

Appendix C

Phase 2 Alternatives and Evaluation

The cutsheets contained in this appendix have been superseded by the cutsheets included in the main body of this plan. This appendix is provided for reference.



Memo

Date: October 23, 2025

To: Cassie Halls, Asiya Patel, SamTrans

From: Ingrid Ballús Armet, PE, RSP1; Erin Ferguson, PE, RSP2L; Nina Price; Fehr & Peers

Subject: Central El Camino Multimodal Plan – Design Considerations

This memo accompanies the Central El Camino Multimodal Plan Alternatives Cutsheets and provides context and background information for the Cutsheets. The Central El Camino Multimodal Plan proposes three unique alternatives for El Camino Real in San Mateo, San Carlos, Belmont, and Redwood City, each showing a different vision for the future of the corridor. Each alternative exhibits different modal priorities – one prioritizing transit facilities, one enhancing pedestrian experience, and one providing separated bikeways.

The purpose of the Design Considerations Memo is to outline global design decisions applied to the Central El Camino cross sections. This memo includes general design guidance, an overview of the process to develop the alternative cross sections, and specific segment considerations.

General Design Guidance

Design Information Bulletin-94 (DIB 94) Complete Streets: Contextual Design Guidance

Caltrans' DIB 94 provides guidance for the width of different Complete Streets elements based upon the context of the street. DIB-94 is the primary resource for determining the preferred widths of pedestrian, bicycle, and vehicle facilities along El Camino.

Design Guidance in DIB 94 is tailored to specific place types and corresponding desired operating speeds which are as follows for Central El Camino:

- Selected place type “Urban Community” based on recent and planned land use changes along the corridor
- Corresponding Operating Speed cited in DIB-94: 25–35 miles per hour

The table below shows the suggested minimum lane widths, which are 10.5 feet for Central El Camino.

Table 5.3 Suggested Minimum Lane Widths by Place Type and Proposed Operating Speed

Place Type	Lane Type	Suggested Minimum Lane Widths by Proposed Operating Speed					
		20 mph	25 mph	30 mph	35 mph	40 mph	45 mph
Urban Area – City Center	Through	10.5 ft	10.5 ft	10.5 ft	10.5 ft	10.5-11 ft	10.5-11 ft
	L/R Turn	10.5 ft	10.5 ft	10.5 ft	10.5 ft	10.5-11 ft	10.5-11 ft
	TWLTL	10.5 ft	10.5 ft	10.5 ft	10.5 ft	10.5-11 ft	10.5-11 ft
Urban Area – Urban Community	Through	10.5 ft	10.5 ft	10.5 ft	10.5 ft	10.5-11 ft	10.5-11 ft
	L/R Turn	10.5 ft	10.5 ft	10.5 ft	10.5 ft	10.5-11 ft	10.5-11 ft
	TWLTL	10.5 ft	10.5 ft	10.5 ft	10.5 ft	10.5-11 ft	10.5-11 ft
Suburban Area	Through	10.5 ft	10.5 ft	10.5 ft	10.5-11 ft	11-12 ft	11-12 ft
	L/R Turn	10.5 ft	10.5 ft	10.5 ft	10.5-11 ft	11-12 ft	11-12 ft
	TWLTL	10.5 ft	10.5 ft	10.5 ft	10.5-11 ft	10.5-11 ft	11-12 ft
Rural Main Street	Through	10.5 ft	10.5 ft	10.5-11 ft	10.5-11 ft	11-12 ft	11-12 ft
	L/R Turn	10.5 ft	10.5 ft	10.5-11 ft	10.5-11 ft	11-12 ft	11-12 ft
	TWLTL	10.5 ft	10.5 ft	10.5 ft	10.5-11 ft	10.5 ft	10.5 ft

Note: Cells shaded in gray are outside the range of proposed operating speeds recommended in Table 4.1.

The Highway Design Manual Index 404.4 states that roadways with transit-only lanes or with high volumes of larger design vehicles the minimum lane widths should be 11 feet. All outside lanes in the cross sections – both dedicated transit lanes and shared transit/vehicle lanes – have a width of 11 feet to meet this standard.

The table below shows the widths for one-way bikeways.

Table 5.1.3 One-Way Standard Bicycle Traveled Way Widths* (Class IV)

Bicycle Facility Placement	<u>Minimum (ft)</u>	Preferred (ft)	Practical Maximum (ft)
Between curbs if a raised island is the separation	<u>6-9</u>	7-9	10
Between curb and buffer	<u>5-8</u>	6-8	9**
Between curb and parking buffer	<u>5-8</u>	6-8	9**
Between edge of pavement and buffer, curb, or parking buffer	<u>4-7</u>	5-7	8**
Between through traffic lane and right turn lane	<u>4-7</u>	5-7	8

DIB 94 defines three different zones within sidewalks, as shown in the image below. The widths for each of those zones is presented in DIB 94's Table 5.2.1 below.

Figure 5-O - Sidewalk Zones

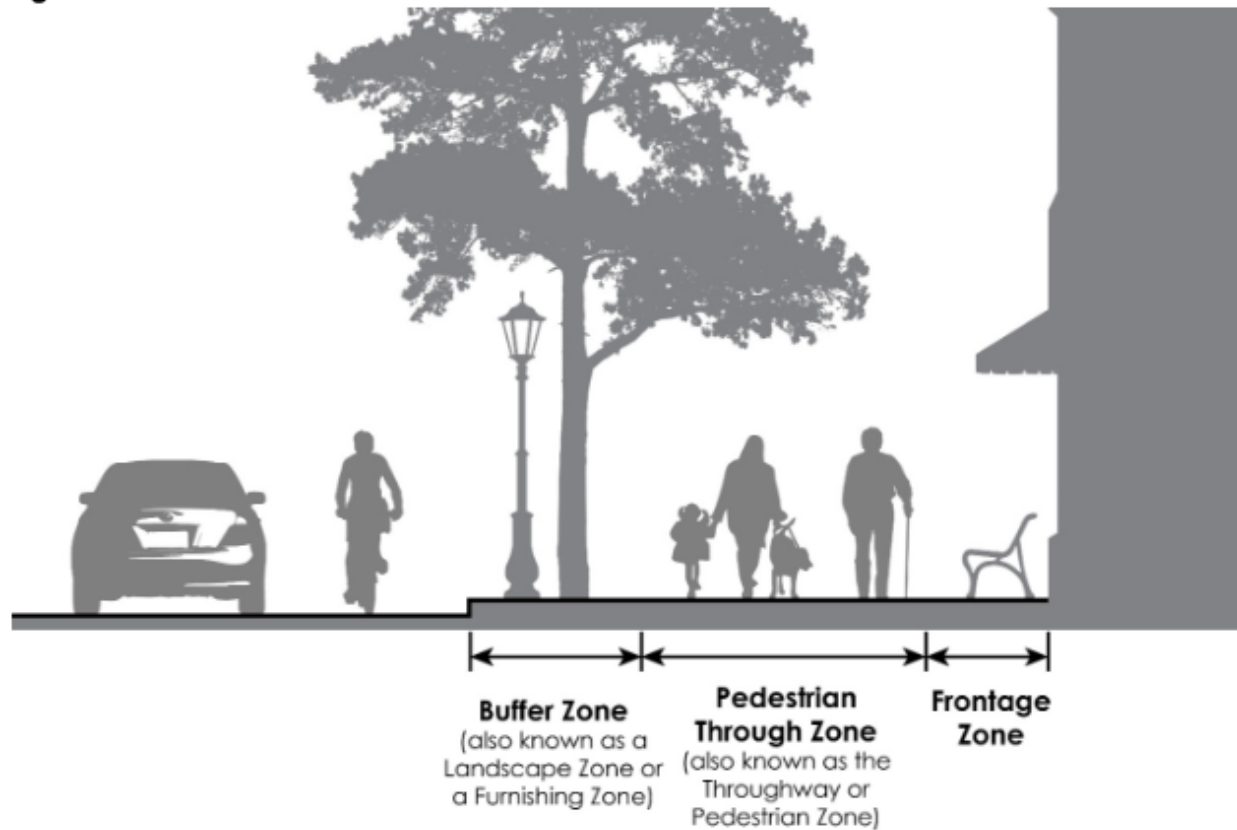


Table 5.2.1 Suggested Sidewalk Zone Widths by Place Type

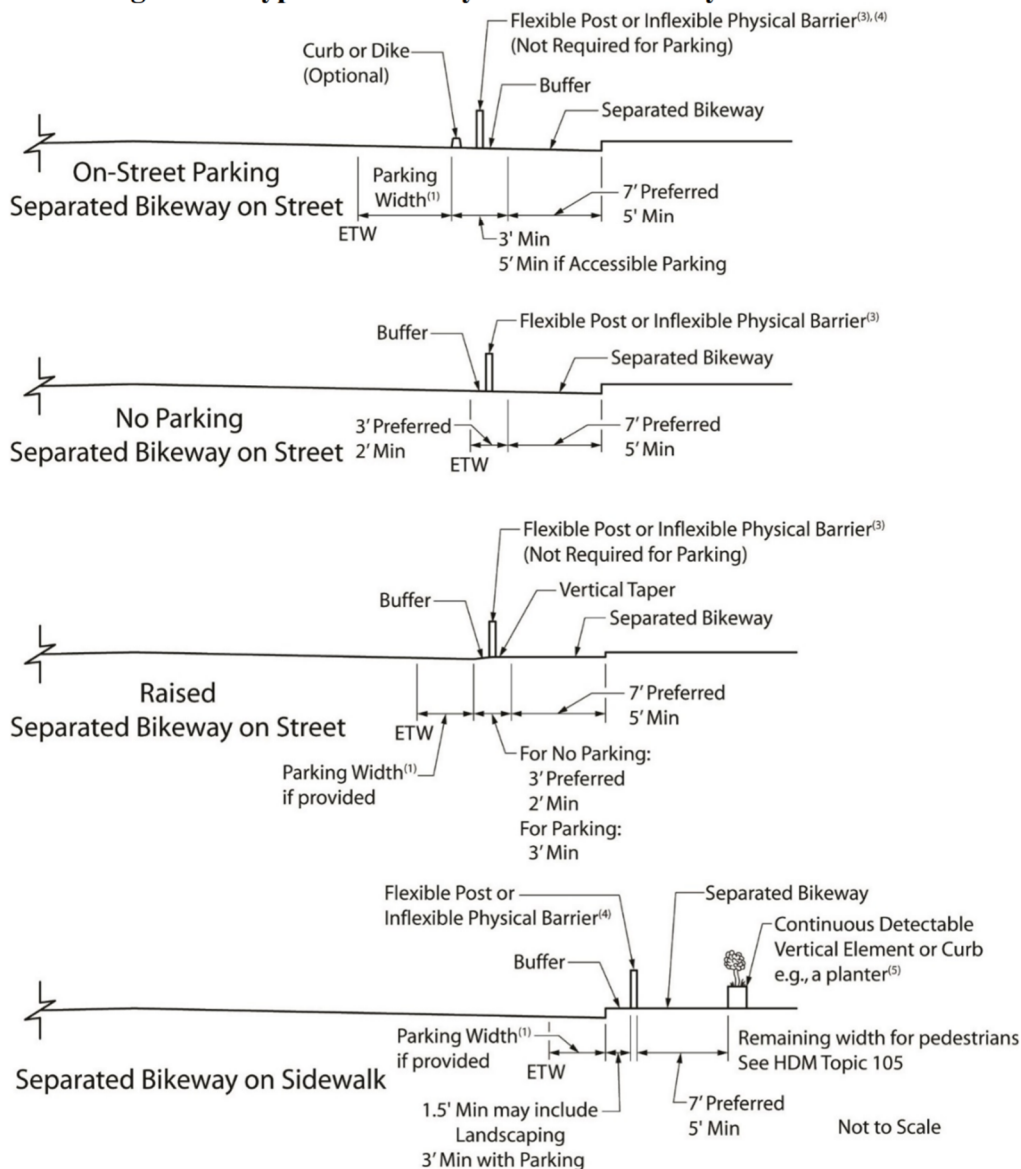
Place Type	Buffer Zone (ft)	Through Zone (ft)	Frontage Zone (ft)
Urban Area – City Center	4-8	6-12	2-4
Urban Area – Urban Community	4-8	6-12	2-4
Suburban Area	2-7	5-8	0-5
Rural Main Street	2-7	5-8	2-5

The frontage zone is often not within the public ROW and thus those are not shown in the cross sections for Central El Camino; only the buffer zone and through zone are shown.

Design Information Bulletin 89-02 (DIB 89-02) Class IV Bikeway Design Guidance

DIB 94 references DIB 89-02 for detailed cross section guidance and dimensions as it relates to separated bikeway design. DIB 89-02 provides guidance for the design of Class IV Separate Bikeways, both for the basic cross sections and for conflict locations at intersections, driveways, and loading areas. Guidance for the cross sections is presented in DIB 89-02's Figure 4 below:

Figure 4: Typical One-Way Class IV Bikeway Cross Sections



City Standards

Fehr & Peers reviewed the relevant city-specific codes for sidewalk widths along El Camino. Future detailed survey during the PA&ED phase will be necessary to determine whether the limits of Caltrans ROW incorporate the sidewalks, or if they are owned by the city and therefore subject to the following zoning codes. The following zoning codes are documented as guidance to demonstrate a good-faith effort to meet city standards.

San Mateo

Sidewalk width standards are currently being updated and will be expected to be adopted in 2025.

Belmont

The general preference is to maintain a minimum sidewalk through zone width of 5 feet, with an additional 0.5-foot curb and a starting distance of 1 foot from the property line. Variations may be allowed depending on the amount of right-of-way available.

San Carlos

Although there are no standards for sidewalk width, the 2023 Zoning Code requires a 20 foot setback from the face of curb for all Mixed-Use zones along El Camino.

Redwood City

Relevant zoning types:

- MUN (Mixed-Use Neighborhood District), from Edgewood Road to Whipple Avenue
- Mixed-Use Corridor Zoning District, from Whipple Avenue to Brewster Avenue

Minimum sidewalk width for both zoning types: 12 feet.

Minimum sidewalk width is defined as the shortest distance between the two edges of the surface area available and retained for pedestrian access. Street trees may be located within the required sidewalk area, provided that at least **8 feet in width of sidewalk** area is available and unimpeded for pedestrian traffic.

Other Design Considerations

- Width of landscaping strip for small planting: 2–4 feet
- Width of landscaping strip for larger trees: minimum 5 feet
- Pedestrian refuge island width: minimum 6 feet (California Highway Design Manual 405.4(3))
- Parking lane width: 8 feet (California Manual on Uniform Traffic Control Devices 3B.19)

Process for Developing Alternatives

The alternatives were developed to align with the overarching goals and themes of the Grand Boulevard Initiative (GBI). This process included a virtual walkthrough with city staff, review of community input gathered through the summer, and a series of workshops with each city to begin drafting and refining the alternatives. The alternative cross sections were developed as follows.

Baseline Items: these elements create the foundation for every alternative:

- Four general purpose vehicle lanes (two in each direction).¹
- Ability to include left turn pockets at intersections:
 - No parking: 10.5'+ median that can taper into a left turn pocket.
 - With parking: assume ability to remove parking at intersections and taper leftover width into left turn pocket.
- Sidewalks on both sides of the street.
- On-street parking is either maintained, reduced, or eliminated, but not added along the corridor.

Alternative Prioritization: the remaining space from the baseline items is dedicated across the three alternatives based upon their modal priority:

Transit Priority: The transit priority alternative seeks to improve bus operations by providing dedicated transit lanes or other cross-section improvements to support bus speed and reliability. The secondary priority for this alternative is to make improvements to the pedestrian infrastructure such as wider sidewalks or refuge islands to improve visibility at intersections. These enhancements would improve safety and accessibility for people taking transit. If desired, individual cities may pursue regulatory changes to allow dedicated transit lanes to serve as shared bus and bike facilities, especially where a parallel bike route may not be feasible. The following considerations guided the development of the Transit Priority alternative:

1. Include dedicated transit lanes as recommended in the SamTrans Bus Speed and Reliability Study.
2. Where dedicated transit lanes are recommended in the SamTrans study only in one direction or neither direction, consider additional opportunities to convert existing travel lanes or extra space into a dedicated lane.
3. Include space for left-turn pockets at intersections to improve operations of the through lanes and reduce conflicts with transit vehicles.
4. Where there is remaining width in the cross section, prioritize improvements to pedestrian facilities, including widening sidewalks to 6', adding landscaping strips, and providing a wide enough median to serve as a pedestrian crossing refuge island.

Pedestrian Priority: The pedestrian priority alternative seeks to improve comfort and safety for people walking by providing wide sidewalks and landscaping for shade which, at a minimum, meet Caltrans DIB 94 guidance for the widths of the sidewalk zones. The cross sections are also configured to support improved crossing conditions using bulb outs, median refuge islands, or otherwise shortening the crossing distances through lane reductions. The secondary priority for this alternative

¹ See Level of Service Memo

is parking or maintaining existing vehicle capacity. The following considerations guided the development of the Pedestrian Priority alternative:

1. Include sidewalks that are at least 6 feet wide, and up to 15' in width.
2. Include landscaping strips that are at least 5' wide to provide space for large trees to shade the walkway.
3. Where there is remaining width, prioritize maintaining parking (where it already exists) or a travel lane if traffic volumes warrant it.

Bicycle Priority: The bicycle priority alternative seeks to improve the experience for people biking by providing dedicated and separated space for bikes (Class IV separated bike facilities) and by providing landscaping for shade. These bike facilities meet the selection criteria outlined in Caltrans' DIB 94 for El Camino based on vehicle volumes and speeds. The secondary priority for this alternative is to make improvements to pedestrian facilities. The following considerations guided the development of the Bicycle Priority alternative:

1. Include directional, separated bike facilities on both sides of the street that are at least 5' wide with at least 3' of separation (minimum 1' of separation in constrained conditions).
 - We opted for directional bike facilities instead of a two-way configuration to simplify intersection operations and reduce conflicts. A two-way facility, especially on the west side where bikes would want to be, would have introduced additional conflicts due to frequent side streets and driveways.
2. Include landscaping strips to provide shade to the bike facility and sidewalk.
3. Where there is remaining width in the cross section, prioritize improvements to pedestrian facilities, including widening sidewalks to 6', adding landscaping strips, and providing a wide enough median to include a refuge island at crossings.

Segment Considerations

The following table describes specific segment alternatives which deviate from the standards or processes described above for additional context.

Segment	Alternative	City	Consideration
1 & 2	All	San Mateo	Sidewalk through zone is maintained at the existing 5 feet in width because widening the through zone would require removing the existing trees which provide desired shade for pedestrians, and have high associated costs. For this reason, Alternative 2 is omitted from this segment.
3	1	San Mateo	Sidewalk through zone is maintained at the existing 5 feet in width because widening the sidewalks' through zone would have high associated costs.
2	2	San Mateo	Alternative 2 is excluded because widening the sidewalks' through zone would only be possible by removing the existing large trees which provide desired shade for pedestrians.

Segment	Alternative	City	Consideration
3	All	San Mateo	Alternatives currently show left turn pockets at intersections. During future detailed design stages, consider restricting northbound left turn movements to provide space for a right turn pocket instead.
4	1A & 1B	San Mateo	Two transit priority alternatives are included to demonstrate the trade-off of maintaining or removing parking: parking removal allows pedestrian improvements to include shading and a wide median.
4	2	San Mateo	Alternative 2 maintains three vehicle lanes in each direction rather than maintaining parking because this is one of the highest traffic volume segments of El Camino and it may be prudent to advance an alternative that maintains capacity.
5	1A & 1B	San Mateo	Two transit priority alternatives are included to demonstrate that two transit lanes may be accommodated, however, the Bus Speed and Reliability Study recommends a southbound bus lane only. For the alternative with a southbound bus lane only, there is space to include bike facilities and pedestrian facilities that meet desired widths.
5	2	San Mateo	Parking is maintained on the west side only due to a higher land use density on that side.
6	All	Belmont	The cross sections are designed to prioritize maintaining the existing large trees in the median where possible as they provide shade, aesthetic value, and traffic calming benefits appreciated by the community.
7	3	San Carlos	Reflects the cross section from the Downtown Streetscape Master Plan, although differences in documented ROW required reducing the width of the center median and sidewalks.
8	1	Redwood City	The cross section does not meet minimum sidewalk widths in the Redwood City Zoning Code but does meet minimum widths in Caltrans Guidance. During PID phase, confirm ROW limits and governing standards.
8	3	Redwood City	The cross section is consistent with the southern SHOPP project and Redwood City's ECR Corridor plan. Note that the current sidewalks do not meet the minimum widths in the Redwood City Zoning Code on the west side of the street. During PID phase, confirm ROW limits and governing standards.

Intersection Considerations

The cross-section designs do not include detailed designs for intersections. The Cutsheets do include sample concepts for what a typical signalized intersection may look like. In future phases of design, the following is a non-exhaustive list of elements to be considered:

Signalized intersections:

- Include marked pedestrian crossings across all legs.
- Provide protected left turn phases.
- Evaluate left turn restrictions where phasing cannot accommodate protected left turn phases
- Include leading pedestrian intervals at all signalized crossings.
- Where Class IV bike facilities are proposed on El Camino, eliminate (via signal phasing) permissive left turn conflict with through bike movements. Provide “No Right Turn on Red” blank out signage.
- Where Class IV bike facilities are proposed on El Camino and Class II or Class IV bike facilities exist or are proposed on an intersecting street, evaluate the feasibility of a protected intersection.

Side-Street Stop-Controlled Intersections:

- Include a high visibility crossing and advanced stop bars across the side street.
- Evaluate prohibiting left turns in and out of side streets.
- Where there is an existing or proposed pedestrian crossing across El Camino, include a Pedestrian Hybrid Beacon or Rectangular Rapid Flashing beacon and associated measures as described in the FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations².

² https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-07/STEP_Guide_for_Improving_Ped_Safety_at_Unsig_Loc_3-2018_07_17-508compliant.pdf



Introduction

About the Cutsheets

The following cutsheets present alternative cross sections for each of the eight segments along Central El Camino Real. The segments denote changes in available right-of-way and existing lane configuration. The alternatives are organized by modal priority:

- Alternative 1: Transit Priority
- Alternative 2: Pedestrian Priority
- Alternative 3: Bicycle Priority

The attached Design Considerations Memo provides further explanation about the development of alternatives.

Each City will select its preferred alternative(s) for its segment(s) based on local needs and priorities and will collaborate with others to ensure smooth transitions and create a seamless, cohesive corridor experience throughout Central El Camino Real. Future phases of the Grand Boulevard Initiative (GBI) will continue coordinating across jurisdictions to support a seamless experience along the entire El Camino Real corridor.

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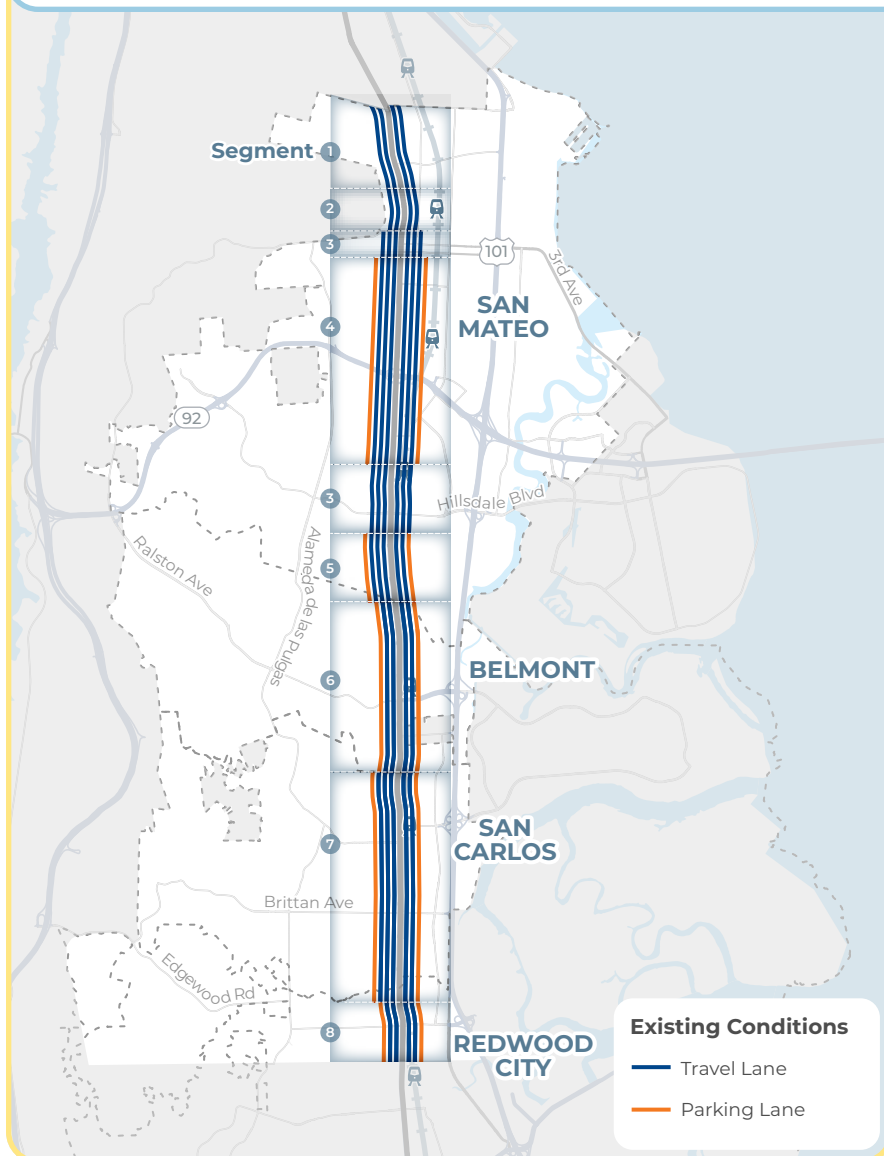
Existing Conditions



About

The existing condition for El Camino Real is heavily oriented toward vehicle travel. There are no existing dedicated transit facilities or bike facilities, and sidewalks are generally narrow, missing, or lack

shade throughout the study area. There are at least two vehicle lanes in each direction throughout the corridor and parking is provided along both sides of the street for most of the corridor.



Evaluation Matrix

The following table provides a summary of how the existing condition aligns with various policy, benefits people while using different modes, impacts the environment, and responds to community input.

