



CITY OF MOUNTAIN VIEW

**MEMORANDUM**

Public Works Department

**DATE:** April 25, 2019

**TO:** City Council

**FROM:** Jacqueline Andrews Solomon, Assistant Public Works Director  
Michael A. Fuller, Public Works Director

**VIA:** Daniel H. Rich, City Manager

**SUBJECT:** **California Street/Escuela Avenue/Shoreline Boulevard Complete Streets Study Project Status**

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**PURPOSE**

This memo provides a summary of the California Street/Escuela Avenue/Shoreline Boulevard (C/E/S) Complete Streets Feasibility Study (CIP 14-41) completed in December 2015 and provides updates on progress since it was adopted.

**BACKGROUND**

The C/E/S Complete Streets Feasibility Study was undertaken in response to a number of pedestrian fatalities that had occurred on California Street and one on Shoreline Boulevard in and around 2012.

A Complete Street is a street that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit riders, and motorists appropriate to the function of the street.

There was a large, multi-faceted outreach effort to receive input from the community, including holding multiple meetings at local churches and with other community organizations (in multiple languages); a biking and walking tour (September 27, 2014); an online survey (October 2014); and a community workshop (October 30, 2014) to hear specific concerns and ideas from residents.

In addition to community input, existing conditions data was collected and analyzed. This data included right-of-way dimensions, striping, pedestrian facilities, bicycle

facilities, transit services, multi-modal traffic volumes (vehicles, pedestrians, and bikes), collision data, and street lighting throughout the study area; traffic speeds along California Street and Shoreline Boulevard; lighting intensity at intersections along California Street; and parking supply and occupancy on Escuela Avenue.

The data collected was evaluated in conjunction with projected growth and traffic data. Analyses of the data were used to develop the alternatives for the project area.

The study developed preliminary design alternatives for California Street from Bryant Street to Showers Drive; Escuela Avenue from Crisanto Avenue to Latham Street; and Shoreline Boulevard from El Camino Real to Montecito Avenue. Three alternatives for each street were studied with varying configurations. These alternatives were presented at the August 26, 2015 Bicycle/Pedestrian Advisory Committee (B/PAC) meeting with another opportunity for public comment and finally to the City Council for consideration on October 13, 2015 (see Attachment 1).

## **ANALYSIS**

### **Existing Roadway Characteristics**

California Street is 90' wide (curb-to-curb), with two travel lanes in each direction between Showers Drive and Oak Street and one travel lane in each direction between Oak Street and Bryant Street. There is street parking along the majority of the street and Class 2 (striped) bike lanes. There are 5' wide monolithic (curb side) sidewalks on both sides of the street.

Escuela Avenue is 40' wide between Crisanto Avenue and Latham Street and consists of two lanes with parking along both sides. There are 5' wide monolithic sidewalks on both sides of the street.

South Shoreline Boulevard varies from 83' wide over Central Expressway to 113' wide in other areas. This section of Shoreline Boulevard has three travel lanes, bike lanes, and street parking along the majority of this area. The road narrows to two lanes at Wright Avenue. There are 5' wide sidewalks on both sides of the street.

The following table summarizes the street characteristics:

### Summary of Existing Street Design

	<b>California Street</b>	<b>Escuela Avenue</b>	<b>Shoreline Boulevard</b>
Public Right-of-Way Width (feet)	90	40	113 Over Central Expressway = 83
Existing Travel Lanes in Each Direction	Showers Drive to Rengstorff Avenue: 2 Rengstorff Avenue to Oak Street: 2 Oak Street to Bryant Street: 1	1	Montecito Avenue to Wright Avenue: 2 Wright Avenue to El Camino Real: 3
Posted Speed Limit (mph)	35	25	35
Bicycle Amenities	Bike Lanes	No Bike Lanes	Bike Lanes

The Study presented three alternatives for each street, ranging from modest to more significant changes. The results for each street are summarized below.

#### California Street

For California Street, the community favored lane reductions, a landscaped median that provides traffic-calming benefits but allows left-turn access along limited segments via a two-way left-turn lane, and parking-protected bike lanes. This treatment is similar to what exists on Castro Street between El Camino Real and Miramonte Avenue. The plan does not include moving the curbs to reduce the paved area or widening the sidewalks. There was some concern expressed about the traffic impacts of lane reductions, particularly with the planned growth in the San Antonio Precise Plan area.

Design features allow for a phased implementation and include:

- Corner bulb-outs with green street treatments;
- High-visibility crosswalks;
- Increased lighting where appropriate at pedestrian crossing locations;
- Midblock crosswalks between Rengstorff Avenue and Mariposa Avenue;

- Lane reduction from four to two lanes and parking-protected bike lanes; and
- A landscaped median and limited two-way left-turn lanes between crossing locations.

Suggested phasing for this alternative was as follows:

- Phase 1: Includes corner bulb-outs with green street landscaping features (drought-resistant plantings, permeable pavers, swales, etc.), high-visibility crosswalks, and increased lighting at pedestrian crossing locations.

Phase 1 could also include additional study of the traffic impacts associated with lane reductions. This study would include a more refined analysis of travel-time impacts, evaluation of level of service impacts and queuing, and consideration of diversion of traffic onto parallel routes.

- Phase 2: Includes evaluation and possible implementation of lane reductions. If not included in Phase 1, additional traffic analysis would be performed. If the project proceeds, a pilot lane reduction from four to three lanes would be implemented to test the concept and gain public feedback. The pilot could be implemented with striping and temporary (rubber) curbs and would include parking-protected bike lanes with painted buffers and new midblock crossings between Showers Drive and Chiquita Avenue.
- Phase 3: If the pilot is successful, Phase 3 includes implementation of permanent improvements.

### Escuela Avenue

Many community members favored traffic calming and installation of bike lanes on Escuela Avenue. Consensus at the B/PAC meeting suggested removal of parking along one side of the street from Latham Street to Crisanto Avenue.

The Refined Alternative includes:

Bulb-outs and high-visibility crosswalks at intersections, raised crosswalks at Castro Elementary School and the Senior Center, installation of Class II bike lanes that connect to other bike facilities (beyond the study area), and removal of parking on the west side of the street.

Possible phasing for this alternative is as follows:

- Phase 1: Includes corner bulb-outs (on the west side of the street), improved crossings, and raised crosswalks at Castro Elementary School and the Senior Center/Teen Center for traffic calming. Implementation of these elements may require removal of one to two on-street parking spaces as most of the areas currently have red curbs. See Figures 14 and 15 below.
- Phase 2: A secondary priority element for Escuela Avenue is removal of parking on the west side to accommodate bike lanes on both sides of the street. Parking removal would eliminate approximately 45 of 95 parking spaces on the street.

While these alternatives would be an improvement for pedestrians and bicyclists, on-street parking is heavily used on Escuela Avenue, and staff's outreach regarding removal of any parking indicated strong resistance from adjacent residents.

### Shoreline Boulevard

The Refined Alternative includes:

#### Phase 1:

- Intersection improvements at the intersection of Villa Street to eliminate pedestrian conflict with turning vehicles and reduce crossing distance;
- Narrowing northbound lanes over Central Expressway to accommodate a buffered bike lane and installation of a buffered bike lane;
- A new sidewalk on the west side of the Central Expressway overpass;
- As with California Street, Phase 1 could include additional traffic analysis to assess the impacts of lane reduction.

#### Phase 2:

- If not included in Phase 1, additional traffic analysis would be performed. If the project proceeds, a pilot lane reduction from six to four lanes would be implemented to test the concept and gain public feedback. The pilot could be implemented with striping and temporary (rubber) curbs and would include parking-protected bike lanes.

Phase 3:

- If the pilot is successful, Phase 3 includes implementation of permanent reduction improvements.
- Squaring up of the on- and off-ramps involves coordination with the County of Santa Clara.

The following table summarizes the Refined Alternative for each street and corresponding preliminary project cost estimates, including cost escalation through the year 2020.

Project Segment	ESTIMATED COST (millions)					
	PHASE 1 RANGE		PHASE 2 RANGE		PHASE 3 RANGE	
	Low	High	Low	High	Low	High
California Street: From Showers Drive to Ortega Avenue	\$0.25	\$0.49	\$1.76	\$2.55	\$1.70	\$2.48
California Street: From Ortega Avenue to Mariposa Avenue	\$0.97	\$2.00	\$9.04	\$12.92	\$4.71	\$7.40
California Street: From Mariposa Avenue to Bryant Street	\$0.60	\$1.22	\$4.41	\$6.35	\$1.11	\$1.44
Escuela Avenue: From Crisanto Avenue to El Camino Real	\$2.70	\$4.50	\$1.60	\$1.70		
Shoreline Boulevard: From Villa Street to El Camino Real	\$0.66	\$1.37	\$2.82	\$4.13	\$2.25	\$3.17
Shoreline Boulevard: From Montecito Avenue to Villa Street	\$0.45	\$0.94	\$9.39	\$13.78	\$4.16	\$6.24
TOTAL	\$5.63	\$10.52	\$29.02	\$41.43	\$13.93	\$20.73

## Current Status

The following improvements have been made in the area since completion of the study or are planned:

### Escuela Avenue (South of California Street)

1. A Raised Crosswalk on Escuela Avenue (just south of Gamel Way) adjacent to Castro/Mistral Elementary Schools was installed as a Community Benefit from the developer of the Ortega Apartments project.
2. Staff had also proposed to this developer to install the improvements to implement the Escuela Bike Improvements, which would have removed parking on one side of the street. Staff held a community meeting for affected neighbors to discuss this project. After a lively discussion, it was clear that the majority of the neighbors were opposed to the plan because of the density of apartments in these blocks. Many find that when they return home at night, they are already having to park several blocks away from their homes and are very concerned about losing parking that would exacerbate this problem.

