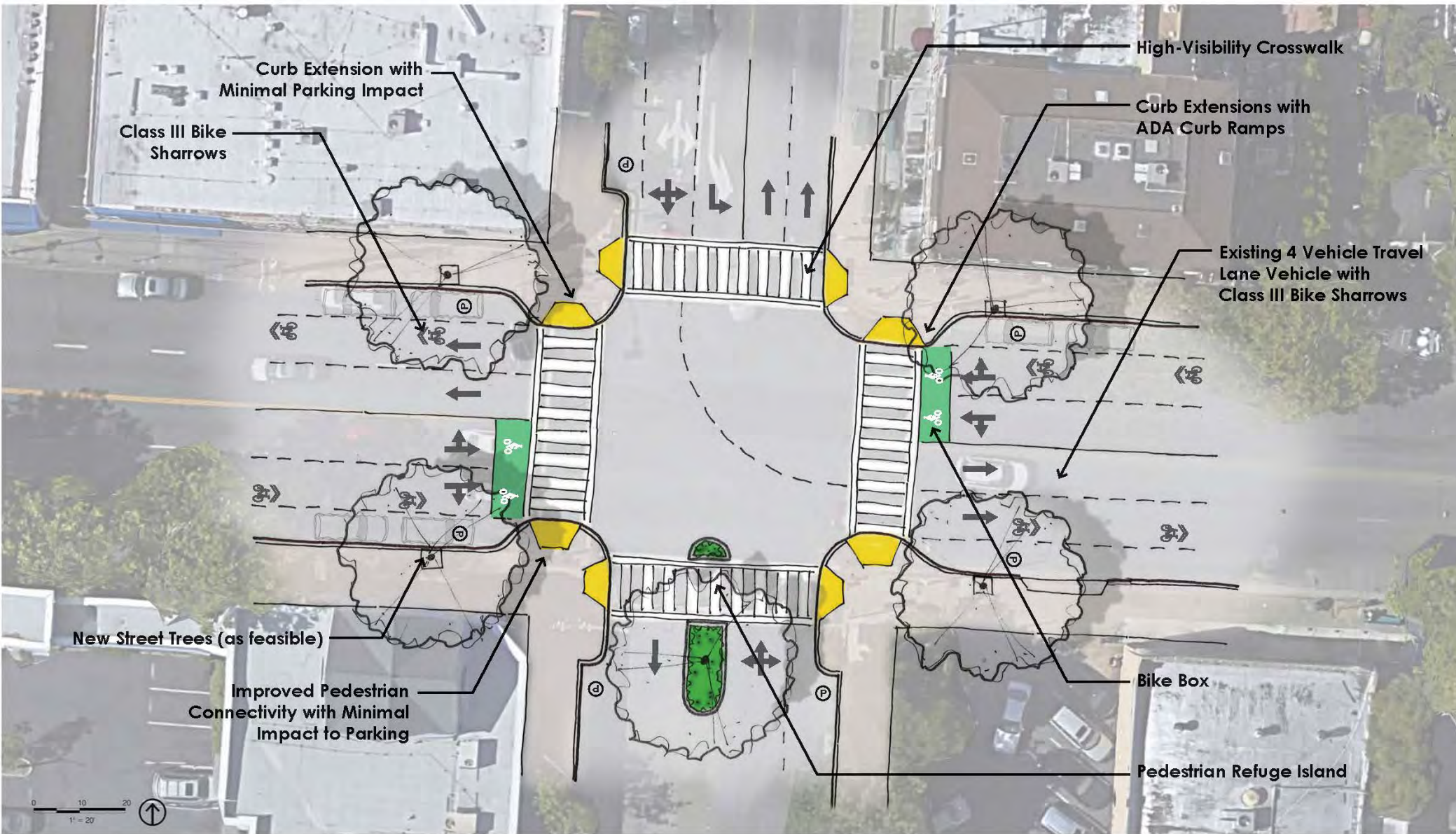
- Enhance Existing Crosswalk
- Gateway/Activity Node
- Existing Bay Trail
- Existing Traffic Signal
- Intersection Design
- Install New Pedestrian Crossing
- Enhance Existing AC Transit Bus Stop
- Develop Bay Trail Connection
- Proposed Traffic Signal
- Alameda Point Frontage