See the *Alternative Evaluation Memo* for the full evaluation matrix and more information

Topic	Low	Medium	High
Alignment with Caltrans Policy	X		
Alignment with Local Policy	X		
Benefits for People Walking	X		
Benefits for People Biking	X		
Benefits for People Riding Transit	X		
Benefits for People Driving and Parking		X	
Benefits for the Environment	X		
Addressing Community Input	X		

CORRIDOR OVERVIEW

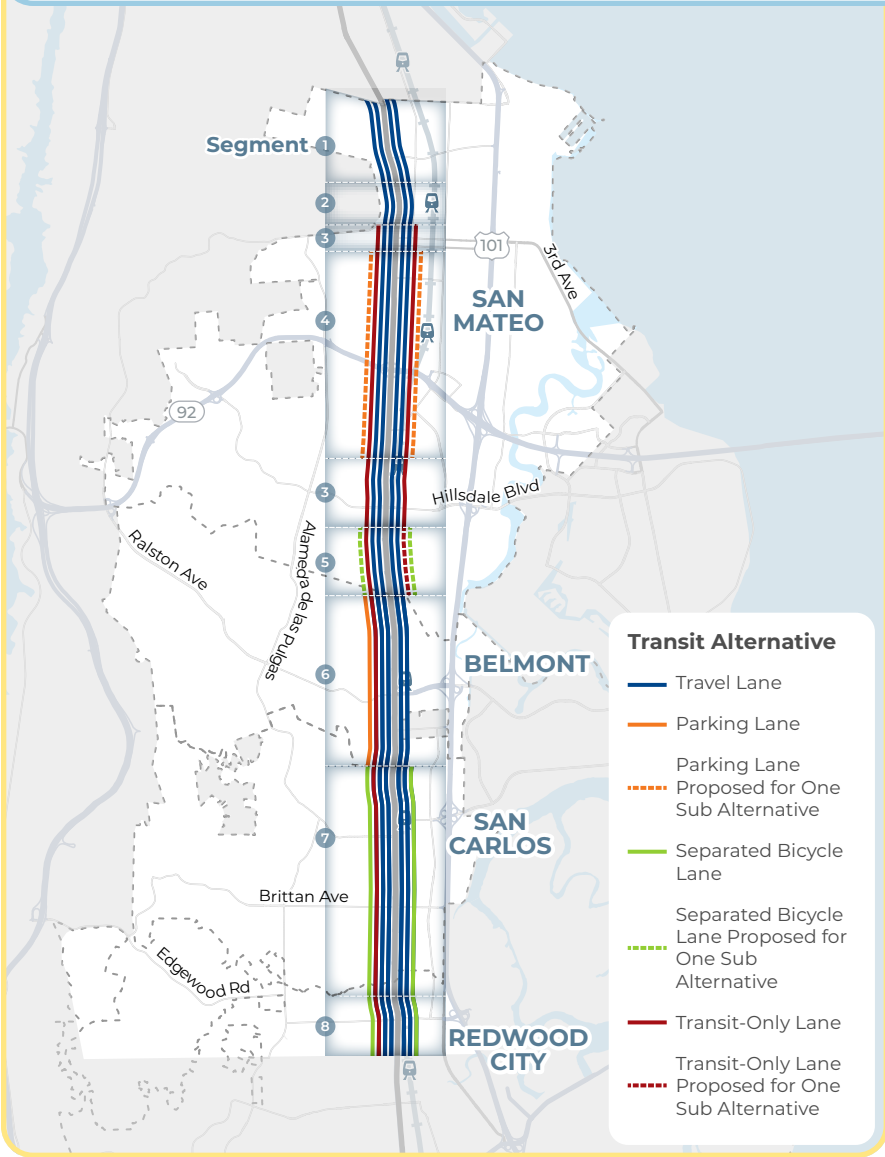
Alternative 1:
Transit Priority



About

The Transit Priority alternative seeks to improve bus operations by providing dedicated transit lanes or other cross-section improvements that support bus speed and reliability. At a minimum, cross sections show recommendations from the SamTrans Bus Speed and Reliability Study.

The second priority for this alternative is to improve the pedestrian experience through wider sidewalks or refuge islands to improve visibility at intersections. Some segments have multiple sub alternatives to demonstrate tradeoffs between allocating remaining space to different modes.



Evaluation Results

Estimated Cost: \$14.3M per mile

The following table provides a summary of how the alternative aligns with various policy, benefits people while using different modes, impacts the environment, and responds to community input.

See the Alternative Evaluation Memo for the full evaluation matrix and more information

Topic	Low	Medium	High
Alignment with Caltrans Policy		X	
Alignment with Local Policy			X
Benefits for People Walking		X	
Benefits for People Biking		X	
Benefits for People Riding Transit			X
Benefits for People Driving and Parking	X		
Benefits for the Environment			X
Addressing Community Input		X	

CORRIDOR OVERVIEW

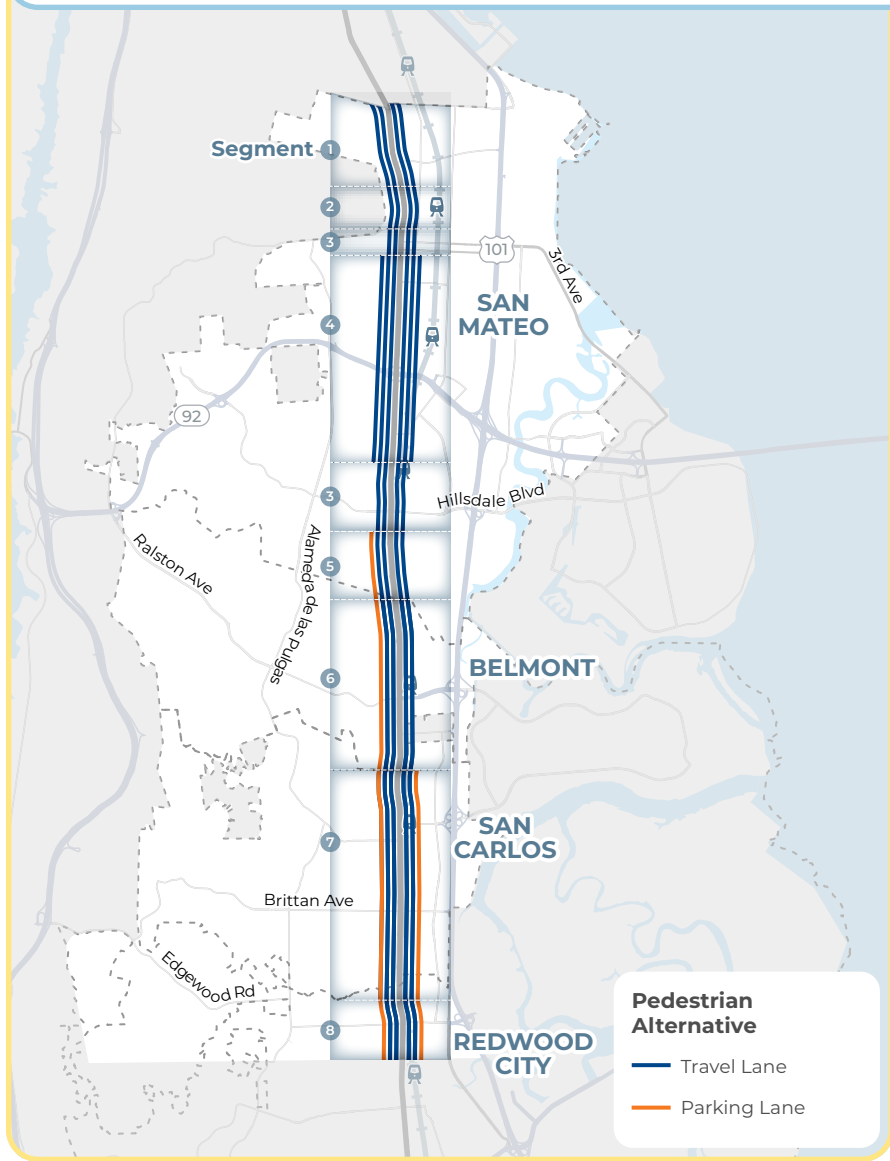
Alternative 2: Pedestrian Priority



About

The Pedestrian Priority alternative seeks to improve comfort and safety for people walking by providing wide sidewalks and landscaping for shade which, at a minimum, meet Caltrans DIB 94 guidance for the widths of the sidewalk zones. The cross sections are also configured to support

improved crossing conditions using bulb outs, median refuge islands, or otherwise shortening the crossing distances through lane reductions. The secondary priority for this alternative is existing parking or maintaining vehicle capacity.



Evaluation Results

Estimated Cost: \$13.3M per mile

The following table provides a summary of how the alternative aligns with various policy, benefits people while using different modes, impacts the environment, and responds to community input.

See the Alternative Evaluation Memo for the full evaluation matrix and more information

Topic	Low	Medium	High
Alignment with Caltrans Policy		X	
Alignment with Local Policy		X	
Benefits for People Walking			X
Benefits for People Biking	X		
Benefits for People Riding Transit		X	
Benefits for People Driving and Parking		X	
Benefits for the Environment		X	
Addressing Community Input		X	

CORRIDOR OVERVIEW

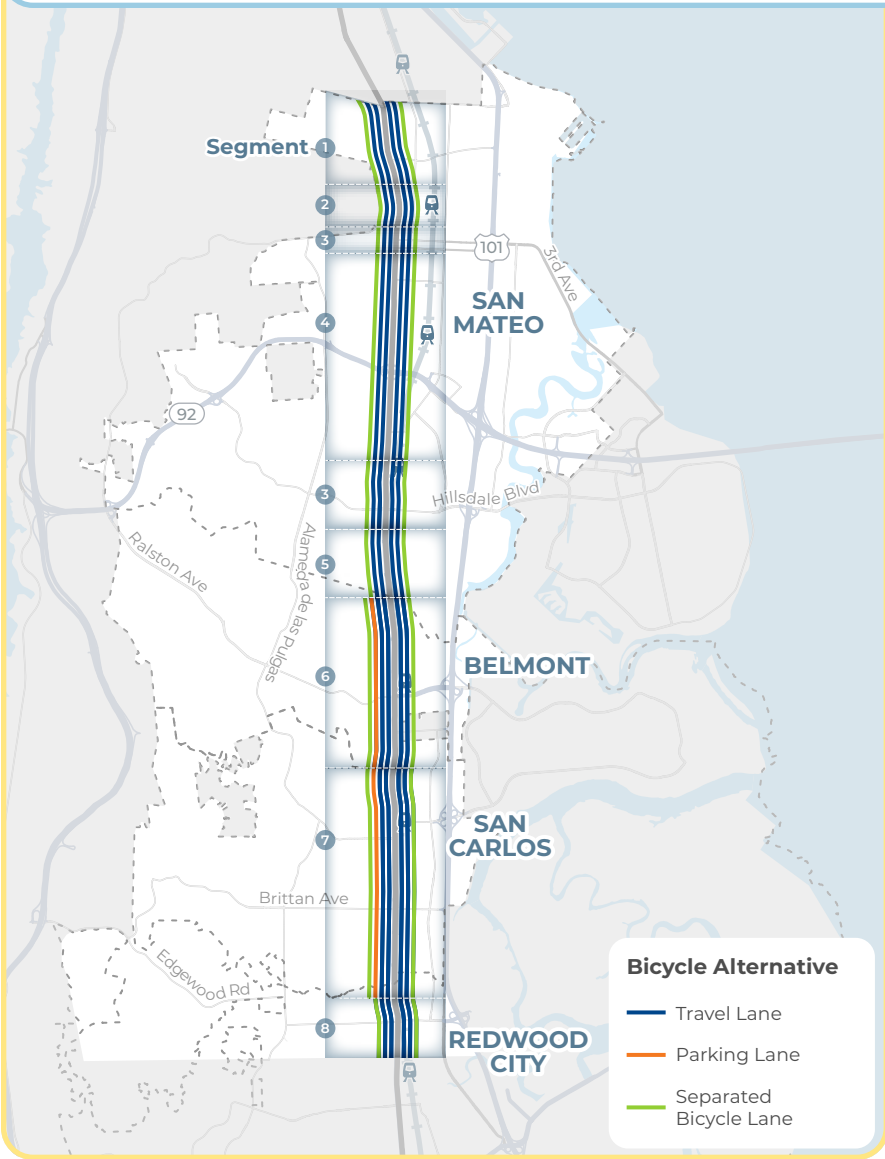
Alternative 3:
Bicycle Priority



About

The bicycle priority alternative seeks to improve the experience for people biking by providing dedicated and separated space for bikes and landscaping for shade. The secondary

priority for this alternative is generally to make improvements to pedestrian facilities through wider sidewalks, landscaping and trees for shading, and pedestrian refuges at crosswalks.



Evaluation Results

Estimated Cost: \$14.7M per mile

The following table provides a summary of how the alternative aligns with various policy, benefits people while using different modes, impacts the environment, and responds to community input.

See the Alternative Evaluation Memo for the full evaluation matrix and more information

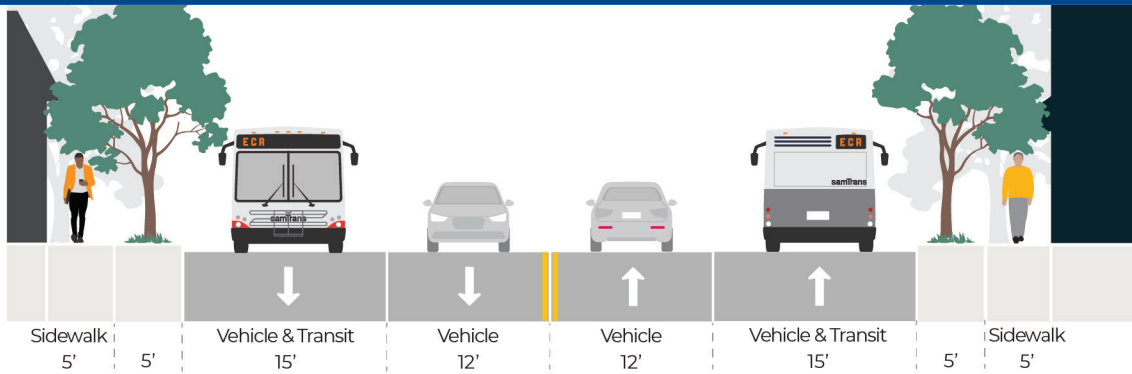
Topic	Low	Medium	High
Alignment with Caltrans Policy			X
Alignment with Local Policy		X	
Benefits for People Walking			X
Benefits for People Biking			X
Benefits for People Riding Transit	X		
Benefits for People Driving and Parking	X		
Benefits for the Environment			X
Addressing Community Input		X	

Peninsula Ave to Monte Diablo Ave



Existing Cross Section

(Looking North) 74'



Existing Street Characteristics

Roadway Elements

- Two lanes in each direction
- No left turn pockets
- No on-street parking
- Challenges with permissive left turn phasing

Land Uses

- Medium-density residential areas

Other Street Elements

- Sidewalks on both sides of the street, with trees
- Somewhat comfortable walking conditions

Previous Planning Studies

San Mateo Complete Streets Master Plan (Ongoing)

- Spot recommendations for multimodal safety improvements

Caltrans District 4 Pedestrian Plan (2021)

- Highest priority (Tier 1) for pedestrian improvements

C/CAG Countywide Bicycle and Pedestrian Plan (2021)

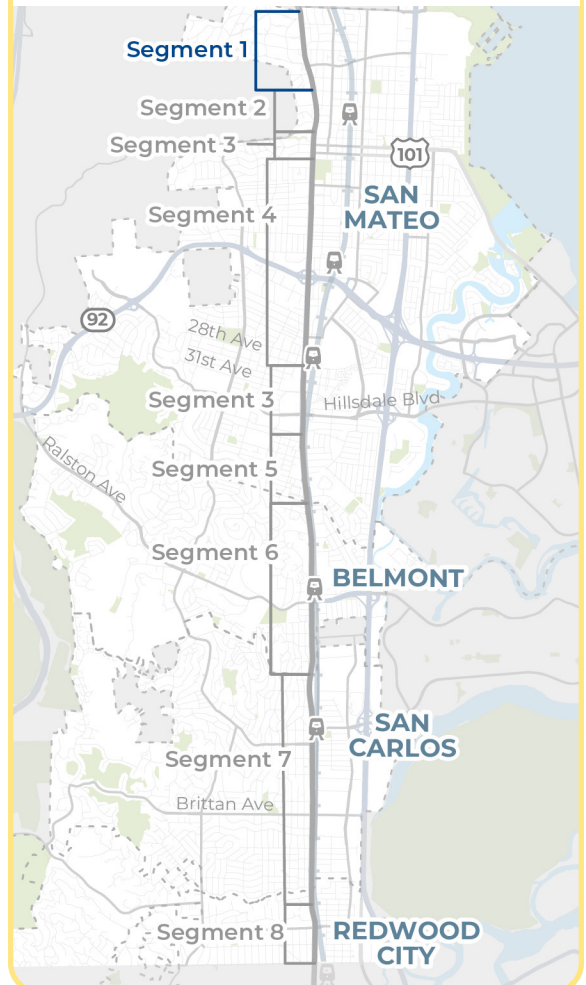
- On the Countywide Backbone Network

SamTrans Bus Speed and Reliability Study (2022)

- No bus lanes

For more complete information about existing conditions see Project Needs Assessment.

Extent Location

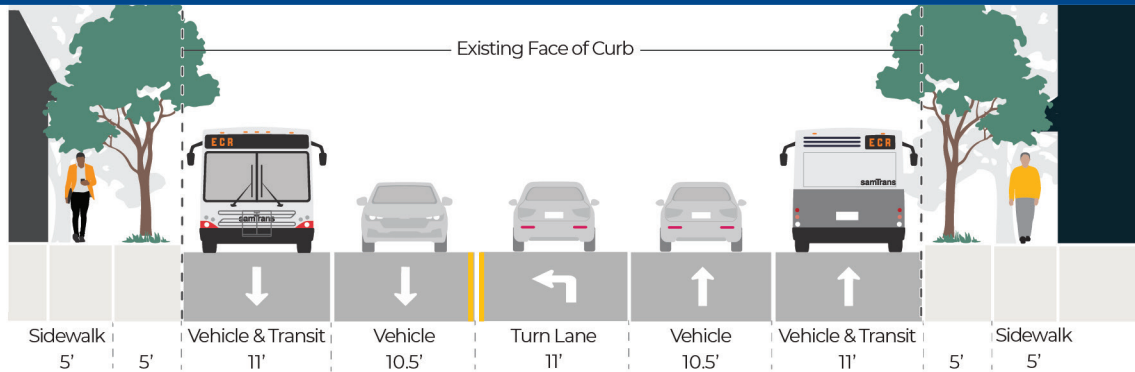


Peninsula Ave to Monte Diablo Ave



Alternative 1 - Transit

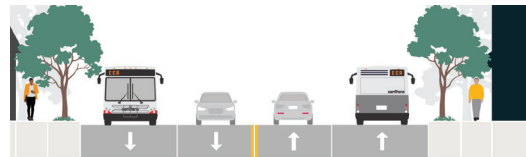
(Looking North) 74'



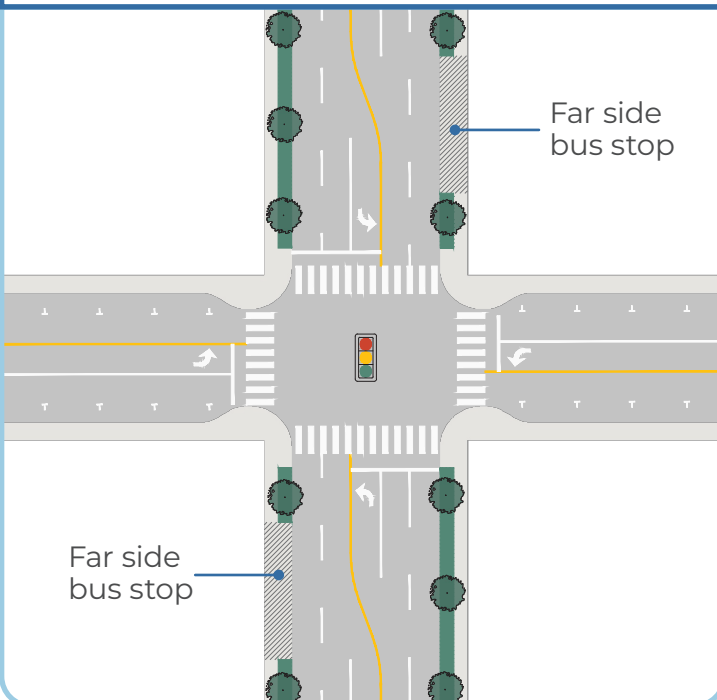
Key Changes

- Left turn pockets added

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$4.7M (0.8 miles)

Where this alternative scores high:

- Alignment with local policies
- Transit reliability
- Vehicle delay

Where this alternative scores low:

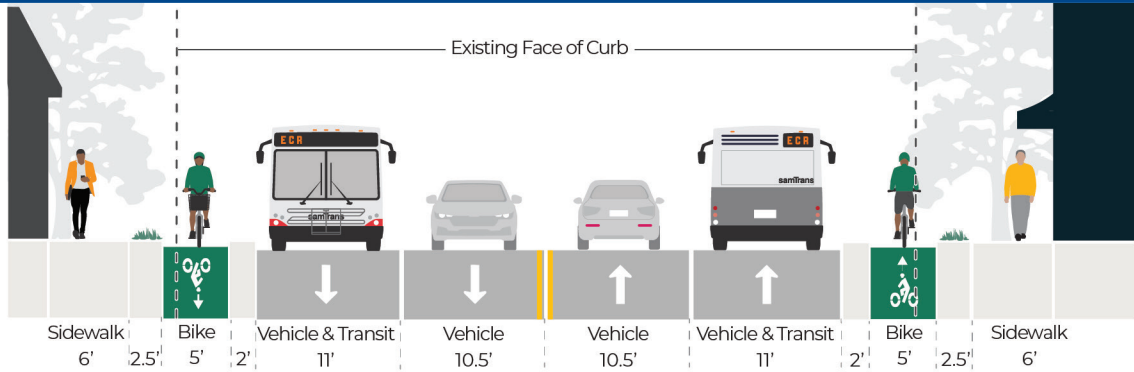
- Bicycle comfort
- Pedestrian comfort

Peninsula Ave to Monte Diablo Ave



Alternative 3 - Bicycle

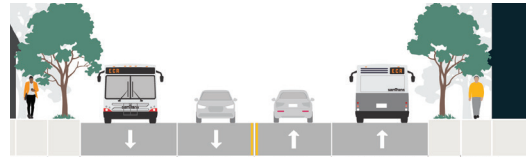
(Looking North) 74'



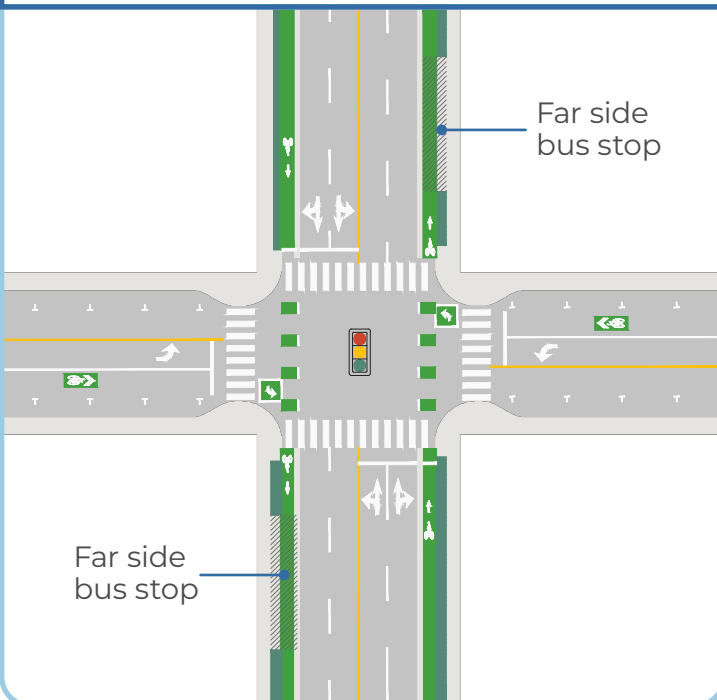
Key Changes

- Separated bike facilities added
- Sidewalks widened on both sides
- Landscaping narrowed on both sides, no trees

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$8.3M (0.8 miles)

Where this alternative scores high:

- Alignment with Caltrans policies
- Bicycle comfort

Where this alternative scores low:

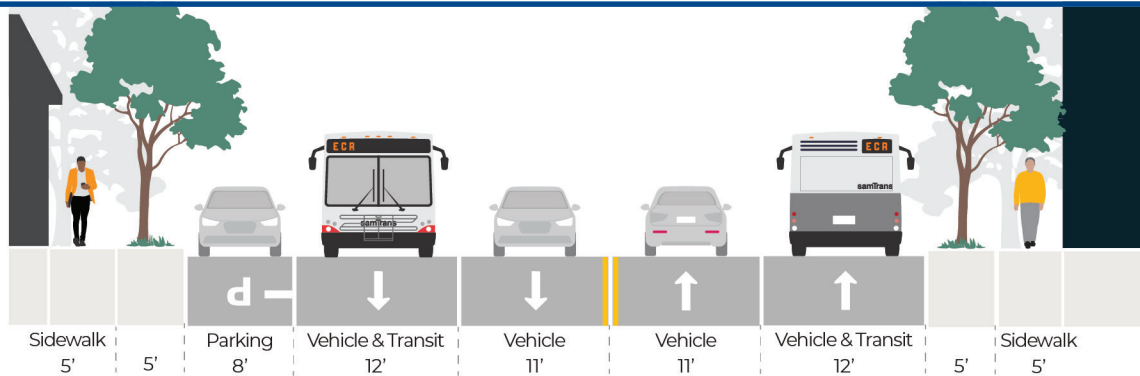
- Alignment with local policies
- Transit reliability
- Pedestrian comfort

Monte Diablo Ave to Crystal Springs



Existing Cross Section

(Looking North) 74'



Existing Street Characteristics

Roadway Elements

- Two lanes in each direction
- No left turn pockets
- On-street parking on the west side
- Challenges with permissive left turn phasing

Land Uses

- Medium-density residential areas

Other Street Elements

- Sidewalks on both sides of the street, with trees
- Somewhat comfortable walking conditions

Previous Planning Studies

San Mateo Complete Streets Master Plan (Ongoing)

- Spot recommendations for multimodal safety improvements

Caltrans District 4 Pedestrian Plan (2021)

- Highest priority (Tier 1) for pedestrian improvements

C/CAG Countywide Bicycle and Pedestrian Plan (2021)

- On the Countywide Backbone Network

SamTrans Bus Speed and Reliability Study (2022)

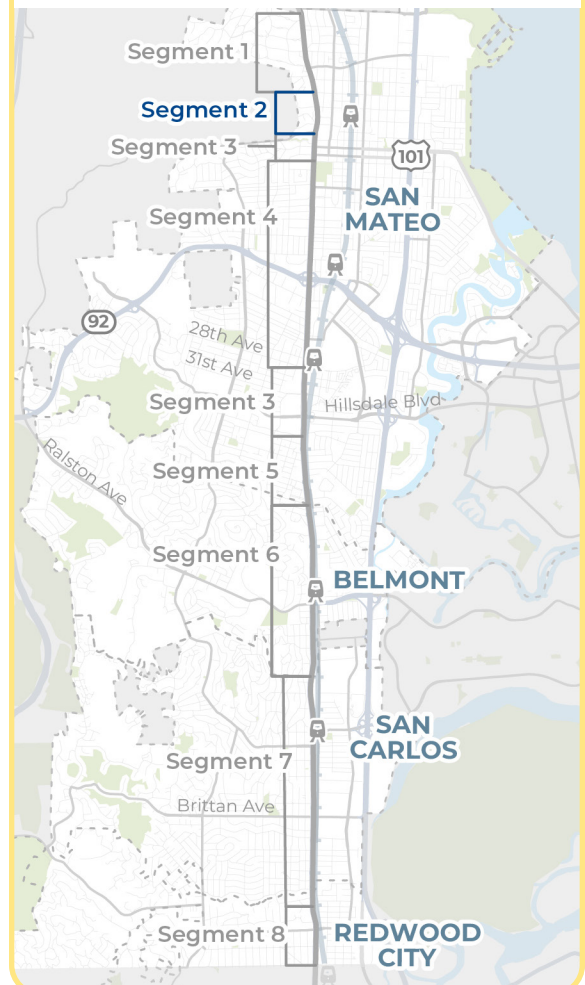
- No bus lanes

Caltrans District 4 Bike Plan Update (2025)

- Class IV Separated Bikeway between Baldwin and 9th Aves
- Spot recommendations for bicycle improvements

For more complete information about existing conditions see Project Needs Assessment.