There are informal redevelopment plans for a large portion of the properties on Gamel Way and there may be an opportunity to revisit this project with that development as it moves through the process.

### California Street

1. PG&E Rule 20A Undergrounding

PG&E continues the process of placing the remaining overhead utility lines underground between Escuela Avenue and Mariposa Avenue. This PG&E process is taking much longer than originally scheduled. Construction was originally scheduled for 2017, but no firm date is currently available from PG&E.

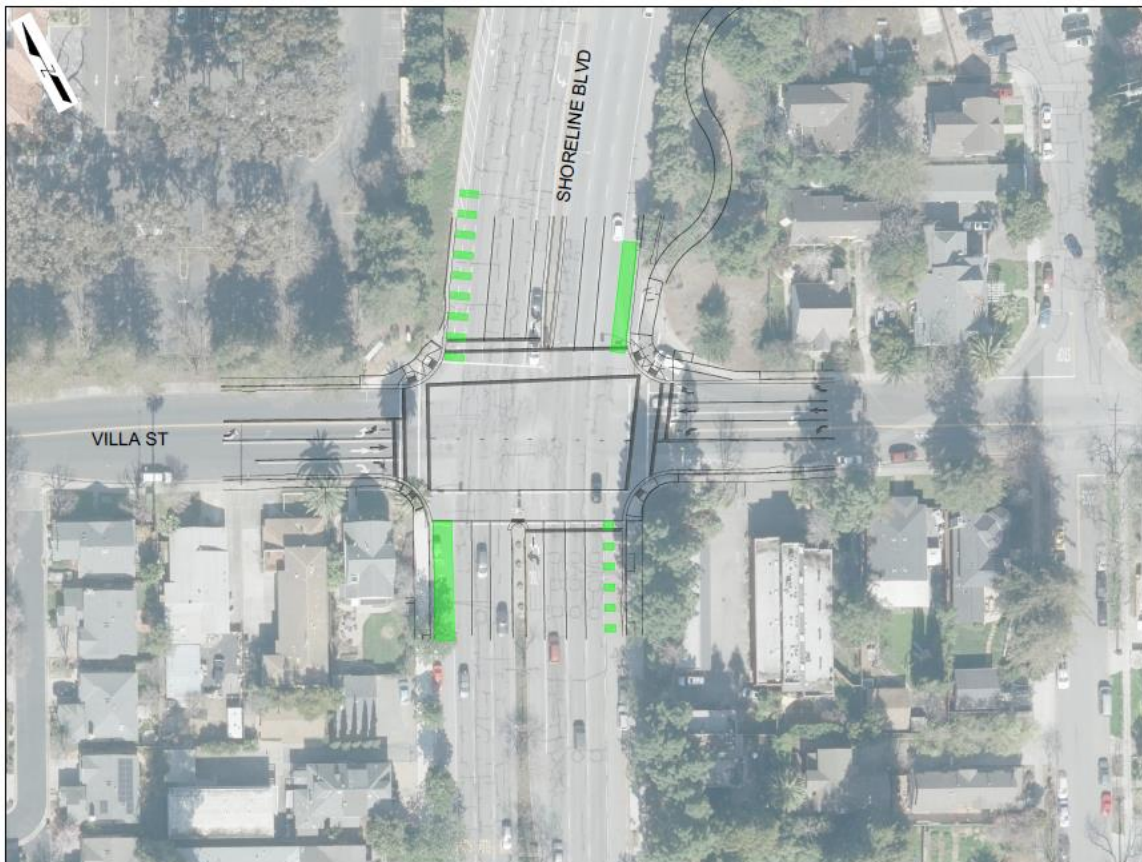
2. CIP 18-46 Street Lighting from California Street/Escuela Avenue/Shoreline Boulevard Study (\$120,000)

This project will install 13 streetlights that will fill in gaps identified in the Study along the length of California Street. Construction is expected in late 2019.

## Shoreline Boulevard

1. Application of slurry seal on Shoreline Boulevard between El Camino Real and Villa Street is scheduled for summer 2019. With the new street surface, traffic lanes will be narrowed to provide room for a wider dedicated bike lane. Oversized vehicles encroach into the existing bike lane.
2. Design of improvements to the intersection of Shoreline Boulevard and Villa Street are also under way, including reducing the pedestrian crossing distance and providing protected crossing movements for pedestrians (eliminating the left-turning vehicle conflicts). See Figure 1 below. Construction is tentatively scheduled to begin by the end of 2019, pending receipt of required permits.

**Figure 1: Proposed Shoreline Boulevard/Villa Street Intersection Modification**



3. Design of improvements to the intersection of Shoreline Boulevard/Church Street/Latham Street are also under way. Improvements include enhanced pedestrian crossings, protected phases for pedestrians from left-turning vehicles,



and enhanced bicycle features. Staff estimates this project could start construction in late 2020.

4. Staff does not recommend reducing the number of lanes on Shoreline Boulevard at this time. The Rengstorff Grade Separation project will likely include some temporary, but lengthy closures of Rengstorff Avenue, which currently handles 20,000 vehicles per day. Those vehicles will need alternative routes to reach the north side of the City, and keeping the existing capacity on Shoreline Boulevard until the Rengstorff project is complete is recommended.

JAS-MAF/5/PWK  
912-04-25-19M

Attachment: 1. Study Session Memo Dated October 13, 2015

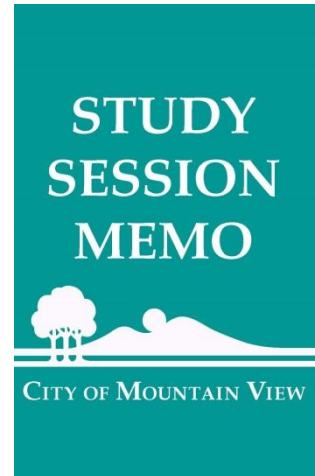
**DATE:** October 13, 2015

**TO:** Honorable Mayor and City Council

**FROM:** Rey S. Rodriguez, Senior Project Manager  
Lisa Au, Principal Civil Engineer  
Michael A. Fuller, Public Works Director

**VIA:** Daniel H. Rich, City Manager

**TITLE:** California Street, Escuela Avenue, Shoreline Boulevard Complete Streets Feasibility Study Alternatives, Project 14-41



**PURPOSE**

The purpose of this item is to provide Council with an update on the California Street/Escuela Avenue/Shoreline Boulevard Complete Streets Feasibility Study and to get input from Council on the alternatives prepared for each street.

**BACKGROUND**

The objective of the California Street/Escuela Avenue/Shoreline Boulevard Complete Streets Feasibility Study (Study) is to develop alternatives to create a safe, comfortable, and convenient environment for all modes of travel, including pedestrian, bicycle, automobile, and transit on California Street between Showers Drive and Bryant Street, Escuela Avenue between Latham Street and Crisanto Avenue, and Shoreline Boulevard between El Camino Real and Montecito Avenue (see Figure 1). For the purposes of this Study, a Complete Street is defined as a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit riders, and motorists, appropriate to the function and context of the street.



**Figure 1 – Study Area**

### Existing Roadway Characteristics

California Street is 90' wide, with two travel lanes in each direction between Showers Drive and Oak Street and one travel lane each direction between Oak Street and Bryant Street. The posted speed limit is 35 miles per hour (mph). Between Showers Drive and Ortega Avenue, a two-way left-turn lane is provided in the center of California Street. Segments between Ortega Avenue and Mariposa Avenue have a double solid yellow line, while segments between Mariposa Avenue and Bryant Street have landscaped medians. Seven intersections along California Street provide left-turn pockets. Bike lanes are mixed with segments having a bike lane between parking and traffic lanes, or adjacent to the curb.

Escuela Avenue is 40' wide between Crisanto Avenue and Latham Street and consists of two lanes. The majority of the street has parking on both sides. The posted speed limit is 25 mph, including a 15 mph school zone. The California Street intersection has a left-turn pocket and is signalized. Escuela Avenue does not currently have bike lanes, though the street is a recommended bike route under the 2015 Draft Bicycle Transportation Plan and the 2008 Bicycle Transportation Plan.

Shoreline Boulevard was studied between El Camino Real to Montecito Avenue. Shoreline Boulevard varies from 83' wide over Central Expressway to 113' wide in other areas. Figure 2 is Shoreline Boulevard at Central Expressway looking south.