3) At Webster Street and Eighth Street

Bike Sharrow Lanes



Central Avenue Proposed Street Concept

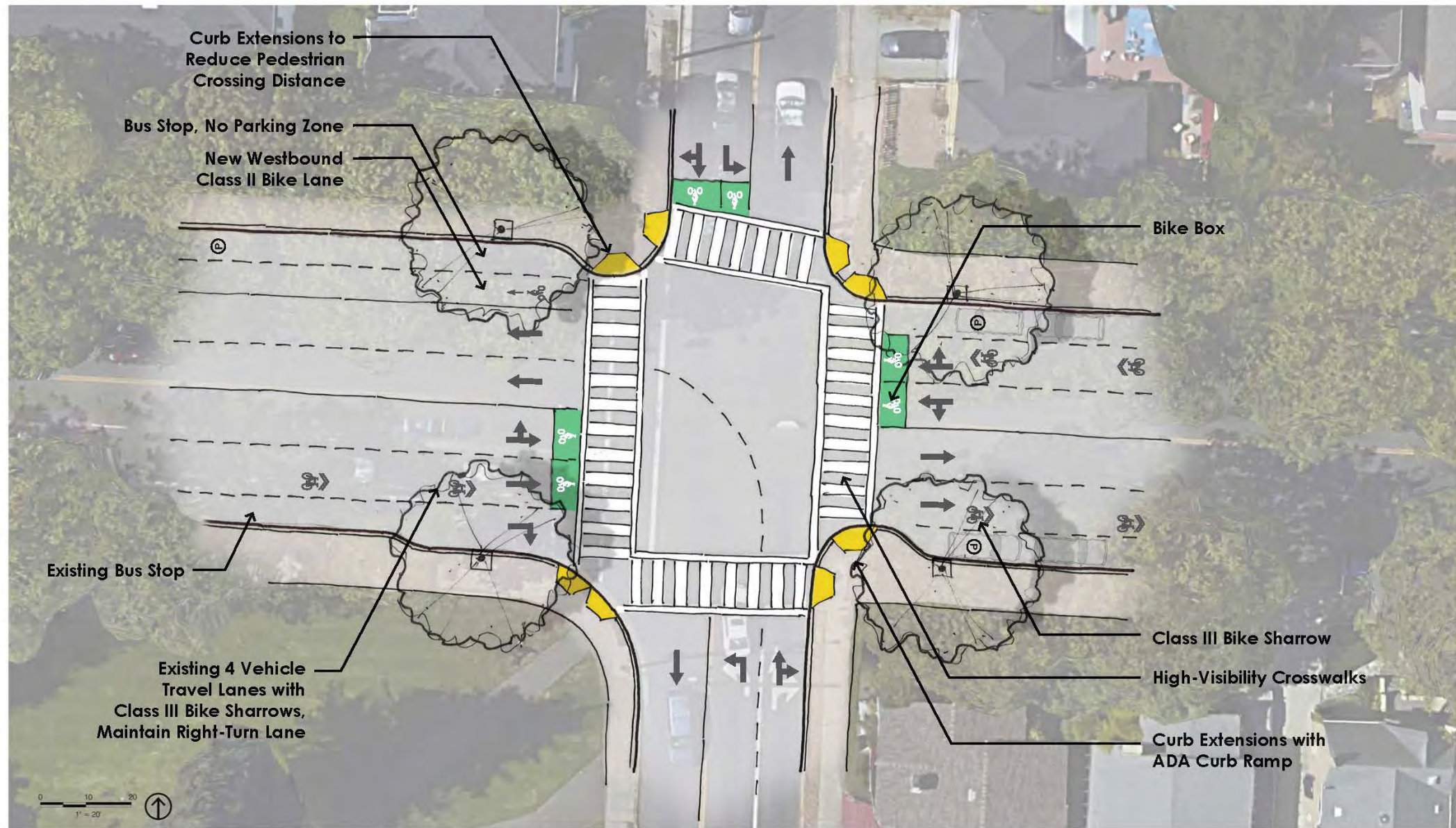


 PLACEWORKS

 KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

Webster Street and Central Avenue
Central Avenue Complete Street Concept Proposal
SEPTEMBER 2015

Central Avenue Proposed Street Concept



 PLACEWORKS

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TRANSPORTATION ENGINEERING/PLANNING

Eighth Street and Central Avenue
Central Avenue Complete Street Concept Proposal
SEPTEMBER 2015