Extent Location

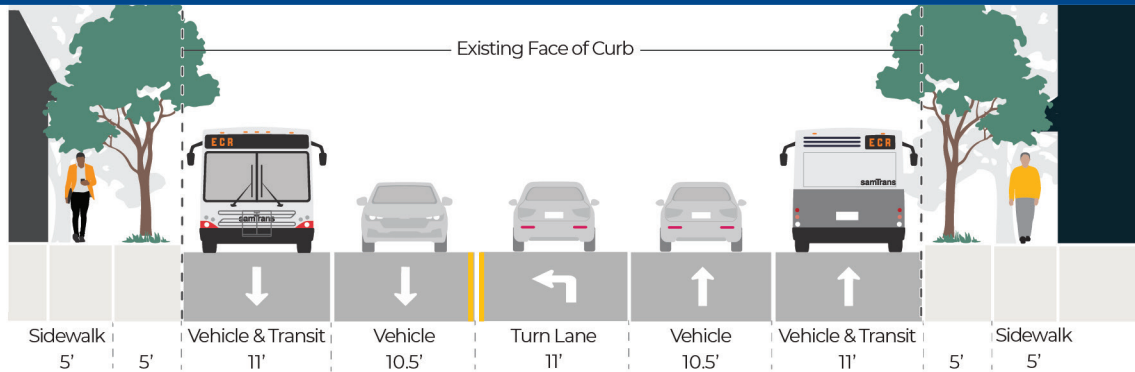


Monte Diablo Ave to Crystal Springs



Alternative 1 - Transit

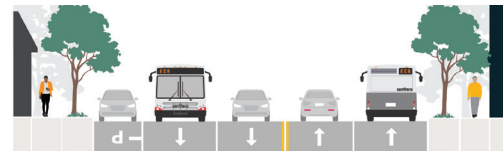
(Looking North) 74'



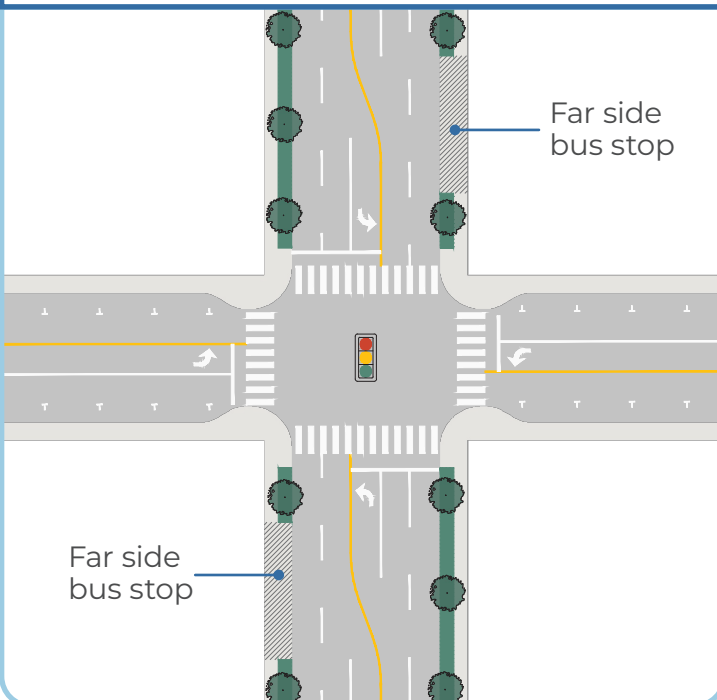
Key Changes

- Parking removed on the west side
- Left turn pockets added

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$2.2M (0.4 miles)

Where this alternative scores high:

- Alignment with local policies
- Transit reliability
- Vehicle delay

Where this alternative scores low:

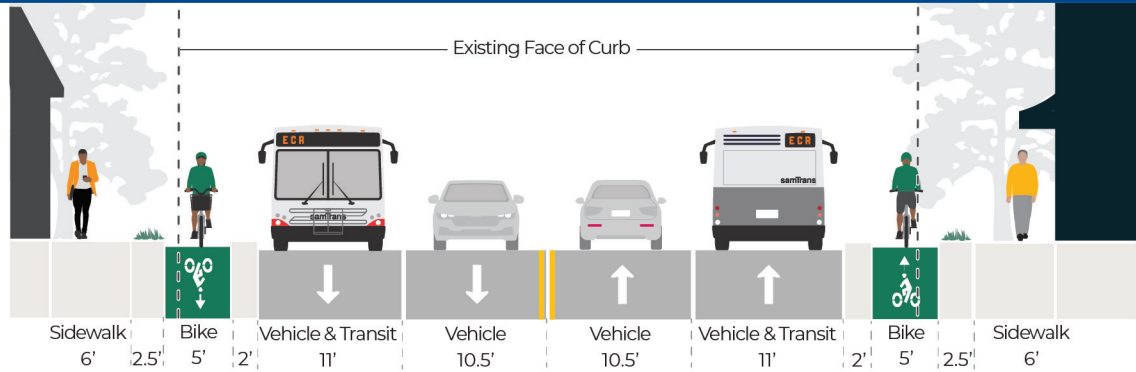
- Bicycle comfort
- Pedestrian comfort
- Parking removal

Monte Diablo Ave to Crystal Springs



Alternative 3 - Bicycle

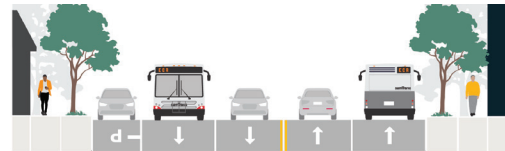
(Looking North) 74'



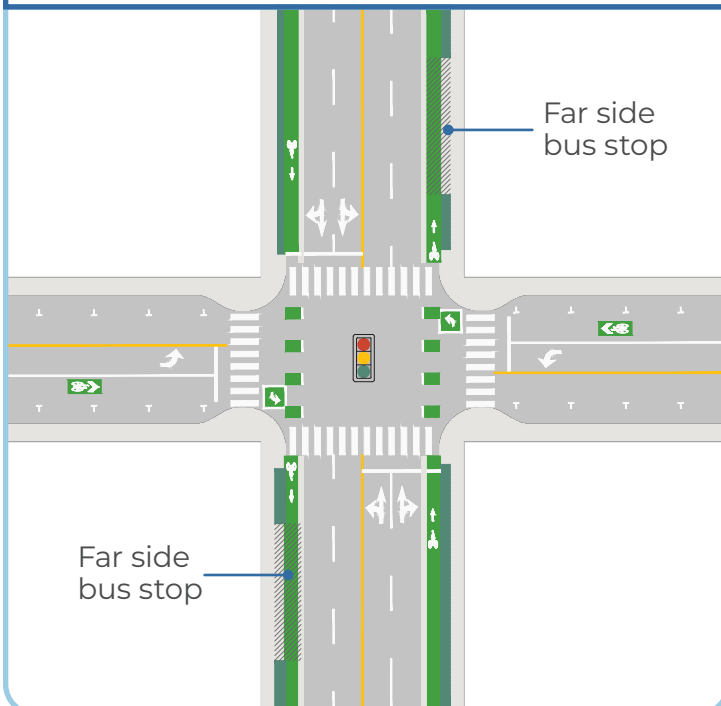
Key Changes

- Parking removed on the west side
- Separated bike facilities added
- Sidewalks widened on both sides
- Landscaping narrowed on both sides, no trees

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$3.9M (0.4 miles)

Where this alternative scores high:

- Bicycle comfort

Where this alternative scores low:

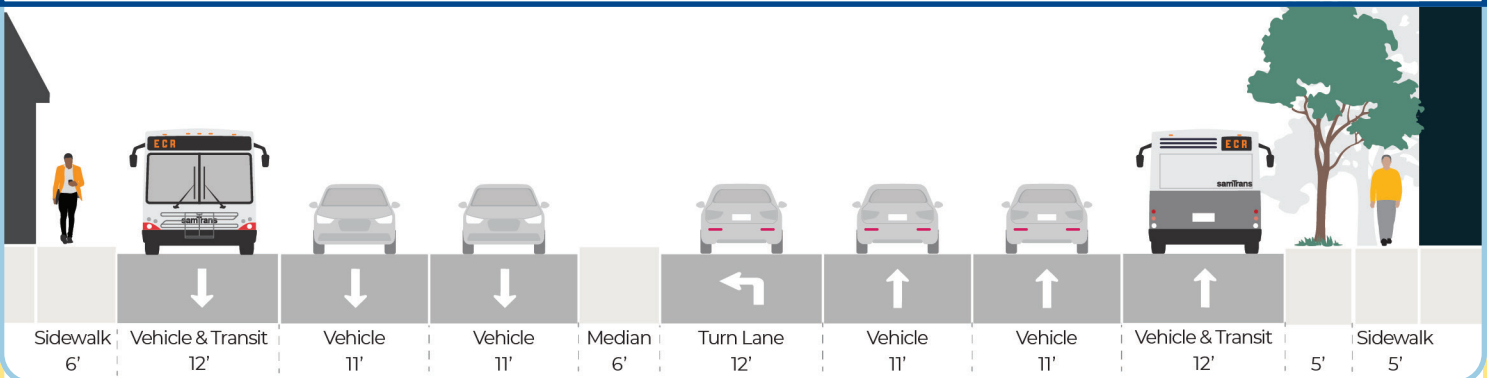
- Alignment with local policies
- Transit reliability
- Pedestrian comfort
- Parking removal

Crystal Springs to 5th Ave and 28th Ave to 36th Ave



Existing Cross Section

(Looking North) 102'



Existing Street Characteristics

Roadway Elements

- Three lanes in each direction
- Left turn pockets and raised concrete median
- No parking
- Challenges with permissive left turn phasing

Land Uses

- Downtown core and Hillsdale Mall commercial areas

Other Street Elements

- Sidewalks on both sides of the street, some trees

Previous Planning Studies

San Mateo TOD Pedestrian Access Plan (2022)

- Signal phasing changes and pedestrian safety improvements at intersections

San Mateo Complete Streets Master Plan (Ongoing)

- Spot recommendations for multimodal safety improvements

Caltrans District 4 Pedestrian Plan (2021)

- Highest priority (Tier 1) for pedestrian improvements

C/CAG Bicycle and Pedestrian Plan (2021)

- On the Countywide Backbone Network

SamTrans ECR Study (2022)

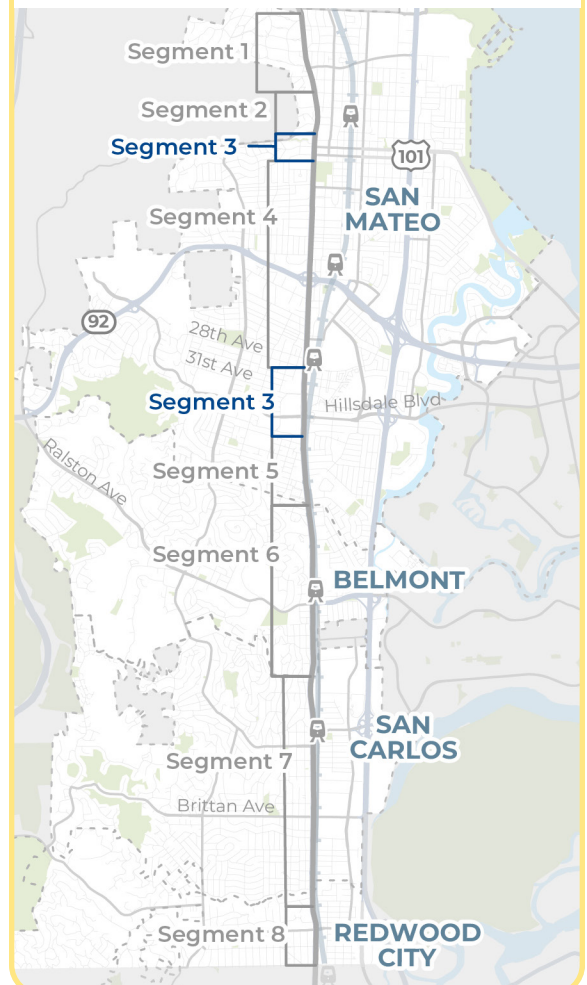
- Bus lanes in both directions

Caltrans District 4 Bike Plan Update (2025)

- Spot recommendations for bicycle improvements

For more complete information about existing conditions see Project Needs Assessment.

Extent Location

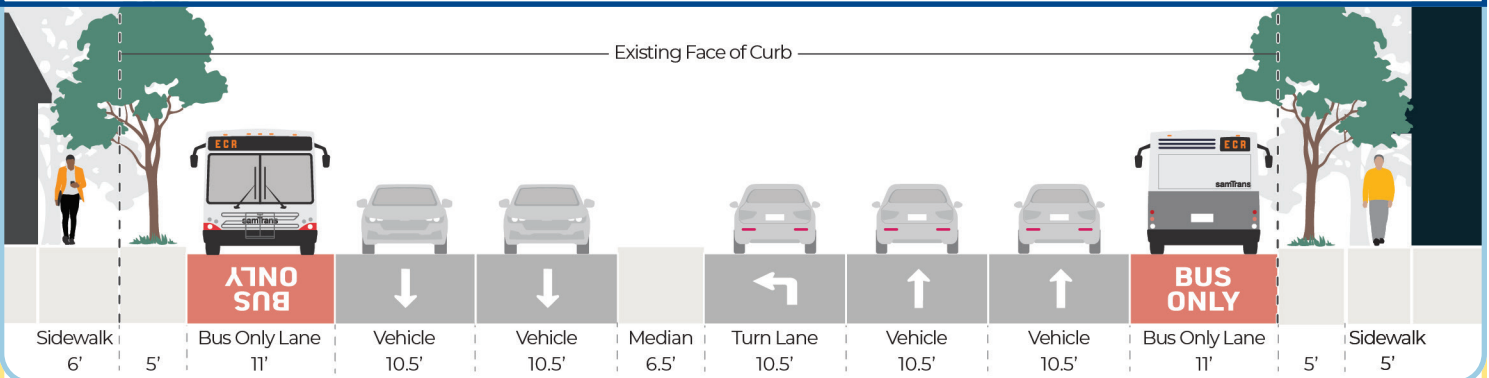




Crystal Springs to 5th Ave and 28th Ave to 36th Ave

Alternative 1 - Transit

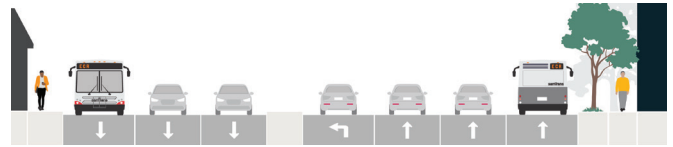
(Looking North) 102'



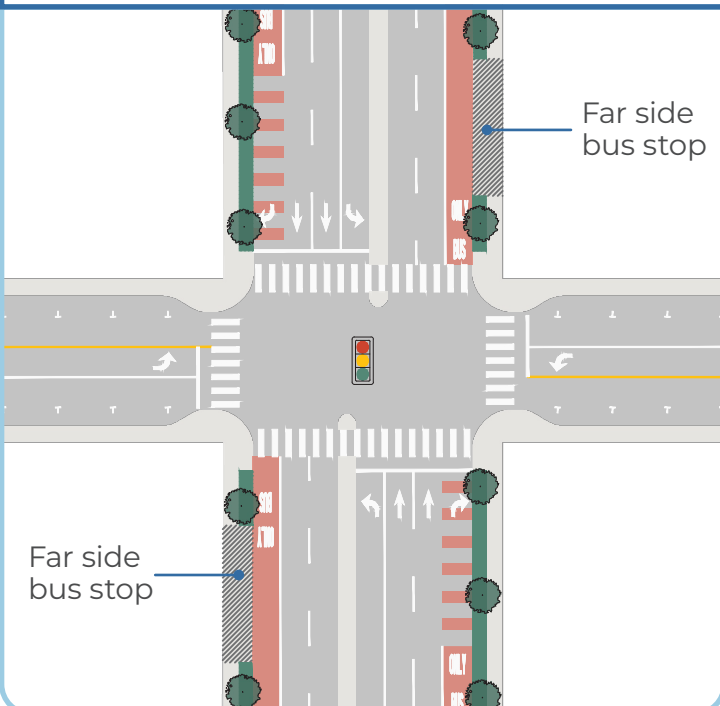
Key Changes

- One lane removed in each direction
- Transit-only lane added in each direction
- Left turn pockets narrowed
- Median widened
- Landscaping with trees added on the west side

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$13.8M (0.9 miles)

Where this alternative scores high:

- Alignment with local policies
- Transit reliability
- Pedestrian comfort

Where this alternative scores low:

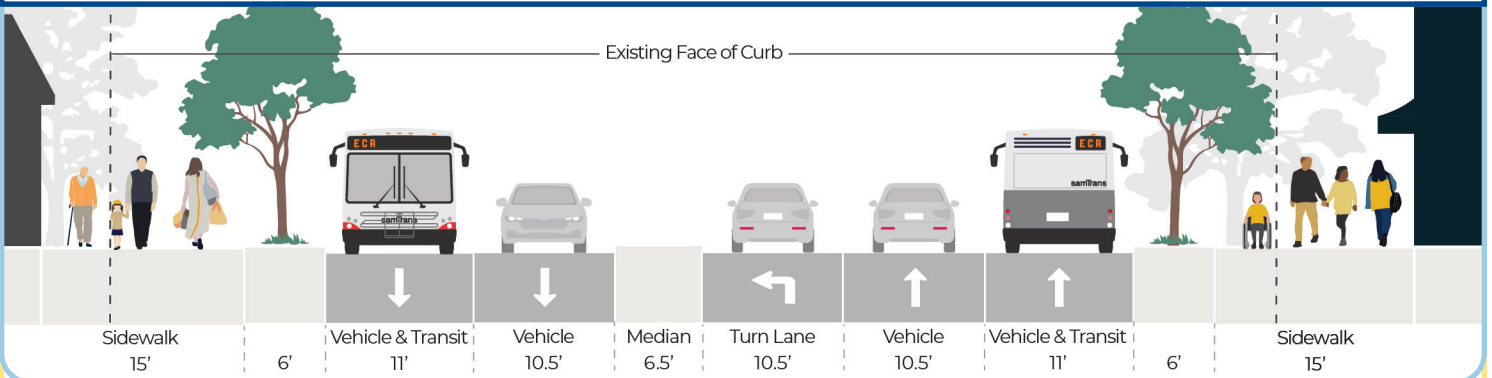
- Bicycle comfort
- Vehicle delay



Crystal Springs to 5th Ave and 28th Ave to 36th Ave

Alternative 2 - Pedestrian

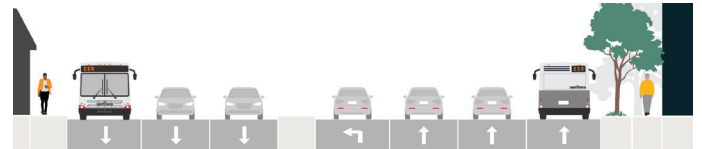
(Looking North) 102'



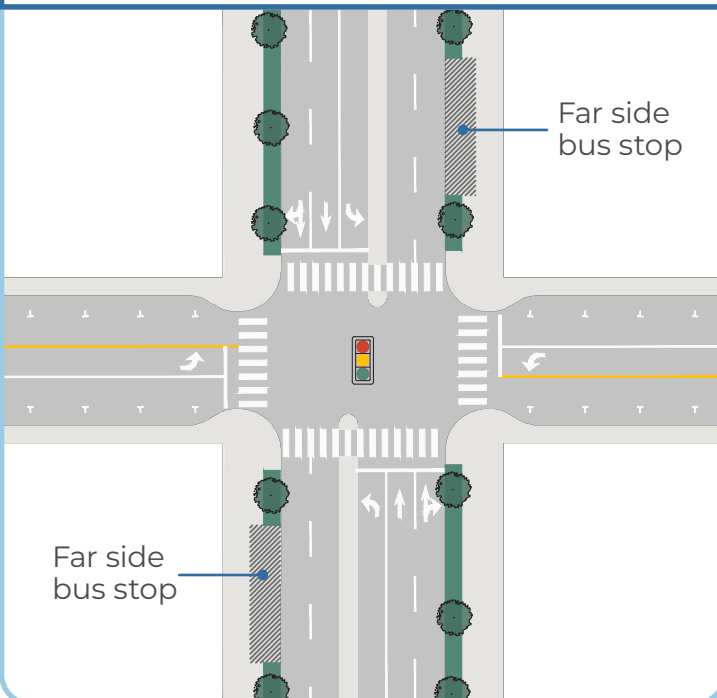
Key Changes

- One lane removed in each direction
- Left turn pockets narrowed
- Median widened
- Sidewalks widened on both sides
- Landscaping with trees added on the west side, widened on the east side

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$14.1M (0.9 miles)

Where this alternative scores high:

- Pedestrian comfort

Where this alternative scores low:

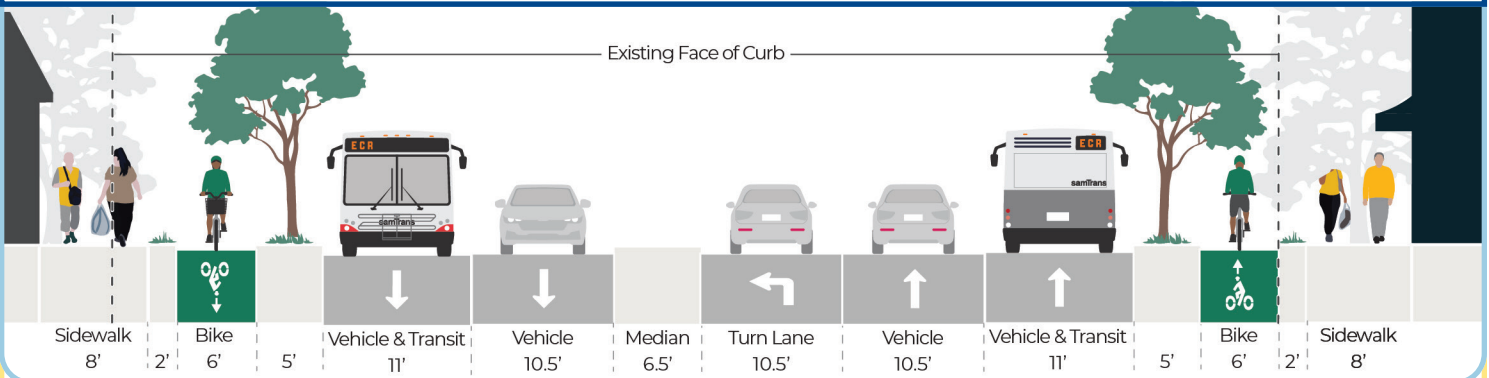
- Transit reliability
- Bicycle comfort
- Vehicle delay

Crystal Springs to 5th Ave and 28th Ave to 36th Ave



Alternative 3 - Bicycle

(Looking North) 102'



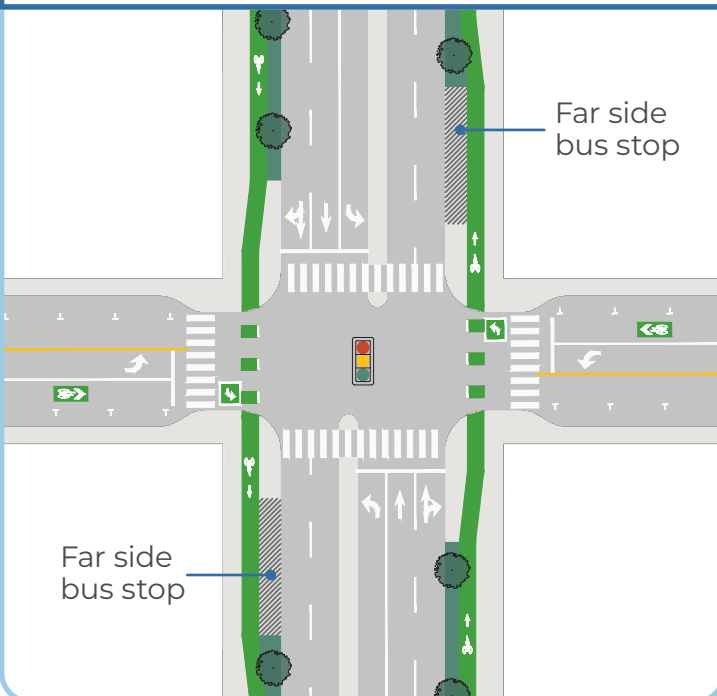
Key Changes

- One lane removed in each direction
- Left turn pockets narrowed
- Median widened
- Separated bike facilities added
- Sidewalks widened on both sides
- Landscaping with trees added on the west side

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$14.4M (0.9 miles)

Where this alternative scores high:

- Alignment with Caltrans policies
- Pedestrian comfort
- Bicycle comfort

Where this alternative scores low:

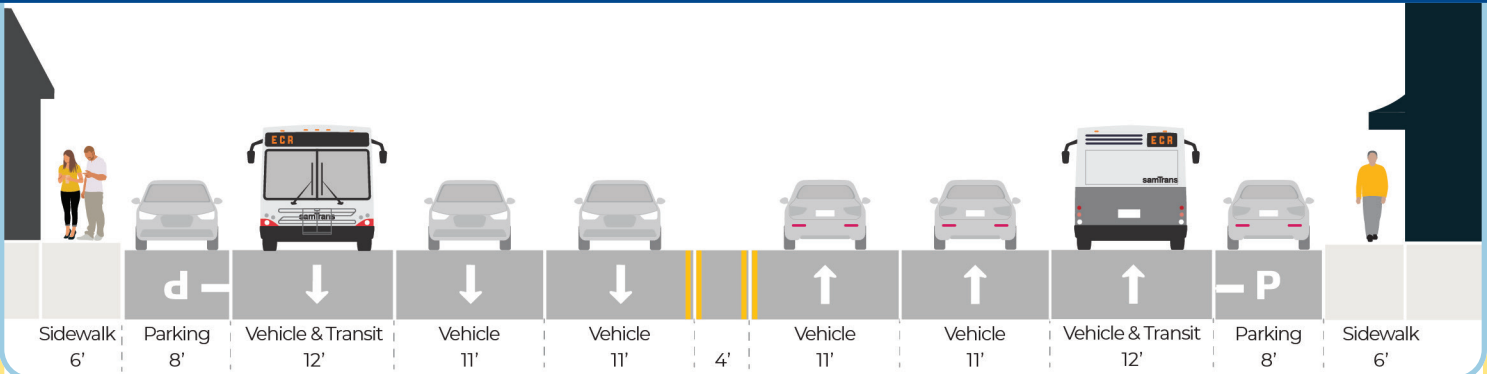
- Alignment with local policies
- Transit reliability
- Vehicle delay



5th Ave to 28th Ave

Existing Cross Section

(Looking North) 100'



Existing Street Characteristics

Roadway Elements

- Three lanes in each direction
- Intermittent left turn pockets
- Parking on both sides

Land Uses

- Low-density commercial areas

Other Street Elements

- Sidewalks on both sides of the street, no trees
- Uncomfortable walking conditions

Previous Planning Studies

San Mateo Local Roadway Safety Plan (2024)

- Spot recommendations for multimodal safety improvements

San Mateo Complete Streets Master Plan (Ongoing)

- Spot recommendations for multimodal safety improvements

Caltrans District 4 Pedestrian Plan (2021)

- Highest priority (Tier 1) for pedestrian improvements

C/CAG Bicycle and Pedestrian Plan (2021)

- On the Countywide Backbone Network

SamTrans ECR Study (2022)

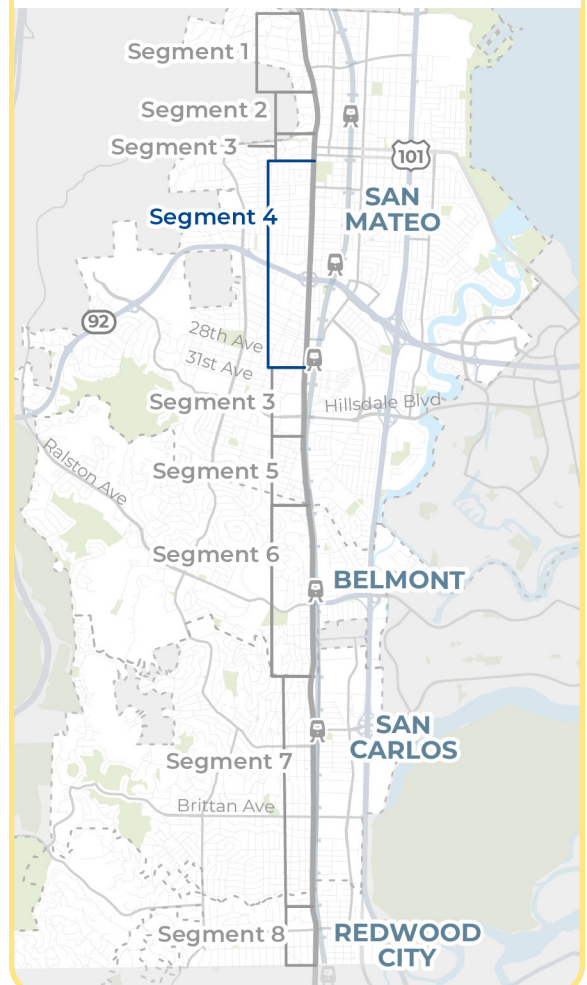
- Bus lanes in both directions

Caltrans District 4 Bike Plan Update (2025)

- Spot recommendations for bicycle improvements

For more complete information about existing conditions see Project Needs Assessment.