Between El Camino Real and Wright Avenue, there are three travel lanes in each direction, and between Wright and Montecito Avenues, there are two travel lanes in each direction. The posted speed limit is 35 mph. Only the segment between Wright Avenue and Villa Street has a concrete nonlandscaped median. The remaining medians on Shoreline Boulevard are landscaped. Six intersections provide left-turn pockets and there are three median breaks for pedestrian crossings. Bike lanes vary with some segments having a bike lane between parking and traffic lanes and others with curbside bike lanes.



Figure 2— Shoreline Boulevard at Central Expressway

In early 2015, pedestrian-activated LED flashing signage was installed on Shoreline Boulevard at High School Way, Mercy Street, and Dana Street. The enhanced signage has improved the visibility of pedestrians and bicyclists crossing Shoreline Boulevard.

The following table summarizes the street characteristics.

### Summary of Existing Street Design

	California Street	Escuela Avenue	Shoreline Boulevard
Public Right-of-Way Width (feet)	90	40	113 Over Central Expressway = 83
Existing Travel Lanes in Each Direction	Showers Drive to Rengstorff Avenue: 2 Rengstorff Avenue to Oak Street: 2 Oak Street to Bryant Street: 1	1	Montecito Avenue to Wright Avenue: 2 Wright Avenue to El Camino Real: 3
Posted Speed Limit (mph)	35	25	35
Bicycle Amenities	Bike Lanes	No Bike Lanes	Bike Lanes

In June 2014, the City retained Nelson\Nygaard Consulting Associates (Nelson\Nygaard) to conduct community outreach and prepare the Study. Outreach has included a community biking and walking tour (September 27, 2014), an on-line survey (October 2014), a community workshop (October 30, 2014), and meetings with over 200 individuals and organizations in the study area (October 6, 2014 through October 17, 2014).



Figure 3—Biking Tour on September 27, 2014



Figure 4—Walking Tour on September 27, 2014

Key observations/comments from the community include:

- Improvements to pedestrian and bicycling facilities on Shoreline Boulevard over Central Expressway are a clear priority.
- The pedestrian environment can/should be improved by providing additional and well-designed street-crossing facilities, reduced street-crossing distances, and traffic-calming measures.
- Improved bicycling facilities (e.g., reducing door zone conflicts, wider bike lanes, left-turn opportunities, better connections to the Citywide bike network) will attract additional bicyclists, including “interested but concerned” bicyclists.

### Data Collection

In addition to community input, existing conditions data was collected and reviewed. This data included right-of-way dimensions, striping, pedestrian facilities, bicycle facilities, transit services, multimodal traffic volumes (vehicles, pedestrians, bikes), collision data, and street lighting throughout the study area; traffic speeds along California Street and Shoreline Boulevard; lighting intensity at intersections along California Street; and parking supply and occupancy on Escuela Avenue.

The data collected was evaluated in conjunction with projected growth and traffic data that would impact these three streets. Analyses of the data were used to develop the improvements for the project area (see Attachment 1 – Draft Report).

## DISCUSSION

### Initial Alternatives Development

Three initial alternatives were prepared for each street. Each alternative progressively adds improvements for bicycles and pedestrians. The alternatives were presented to the Bicycle/Pedestrian Advisory Committee (B/PAC) on August 26, 2015 and are described below.

## California Street

Initial alternatives were developed for California Street based on three distinct segments between: Showers Drive and Ortega Avenue, Ortega Avenue to Mariposa Avenue, and Mariposa Avenue to Bryant Street.

Initial Alternative 1—Provides wider bike lanes to the west of Chiquita Avenue, shortens pedestrian crossing distances with intersection bulb-outs, and adds high-visibility midblock crosswalks.

Initial Alternative 2—Widens the bike lane and switches the position of the bike lane and the parking lane to provide “parking-protected bike lanes.” Design features include Alternative 1 proposed improvements and a lane reduction from four to three lanes, including buffered bike lanes and a two-way left-turn lane between Showers Drive and Chiquita Avenue. A road layout of this alternative from Ortega Avenue to Rengstorff Avenue is shown in Figure 5 below. Note that this figure is provided as a representation of the facility improvements for a segment of Alternative 2. Figures for all alternatives can be found in Attachment 1 (same for all alternatives described in this memo).

Initial Alternative 3—Includes a landscaped median and left-turn pockets at intersections. Design features include Alternative 1 proposed improvements, a lane reduction from four to two lanes, parking-protected bike lanes, and a landscaped median.



Figure 5 – California Street Initial Proposal - Alternative 2 Shown

Escuela Avenue

The initial alternatives proposed for Escuela Avenue were divided into segments between Latham Street and California Street, and California Street and Crisanto Avenue.

Initial Alternative 1 – Includes bulb-outs at corners between Latham Street and Crisanto Avenue for traffic calming as well as a bike boulevard with sharrow markings.

Initial Alternative 2 – Includes Alternative 1 traffic-calming elements, as well as bike lanes on both sides of the street, and parking removal on one side of the street.

Initial Alternative 3—Includes Alternative 1 traffic calming elements, wider sidewalks with landscaping and urban design improvements, bike lanes on both sides of the street, and parking removal from both sides of the street. Parking removal was recommended for alternating sides of the streets (chicanes) to equitably remove parking along these street segments. A layout of this alternative is shown in Figure 6.

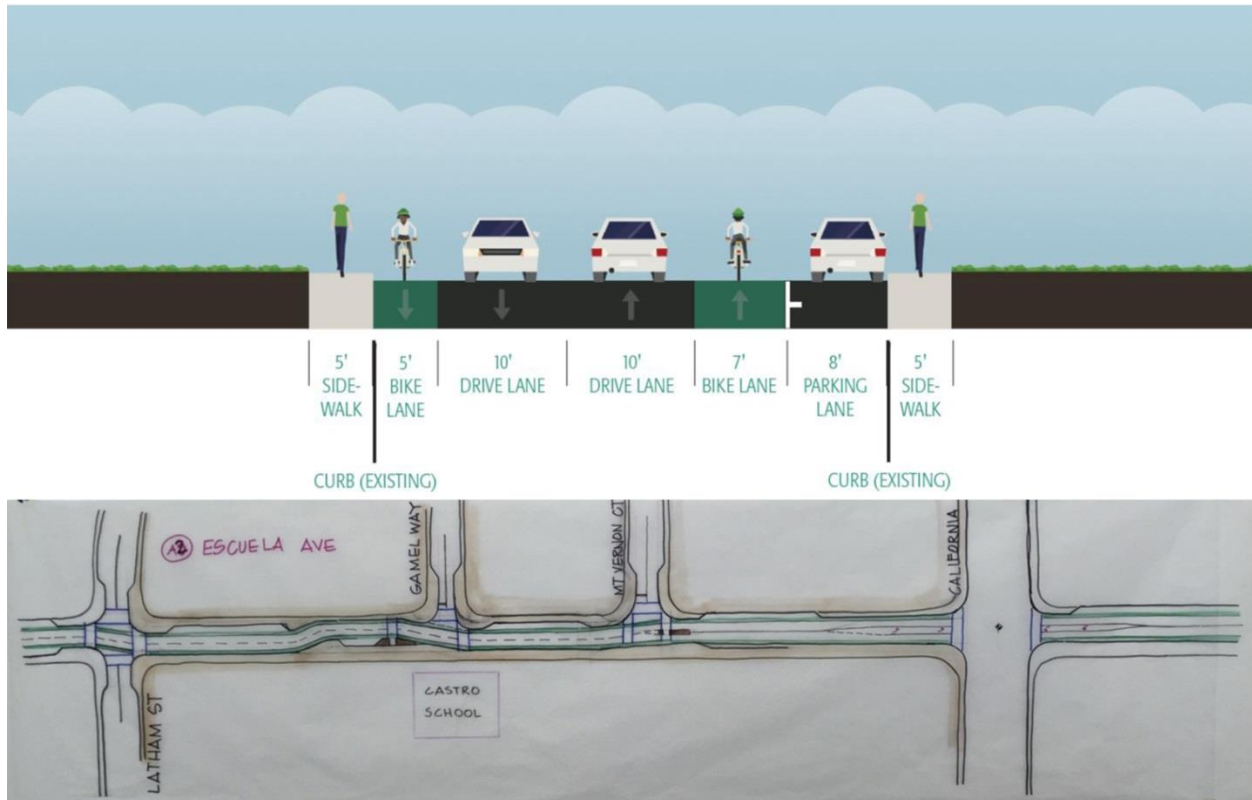


Figure 6—Escuela Avenue Initial Proposal - Alternative 3 Shown

### Shoreline Boulevard

The initial alternatives for Shoreline Boulevard were divided into segments between El Camino Real to California Street, Dana Street to Central Expressway, and Central Expressway to Montecito Avenue.

Initial Alternative 1—Includes bulb-outs at corners for traffic calming, buffered bike lanes, dashed green painted bike lanes through intersections and merge zones, and stop signs to be installed at off-ramps from Central Expressway.