Central Avenue Proposed Street Concept

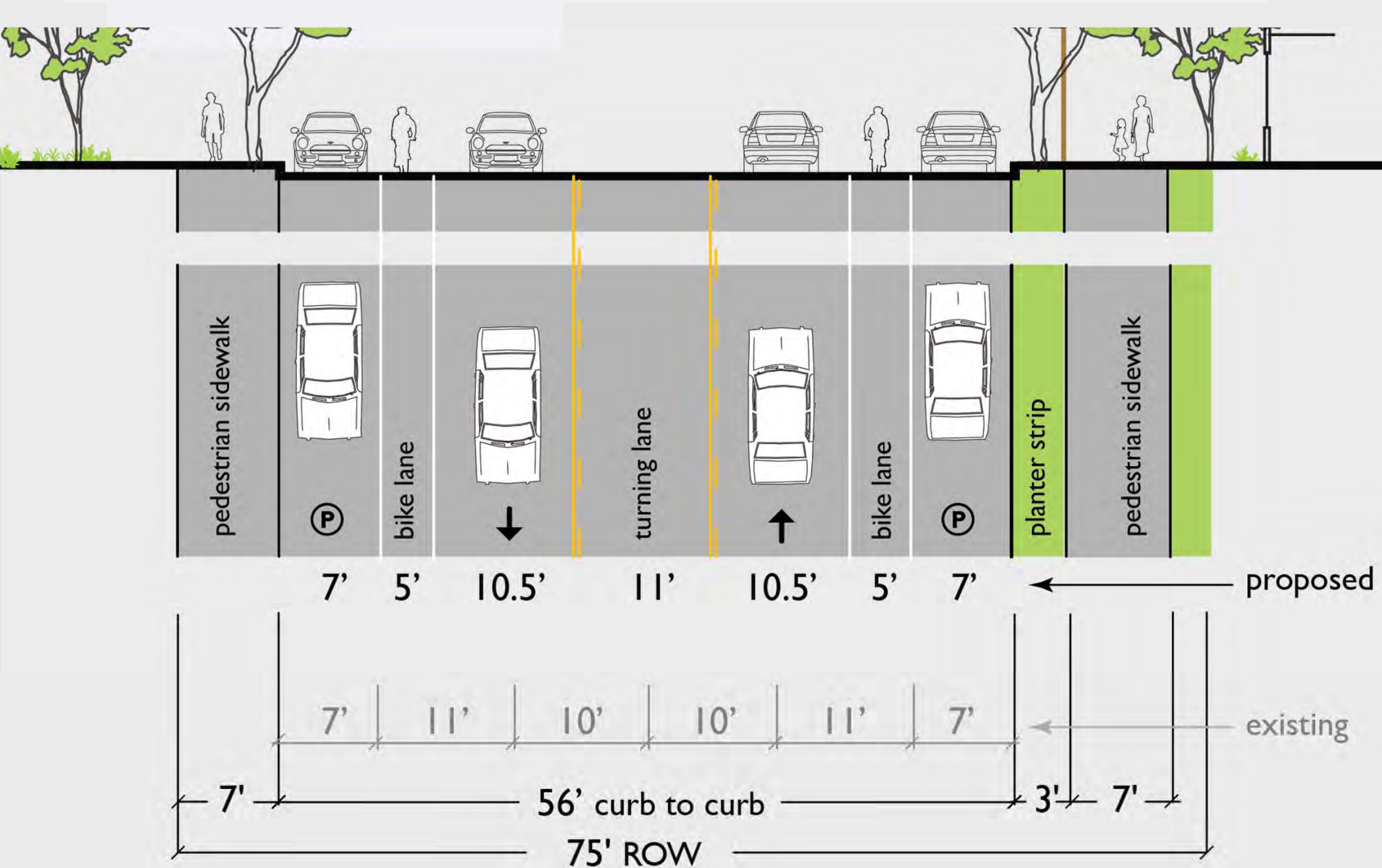
Segment 3: Eighth St. to Encinal



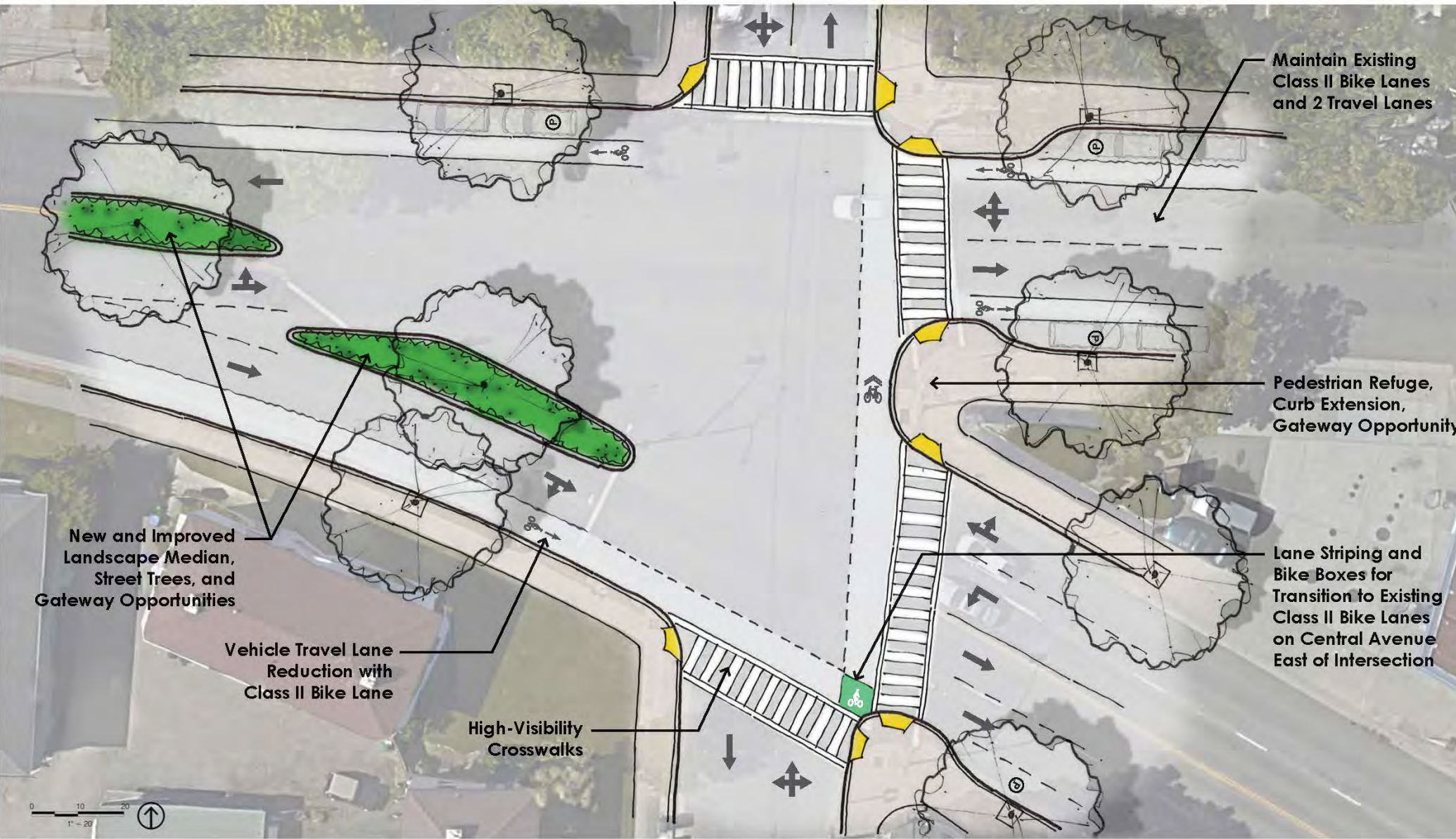
- Enhance Existing Crosswalk
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- Existing Bay Trail
- Existing Traffic Signal
- Install New Pedestrian Crossing
- Enhance Existing AC Transit Bus Stop
- Develop Bay Trail Connection
- Proposed Traffic Signal
- Intersection Design
- Alameda Point Frontage

3) Burbank to Encinal

Class II Bike Lanes



Central Avenue Proposed Street Concept



PLACEWORKS

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

Sherman Street, Encinal Avenue, and Central Avenue

Central Avenue Complete Street Concept Proposal
SEPTEMBER 2015

Central Avenue Proposed Street Concept

Traffic Analysis



Summary

Preliminary Recommendation:

- Reduce Travel Lanes
- Maintain four lanes with sharrows at:
 - Central/Webster
 - Central/Eighth
- Add traffic signal at Third/Taylor
- Evaluate need for signal at Central/Fifth
- Modify signal timing and coordination

= Minimize delay

Traffic Analysis

- Based on 2015 counts
- High-level analysis informs number of vehicle lanes
- Key intersections with signal or all way stop sign
- Highest vehicle traffic volumes
- Theoretical worst-case scenario
 - No mode shift to biking or walking
 - No diversion to parallel routes
- Results used to identify key constraints for lane reduction

Traffic Analysis (cont.)

End-to-End Travel Time Comparison:

Current
Year

Time Period / Direction	Existing Conditions	Preliminary Recommendation
Weekday AM Peak (7-9 AM)		
Eastbound	6.9 min.	6.9 min.
Westbound	6.8 min.	7.4 min
Weekday PM Peak (4-6 PM)		
Eastbound	6.5 min.	7.3 min.
Westbound	7.0 min.	7.9 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.)