Extent Location

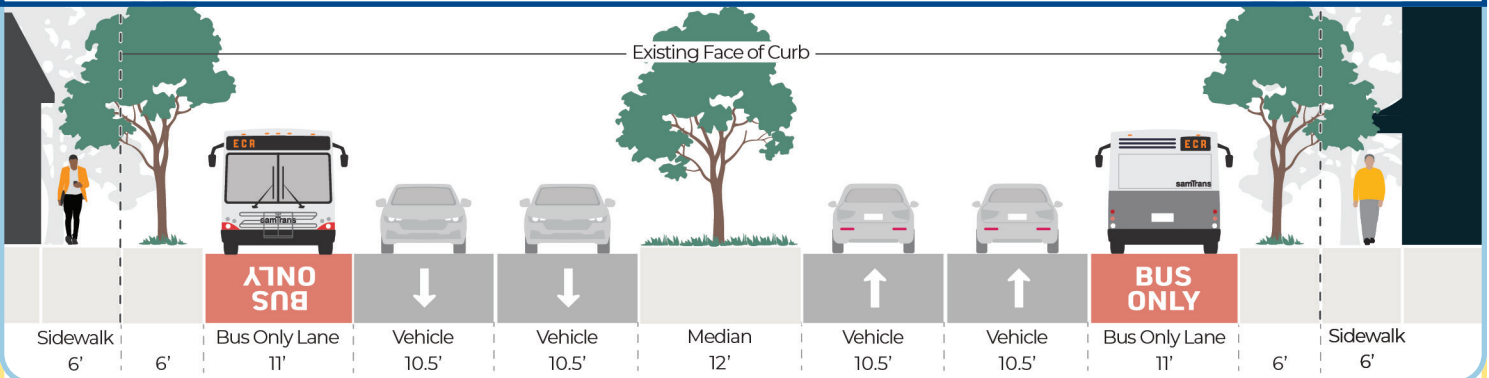




5th Ave to 28th Ave

Alternative 1A - Transit

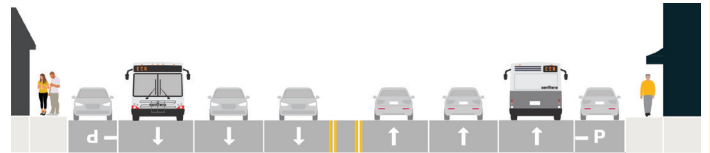
(Looking North) 100'



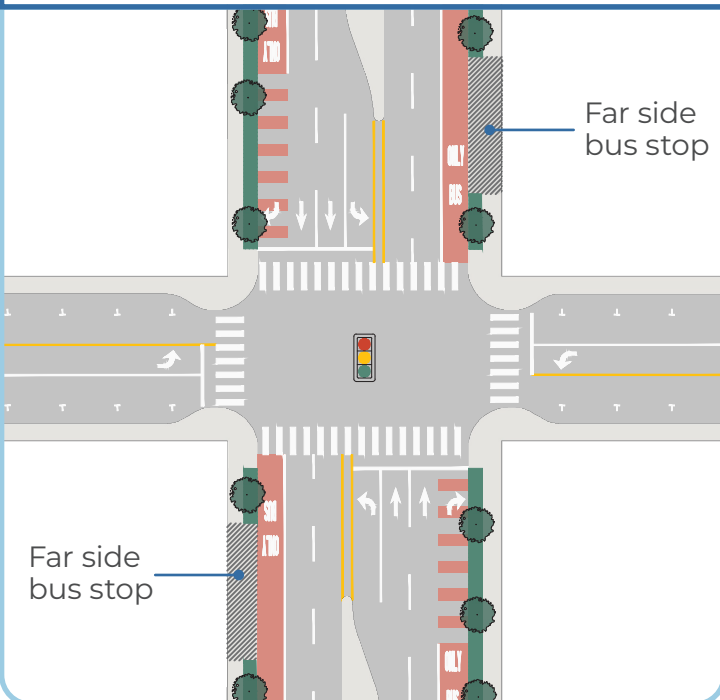
Key Changes

- One lane removed in each direction
- Transit-only lane added in each direction
- Parking removed on both sides
- Landscaped median with left turn pockets added
- Landscaping with trees added on both sides

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$26.5M (1.8 miles)

Where this alternative scores high:

- Alignment with local policies
- Transit reliability
- Pedestrian comfort

Where this alternative scores low:

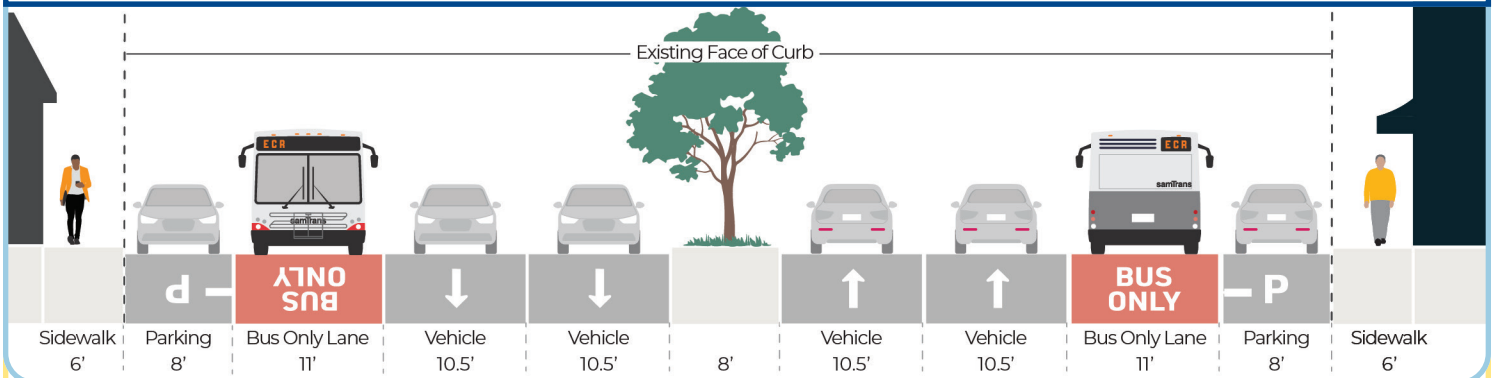
- Bicycle comfort
- Vehicle delay
- Parking removal



5th Ave to 28th Ave

Alternative 1B - Transit

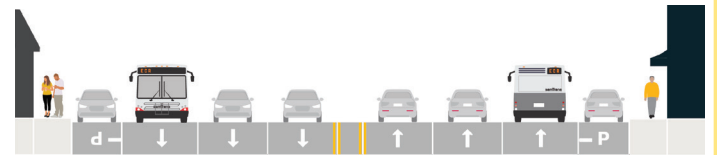
(Looking North) 100'



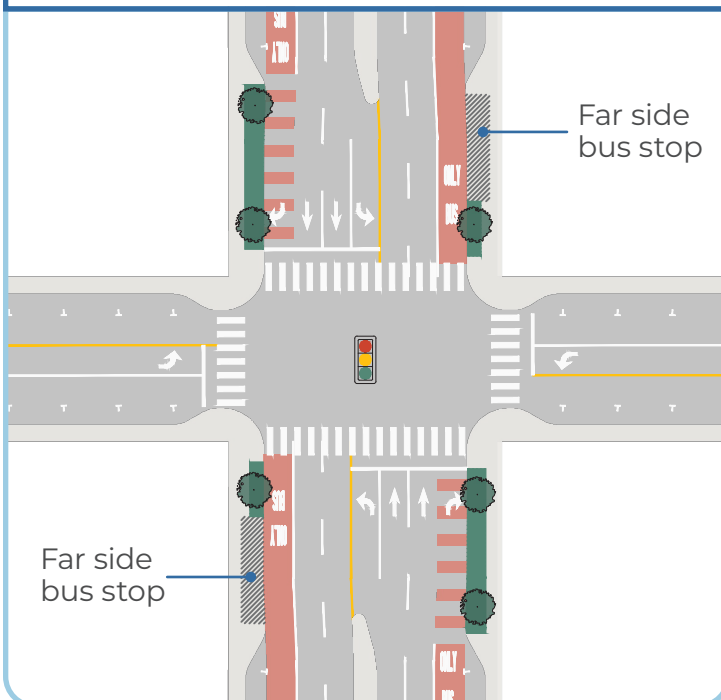
Key Changes

- One vehicle lane removed in each direction
- Transit-only lane added in each direction
- Landscaped median added

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$25.0M (1.8 miles)

Where this alternative scores high:

- Alignment with local policies
- Transit reliability
- Parking

Where this alternative scores low:

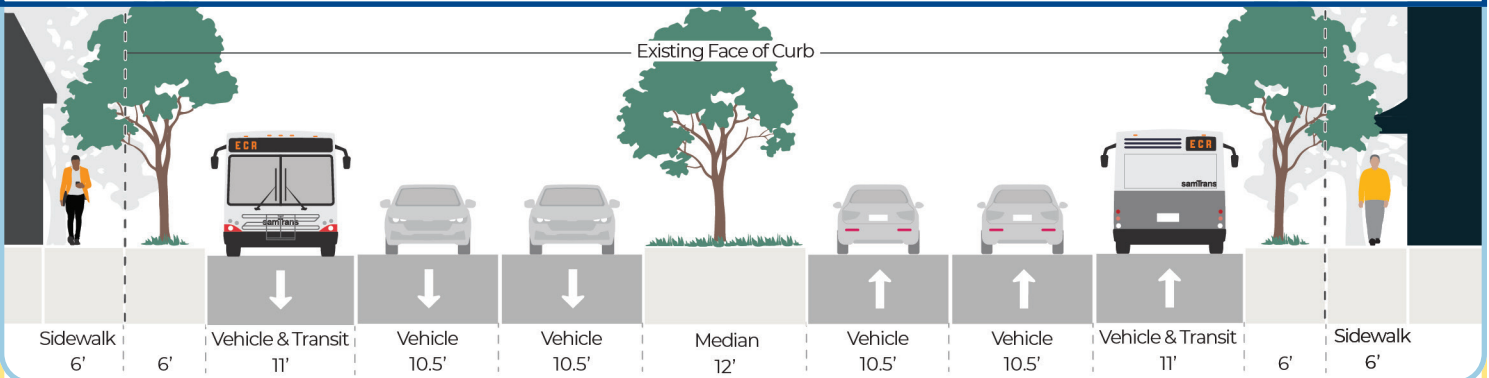
- Pedestrian comfort
- Bicycle comfort
- Vehicle delay
- Parking removal



5th Ave to 28th Ave

Alternative 2 - Pedestrian

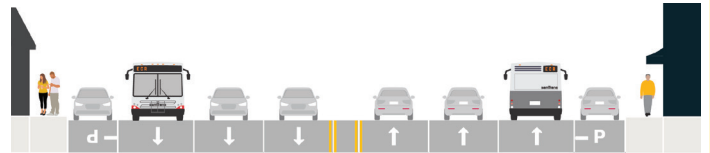
(Looking North) 100'



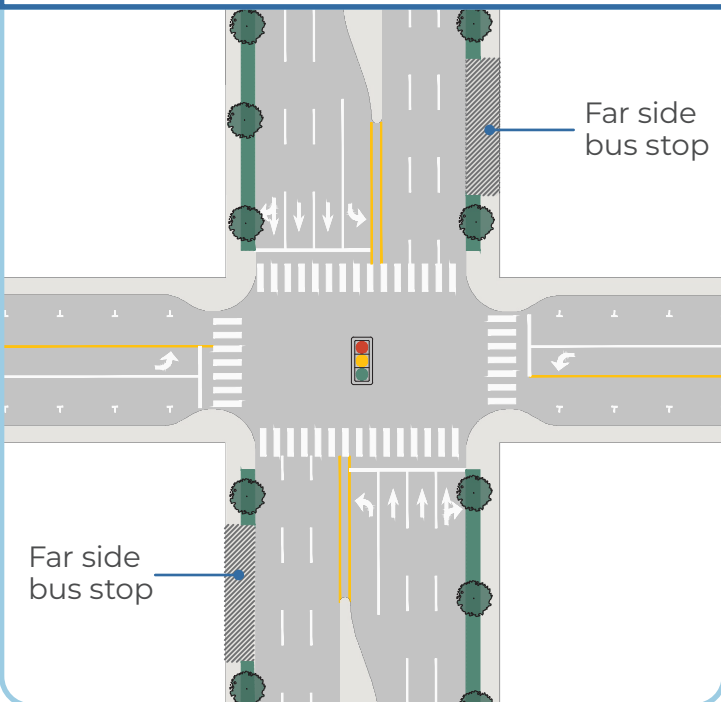
Key Changes

- Parking removed on both sides
- Landscaped median with left turn pockets added
- Landscaping with trees added on both sides

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$18.4M (1.8 miles)

Where this alternative scores high:

- Transit reliability
- Vehicle delay
- Pedestrian comfort

Where this alternative scores low:

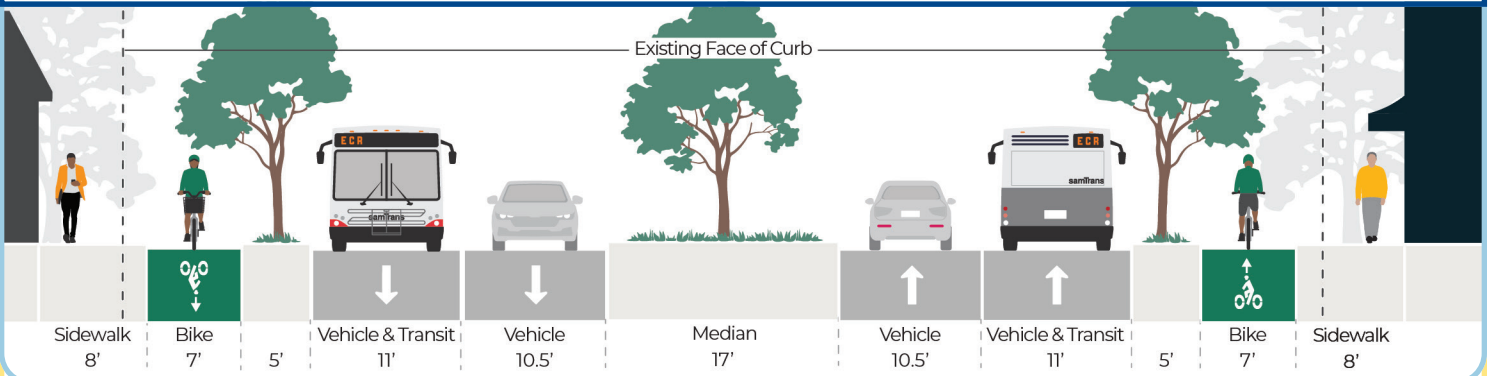
- Alignment with local policies
- Bicycle comfort
- Parking removal



5th Ave to 28th Ave

Alternative 3 - Bicycle

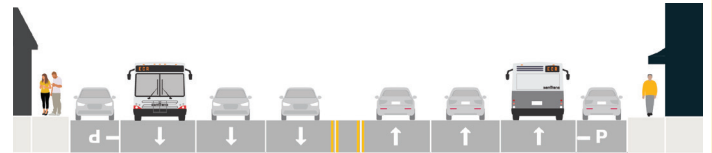
(Looking North) 100'



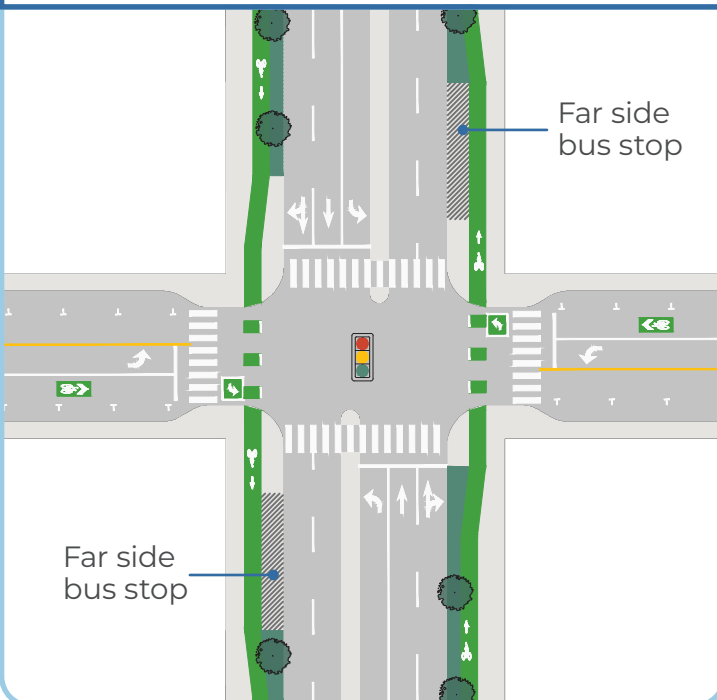
Key Changes

- One lane removed in each direction
- Parking removed on both sides
- Landscaped median with left turn pockets added
- Separated bike facilities added
- Sidewalks widened on both sides
- Landscaping with trees added on both sides

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$27.2M (1.8 miles)

Where this alternative scores high:

- Alignment with Caltrans policies
- Bicycle comfort
- Pedestrian comfort

Where this alternative scores low:

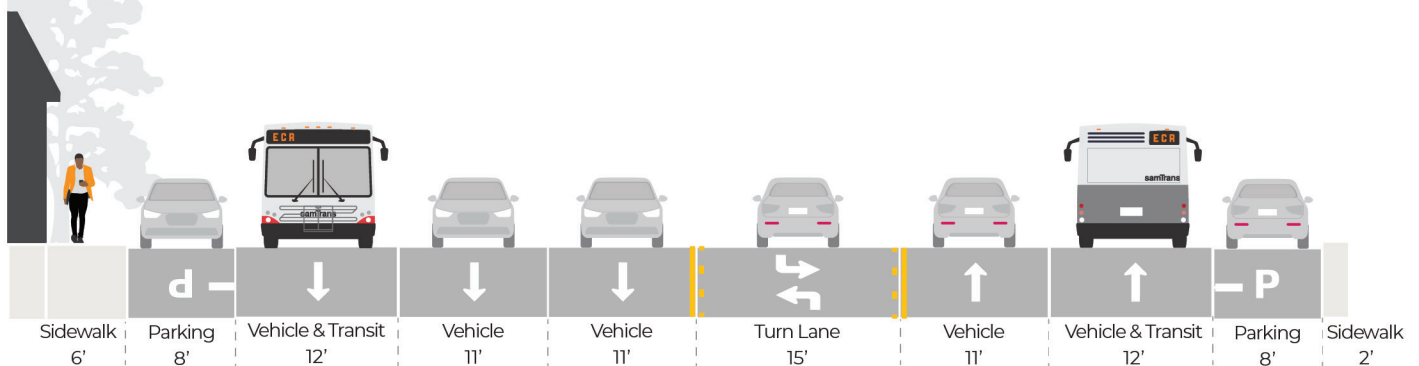
- Alignment with local policies
- Transit reliability
- Vehicle delay
- Parking removal

36th Ave to 42nd Ave



Existing Cross Section

(Looking North) 96'



Existing Street Characteristics

Roadway Elements

- Three southbound lanes, two northbound lanes
- Center left turn lane
- Parking on both sides

Land Uses

- Low-density commercial areas
- Greater land use intensity on the west side

Other Street Elements

- Sidewalks on the west side, no trees
- Uncomfortable walking conditions

Previous Planning Studies

San Mateo Complete Streets Master Plan (Ongoing)

- Widen sidewalks
- Spot locations for multimodal connection improvements

Caltrans District 4 Pedestrian Plan (2021)

- Highest priority (Tier 1) for pedestrian improvements

C/CAG Countywide Bicycle and Pedestrian Plan (2021)

- On the Countywide Backbone Network

SamTrans ECR Study (2022)

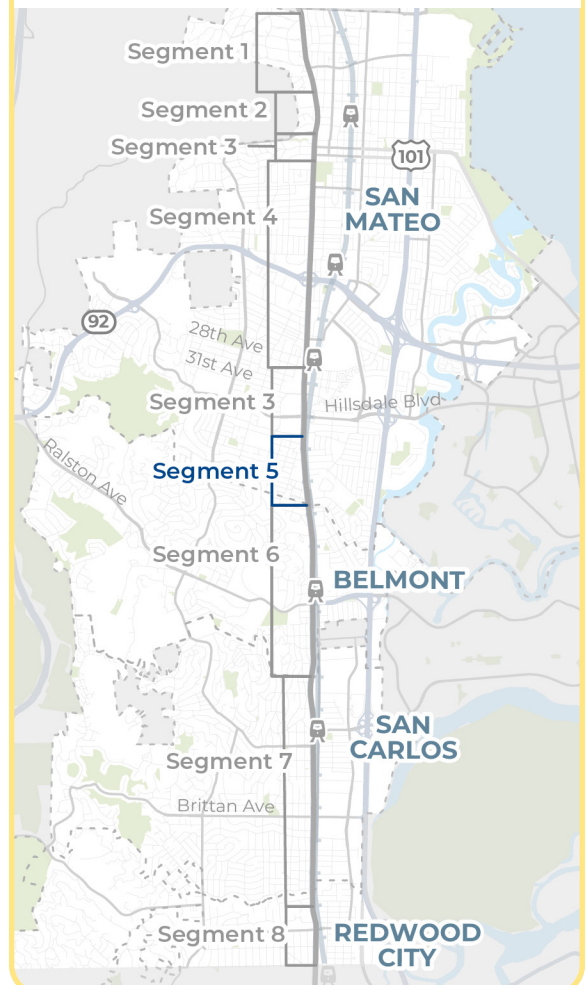
- Southbound bus lane

Caltrans District 4 Bike Plan Update (2025)

- Spot recommendations for bicycle improvements

For more complete information about existing conditions see Project Needs Assessment.