Initial Alternative 2—Includes Alternative 1 traffic-calming elements; a lane reduction from six to four lanes; wider, buffered bike lanes; and squared-up on- and off-ramps to and from Central Expressway.

Initial Alternative 3—Includes Alternative 1 traffic-calming elements, a lane reduction from six to four lanes, wider sidewalks between El Camino Real and Villa Street, and parking protected bike lanes with landscaped buffers. Figure 7 shows the road layout for this alternative from El Camino Real to Mercy Street.

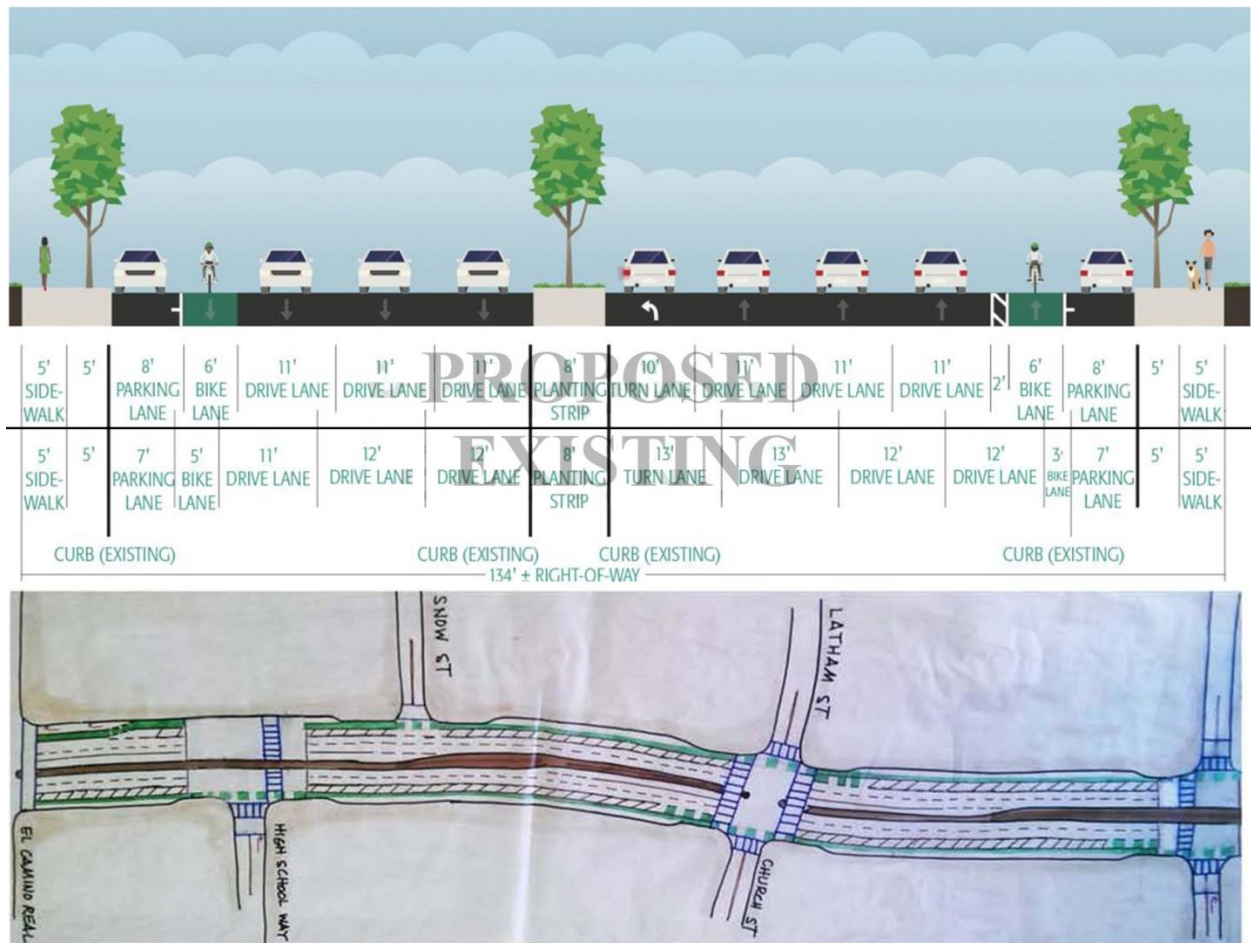


Figure 7— Shoreline Boulevard Initial Proposal - Alternative 3 Shown

The table below summarizes the initial alternatives.

Initial Alt.	California Street	Escuela Avenue	Shoreline Boulevard
1	<ul style="list-style-type: none"> <li>Traffic calming</li> </ul>	<ul style="list-style-type: none"> <li>Traffic calming</li> <li>Bike boulevard</li> </ul>	<ul style="list-style-type: none"> <li>Traffic calming</li> </ul>
2	<ul style="list-style-type: none"> <li>Traffic calming</li> <li>Lane reduction (4→3 lanes)</li> <li>Median turn lane</li> <li>Parking protected bike lanes</li> </ul>	<ul style="list-style-type: none"> <li>Traffic calming</li> <li>Bike lanes</li> <li>Parking removal on one side</li> </ul>	<ul style="list-style-type: none"> <li>Traffic calming</li> <li>Lane reduction (6→4 lanes)</li> <li>Buffered bike lanes</li> </ul>
3	<ul style="list-style-type: none"> <li>Traffic calming</li> <li>Lane reduction (4→2 lanes)</li> <li>Parking protected bike lanes</li> <li>Landscaped median</li> </ul>	<ul style="list-style-type: none"> <li>Traffic calming</li> <li>Bike lanes</li> <li>Wide sidewalks</li> <li>Urban design</li> <li>No on-street parking</li> </ul>	<ul style="list-style-type: none"> <li>Traffic calming</li> <li>Lane reduction (6→4 lanes)</li> <li>Protected bike lanes and protected intersections</li> </ul>

### Traffic Impacts of Lane Reductions

To gain a preliminary assessment of the traffic impacts associated with reducing lanes on California Street and Shoreline Boulevard, travel times were estimated based on current conditions as well as future conditions with growth anticipated in the General Plan. Travel times are expected to increase significantly even without lane reductions due to growth-induced traffic volume increases.

Travel time increases due to the lane reductions are small under current conditions, but increase significantly as a percentage of baseline travel times with increased volume. This is a high-level assessment only, and additional analysis is warranted if lane reductions are proposed.

Year	California Street (between Showers Drive and Bryant Street)			
	No Project/ Alternative 1		Alternative 2/3	
	AM Peak Hour (WB)	PM Peak Hour (EB)	AM Peak Hour (WB)	PM Peak Hour (EB)
2015	5.5 minutes	5.2 minutes	<u>+0.8 minute</u> 6.3 minutes	<u>+ 1.6 minutes</u> 6.8 minutes
2020	5.9 minutes	5.8 minutes	<u>+ 3.2 minutes</u> 9.1 minutes	<u>+ 7.1 minutes</u> 12.9 minutes
2030	7.0 minutes	7.4 minutes	<u>+ 4.5 minutes</u> 11.5 minutes	<u>+ 7.0 minutes</u> 14.4 minutes

Year	Shoreline Boulevard (between Montecito Avenue and El Camino Real)			
	No Project/ Alternative 1		Alternative 2/3	
	AM Peak Hour (NB)	PM Peak Hour (SB)	AM Peak Hour (NB)	PM Peak Hour (SB)
2015	3.3 minutes	5.3 minutes	<u>+ 0.4 minute</u> 3.7 minutes	<u>+ 0.5 minute</u> 6.3 minutes
2020	3.9 minutes	6.4 minutes	<u>+ 1.2 minutes</u> 5.1 minutes	<u>+ 3.4 minutes</u> 9.8 minutes
2030	8.6 minutes	14.0 minutes	<u>+ 3.7 minutes</u> 12.3 minutes	<u>+ 7.5 minutes</u> 21.5 minutes

WB/EB designates westbound/eastbound  
 NB/SB designates northbound/southbound

### B/PAC Input

The B/PAC addressed the following three specific questions regarding the draft alternatives:

1. Has input from the community been addressed?
2. What are considered priority elements/features?
3. Consider phasing by street.
4. What locations should be addressed (e.g., Castro School vicinity, Villa Street, Central Expressway, etc.)?

**The B/PAC concurred that community input has been addressed and preferred Alternative 3 for all the streets, but understood that the City would not be able to fund all the improvements immediately. In general, B/PAC recommended refining alternatives that can accomplish the most with potential funding and to consider phasing that does not prohibit future implementation of additional elements.**

B/PAC would also like the study to explore more areas that would provide connectivity from the current project scope areas to other areas of town such as crossing of El Camino Real to connect with the City of Los Altos. In particular, B/PAC suggested the alternatives align with the City's Pedestrian Master Plan goals and Bicycle Transportation Plan objectives.