Year
2035
Conditions

End-to-End Travel Time Comparison:

Time Period / Direction	Existing Conditions	Preliminary Recommendation
Weekday AM Peak (7-9 AM)		
Eastbound	8.4 min.	8.8 min.
Westbound	8.9 min.	10.9 min.
Weekday PM Peak (4-6 PM)		
Eastbound	9.1 min.	9.9 min.
Westbound	10.7 min.	11.4 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.

Break-out Groups

Ground Rules

1. Introductions

- *Be safe*

2. Select

- Facilitator
- Spokesperson
- Timekeeper

- *Be respectful*
- *Be responsible*
- *Be an ally*

= *Better Together!*

3. Discuss

- Corridor Segments & Provide Feedback
- Pedestrian Safety Improvements & Input
- Streetscape Amenities & Input

Preliminary Recommendations Toolkit

Pedestrian Crossings



High-Visibility
Ladder Crosswalks



Rapid Flashing
Beacons



Pedestrian
Refuge Islands



Curb
Extension



ADA Curb
Ramp

Bicycle Facilities



Bike Lane Striping



Intersection
Markings



Bicycle and
Pedestrian Signage

Streetscape Improvements



Rain Gardens



Permeable Pavers
in Parking Lanes



Additional
Street Trees



Street Furnishings



Gateway Elements
and Way-Finding
Signage

Next Steps

- ***Please Complete/Return Comment Card***
- Open Forum: <http://alamedaca.gov/public-works/open-forum>
- Transportation Commission:
November 18
- City Council
Early 2016



Comments or Questions?

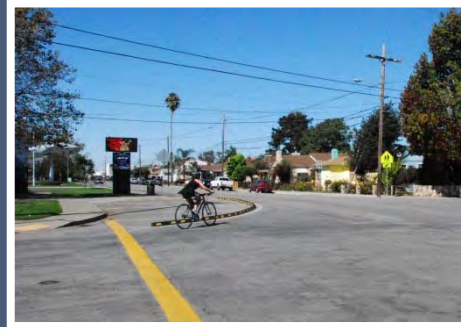
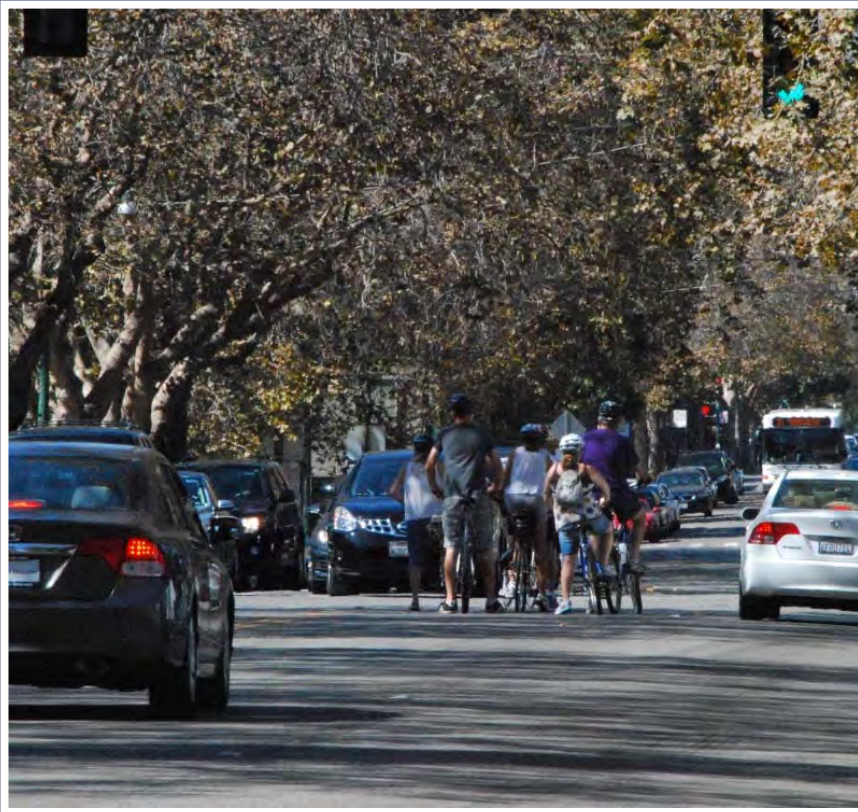
- Open forum:

<http://alamedaca.gov/public-works/open-forum>

- Contact: Gail Payne at 510-747-6892 or gpayne@alamedaca.gov

- Project web page:

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



Central Avenue Complete Street Concept Proposal

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