Extent Location

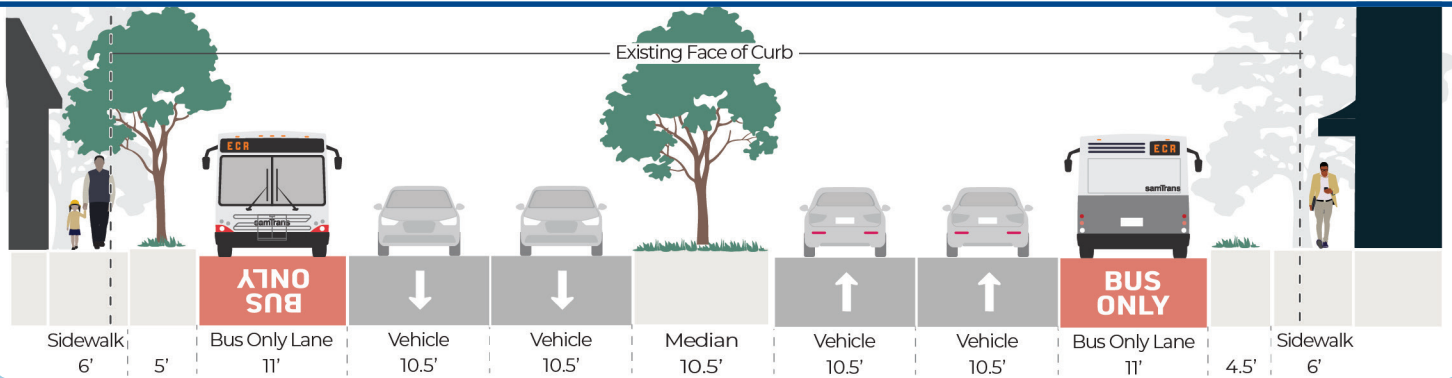




36th Ave to 42nd Ave

Alternative 1A - Transit

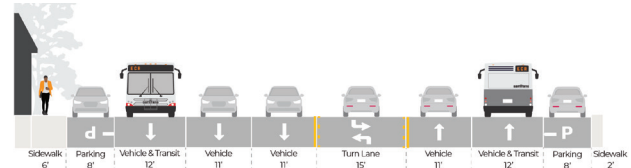
(Looking North) 96'



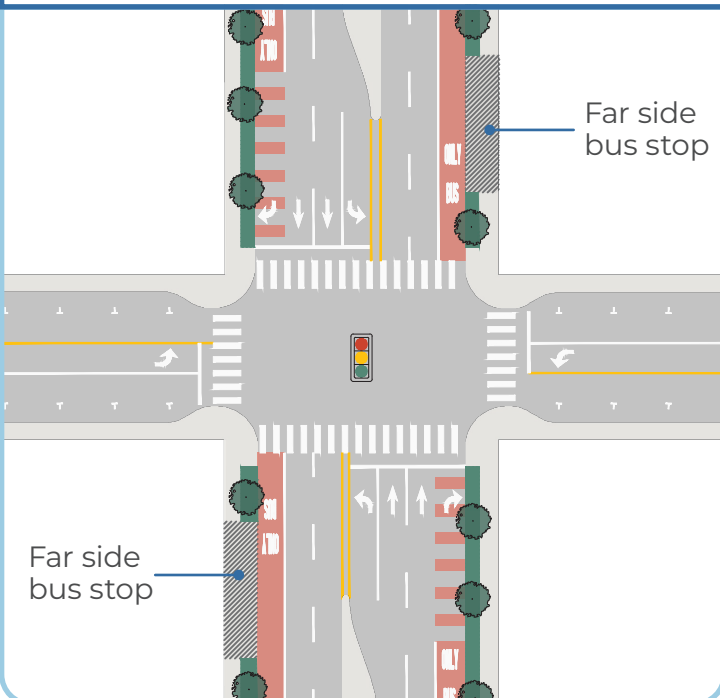
Key Changes

- One southbound lane removed
- Transit-only lane added in each direction
- Parking removed on both sides
- Landscaped median with left turn pockets added
- Sidewalks widened on the east side
- Landscaping added on both sides, trees on west side

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$7.4M (0.5 miles)

Where this alternative scores high:

- Alignment with local policies
- Transit reliability
- Pedestrian comfort

Where this alternative scores low:

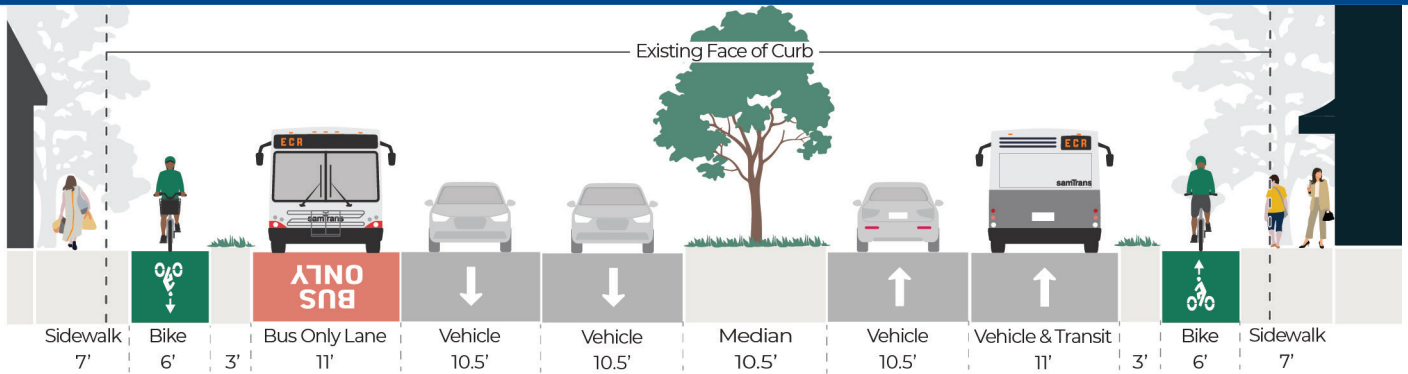
- Bicycle comfort
- Vehicle delay
- Parking removal



36th Ave to 42nd Ave

Alternative 1B - Transit

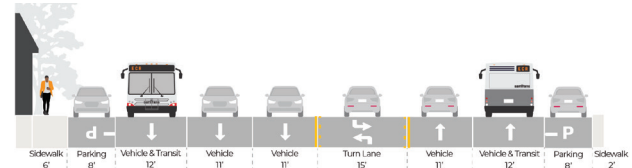
(Looking North) 96'



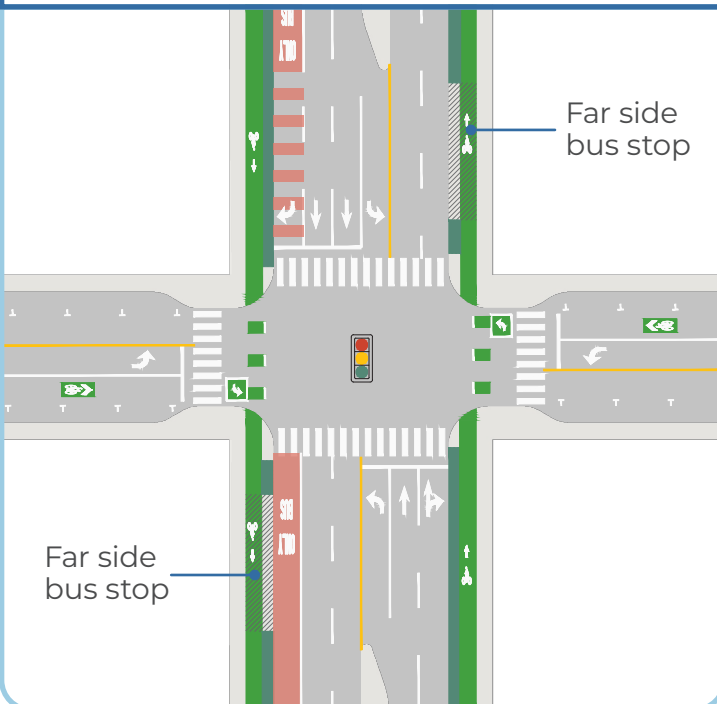
Key Changes

- One southbound lane removed
- Southbound transit-only lane added
- Parking removed on both sides
- Landscaped median with left turn pockets added
- Separated bike facilities added
- Sidewalks widened on both sides
- Landscaping added on both sides, no trees

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$8.1M (0.5 miles)

Where this alternative scores high:

- Alignment with local policies
- Transit reliability
- Bicycle comfort

Where this alternative scores low:

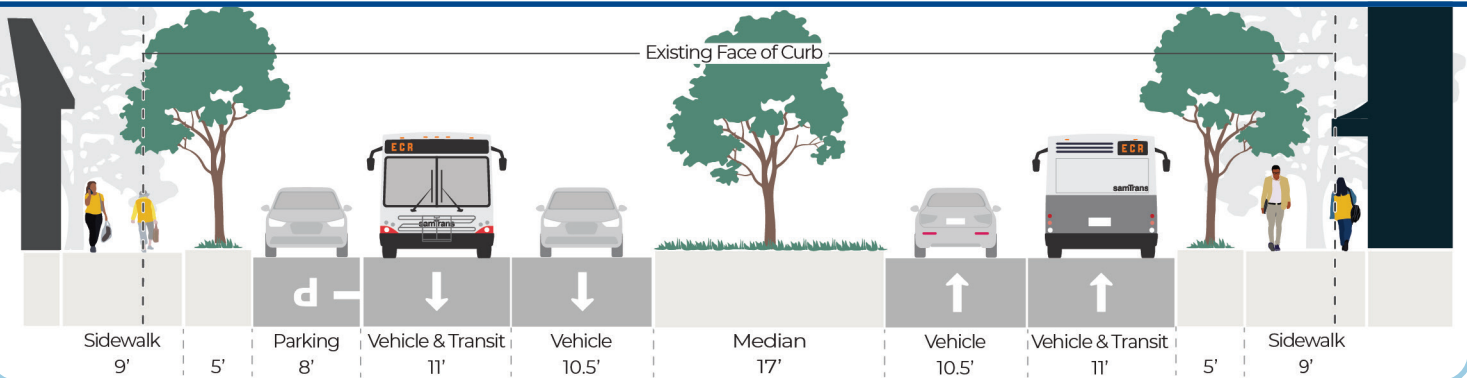
- Pedestrian comfort
- Vehicle delay
- Parking removal



36th Ave to 42nd Ave

Alternative 2 - Pedestrian

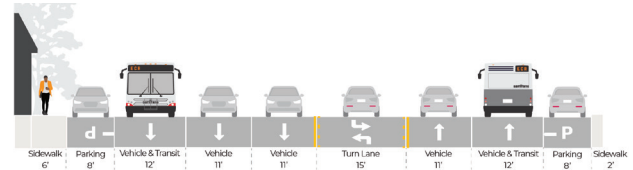
(Looking North) 96'



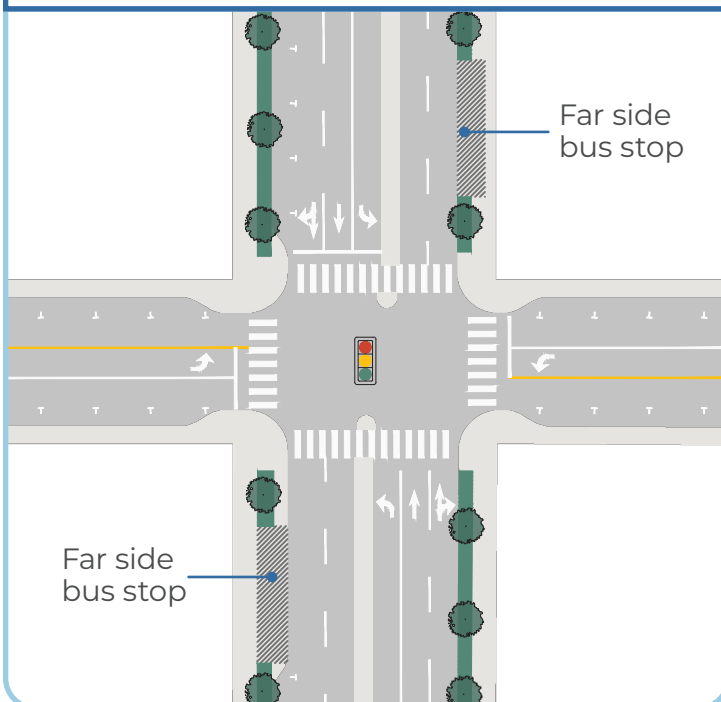
Key Changes

- One southbound lane removed
- Parking removed on the east side
- Landscaped median with left turn pockets added
- Sidewalks widened on both sides
- Landscaping with trees added on both sides

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$6.3M (0.5 miles)

Where this alternative scores high:

- Pedestrian comfort
- Parking maintained

Where this alternative scores low:

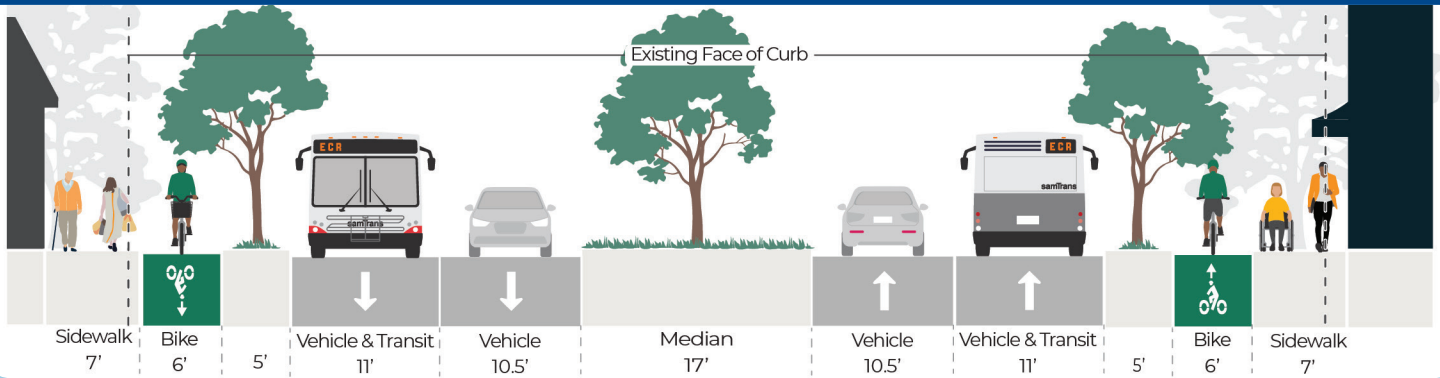
- Alignment with local policies
- Transit reliability
- Bicycle comfort
- Vehicle delay



36th Ave to 42nd Ave

Alternative 3 - Bicycle

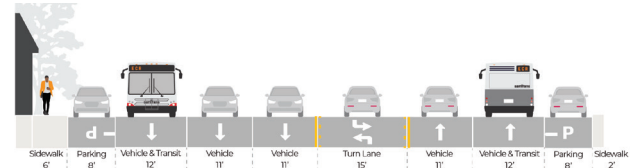
(Looking North) 96'



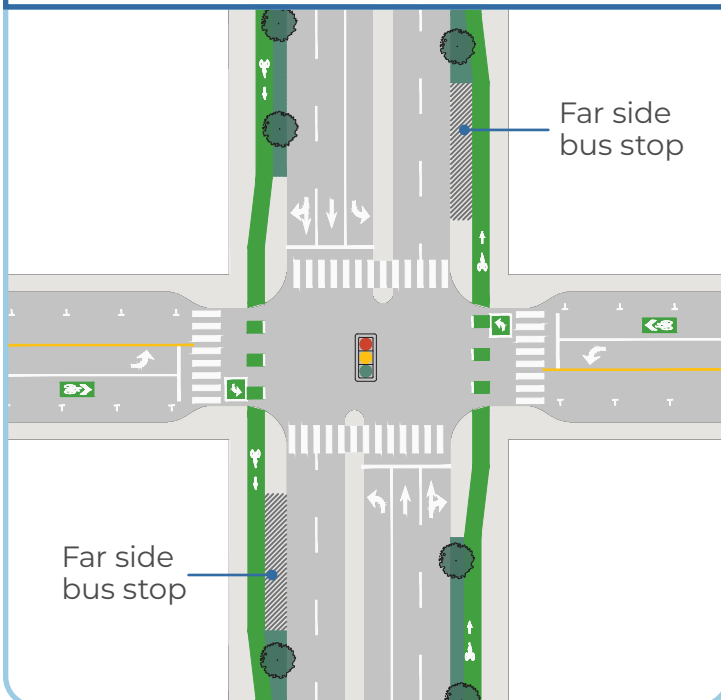
Key Changes

- One lane removed in each direction
- Parking removed on both sides
- Landscaped median with left turn pockets added
- Separated bike facilities added
- Sidewalks widened on both sides
- Landscaping with trees added on both sides

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$7.7M (0.5 miles)

Where this alternative scores high:

- Bicycle comfort
- Pedestrian comfort

Where this alternative scores low:

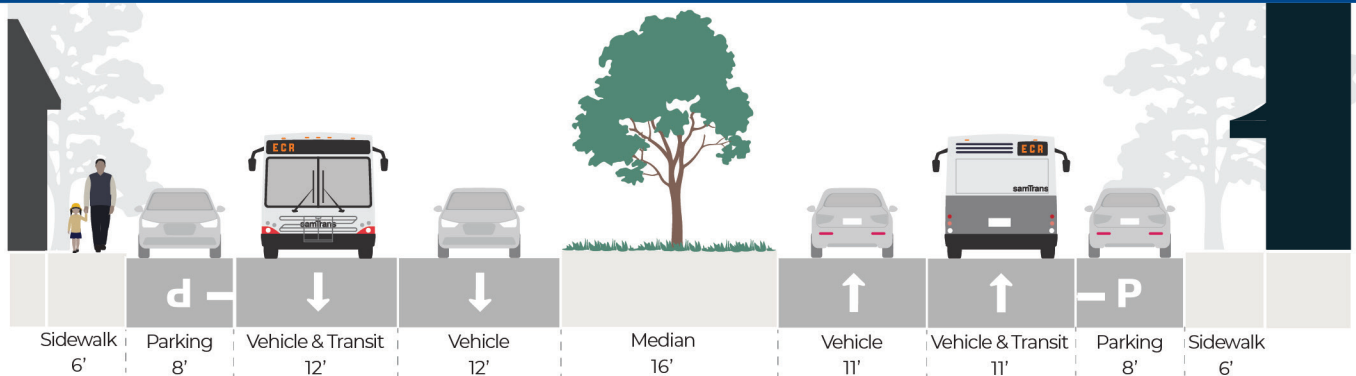
- Alignment with local policies
- Transit reliability
- Vehicle delay
- Parking removal



42nd Ave to F St

Existing Cross Section

(Looking North) 90'



Existing Street Characteristics

Roadway Elements

- Two lanes in each direction
- Wide planted median with left turn pockets
- Parking on both sides

Land Uses

- Low-density mixed-use and commercial areas. Higher land use intensity on the west side

Other Street Elements

- Sidewalks on both sides of the street, no trees
- Uncomfortable walking conditions

Previous Planning Studies

Belmont Bicycle and Pedestrian Master Plan (2016)

- Bike facilities along El Camino and a parallel route on Old County Road

Caltrans District 4 Pedestrian Plan (2021)

- Highest priority (Tier 1) for pedestrian improvements

C/CAG Countywide Bicycle and Pedestrian Plan (2021)

- On the Countywide Backbone Network

SamTrans ECR Study (2022)

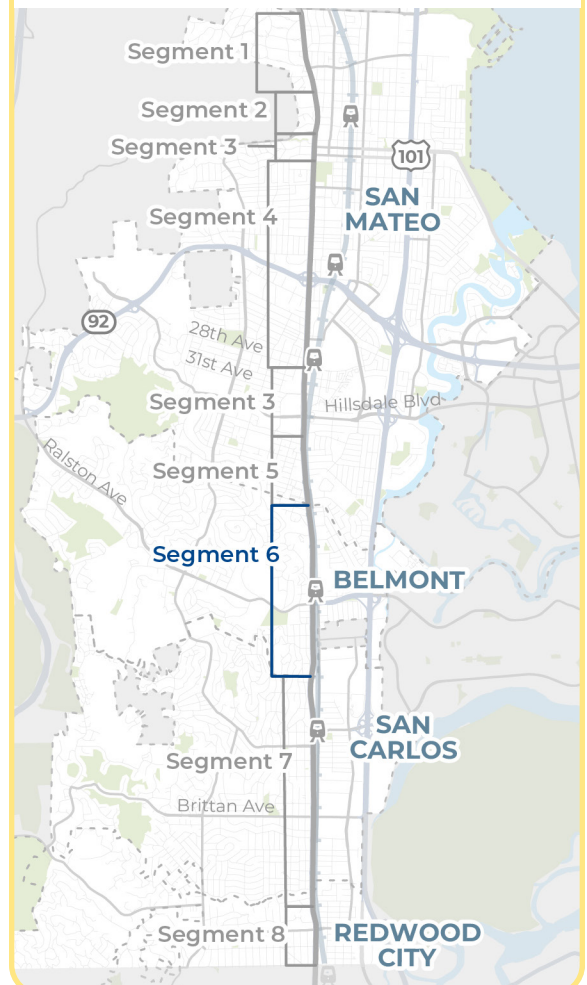
- No bus lanes

Caltrans District 4 Bike Plan Update (2025)

- Class IV Separated Bikeway between North Rd and F St
- Spot recommendations for bicycle improvements

For more complete information about existing conditions see Project Needs Assessment.

Extent Location

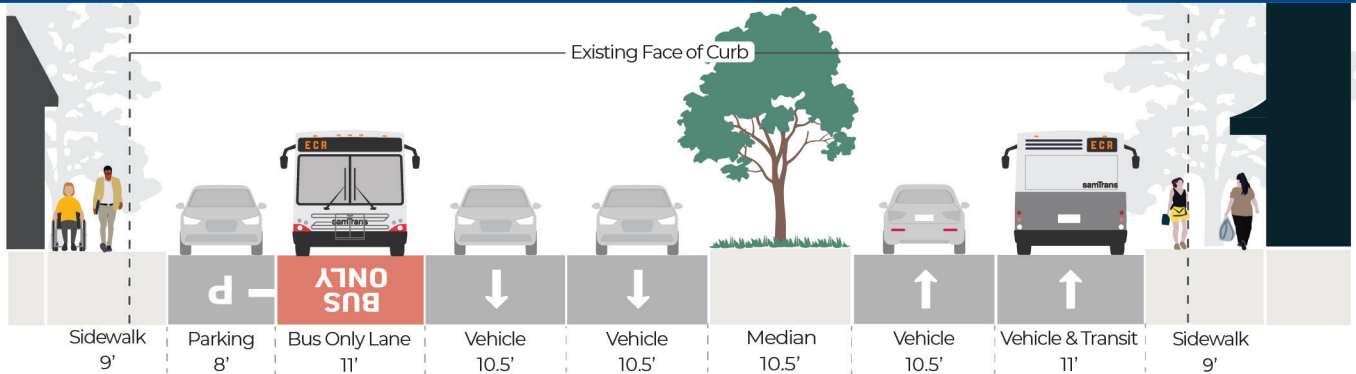




42nd Ave to F St

Alternative 1 - Transit

(Looking North) 90'



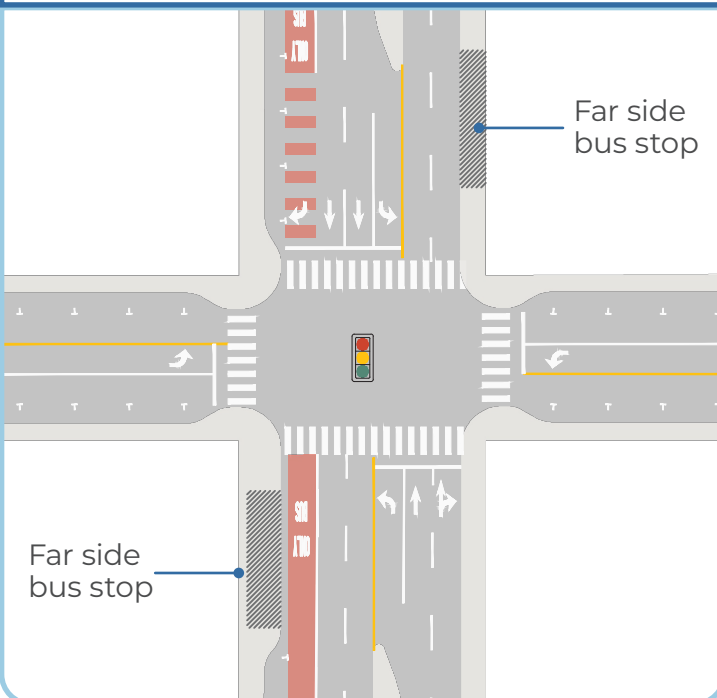
Key Changes

- Southbound transit-only lane added
- Parking removed on the east side
- Landscaped median narrowed
- Sidewalks widened on both sides

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$27.5 M (1.6 miles)

Where this alternative scores high:

- Transit reliability
- Pedestrian comfort
- Parking maintained

Where this alternative scores low:

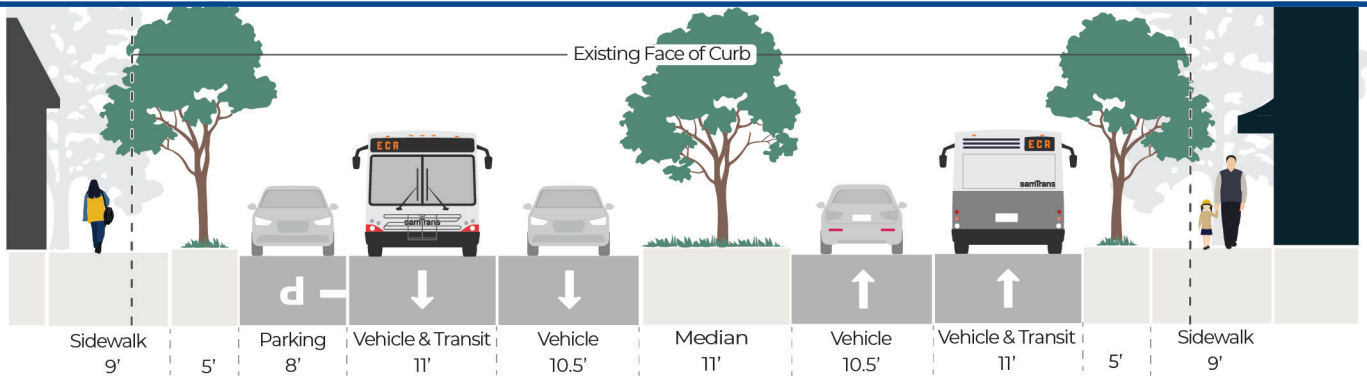
- Alignment with local policies
- Bicycle comfort



42nd Ave to F St

Alternative 2 - Pedestrian

(Looking North) 90'



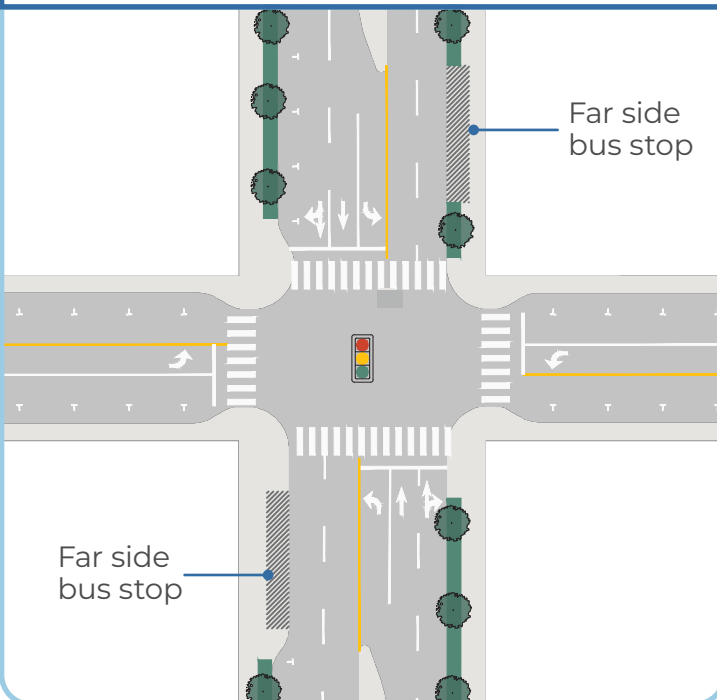
Key Changes

- Parking removed on the east side
- Landscaped median narrowed
- Sidewalks widened on both sides
- Landscaping with trees added on both sides

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$21.1 M (1.6 miles)

Where this alternative scores high:

- Pedestrian comfort
- Parking maintained

Where this alternative scores low:

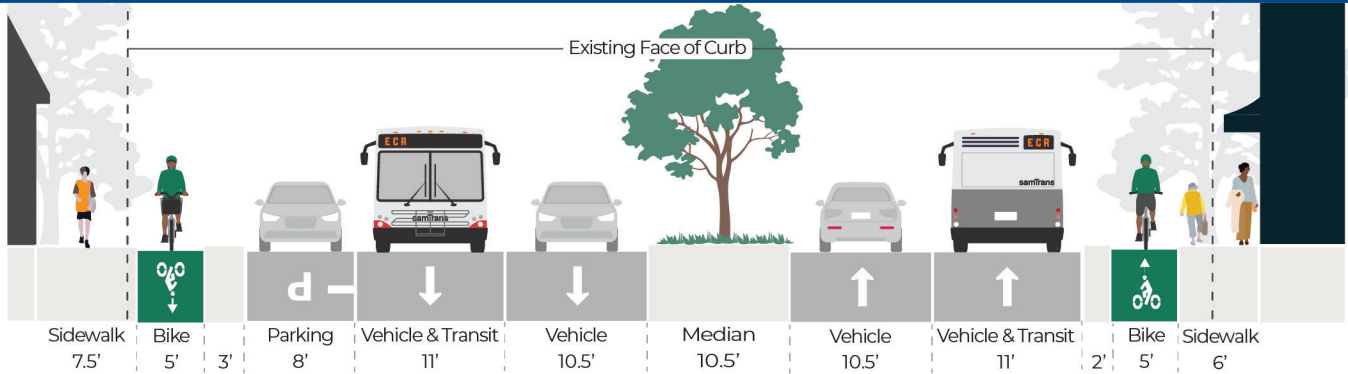
- Alignment with local policies
- Bicycle comfort