The 2015 Final Draft Bicycle Transportation Plan Update identifies California Street and Shoreline Boulevard as Class II Bike Routes and Escuela Avenue as a Class III Bike Route. The bicycle amenities proposed from this Study align with those objectives. The Pedestrian Master Plan sets pedestrian-related policies and guidelines for the City and these goals will be incorporated into the proposed projects whenever possible.

Based on limited funding now and in the future, B/PAC made specific recommendations regarding each street which are described below.

#### California Street

- Prefer Alternative 2 from the four to three lane design that includes a center turn lane.
- Favor addressing locations that could be improved based on recent accident and collision incidents.
- Favor wider sidewalks on segments leading into Downtown.

#### Escuela Avenue

- The whole Escuela Avenue is a high-priority area due to density of housing and local institutions, including schools, senior center, teen center, and churches serving vulnerable population.
- Favor removing parking on one side of street for bike lane.

### Shoreline Boulevard

- Favor addressing intersection improvements at Wright Avenue and on and off-ramp intersections with Central Expressway.

### **RECOMMENDATION**

Based on B/PAC and community input, staff has modified the initial alternatives into a Refined Alternative for each street along with a phased implementation approach. **Staff is seeking Council input on the Refined Alternatives and implementation plan described below.**

### California Street

For California Street, the community input received thus far is in favor of lane reductions, a landscaped median that provides traffic-calming benefits but allows left-turn access along limited segments via a two-way left-turn lane, and parking-protected bike lanes.

*The Refined Alternative for California Street combines Initial Alternatives 2 and 3 and provides for phased implementation. Design features include:*

- Corner bulb-outs with green street treatments;
- High-visibility crosswalks;
- Increased lighting where appropriate at pedestrian crossing locations;
- Midblock crosswalks between Rengstorff Avenue and Mariposa Avenue;
- Lane reduction from four to two lanes and parking-protected bike lanes; and
- A landscaped median and limited two-way left-turn lanes between crossing locations.

California Street is curved between Showers Drive and Rengstorff Avenue and not ideal for midblock crosswalks, though these can be considered further during the design phase.

Suggested phasing for this alternative is as follows:

- Phase 1: Includes corner bulb-outs with green street treatments, high-visibility crosswalks, and increased lighting at pedestrian crossing locations.

Phase 1 could also include additional study of the traffic impacts associated with lane reductions. This study would include a more refined analysis of travel time impacts, evaluation of level of service impacts and queuing, and consideration of diversion of traffic onto parallel routes.

- Phase 2: Includes evaluation and possible implementation of lane reductions. If not included in Phase 1, additional traffic analysis would be performed. If the project proceeds, a pilot lane reduction from four to three lanes would be implemented to test the concept and gain public feedback. The pilot could be implemented with striping and temporary (rubber) curbs and would include parking-protected bike lanes with painted buffers and new midblock crossings between Showers Drive and Chiquita Avenue.
- Phase 3: If the pilot is successful, Phase 3 includes implementation of permanent improvements.

Figures 8 through 13 show roadway cross-sections of the existing and the proposed alternative as well as roadway layout.