42nd Ave to F St

Alternative 3 - Bicycle

(Looking North) 90'



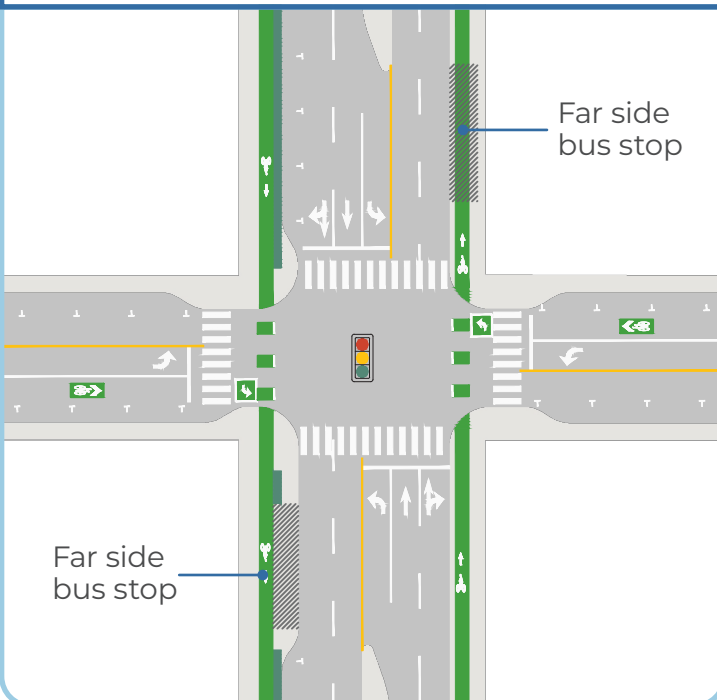
Key Changes

- Parking removed on the east side
- Landscaped median narrowed
- Separated bike facilities added

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$25.7M (1.6 miles)

Where this alternative scores high:

- Alignment with local policies
- Bicycle comfort

Where this alternative scores low:

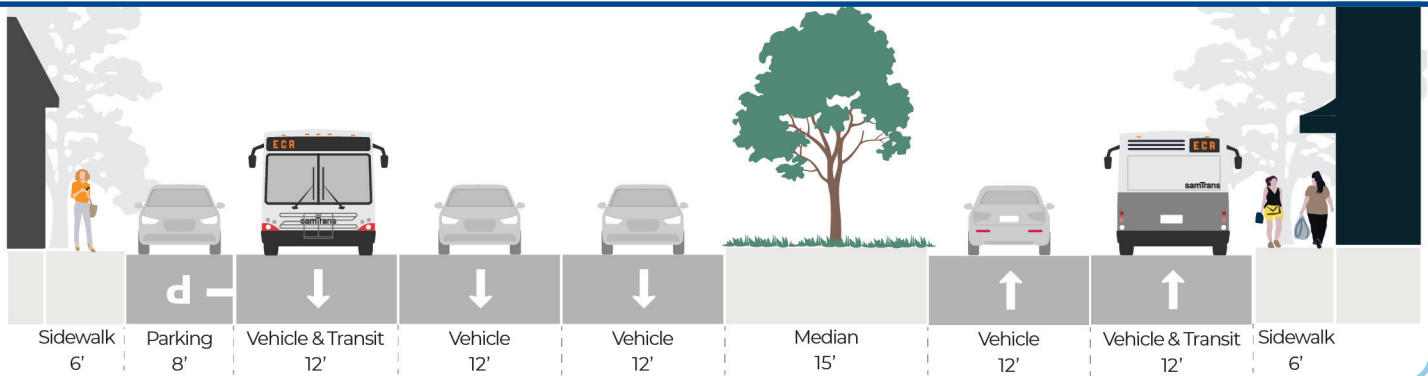
- Pedestrian comfort



F St to Edgewood Rd

Existing Cross Section

(Looking North) 95'



Existing Street Characteristics

Roadway Elements

- Three southbound lanes and two northbound lanes
- Wide planted center median with left turn pockets
- Parking on the west side
- Intermittent parking and shoulder on the east side

Land Uses

- Low-to-medium density commercial and mixed-use areas

Other Street Elements

- Sidewalks on the west side of the street
- Intermittent sidewalks on the east side

Previous Planning Studies

San Carlos Streetscape Master Plan (2025)

- Directional bike facilities through downtown San Carlos

San Carlos Bicycle and Pedestrian Master Plan (2020)

- Class IV Separated Bikeway

Caltrans District 4 Pedestrian Plan (2021)

- Highest priority (Tier 1) for pedestrian improvements

C/CAG Countywide Bicycle and Pedestrian Plan (2021)

- On the Countywide Backbone Network

SamTrans ECR Study (2022)

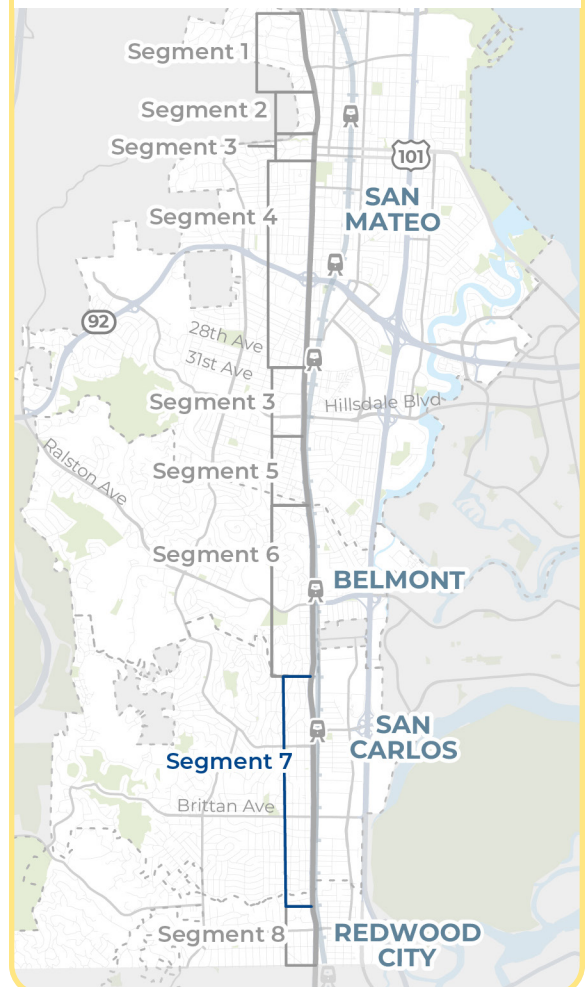
- Southbound bus lane

Caltrans District 4 Bike Plan Update (2025)

- Spot recommendations for bicycle improvements

For more complete information about existing conditions see Project Needs Assessment.

Extent Location

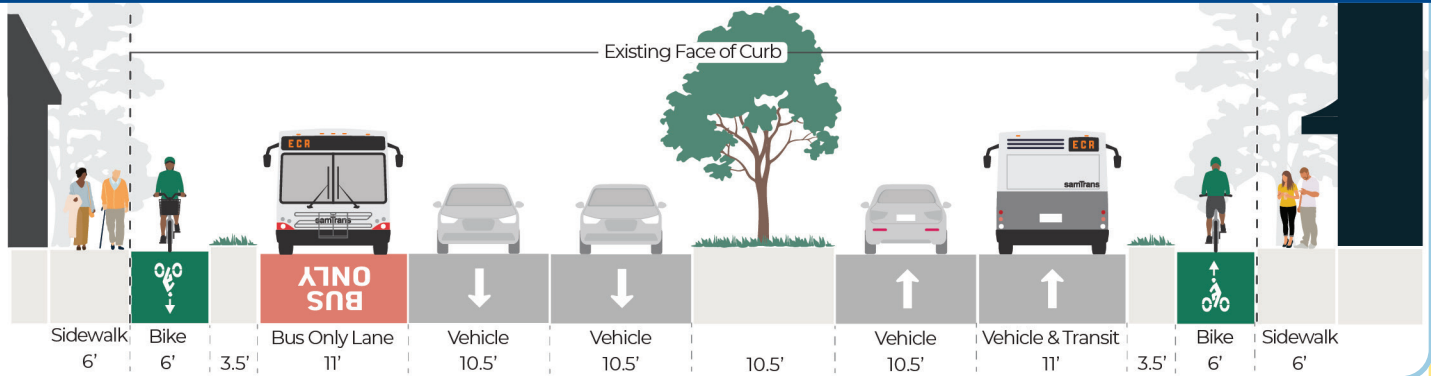




F St to Edgewood Rd

Alternative 1 - Transit

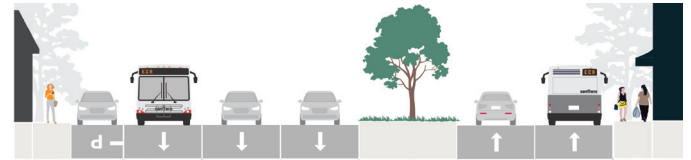
(Looking North) 95'



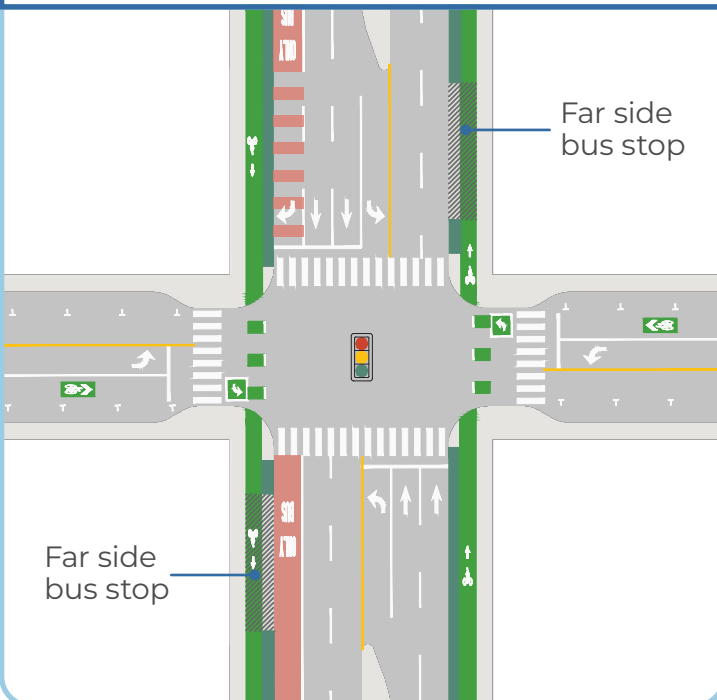
Key Changes

- One southbound lane removed
- Southbound transit-only lane added
- Parking removed on the west side
- Landscaped median narrowed
- Separated bike facilities added
- Landscaping added on both sides, no trees

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$26.0 M (2.1 miles)

Where this alternative scores high:

- Alignment with local policies
- Transit reliability
- Bicycle comfort

Where this alternative scores low:

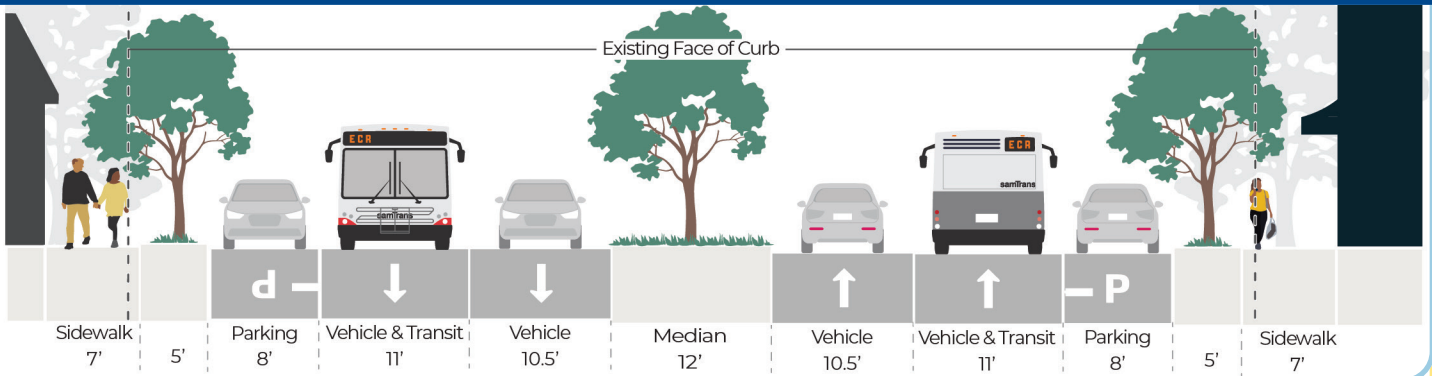
- Pedestrian comfort
- Parking removal
- Vehicle delay



F St to Edgewood Rd

Alternative 2 - Pedestrian

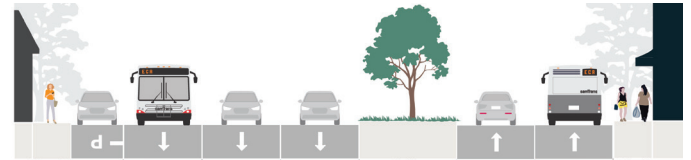
(Looking North) 95'



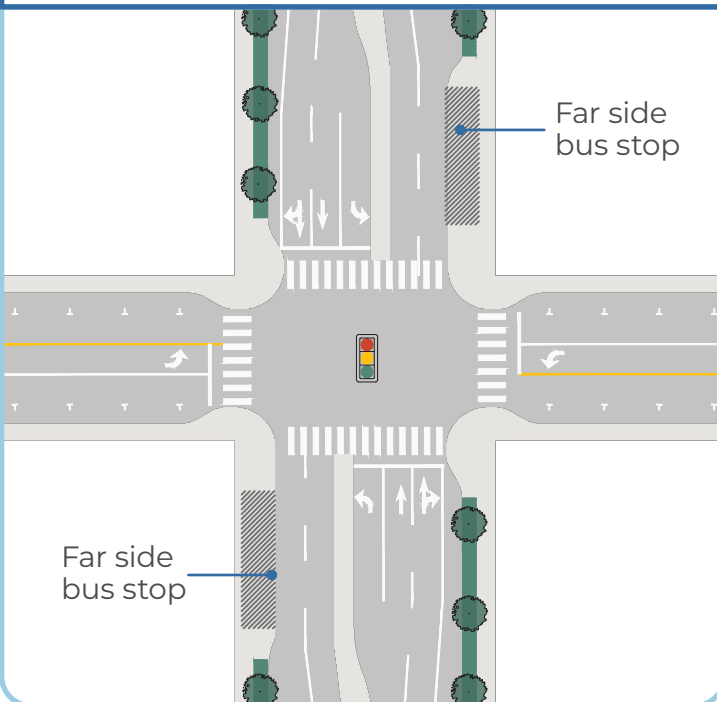
Key Changes

- One southbound lane removed
- Parking added on the east side
- Landscaped median narrowed
- Sidewalks widened on both sides
- Landscaping with trees added on both sides

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$30.0M (2.1 miles)

Where this alternative scores high:

- Pedestrian comfort
- Parking maintained

Where this alternative scores low:

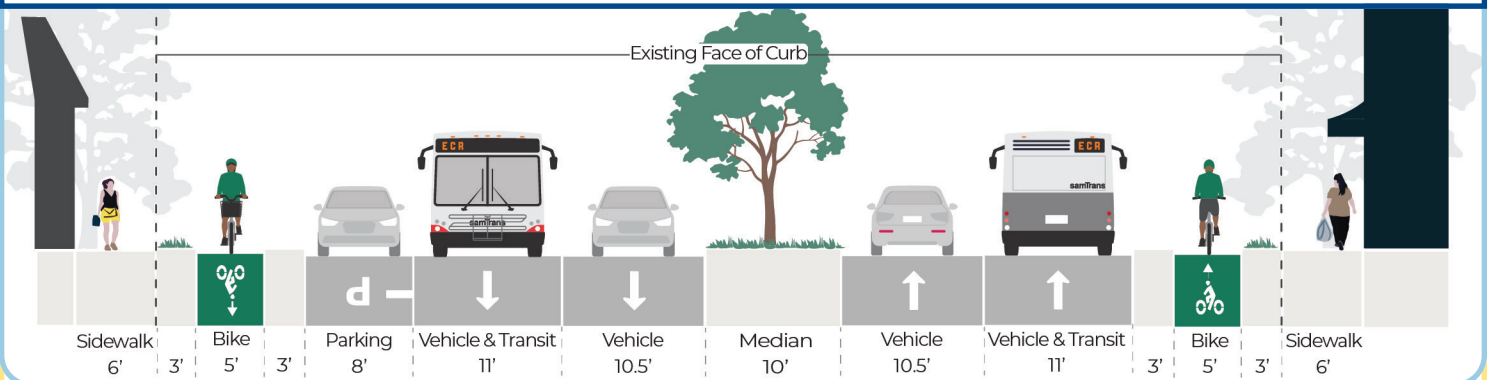
- Alignment with local policies
- Alignment with Caltrans policies
- Transit reliability
- Vehicle delay
- Bicycle comfort



F St to Edgewood Rd

Alternative 3 - Bicycle

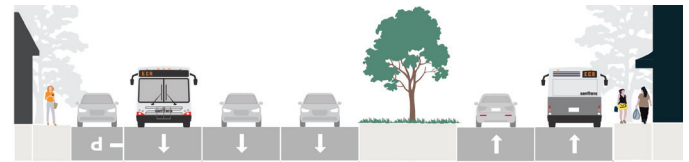
(Looking North) 95'



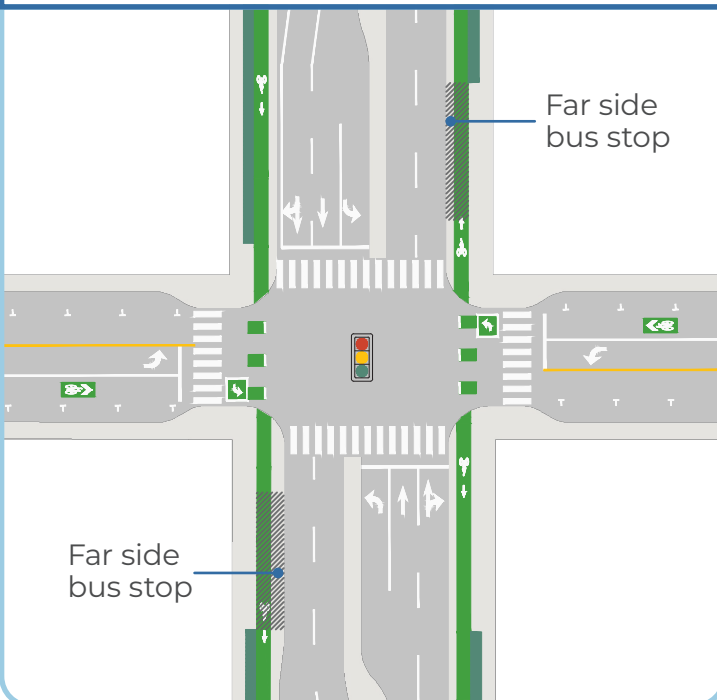
Key Changes

- One southbound lane removed
- Landscaped median narrowed
- Separated bike facilities added
- Landscaping added on both sides, no trees

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$35.1M (2.1 miles)

Where this alternative scores high:

- Alignment with local policies (**note: aligns with adopted Streetscape Master Plan**)
- Bicycle comfort
- Parking maintained

Where this alternative scores low:

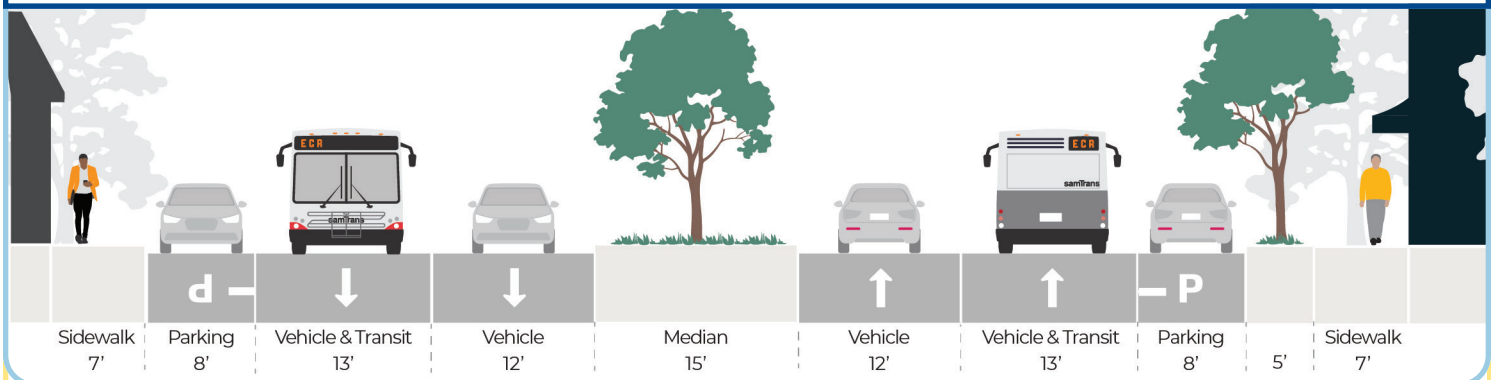
- Transit reliability
- Vehicle delay
- Pedestrian comfort

Edgewood Rd to Brewster Ave



Existing Cross Section

(Looking North) 100'



Existing Street Characteristics

Roadway Elements

- Two lanes in each direction
- Wide planted median with left turn pockets
- Parking on both sides

Land Uses

- Low-density commercial areas

Other Street Elements

- Sidewalks on both sides of the street, some trees

Previous Planning Studies

Redwood City El Camino Real Corridor Plan (2017)

- Spot recommendations for multimodal safety improvements

RWCMoves (2018)

- Spot recommendations for multimodal safety improvements

Redwood City Walk Bike Thrive Plan (2022)

- Class IV Separated Bikeway

Caltrans District 4 Pedestrian Plan (2021)

- Highest priority (Tier 1) for pedestrian improvements

C/CAG Countywide Bicycle and Pedestrian Plan (2021)

- On the Countywide Backbone Network (is this true?)

SamTrans ECR Study (2022)

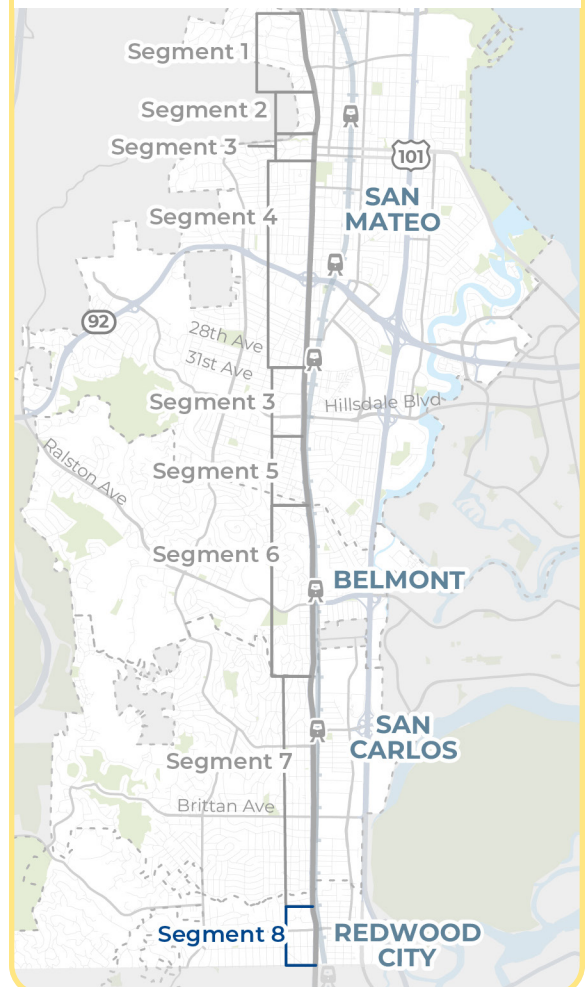
- No bus lanes

Caltrans District 4 Bike Plan Update (2025)

- Class IV Separated Bikeway between Cordilleras Creek and Berkshire Ave

For more complete information about existing conditions see Project Needs Assessment.