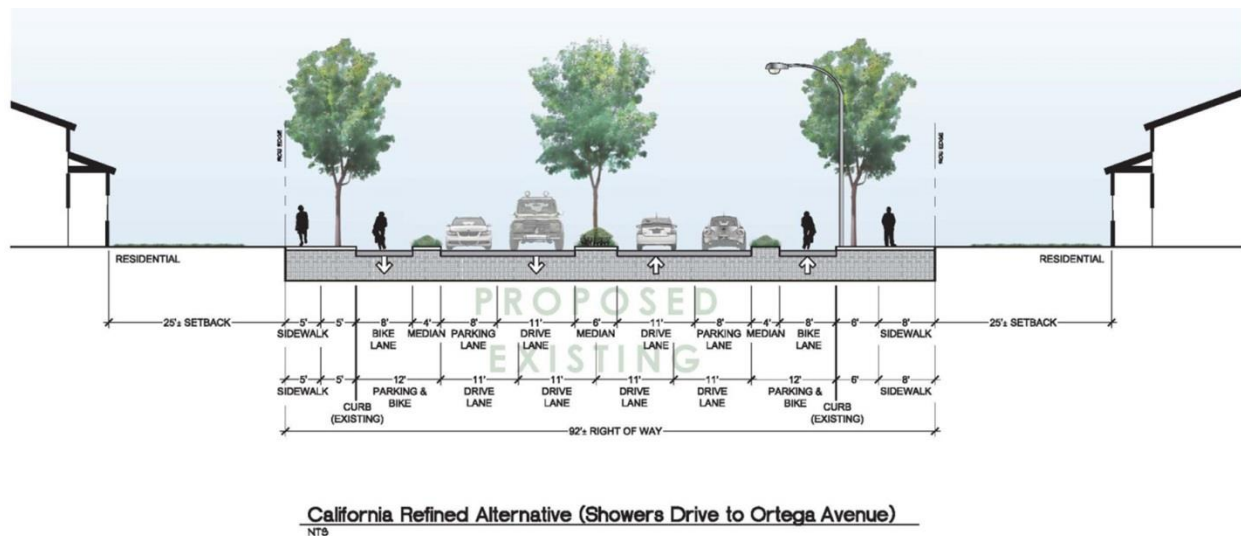


Figure 8 – Refined California Street from Showers Drive to Ortega Avenue

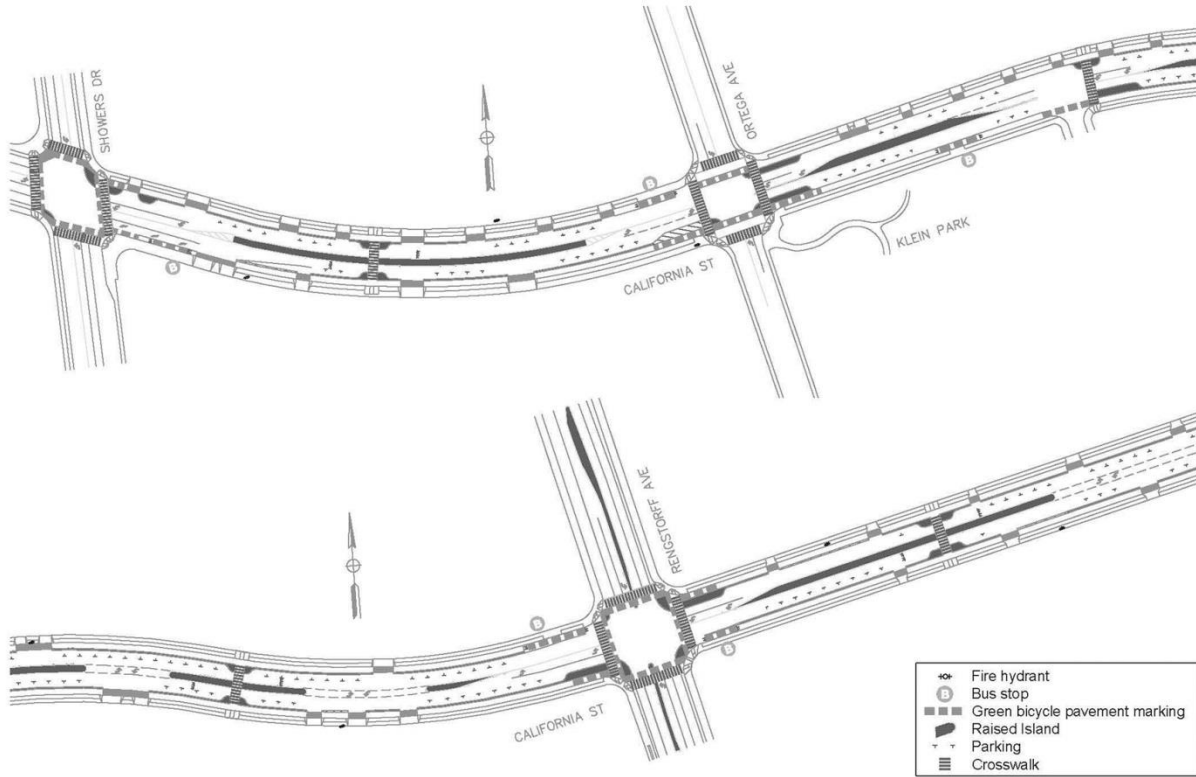


Figure 9 – Refined California Street from Showers Drive to Rengstorff Avenue

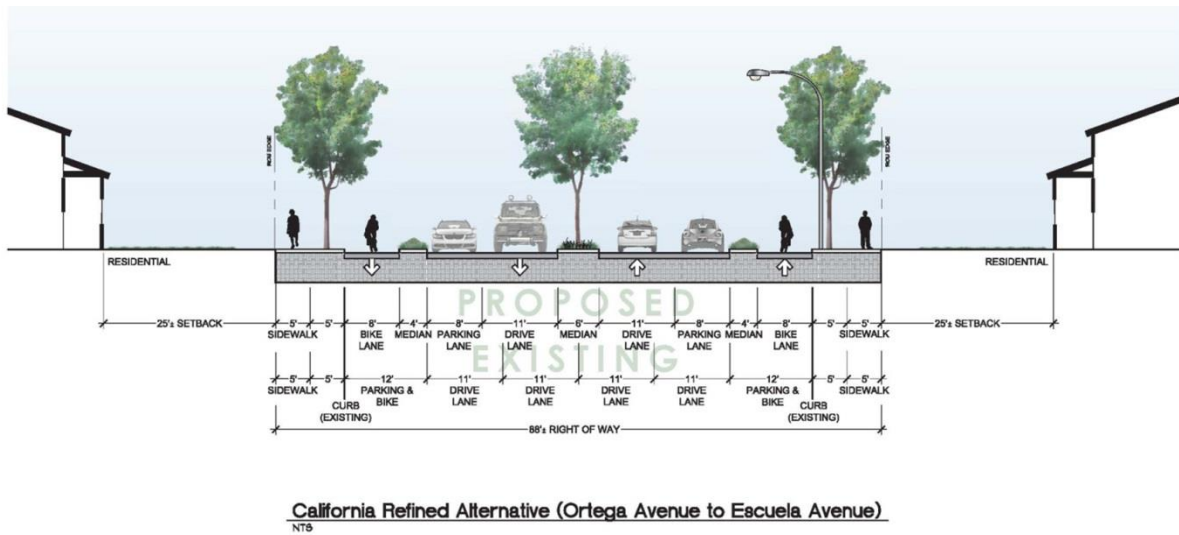


Figure 10 – Refined California Street from Ortega Avenue to Escuela Avenue

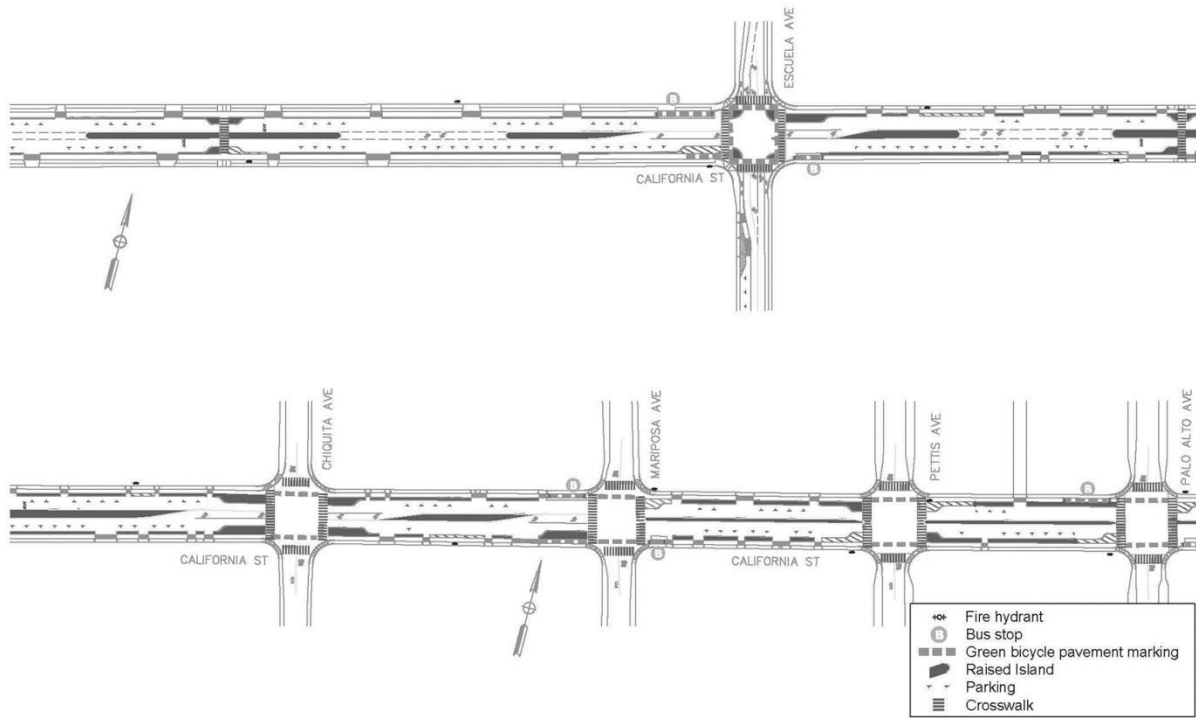


Figure 11 – Refined California Street from Escuela Avenue to Palo Alto Avenue

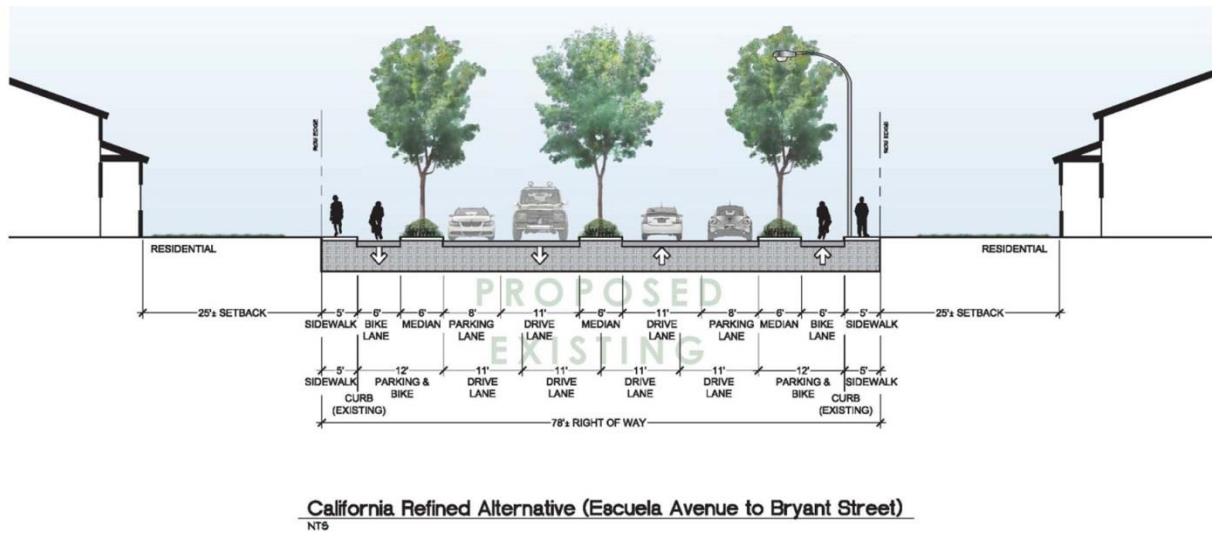
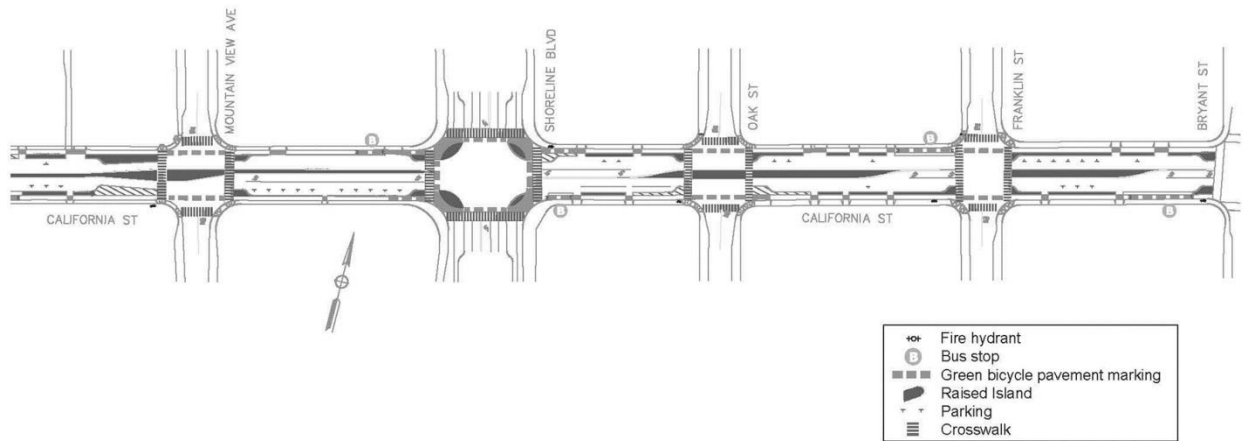


Figure 12 – Refined California Street from Escuela Avenue to Bryant Avenue





**Figure 13 – Refined California Street from Mountain View Avenue to Bryant Avenue**

### Escuela Avenue

Escuela Avenue is B/PAC's highest priority project area. The community was in favor of traffic calming and installation of bike lanes on Escuela Avenue. Consensus at the B/PAC meeting suggested removal of parking along one side of the street from Latham Avenue to Crisanto Avenue.