Extent Location

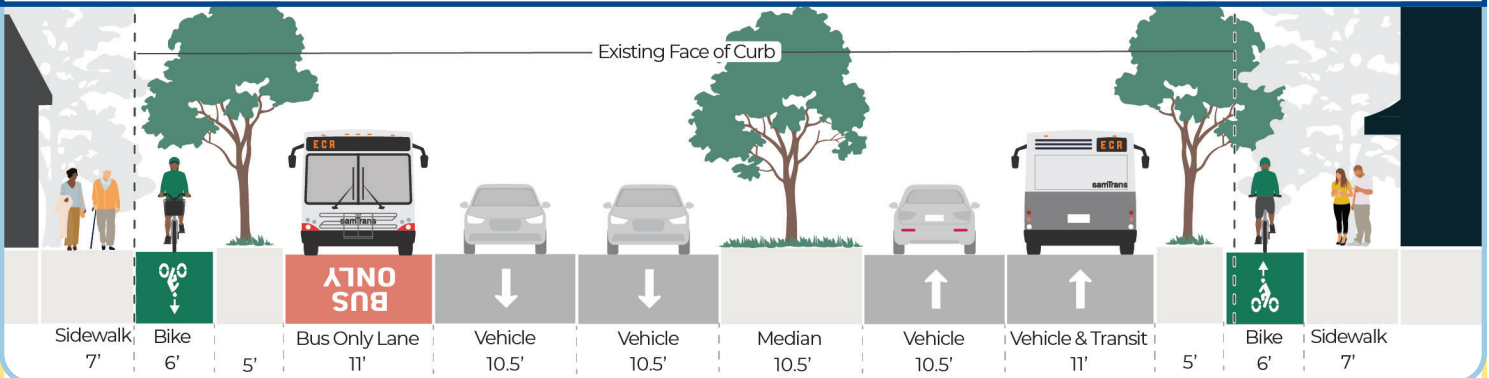


Edgewood Rd to Brewster Ave



Alternative 1 - Transit

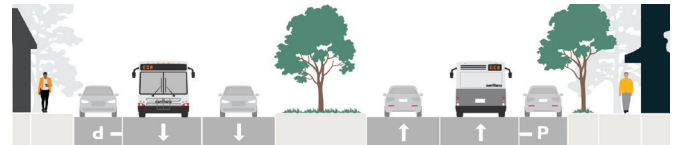
(Looking North) 100'



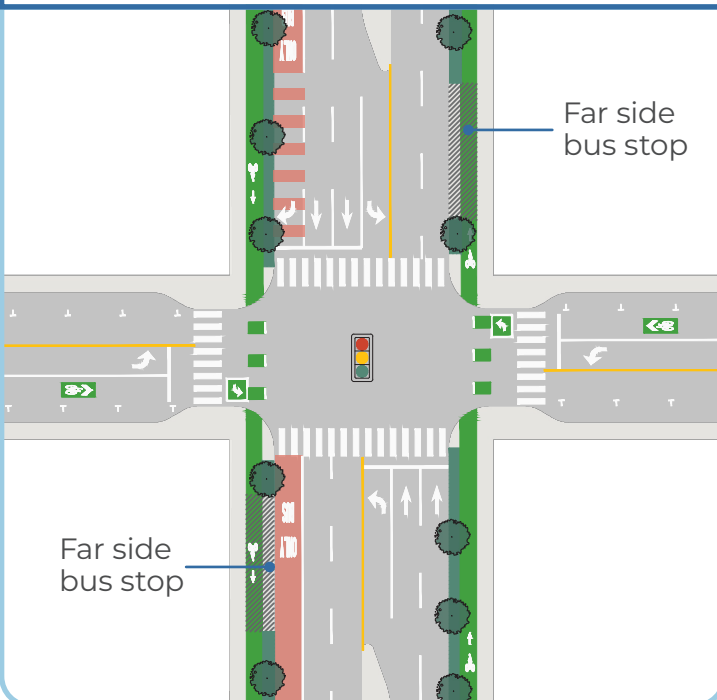
Key Changes

- Southbound transit-only lane added
- Parking removed on both sides
- Landscaped median narrowed
- Separated bike facilities added
- Landscaping with trees added on both sides

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$8.8M (0.5 miles)

Where this alternative scores high:

- Alignment with local policies
- Transit reliability
- Pedestrian comfort
- Bicycle comfort

Where this alternative scores low:

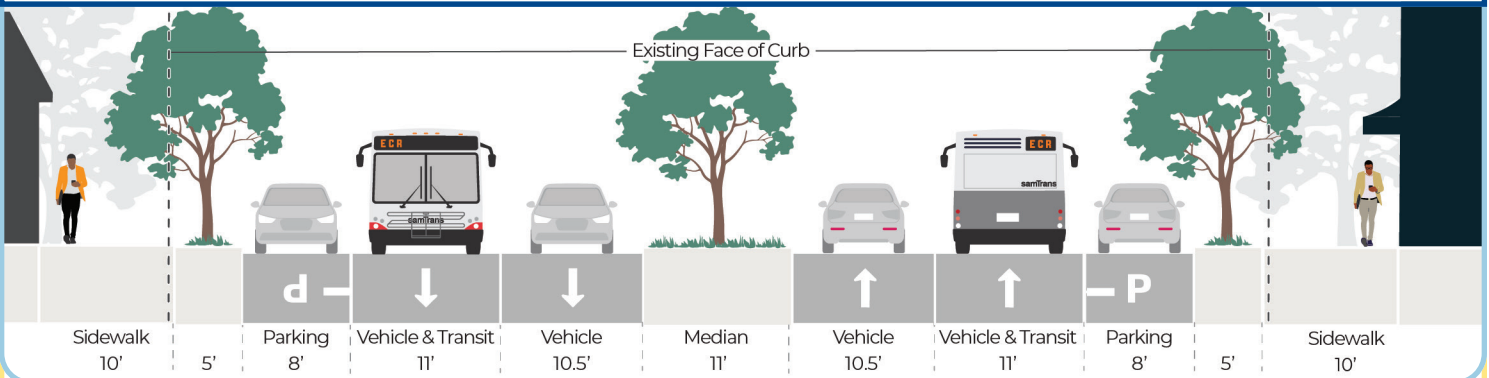
- Parking removal
- Vehicle delay

Edgewood Rd to Brewster Ave



Alternative 2 - Pedestrian

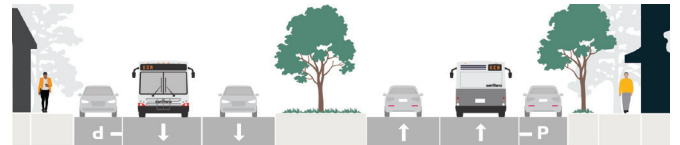
(Looking North) 100'



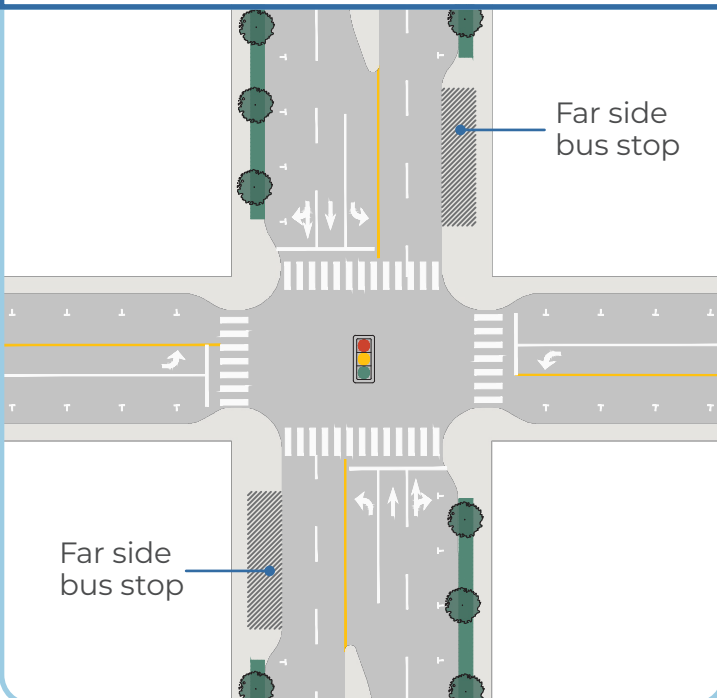
Key Changes

- Landscaped median narrowed
- Sidewalks widened on both sides
- Landscaping with trees added on the west side

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$5.7M (0.5 miles)

Where this alternative scores high:

- Pedestrian comfort
- Street trees
- Parking maintained

Where this alternative scores low:

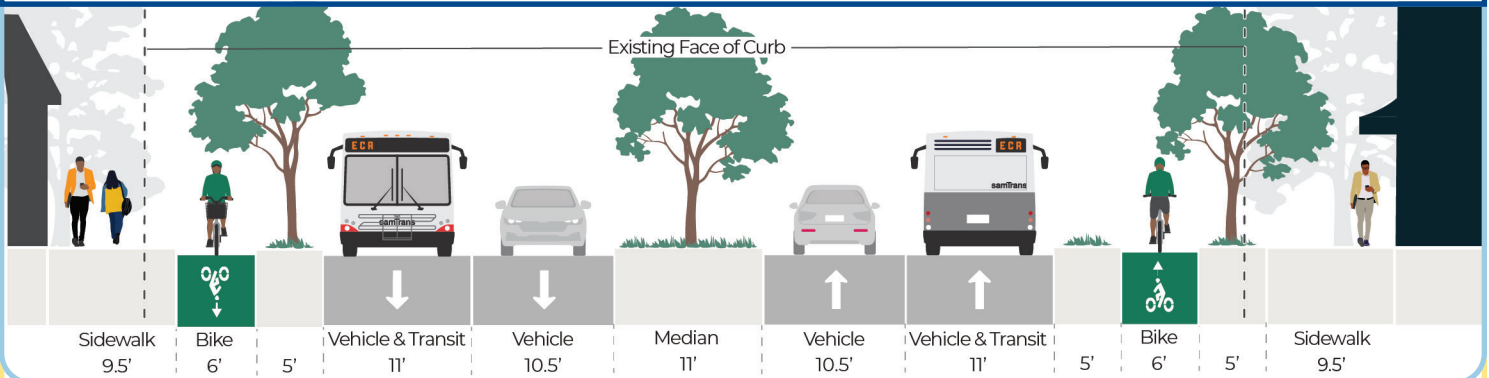
- Alignment with local policies
- Bicycle comfort
- Parking removal

Edgewood Rd to Brewster Ave



Alternative 3 - Bicycle

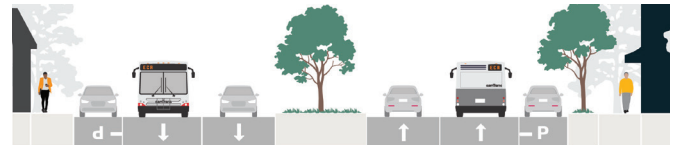
(Looking North) 100'



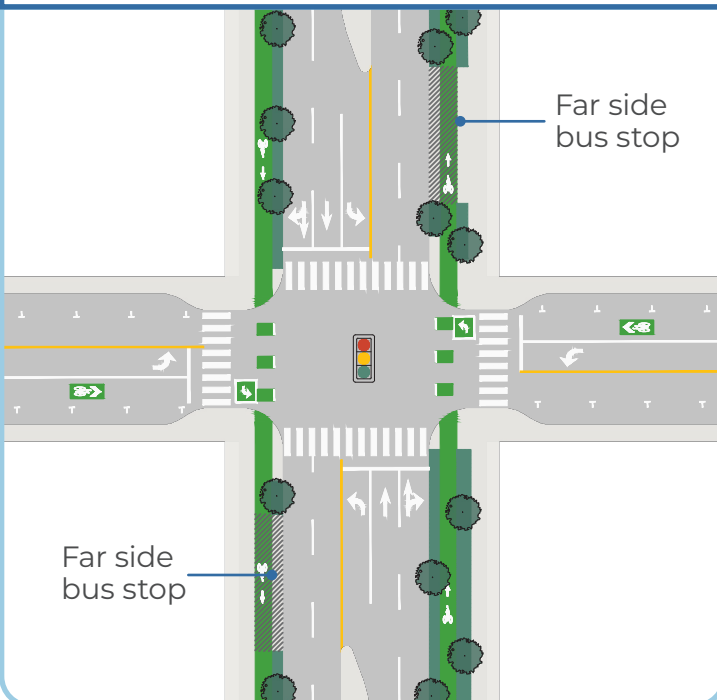
Key Changes

- Parking removed on both sides
- Landscaped median narrowed
- Separated bike facilities added
- Landscaping with trees added on the west side

Existing Cross Section



Typical Signalized Intersection



Evaluation Results Highlights

Estimated Cost: \$7.1M (0.5 miles)

Where this alternative scores high:

- Alignment with local policies
- Pedestrian comfort
- Bicycle Comfort
- Street trees
- Parking

Where this alternative scores low:

- Parking removal

Memo

Date: October 23, 2025

To: Cassie Halls, Asiya Patel, SamTrans

From: Nina Price, Ingrid Ballús Armet, Erin Ferguson, Fehr & Peers

Subject: Central El Camino Multimodal Plan – Alternatives Evaluation Matrix

This memo accompanies the Central El Camino Multimodal Plan Alternatives Evaluation Matrix and provides context and background information for the matrix. The Central El Camino Multimodal Plan proposes three unique alternatives for El Camino Real in San Mateo, San Carlos, Belmont, and Redwood City, each showing a different vision for the future of the corridor. Each alternative exhibits different modal priorities – one enhancing pedestrian experience, one providing separated bikeways, and one prioritizing transit facilities.

The purpose of the Evaluation Matrix is to provide a framework for decision making by considering the pros and cons of each alternative relative to the other alternatives and the existing condition. The evaluations are qualitative, with alternatives being rated on a low-medium-high scale for various factors.

This memo includes an overview of the plans and policies referenced in the Evaluation Matrix and an introduction to the evaluation approach and topic areas.

Overview of Plans and Policies

The Evaluation Matrix references various existing Caltrans and local agency plans and policies in the evaluation factors. Below is a brief explanation of the plans and policies considered.

Caltrans Plans and Policies

Caltrans Complete Streets Policy – Available [Here](#)

All transportation projects funded or overseen by Caltrans will provide comfortable, convenient, and connected complete streets facilities for people walking, rolling, and taking transit or passenger rail unless an exception is documented and approved.

Caltrans D4 Bike Plan – Available [Here](#)

The Caltrans District 4 Bike Plan identifies infrastructure improvements that can enhance bicycle safety and mobility throughout District 4 and remove some of the barriers to bicycling in the region.

Caltrans D4 Pedestrian Plan – Available [Here](#)

The Caltrans District 4 Pedestrian Plan identifies strategies and projects to improve safety, comfort, and connectivity for people walking through District 4, advancing a safer, more accessible transportation network for all.

Design Information Bulletin 94 (DIB-94) – Available [Here](#)

The Caltrans DIB-94 provides guidance to implement Caltrans Complete Streets Policy with specific design features and characteristics corresponding to land contexts and modal priorities.

Caltrans D4 Transit Plan – Available [Here](#)

The Caltrans District 4 Transit Plan instructs local jurisdictions on regional planning for transit. The plan recommends bus lanes and transit signal priority. This plan is not included in the evaluation matrix based on similar priorities to local plans including the SamTrans ECR Bus Speed & Reliability Study.

Local Plans and Policies

Plan Bay Area 2050 – [Available Here](#)

Plan Bay Area 2050 is a 30-year plan that charts a course for affordability, connections, diversity, health, and vibrancy with thirty-five strategies across various disciplines including transportation which include maintaining current transportation systems, safe streets, and expanded transit network investments.

SamTrans ECR Bus Speed & Reliability Study

This study seeks to reduce bus travel times and improve reliability by identifying near- and long-term improvements in bus operations, technology, infrastructure, and policy to enhance rider and bus operator experience, attract new riders, and improve overall performance.

Local Transportation Plans

Local transportation plans refer to plans from San Mateo, Belmont, San Carlos, and Redwood City that include bicycle and pedestrian master plans, downtown specific plans, downtown streetscape plans, and complete streets plans based on local need and contexts.

San Mateo:

- Complete Streets Master Plan (Ongoing)
- Transit Oriented Development Pedestrian Access Plan (2022)
- Local Roadway Safety Plan (2024)
- Bicycle Master Plan (2020)

Belmont:

- Bicycle and Pedestrian Master Plan (2016)
- Belmont Village Specific Plan (2017)

San Carlos:

- Downtown Streetscape Master Plan (2025)
- Bicycle and Pedestrian Master Plan (2020)

Redwood City

- El Camino Real Corridor Plan (2017)
- RWCMoves (2018)
- Walk Bike Thrive Plan (2022)

Local Land Use Planning

Land use planning is based on current and future zoning restrictions in the General Plans from the city of [San Mateo](#), [Belmont](#), [San Carlos](#), and [Redwood City](#), in which each of these cities are planning to upzone and increase densities along El Camino Real.

Evaluation Approach

The Evaluation Matrix assesses the existing condition and each alternative across eight topic areas, each with one or more evaluation factors. The topic areas are:

- Alignment with Caltrans Policy
- Alignment with Local Policy
- Effect on People Walking
- Effect on People Biking
- Effect on People Riding Transit
- Effect on People Driving and Parking
- Effect on the Environment
- Addressing Community Input¹

The existing condition and each alternative are rated Low, Medium, or High for each sub-topic evaluation factor. While the ratings are qualitative, each evaluation factor is accompanied by stated benchmarks that define what conditions are considered low, medium, and high. The overarching topic is given a low, medium, or high rating by averaging the ratings for the associated sub-topics. The Evaluation Matrix is attached to this memo.

Evaluation Summary

The table below summarizes the overall ratings for each evaluation topic, illustrating how each alternative performs relative to the others and the existing conditions. Overall, the Transit Priority alternative (Alternative 1) demonstrates the strongest alignment with Caltrans and local policies, offering significant benefits for people riding transit and measurable improvements in system efficiency. The Pedestrian Priority alternative (Alternative 2) provides the greatest benefits for people walking and for placemaking but offers fewer gains for overall mobility. The Bike Priority alternative (Alternative 3) most enhances comfort and safety for people biking while moderately improving

¹ The collection of community input is ongoing, and the scores for this alternative may be updated following future phases of engagement.

pedestrian and transit experiences. Collectively, the evaluation results illustrate trade-offs between modal priorities and identify opportunities to combine elements from each alternative in the preferred corridor design. The full Evaluation Matrix showing results by sub-topic for each alternative can be found at the end of this memo.

Topic	Existing	Alt 1: Transit	Alt 2: Pedestrian	Alt 3: Bicycle
Alignment with Caltrans Policy	Low	Medium	Medium	High
Alignment with Local Policy	Low	High	Medium	Medium
Effect on People Walking	Low	Medium	High	High
Effect on People Biking	Low	Medium	Low	High
Effect on People Riding Transit	Low	High	Medium	Low
Effect on People Driving and Parking	Medium	Low	Medium	Low
Effect on the Environment	Low	High	Medium	High
Addressing Community Input	Low	Medium	Medium	Medium

Topic	Factors	Existing	Alt 1: Transit	Alt 2: Pedestrian	Alt 3: Bicycle	Low	Medium	High
Alignment with Caltrans Policy	Overall Alignment with Caltrans Policy	Low	Medium	Medium	High	Alternative does not align with Caltrans Policy	Alternative somewhat aligns with Caltrans Policy	Alternative fully aligns with the Caltrans Policy
	Does the alternative align with the Caltrans Complete Streets Policy, which states that all transportation projects funded or overseen by Caltrans will provide comfortable, convenient, and connected complete streets facilities for people walking, rolling, and taking transit or passenger rail unless an exception is documented and approved?	Low	High	High	High	Alternative makes few improvements to align with the Caltrans Complete Streets Policy	Alternative makes some improvements to align with the Caltrans Complete Streets Policy	Alternative fully aligns with the Caltrans Complete Streets Policy
	Does the alternative align with the Caltrans D4 Bike Plan in its goals to: – Prioritize the elimination of fatal and severe bicycle-involved collisions – Increase biking by providing comfortable, convenient, and connected bikeways – Eliminate barriers to biking so that everyone has access to high quality biking infrastructure. The 2025 Bike Plan Update recommends Class IV bike facilities along all of EI Camino through the study area, with highest priority segments in San Mateo near SR Interchange, San Carlos, and Redwood City.	Low	Medium	Low	High	Alternative does not align with the D4 Bike Plan goals, nor provide Class IV bikeways on segments recommended by the D4 Bike Plan	Alternative aligns with some of the goals of the D4 Bike Plan and/or provides bike facilities on some of the segments recommended in the D4 Bike Plan, or provides facilities on alternate parallel routes	Alternative aligns with the Caltrans D4 Bike Plan's goals and provides Class IV bikeways on recommended routes and/or throughout the corridor
	Does the alternative align with the Clatrans D4 Pedestrian Plan in its goal to implement projects that address high priority crossing need and corridor needs along the corridor?	Low	High	High	Medium	Alternative does not address the identified crossing and corridor needs in the D4 Pedestrian Plan.	Alternative addresses some of the identified crossing and corridor needs in the D4 Pedestrian Plan.	Alternative addresses identified crossing and corridor needs in the D4 Pedestrian Plan.
	To what extent do the improvements adhere to DIB 94 guidelines for modal priority within the Urban Community place type by giving "highest priority" to pedestrians, transit, and bicyclists and "lowest priority" to personal vehicle?	Low	Medium	Medium	Medium	Alternative implements few improvements to align modal priority with the placetype	Alternative implements some improvements to align modal priority with the placetype	Alternative implements improvements that fully align modal priority with the placetype
Alignment with Local Policy	Overall Alignment with Local Policy	Low	High	Medium	Medium	Alternative does not align with Local Policy	Alternative somewhat aligns with Local Policy	Alternative fully aligns with the Local Policy
	Does the alternative align with local transportation plans?	Low	Medium	Medium	Medium	Alternative makes few improvements to align with local transportation plans	Alternative somewhat aligns with local transportation plans, or aligns with some but not all local plans	Alternative achieves alignment with most or all local transportation plans
	Does the alternative contribute to the goals of the ECR Bus Speed & Reliability Study? –Reduce travel time –Enhance reliability and on-time service –Recover and attract ridership –Improve operations and driving environment	Low	High	Low	Low	Alternative has limited alignment with strategies from the SamTrans ECR Bus Speed and Reliability Study	Alternative aligns with some but not all strategies in the SamTrans ECR Bus Speed and Reliability Study	Alternative aligns with most or all of the strategies in the SamTrans ECR Bus Speed and Reliability Study
	Does the alternative align with high-density, mixed-use planned land-use context?	Low	High	Medium	High	Alternative has limited alignment with planned land use context	Alternative somewhat aligns with planned land use context	Alternative fully aligns with planned land use context
Effect on People Walking	Overall Effect on People Walking	Low	Medium	High	High	Alternative does not enhance comfort, safety, and accessibility for people walking	Alternative somewhat enhances comfort, safety, and accessibility for people walking	Alternative significantly enhances comfort, safety, and accessibility for people walking
	Does the alternative close sidewalk gaps?	Low	High	High	High	Alternative does not close gaps in the sidewalk or crossing network	Alternative closes some gaps in the sidewalk or crossing network	Alternative provides fully connected sidewalks and closes all or nearly all gaps
	Does the alternative develop high-quality facilities that improve the comfort of pedestrians?	Low	Medium	High	Medium	Alternative does not improve comfort of pedestrians or enhance pedestrian facilities	Alternative somewhat improves comfort of pedestrians or makes light enhancements to pedestrian facilities	Alternative significantly improves pedestrian comfort and/or provides high quality pedestrian facilities throughout the corridor
	Does the alternative provide a buffer, planting, or furnishing zone per DIB 94?	Low	Medium	High	High	Alternative provides no buffer zone	Alternative provides a small buffer zone of 2-3 ft	Alternative provides a large buffer zone of 4-8 feet that contains plantings or furnishings
	Does the alternative provide through zone width with a minimum of 6' to "accommodate a wide variety of users and activities" per DIB 94?	Low	Medium	High	High	Alternative does not provide 6' width accommodating pedestrian facilities	Alternative provides 6' width in some, but not all, locations	Alternative provides 6' width throughout the corridor
	Does the alternative meaningfully shorten crossing distances – for example, through lane reductions, pedestrian refuge islands, or bulb-outs?	Low	Medium	High	Medium	Alternative does not meaningfully shorten crossing distances	Alternative somewhat shortens crossing distances	Alternative meaningfully shortens crossing distances
	Does the alternative provide improvements that will lower speeds under 35 mph per DIB 94, to lower the risk and severity of pedestrian-vehicle crashes?	Low	Medium	Medium	High	Alternative does not reduce vehicle speeds to the targets identified in DIB 94	Alternative makes minor changes to reduce vehicle speeds, but does not reach the targets identified in DIB 94	Alternative provides comprehensive changes to reduce vehicle speeds to the targets idented in DIB 94 or below
Effect on People Biking	Overall Effect on People Biking	Low	Medium	Low	High	Alternative does not enhance comfort, safety, and accessibility for people biking	Alternative somewhat enhances comfort, safety, and accessibility for people walking	Alternative significantly enhances comfort, safety, and accessibility for people walking
	Does the alternative develop high-quality facilities that improve the comfort of bicyclists?	Low	Medium	Low	High	Alternative does not improve the comfort of cyclists, as it provides no facilities or low-quality facilities with limited protection	Alternative somewhat improves the comfort of cyclists, by providing facilities with narrow buffers	Alternative significantly improves the comfort of cyclists by providing high-quality facilities with substantial buffers
	Does the alternative develop a bicycle network that closes gaps and provides connections between facilities?	Low	Medium	Low	High	Alternative does not close gaps or provide new connections to bicycling facilities	Alternative closes some gaps or provides some new connections to bicycling facilities	Alternative closes nearly all gaps, and/or provides many new connections to bicycling facilities
	Does the alternative provide improvements that will lower speeds under 35 mph per DIB 94, to lower the risk and severity of bicycle-vehicle crashes?	Low	Medium	Medium	High	Alternative does not reduce vehicle speeds to the targets identified in DIB 94	Alternative makes minor changes to reduce vehicle speeds, but does not reach the targets identified in DIB94	Alternative provides comprehensive changes to reduce vehicle speeds to the targets identified in DIB94 or below
	If a Class IV facility is provided in this alternative, to what extent do the facilities provided adhere to DIB 94 guidelines on Class IV bikeway widths?	Low	Medium	Low	High	Alternative meets the DIB 94 minimum requirement for bikeway widths	Alternative meets the DIB 94 preferred dimension for bikeway widths	Alternative meets the DIB 94 practical maximum for bikeway widths

Topic	Factors	Existing	Alt 1: Transit	Alt 2: Pedestri	Alt 3: Bicycle	Low	Medium	High
Effect on People Riding Transit	Overall Effect on People Riding Transit	Low	High	Medium	Low	Alternative does not enhance bus speed, reliability, and rider comfort	Alternative somewhat enhances bus speed, reliability, and rider comfort	Alternative significantly enhances bus speed, reliability, and rider comfort
	Does the design of the alternative balance transit riders with vehicle traffic to minimize overall person delay per DIB 94?	Low	High	Low	Low	Alternative does nothing to improve overall person delay or increases delay for transit	Alternative makes some improvements to reduce overall person delay but does not minimize overall person delay	Alternative minimizes overall person delay through roadway configuration
	Does the alternative include transit stop configurations that optimize boarding operations per DIB 94, and provide dedicated space for boarding islands per SamTrans Bus Speed and Reliability Study?	Low	High	High	Medium	Alternative does not include transit stops that improve efficiency of boarding or provide dedicated space for boarding islands	Alternative proposes transit stops that marginally improve boarding operations or provides dedicated space for boarding islands at some stops	Alternative proposes transit stops that substantially improve boarding operations and provides dedicated space for boarding islands throughout the corridor
	Does the alternative provide dedicated transit facilities per Plan Bay Area 2050 recommendations and the SamTrans ECR Bus Speed & Reliability Study?	Low	High	Low	Low	Alternative does not provide dedicated transit lanes	Alternative provides some dedicated transit lanes	Alternative provides continuous dedicated transit lanes for at least 0.2 miles per segment
Effect on People Driving and Parking	Overall Effect on People Driving and Parking	Medium	Low	Medium	Low	Alternative worsens the experience for people driving and parking	Alternative mostly maintains the experience for people driving and parking	Alternative improves the experience for people driving
	How does the alternative affect vehicle Level of Service (LOS)?	Medium	Low	Low	Low	Alternative worsens vehicle LOS	Alternative retains the existing vehicle LOS	Alternative improves vehicle LOS
	Does the alternative include features that reduce vehicle top speeds below 25 mph (urban center) and below 35 mph (urban community) per DIB 94?	Low	Medium	Medium	Medium	Alternative does not include features that reduce top speeds	Alternative includes features that have some impact on reducing top speeds	Alternative includes features and treatments that effectively reduce top speeds
	How does this alternative affect parking supply on El Camino?	High	Low	Medium	Low	Alternative removes most parking supply on ECR	Alternative reduces parking supply on ECR	Alternative retains existing parking on ECR
Effect on the Environment	Overall Effect on the Environment	Low	High	Medium	High	Alternative worsens the experience for people driving and parking	Alternative mostly maintains the experience for people driving and parking	Alternative improves the experience for people driving
	What level of planting can the alternative accommodate?	Low	Medium	High	Medium	Alternative accommodates small plantings or no plantings	Alternative provides opportunity for medium sized plantings	Alternative presents an opportunity for large plantings
	How does the alternative impact vehicle–miles traveled (VMT) along the corridor?	Low	High	Medium	High	Alternative encourages high VMT	Alternative has no significant impact on current VMT	Alternative encourages low VMT
	Does the alternative encourage trips by sustainable modes?	Low	High	Medium	High	Alternative disincentivizes sustainable mode trips	Alternative creates some incentive for trips by sustainable modes	Alternative creates options that encourage trips by sustainable modes
Addressing Community Input	Overall Responsiveness to Community Needs	Low	Medium	Medium	Medium	Alternative does not address community needs	Alternative addresses some community needs	Alternative addresses most community needs
	Noted experiencing high levels of vehicular traffic congestion	Medium	Low	Medium	Low	Alternative worsens traffic congestion	Alternative does not relieve traffic congestion	Alternative improves traffic congestion
	Noted traffic signal timing causes delays for all users, does not safely accommodate turning movements, and does not provide enough time for pedestrians to cross	Low	Medium	Medium	Medium	Alternative would not address signal timing issues	Alternative would address some, but not all signal timing issues	Alternative would address all signal timing issues
	Noted safety concerns for bicycles sharing the lane with cars and aggressive driver behavior	Low	Medium	Low	High	Alternative does not provide separation from cars for bikes	Alternative provides sepration from cars for bikes in some locations but not all	Alternative provides continuous separation from cars for bikes
	Noted concern about poor pedestrian visibility, conflicts where drivers fail to yield to pedestrians in the crosswalks, and narrow sidewalks	Low	Medium	High	Medium	Alternative does not address concerns about pedestrian safety or comfort	Alternative somewhat addresses concerns about pedestrian safety or comfort	Alternative comprehensively addresses concerns about pedestrian safety and comfort
	Identified need for bus shelters and desire for more frequency and reliability for buses	Low	High	Medium	Low	Alternative does not address concerns about bus facilities and reliability	Alternative somewhat addresses concerns about bus facilities and reliability	Alternative comprehensively addresses concerns about bus facilities and reliability

MEMORANDUM

To: Cassie Halls, Asiya Patel, SamTrans
From: Christopher Sauvageau | Mark Thomas
Date: November 13, 2025
RE: Central El Camino Real Multimodal Plan – Basis of Cost Analysis

PURPOSE: This memorandum documents the background information and approach to develop opinions of probable costs for projects identified in the Central El Camino Real Multimodal Plan (Central El Camino Plan). This study evaluates proposed improvements within the cities of San Mateo, Belmont, San Carlos, and Redwood City that will impact the regional corridor to increase alternative travel options and roadway user safety.

ASSUMPTIONS:

The following will list the assumptions used to determine the high-level cost of the project based on the anticipated lengths.

Per Unit Prices

The following assumptions for unit cost were used based on the available Caltrans Contract Cost Data website, then converted to a unit cost per linear foot of segment based on each segment's design. Due to variations in these designs, a range of unit prices per linear foot is shown.

Item Description	Unit	Unit Price	Unit Price per LF of Segment
Remove Concrete Curb	LF	\$30	\$60
Remove Concrete (Curb & Gutter)	LF	\$35	\$70
Remove Thermoplastic Traffic Stripe	LF	\$1	\$3-\$8
Roadway Excavation	CY	\$100	\$30-\$213
Cold Plane Asphalt Concrete Pavement	SQYD	\$5	\$25-\$45
Hot Mix Asphalt (Type A)	TON	\$150	\$100-\$220
Class 2 Aggregate Base	CY	\$200	\$10-\$80
Concrete (Median Curb)	CY	\$1,150	\$70-\$215
Concrete (Curb & Gutter)	CY	\$1,300	\$155
Concrete (Island Paving)	CY	\$950	\$23-\$36
Concrete (Sidewalk)	CY	\$1,000	\$18-\$173
Thermoplastic Traffic Stripe	LF	\$3	\$6-\$18
Pavement Marking	SF	\$12	\$48-\$264

General Costs

In addition to the per unit prices above, there are other construction costs that are harder to quantify due to inconsistent frequency throughout the corridor or unknown location-specific design challenges. These items are instead captured via percentages relative to the measurable construction costs listed above. These percentages were derived from cost estimates of similar projects in the Bay Area (Bascom Complete Streets Project in San Jose and El Camino Real Bicycle and Pedestrian Improvement Project in Colma), and are broken down below:

Item Description	Percentage of Roadway Costs
Intersection Features	45%
Drainage & Utilities	20-25%
Signage	1%
Temporary Construction	5%
Landscaping & Irrigation	25%
Minor Items	25%
Total	126%

“Minor items” covers the cost of minor construction items that are not defined during the planning effort but may be required to implement this project.

Finally, an additional 40% contingency is applied to all estimates to capture all unforeseen costs.

Roadway Assumptions

The subsequent assumptions have been formulated for all segments where applicable.

- Concrete Curb and Gutter will be replaced even if the curb line remains the same.
- Existing and Proposed Roadway Depths:
 - Hot Mix Asphalt (HMA) Type A – 0.75’
 - Class II Aggregate Base – 0.8’
- Existing and Proposed Sidewalk & Paved Median Depths:
 - Portland Cement Concrete (PCC) – 0.33’
 - Class II Aggregate Base – 0.33’
- Roadway Excavation applies to all areas that change its function (roadway/bike lane, median, sidewalk, landscaping).
 - 0.66’ depth used where landscaping converts to sidewalk or vice versa per sidewalk depths.
 - 1.55’ depth used in all other situations per roadway depths.
- All existing roadway to remain will be cold planed to a depth of 2”.
- 2 TON of HMA equals 1 CY of HMA.
- New curbs are based on Caltrans 2024 Standard Details. Concrete (Median Curb) uses Type A2-6 while Concrete (Curb & Gutter) uses Type A1-8.
- Bike lane depths will match existing roadway depths.
- Striping removal and new striping costs only include lane striping, and all new striping is 6” thermoplastic.
- Pavement markings only include red bus lane thermoplastic paint, bus lane text markings, green bike lane thermoplastic paint, and bike lane text markings and symbols. Bus lanes are painted for their full length while bike lanes are only painted for 40% of their total length (100’ approach and past intersections, assuming 500’ intersection spacings).
- It is assumed that no Right of Way will need to be acquired for these improvements.

12. It is assumed that there are no improvements requiring structures such as retaining walls or bridge/culvert expansions.

Segment and Alternatives Cost - Summary

The following tables summarize the costs based on segment and alternatives. Note that these costs are construction costs only.

Segment #	Unit Costs (LF of Segment)				
	Alt 1	Alt 1A	Alt 1B	Alt 2	Alt 3
1	\$1,170	---	---	---	\$2,070
2	\$1,170	---	---	---	\$2,070
3	\$3,050	---	---	\$3,110	\$3,180
4	---	\$2,760	\$2,610	\$1,920	\$2,830
5	---	\$2,940	\$3,220	\$2,520	\$3,070
6	\$3,170	---	---	\$2,440	\$2,970
7	\$3,280	---	---	\$2,730	\$3,200
8	\$3,670	---	---	\$2,370	\$2,940

Segment #	Length (LF)	Total Costs				
		Alt 1	Alt 1A	Alt 1B	Alt 2	Alt 3
1	4,030	\$4,715,100	---	---	---	\$8,342,100
2	1,900	\$2,223,000	---	---	---	\$3,933,000
3	4,540	\$13,847,000	---	---	\$14,119,400	\$14,437,200
4	9,600	---	\$26,496,000	\$25,056,000	\$18,432,000	\$27,168,000
5	2,500	---	\$7,350,000	\$8,050,000	\$6,300,000	\$7,675,000
6	8,660	\$27,452,200	---	---	\$21,130,400	\$25,720,200
7	10,980	\$36,014,400	---	---	\$29,975,400	\$35,136,000
8	2,400	\$8,808,000	---	---	\$5,688,000	\$7,056,000
Grand Total		\$93,059,700	\$33,846,000	\$33,106,000	\$95,645,200	\$129,527,500

Soft Costs

In addition to the construction costs shown above, soft costs can be applied to each segment and alternative as desired to determine the additional costs required for project completion. Soft costs are based on percentages of the total hard cost of the construction items of the project. Soft costs are variable based on the size and complexity of all the segments. Due to these various unknowns, a maximum percentage of 65% can be assumed. The breakdown is as follows:

Soft Cost	Percentage
Civil Engineering	26-31%
Landscape Architecture	2%
Surveying	1-2%
Inspection/Construction Management	10-15%
Construction Support (Design)	5%
*Geotechnical Engineering	3-5%
*Utility Engineering/Coordination	3-5%
Total	65%

*May not be needed depending on identified conflicts with creeks, retaining walls, and existing utilities.

APPENDICES:

Appendix A - Sample Segment Cost Breakdown

Appendix B - Unit Costs Spreadsheet

APPENDIX A - SAMPLE SEGMENT COST BREAKDOWN

The following illustrates how the costs per linear foot for each construction cost item were derived. Segment 3, Alternative 3 was selected as the example:

Segment 3, Alternative 3:

The following data was used for calculating this alternative:

1. Geometric Changes
 - a. 20.5' involves roadway
 - i. 2' of roadway to convert to sidewalk
 - ii. 3.5' of roadway to convert to paved median
 - iii. 12' of roadway to convert to landscaped medians
 - iv. 3' of paved median to convert to roadway
 - b. 3' of landscaping to convert to sidewalk
2. Geometric Constants
 - a. 62.5' of roadway to remain as roadway or be converted to bike lanes
3. Painted Lanes
 - a. 12' of new bike lane

Each item has a Conversion Factor to convert from the base unit to the cost per linear foot of the entire width of the segment and alternative. Those conversion factors are derived as follows:

1. Remove Concrete Curb - (2 curbs) x (1 linear foot) = 2 for the conversion factor
2. Remove Concrete (Curb & Gutter) - (2 curbs) x (1 linear foot) = 2 for the conversion factor
3. Remove Thermoplastic Traffic Stripe - (5 stripes) x (1 linear foot) = 5 for the conversion factor
4. Roadway Excavation - (20.5' width x 1.55' depth) + (3' width x 0.66' depth) = 33.775 SF
 (33.775 SF) x (1 linear foot) = 33.775 CF
 Divide by 27 to convert to CY -> $33.775 / 27 = 1.25$ for the conversion factor
5. Cold Plane Asphalt Concrete Pavement - (62.5' width) x (1 linear foot) = 62.5 SF
 Divide by 9 to convert to SY -> $62.5 / 9 = 6.94$ for the conversion factor
6. Hot Mix Asphalt (Type A) - (62.5' width x 0.167' depth) + (3' width x 0.75' depth) = 12.69 SF
 (12.69 SF) x (1 linear foot) = 12.69 CF
 Divide by 27 to get cubic yards -> $12.69 / 27 = 0.47$ CY
 Multiply by 2 to convert to tons -> $0.47 \times 2 = 0.94$ for the conversion factor
7. Class 2 Aggregate Base - (3' width x 0.8' depth) + (8' width x 0.33' depth) = 5.04 SF
 (5.04 SF) x (1 linear foot) = 5.04 CF
 Divide by 27 to get cubic yards -> $5.04 / 27 = 0.187$ for the conversion factor
8. Concrete (Median Curb) - 1 LF of curb = 0.0308 CY of concrete
 (6 curbs) x (0.0308 CY) = 0.185 for the conversion factor
9. Concrete (Curb & Gutter) - 1 LF of curb & gutter = 0.059 CY of concrete
 (2 curbs) x (0.059 CY) = 0.118 for the conversion factor
10. Concrete (Island Paving) - (3' width x 0.33' depth) = 1 SF
 (1 SF) x (1 linear foot) = 1 CF
 Divide by 27 to get cubic yards -> $1 / 27 = 0.037$ for the conversion factor

11. Concrete (Sidewalk) - (5' width x 0.33' depth) = 1.67 SF
 (1.67 SF) x (1 linear foot) = 1.67 CF
 Divide by 27 to get cubic yards -> $1.67 / 27 = 0.0617$ for the conversion factor
12. Thermoplastic Traffic Stripe - (3 stripes) x (1 linear foot) = 3 for the conversion factor
13. Pavement Marking - (12' width) x (1 linear foot) = 12 SF
 Assume bike lanes are painted solid for 40% of segment -> $12 \times 0.4 = 4.8$ for the conversion factor

The table below provides a summary of items included in this alternative, as well as their Linear Foot of Segment (LFS) unit price:

Item Description	Unit	Unit Cost	Conversion Factor	Cost / LFS
Remove Concrete Curb	LF	\$30	2	\$60.00
Remove Concrete (Curb & Gutter)	LF	\$35	2	\$70.00
Remove Thermoplastic Traffic Stripe	LF	\$1	5	\$5
Roadway Excavation	CY	\$100	1.25	\$125.02
Cold Plane Asphalt Concrete Pavement	SQYD	\$5	6.94	\$34.72
Hot Mix Asphalt (Type A)	TON	\$150	0.94	\$140.74
Class 2 Aggregate Base	CY	\$200	0.187	\$37.33
Concrete (Median Curb)	CY	\$1,150	0.185	\$212.80
Concrete (Curb & Gutter)	CY	\$1,300	0.118	\$153.48
Concrete (Island Paving)	CY	\$950	0.037	\$35.19
Concrete (Sidewalk)	CY	\$1,000	0.0617	\$61.73
Thermoplastic Traffic Stripe	LF	\$3	3	\$9
Pavement Marking	SF	\$12	4.8	\$57.60
Subtotal				\$1,002.60
General Costs (126%)				\$1,263.27
Subtotal of Construction Items				\$2,265.87
Contingency (40%)				\$906.35
Total				\$3,172.22
Rounded Cost				\$3,180

Appendix B - Unit Costs Spreadsheet

Bid Items	Unit Costs per Alt																							
	Segment 1		Segment 2		Segment 3			Segment 4				Segment 5				Segment 6			Segment 7			Segment 8		
	Alt 1	Alt 3	Alt 1	Alt 3	Alt 1	Alt 2	Alt 3	Alt 1A	Alt 1B	Alt 2	Alt 3	Alt 1A	Alt 1B	Alt 2	Alt 3	Alt 1	Alt 2	Alt 3	Alt 1	Alt 2	Alt 3	Alt 1	Alt 2	Alt 3
Remove Concrete Curb	\$ -	\$ -	\$ -	\$ -	\$ 60.00	\$ 60.00	\$ 60.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00
Remove Concrete (Curb & Gutter)	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00	\$ 70.00
Remove Thermoplastic Traffic Stripe	\$ 3.00	\$ 3.00	\$ 4.00	\$ 4.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 7.00	\$ 7.00	\$ 7.00	\$ 7.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00
Roadway Excavation	\$ -	\$ 30.30	\$ -	\$ 30.30	\$ 66.02	\$ 198.80	\$ 125.02	\$ 137.78	\$ 45.93	\$ 137.78	\$ 177.96	\$ 137.78	\$ 129.17	\$ 212.41	\$ 189.44	\$ 129.17	\$ 126.30	\$ 86.11	\$ 94.72	\$ 183.70	\$ 172.22	\$ 152.13	\$ 91.85	\$ 109.07
Cold Plane Asphalt Concrete Pavement	\$ 30.00	\$ 27.78	\$ 30.00	\$ 27.78	\$ 39.72	\$ 28.06	\$ 34.72	\$ 35.56	\$ 44.44	\$ 35.56	\$ 31.67	\$ 35.56	\$ 36.39	\$ 28.33	\$ 30.56	\$ 28.06	\$ 25.28	\$ 30.00	\$ 32.50	\$ 26.39	\$ 26.67	\$ 28.06	\$ 30.28	\$ 28.33
Hot Mix Asphalt (Type A)	\$ 100.00	\$ 117.59	\$ 100.00	\$ 117.59	\$ 157.40	\$ 118.51	\$ 140.74	\$ 118.51	\$ 148.14	\$ 118.51	\$ 105.55	\$ 118.51	\$ 121.29	\$ 94.44	\$ 135.18	\$ 185.18	\$ 130.09	\$ 158.33	\$ 166.66	\$ 183.79	\$ 172.22	\$ 218.51	\$ 138.42	\$ 127.77
Class 2 Aggregate Base	\$ -	\$ 16.74	\$ -	\$ 16.74	\$ 25.11	\$ 59.33	\$ 37.33	\$ -	\$ -	\$ -	\$ 9.78	\$ 9.78	\$ 14.67	\$ 24.44	\$ 14.67	\$ 79.85	\$ 47.26	\$ 52.48	\$ 41.48	\$ 73.04	\$ 59.26	\$ 59.26	\$ 41.33	\$ 35.93
Minor Concrete (Curb)	\$ -	\$ 141.86	\$ -	\$ 141.86	\$ 70.93	\$ 70.93	\$ 212.80	\$ 70.93	\$ 70.93	\$ 70.93	\$ 212.80	\$ 70.93	\$ 212.80	\$ 70.93	\$ 212.80	\$ 70.93	\$ 70.93	\$ 212.80	\$ 212.80	\$ 70.93	\$ 212.80	\$ 212.80	\$ 70.93	\$ 212.80
Minor Concrete (Curb & Gutter)	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48	\$ 153.48
Minor Concrete (Island Paving)	\$ -	\$ 23.46	\$ -	\$ 23.46	\$ 35.19	\$ 35.19	\$ 35.19	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 35.19	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Minor Concrete (Sidewalk)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 172.84	\$ 61.73	\$ -	\$ -	\$ -	\$ 49.38	\$ 49.38	\$ 74.07	\$ 123.46	\$ 74.07	\$ 74.07	\$ 74.07	\$ 18.52	\$ -	\$ 24.69	\$ -	\$ -	\$ 74.07	\$ 61.73
6" Thermoplastic Traffic Stripe	\$ 12.00	\$ 9.00	\$ 12.00	\$ 9.00	\$ 15.00	\$ 9.00	\$ 9.00	\$ 12.00	\$ 18.00	\$ 12.00	\$ 6.00	\$ 12.00	\$ 9.00	\$ 9.00	\$ 6.00	\$ 12.00	\$ 9.00	\$ 9.00	\$ 9.00	\$ 12.00	\$ 6.00	\$ 9.00	\$ 12.00	\$ 6.00
Thermoplastic Pavement Marking	\$ -	\$ 60.00	\$ -	\$ 60.00	\$ 264.00	\$ -	\$ 57.60	\$ 264.00	\$ 264.00	\$ -	\$ 67.20	\$ 264.00	\$ 189.60	\$ -	\$ 76.80	\$ 132.00	\$ -	\$ 48.00	\$ 189.60	\$ -	\$ 72.00	\$ 189.60	\$ -	\$ 57.60
BID ITEM SUBTOTAL	\$ 368.47	\$ 653.20	\$ 369.47	\$ 654.20	\$ 961.85	\$ 981.13	\$ 1,002.60	\$ 870.26	\$ 822.92	\$ 606.26	\$ 891.82	\$ 928.42	\$ 1,017.46	\$ 793.49	\$ 970.00	\$ 998.74	\$ 770.41	\$ 937.90	\$ 1,034.24	\$ 862.02	\$ 1,008.64	\$ 1,156.83	\$ 746.37	\$ 926.71
Intersection Design	\$ 165.81	\$ 293.94	\$ 166.26	\$ 294.39	\$ 432.83	\$ 441.51	\$ 451.17	\$ 391.62	\$ 370.32	\$ 272.82	\$ 401.32	\$ 417.79	\$ 457.86	\$ 357.07	\$ 436.50	\$ 449.43	\$ 346.68	\$ 422.05	\$ 465.41	\$ 387.91	\$ 453.89	\$ 520.57	\$ 335.87	\$ 417.02
Drainage	\$ 55.27	\$ 97.98	\$ 55.42	\$ 98.13	\$ 144.28	\$ 147.17	\$ 150.39	\$ 130.54	\$ 123.44	\$ 90.94	\$ 133.77	\$ 139.26	\$ 152.62	\$ 119.02	\$ 145.50	\$ 149.81	\$ 115.56	\$ 140.68	\$ 155.14	\$ 129.30	\$ 151.30	\$ 173.52	\$ 111.96	\$ 139.01
Utilities	\$ 36.85	\$ 65.32	\$ 36.95	\$ 65.42	\$ 96.18	\$ 98.11	\$ 100.26	\$ 87.03	\$ 82.29	\$ 60.63	\$ 89.18	\$ 92.84	\$ 101.75	\$ 79.35	\$ 97.00	\$ 99.87	\$ 77.04	\$ 93.79	\$ 103.42	\$ 86.20	\$ 100.86	\$ 115.68	\$ 74.64	\$ 92.67
Signage	\$ 3.68	\$ 6.53	\$ 3.69	\$ 6.54	\$ 9.62	\$ 9.81	\$ 10.03	\$ 8.70	\$ 8.23	\$ 6.06	\$ 8.92	\$ 9.28	\$ 10.17	\$ 7.93	\$ 9.70	\$ 9.99	\$ 7.70	\$ 9.38	\$ 10.34	\$ 8.62	\$ 10.09	\$ 11.57	\$ 7.46	\$ 9.27
Temporary Construction	\$ 18.42	\$ 32.66	\$ 18.47	\$ 32.71	\$ 48.09	\$ 49.06	\$ 50.13	\$ 43.51	\$ 41.15	\$ 30.31	\$ 44.59	\$ 46.42	\$ 50.87	\$ 39.67	\$ 48.50	\$ 49.94	\$ 38.52	\$ 46.89	\$ 51.71	\$ 43.10	\$ 50.43	\$ 57.84	\$ 37.32	\$ 46.34
Landscaping & Irrigation	\$ 92.12	\$ 163.30	\$ 92.37	\$ 163.55	\$ 240.46	\$ 245.28	\$ 250.65	\$ 217.56	\$ 205.73	\$ 151.56	\$ 222.95	\$ 232.10	\$ 254.37	\$ 198.37	\$ 242.50	\$ 249.68	\$ 192.60	\$ 234.47	\$ 258.56	\$ 215.51	\$ 252.16	\$ 289.21	\$ 186.59	\$ 231.68
Minor Items	\$ 92.12	\$ 163.30	\$ 92.37	\$ 163.55	\$ 240.46	\$ 245.28	\$ 250.65	\$ 217.56	\$ 205.73	\$ 151.56	\$ 222.95	\$ 232.10	\$ 254.37	\$ 198.37	\$ 242.50	\$ 249.68	\$ 192.60	\$ 234.47	\$ 258.56	\$ 215.51	\$ 252.16	\$ 289.21	\$ 186.59	\$ 231.68
SOFT COST SUBTOTAL	\$ 464.28	\$ 823.04	\$ 465.54	\$ 824.30	\$ 1,211.93	\$ 1,236.23	\$ 1,263.27	\$ 1,096.52	\$ 1,036.88	\$ 763.88	\$ 1,123.69	\$ 1,169.81	\$ 1,282.00	\$ 999.80	\$ 1,222.19	\$ 1,258.41	\$ 970.71	\$ 1,181.75	\$ 1,303.14	\$ 1,086.15	\$ 1,270.89	\$ 1,457.61	\$ 940.42	\$ 1,167.65
Contingency	\$ 333.10	\$ 590.50	\$ 334.00	\$ 591.40	\$ 869.51	\$ 886.95	\$ 906.35	\$ 786.71	\$ 743.92	\$ 548.06	\$ 806.20	\$ 839.29	\$ 919.79	\$ 717.32	\$ 876.88	\$ 902.86	\$ 696.45	\$ 847.86	\$ 934.95	\$ 779.27	\$ 911.81	\$ 1,045.78	\$ 674.72	\$ 837.75
TOTAL / LF	\$ 1,166	\$ 2,067	\$ 1,169	\$ 2,070	\$ 3,043	\$ 3,104	\$ 3,172	\$ 2,753	\$ 2,604	\$ 1,918	\$ 2,822	\$ 2,938	\$ 3,219	\$ 2,511	\$ 3,069	\$ 3,160	\$ 2,438	\$ 2,968	\$ 3,272	\$ 2,727	\$ 3,191	\$ 3,660	\$ 2,362	\$ 2,932
TOTAL / LF (rounded)	\$ 1,170	\$ 2,070	\$ 1,170	\$ 2,070	\$ 3,050	\$ 3,110	\$ 3,180	\$ 2,760	\$ 2,610	\$ 1,920	\$ 2,830	\$ 2,940	\$ 3,220	\$ 2,520	\$ 3,070	\$ 3,170	\$ 2,440	\$ 2,970	\$ 3,280	\$ 2,730	\$ 3,200	\$ 3,670	\$ 2,370	\$ 2,940
Segment Length	4030	4030	1900	1900	4540	4540	4540	9600	9600	9600	9600	2500	2500	2500	2500	8660	8660	8660	10980	10980	10980	2400	2400	2400
TOTAL SEGMENT COST	\$ 4,715,100	\$ 8,342,100	\$ 2,223,000	\$ 3,933,000	\$ 13,847,000	\$ 14,119,400	\$ 14,437,200	\$ 26,496,000	\$ 25,056,000	\$ 18,432,000	\$ 27,168,000	\$ 7,350,000	\$ 8,050,000	\$ 6,300,000	\$ 7,675,000	\$ 27,452,200	\$ 21,130,400	\$ 25,720,200	\$ 36,014,400	\$ 29,975,400	\$ 35,136,000	\$ 8,808,000	\$ 5,688,000	\$ 7,056,000
TOTAL SEGMENT COST / MILE	\$ 6,177,600	\$ 10,929,600	\$ 6,177,600	\$ 10,929,600	\$ 16,104,000	\$ 16,420,800	\$ 16,790,400	\$ 14,572,800	\$ 13,780,800	\$ 10,137,600	\$ 14,942,400	\$ 15,523,200	\$ 17,001,600	\$ 13,305,600	\$ 16,209,600	\$ 16,737,600	\$ 12,883,200	\$ 15,681,600	\$ 17,318,400	\$ 14,414,400	\$ 16,896,000	\$ 19,377,600	\$ 12,513,600	\$ 15,523,200

Memo

Date: September 4, 2026

To: Cassie Halls, Asiya Patel, SamTrans

From: Erin Ferguson, PE, RSP2I; Fehr & Peers

Subject: City of San Mateo's Alternative 4 Existing Cross-Section Plus Spot Improvements

After development of the Central El Camino Real Multimodal Plan ("Plan"), the City of San Mateo requested that the Plan be updated to include a fourth alternative (Alternative 4) unique to the segments within the City of San Mateo. Alternative 4 consists of the existing cross-section plus the spot improvements described in the Plan.

The body of the Plan has been updated to include Alternative 4 for the City of San Mateo. This memorandum will be added to *Appendix C Phase 2 Alternatives and Evaluation* to: (1) document that Alternative 4 was added (as noted above); and (2) include the evaluation of Alternative 4 that was prepared by City of San Mateo staff and shared with the City's Sustainability & Infrastructure Commission (SIC) on September 9, 2026 and City Council on September 22, 2026.

The following is the table City of San Mateo staff edited to include Alternative 4 in comparison to the other corridor-wide alternatives developed and evaluated in October 2025 memo (also included in Appendix C). The evaluations for the existing conditions and Alternatives 1 through 3 were done on a corridor wide basis (i.e., considering El Camino Real in San Mateo, Belmont, San Carlos, and Redwood City) whereas the evaluation of Alternative 4 by City of San Mateo staff focused on the extents of El Camino Real within the City of San Mateo.

Evaluation Topic	Existing	Alt 1: Transit	Alt 2: Pedestrian	Alt 3: Bicycle	Alt 4: Spot*
Alignment with Caltrans Policy	Low	Medium	Medium	High	Low
Alignment with Local Policy	Low	High	Medium	Medium	Medium
Effect on People Walking	Low	Medium	High	High	Low
Effect on People Biking	Low	Medium	Low	High	Low
Effect on People Riding Transit	Low	High	Medium	Low	Low
Effect on People Driving and Parking	Medium	Low	Medium	Low	Medium
Effect on the Environment	Low	High	Medium	High	Low
Addressing Community Input	Low	Medium	Medium	Medium	Medium

Table 1. Alternatives Evaluation Summary (Source: Central El Camino Multimodal Plan – Alternatives Evaluation Memo, Fehr & Peers, October 23, 2025)

*City of San Mateo-exclusive alternative. Individual topics were evaluated by City staff, with community input gathered through business outreach.