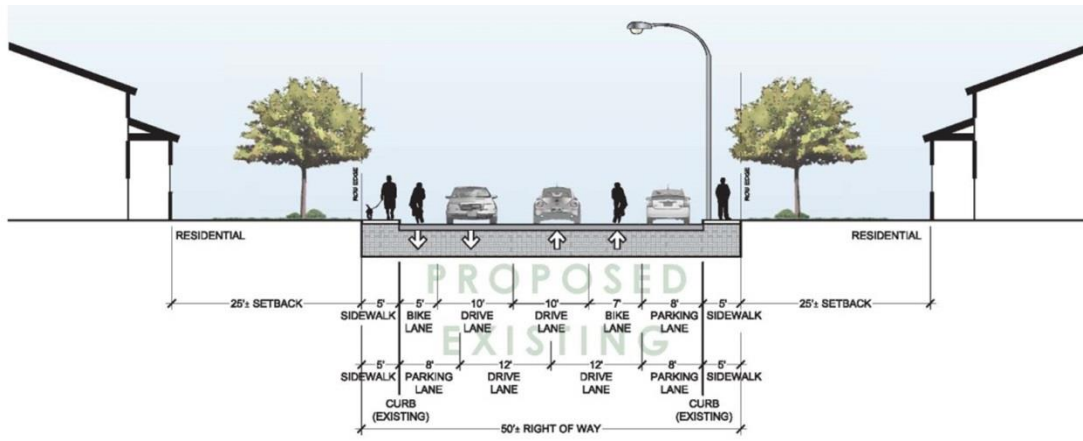
The Refined Alternative includes:

Bulb-outs and high-visibility crosswalks at intersections, raised crosswalks at Castro Elementary School and the Senior Center, installation of Class II bike lanes that connect to other bike facilities (beyond the study area), and removal of parking on the west side of the street.

Suggested phasing for this alternative is as follows:

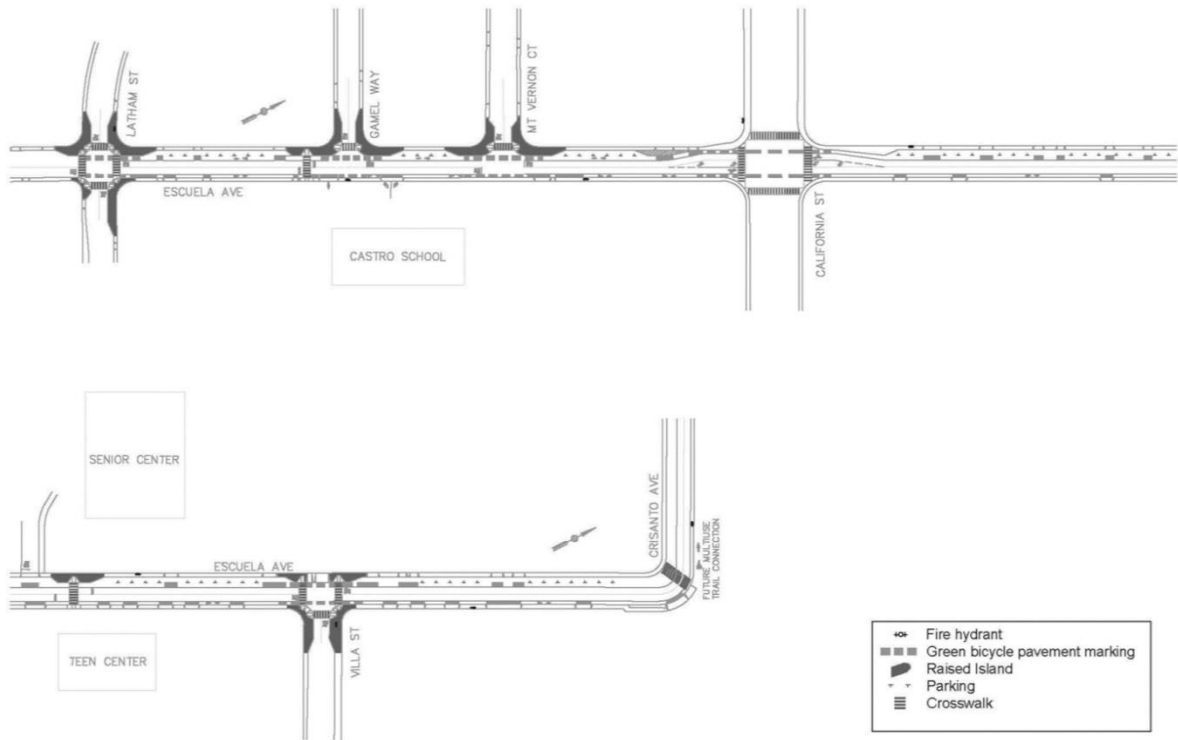
- Phase 1: Includes corner bulb-outs (on the west side of the street), improved crossings, and raised crosswalks at Castro Elementary School and the Senior Center/Teen Center for traffic calming. Implementation of these elements may require removal of one to two on-street parking spaces as most of the areas currently have red curbs. See Figures 14 and 15 below.
- Phase 2: A secondary priority element for Escuela Avenue is removal of parking on the west side to accommodate bike lanes on both sides of the street. Parking

removal would eliminate approximately 45 of 95 parking spaces on the street. **Prior to implementation of parking removal, staff recommends additional, focused outreach to Escuela Avenue residents.**



**Escuela Refined Alternative**  
 NTS

**Figure 14 – Refined Escuela Avenue from Latham Street to Crisanto Avenue**



**Figure 15 – Refined Escuela Avenue from Latham Street to Crisanto Avenue**

## Shoreline Boulevard

The Refined Alternative includes:

### Phase 1:

- Intersection improvements at the intersection of Villa Street to eliminate pedestrian conflict with turning vehicles and reduce crossing distance;
- Narrowing northbound lanes over Central Expressway to accommodate a buffered bike lane, and installation of a buffered bike lane;
- A new sidewalk on the west side of the Central Expressway overpass;
- As with California Street, Phase 1 could include additional traffic analysis to assess the impacts of lane reduction.

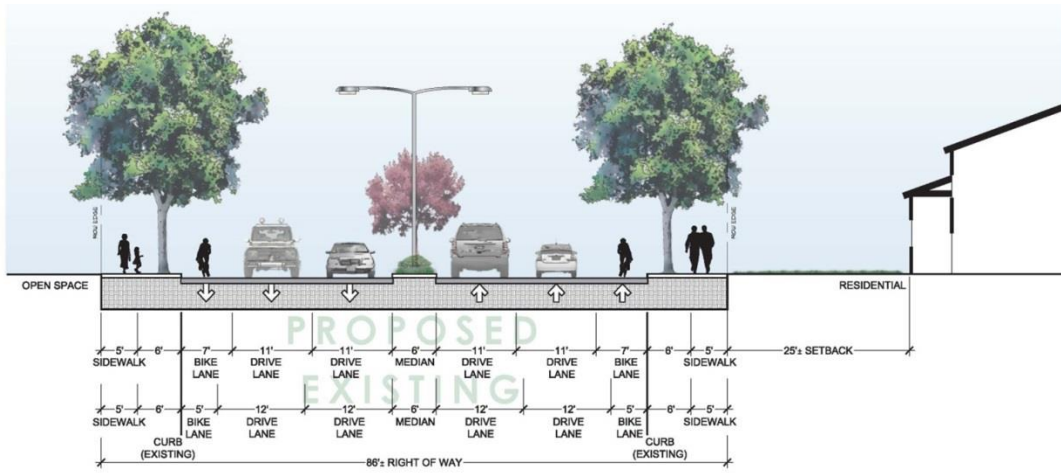
### Phase 2:

- If not included in Phase 1, additional traffic analysis would be performed. If the project proceeds, a pilot lane reduction from six to four lanes would be implemented to test the concept and gain public feedback. The pilot could be implemented with striping and temporary (rubber) curbs and would include parking protected bike lanes.

### Phase 3:

- If the pilot is successful, Phase 3 includes implementation of permanent reduction improvements.
- Squaring up of the on- and off-ramps involves coordination with the County of Santa Clara.

Figures 16 through 19 show the roadway cross-section from the existing to the proposed alternative and the roadway layout.



Shoreline Refined Alternative (Shoreline Blvd. between Wright and Montecito)

NTS

Figure 16 – Shoreline Boulevard from Wright Avenue to Montecito Avenue

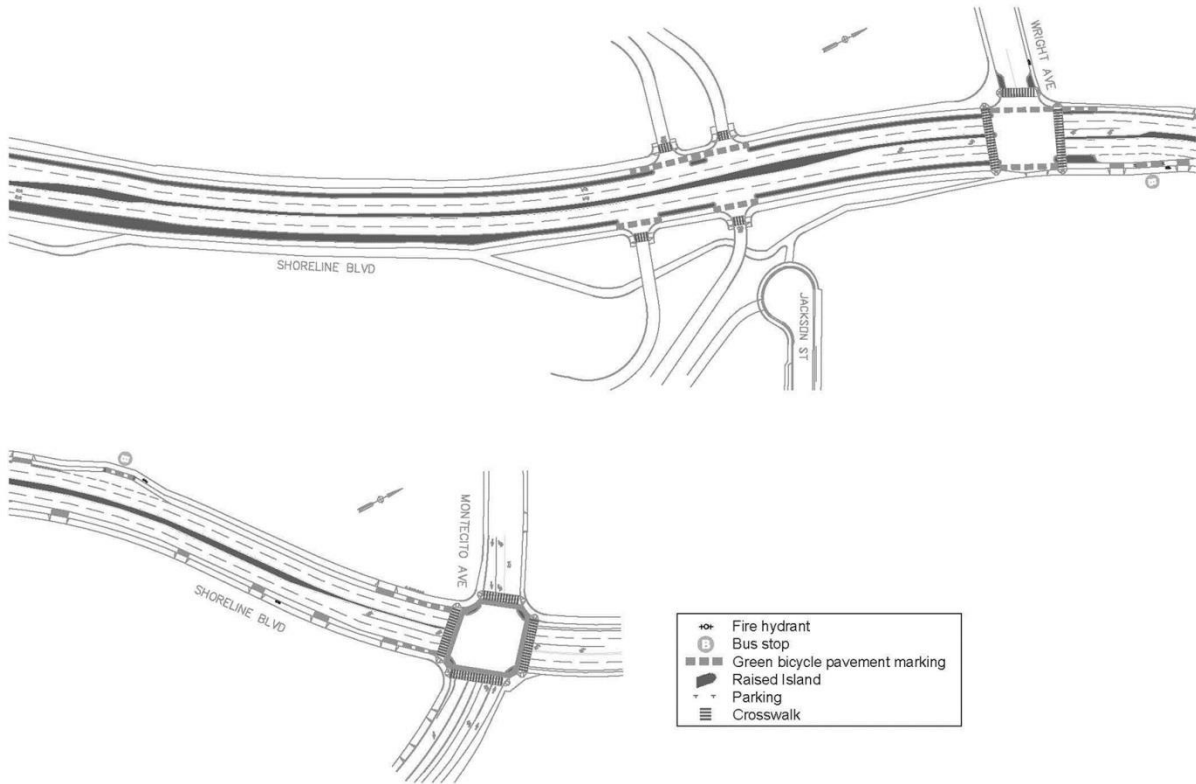
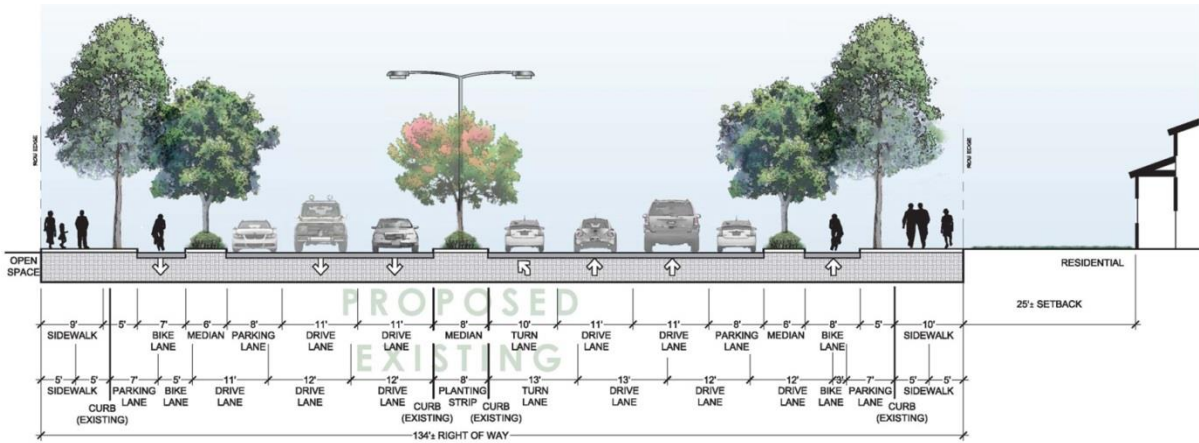


Figure 17 – Shoreline Boulevard from Villa Street to Montecito Avenue



Shoreline Refined Alternative (El Camino Real to Villa Street)

NTS

Figure 18 – Refined Shoreline Boulevard from El Camino Real to Villa Street

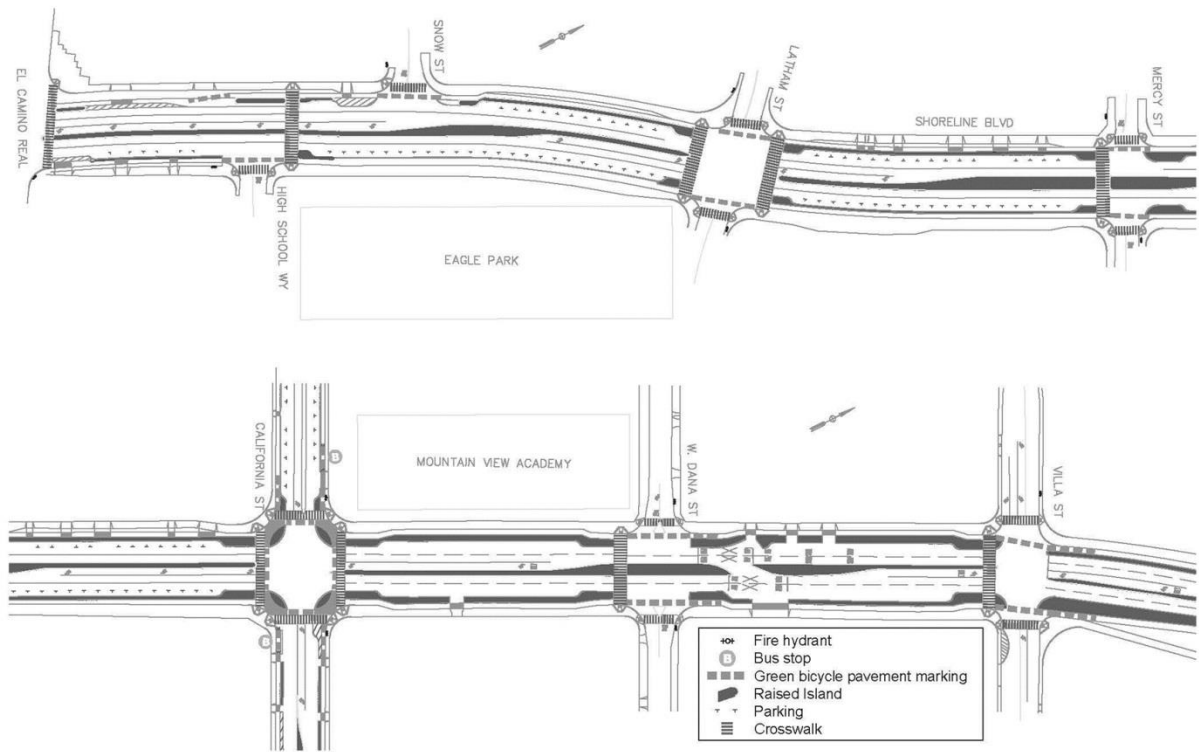


Figure 19 – Refined Shoreline Boulevard from El Camino Real to Villa Street

The following table summarizes the Refined Alternative for each street and corresponding preliminary project cost estimates including cost escalation through the year 2020.

Project Segment	ESTIMATED COST (millions)					
	PHASE 1 RANGE		PHASE 2 RANGE		PHASE 3 RANGE	
	Low	High	Low	High	Low	High
California Street: From Showers Drive to Ortega Avenue	\$0.25	\$0.49	\$1.76	\$2.55	\$1.70	\$2.48
California Street: From Ortega Avenue to Mariposa Avenue	\$0.97	\$2.00	\$9.04	\$12.92	\$4.71	\$7.40
California Street: From Mariposa Avenue to Bryant Street	\$0.60	\$1.22	\$4.41	\$6.35	\$1.11	\$1.44
Escuela Avenue: From Crisanto Avenue to El Camino Real	\$2.70	\$4.50	\$1.60	\$1.70		
Shoreline Boulevard: From Villa Street to El Camino Real	\$0.66	\$1.37	\$2.82	\$4.13	\$2.25	\$3.17
Shoreline Boulevard: From Montecito Road to Villa Street	\$0.45	\$0.94	\$9.39	\$13.78	\$4.16	\$6.24
TOTAL	\$5.63	\$10.52	\$29.02	\$41.43	\$13.93	\$20.73

Staff seeks Council comments on the recommendations regarding the proposed phasing of improvements along Escuela Avenue, California Street, and Shoreline Boulevard.

**NEXT STEPS**

With Council input, staff will work with Nelson\Nygaard to finalize the Complete Streets Study. Input from Council on the proposed alternatives for each of the three roadways will be presented for implementation in the upcoming Capital Improvement Program (CIP) budget process.

## **PUBLIC NOTICING**

Noticing for this meeting include advertisements in the *Mountain View Voice*, announcements on the City's website, signage on City streets, and e-mails sent to all participants of the past public outreach processes and City neighborhood associations.

RSR-LA-MAF/TS/2/CAM  
999-10-13-15SS-E

Attachment: 1. [California/Escuela/Shoreline Complete Streets Feasibility Study Draft Report \(October 2015\)](#)