



Memorandum Engineering Division

November 5, 2014

To: Planning Commission
From: Jennifer Rosales, Senior Transportation Engineer *JR*
Subject: Calle Frontera Striping
Copies: William E. Cameron, Public Works Director / City Engineer
Thomas Bonigut, Assistant City Engineer
Tom Frank, Transportation Engineering Manager

ISSUE:

A request to consider forwarding a recommendation to the City Council to approve restriping of Calle Frontera shown as Options 1 or 2 for Segment 1 and Options 3 or 5 for Segment 2 as provided in the Attachments?

BACKGROUND:

Calle Frontera is scheduled for rehabilitation and restriping in the spring of 2015. Consistent with the City's General Plan goal to implement complete streets concepts where feasible, staff investigated options for reconfiguring the lane alignments to best balance the street for all users. The configuration of streets impacts the surrounding community. As such, wide roads promote higher vehicular speeds¹, and higher speeds may negatively influence the safety and quality of life for the adjacent neighborhood.

Calle Frontera is a collector street which runs parallel to the I-5 freeway and serves the Marblehead inland area (see Attachment A). Calle Frontera has an average daily traffic (ADT) volume of 4,100 vehicles per day with eight percent trucks and one percent buses. Calle Frontera currently has one lane in each direction with an additional vehicle climbing lane north of Avenida Pico to Avenida Faceta. The street has a width ranging from 48 feet to 58 feet which is much wider than the more common 40 feet wide collectors throughout the City. As explained, the wider street could contribute to the higher speed on Calle Frontera. Additionally, Calle Frontera is identified as a candidate Class 2 bike lane facility in the San Clemente Bicycle and Pedestrian Master Plan.

Calle Frontera has existing on-street parking on the west side (ocean side) of the street from 250 feet north of Avenida Faceta to Avenida Vista Hermosa. No parking signs exist on the east side of the street along the length of Calle Frontera in the project limits although there are no parking restrictions recorded for the east side of the street in the municipal code. Drivers are parking vehicles on the east side of

the street near Via Sargo next to a No parking "begin" sign. However, there are no clear defined limits or signs of allowed parking on the east side of the street.

To receive public input, notices were sent out to residents within 300 feet of Calle Frontera for a neighborhood meeting for the project and nearby homeowners associations were also notified. On October 28, 2014, staff held a public meeting to solicit input on striping options aimed at complete streets concepts, reducing traffic speeds and improving bicycle safety. Eight attendees participated in the meeting although none of the attendees were nearby residents. One of the attendees works along the corridor.

Staff explained the advantages and challenges with each option described below and illustrated in the attached figures.

Segment 1 – Avenida Pico to Avenida Faceta

No Change Option

1. Two travel lanes (one in each direction).
2. Maintain additional northbound vehicle climbing lane north of Avenida Pico.
3. No bike lanes.

Option 1

1. Narrow the travel lanes (one each way) to 10.5' and 11'.
2. Narrow the striped center median to 4'.
3. Eliminate additional northbound vehicle climbing lane.
4. Maintain left turn lanes at driveways and intersections.
5. Install 8' bicycle lane with 3' buffer on both sides.

Option 2

1. Narrow the travel lanes (one each way) to 10' and 11'.
2. Narrow striped center median to 3'.
3. Maintain additional northbound vehicle climbing lane.
4. Maintain left turn lanes at driveways and intersections.
5. Install 7.5' bicycle lane on both sides.

Segment 2 – Avenida Faceta to Avenida Vista Hermosa

No Change Option

1. Two travel lanes (one in each direction).
2. Maintain center striped median.
3. Maintain left turn lanes at intersections and driveways.
4. Maintain on-street parking on west side (ocean side).
5. No bike lanes.

Option 3

1. Narrow the travel lanes (one each way) to 11'.
2. Eliminate center striped median.
3. Maintain left turn lanes at driveways and intersections.
4. Maintain on-street parking on west side (ocean side) except at locations to accommodate left turn lanes at intersections.
5. Install 7' bicycle lane with 2' buffer on both sides.

Option 4

1. Narrow the northbound travel lane to 10'.
2. Narrow center striped median to 10'.
3. Maintain left turn lanes at intersections and driveways.
4. Maintain on-street parking on west side (ocean side).
5. Install 8' northbound bicycle lane on east side.
6. No bicycle lane on west side.

Attendees were informed that traffic speed is dependent upon how comfortable the driver feels, and therefore, eliminating the vehicle climbing lane and center striped median and reducing the travel lane widths would increase the side friction and may lower traffic speeds.

Meeting attendees expressed conflicting concerns on Segment 1 whether or not to eliminate or keep the vehicle climbing lane. Out of eight attendees and comments received, the majority of 6 attendees preferred Option 1 for Segment 1 which adds buffered bike lanes and eliminates the vehicle climbing lane.

Meeting attendees expressed conflicting concerns on Segment 2 whether or not to add buffered bike lanes but also maintain left turn lanes at intersections and on-street parking. Out of eight attendees and comments received, seven attendees preferred Option 3 for Segment 2 which adds buffered bike lanes, maintains left turn lanes at intersections and driveways, and eliminates the striped median. However, one attendee preferred Option 4 to add a northbound bicycle lane and maintain all of the existing on-street parking at intersections.

In the end, the general consensus and preference of the meeting attendees was to narrow the travel lanes, eliminate the northbound vehicle climbing lane in Segment 1, keep left turn lanes at intersections, eliminate the striped median in Segment 2, and give the additional width to buffered bicycle lanes.

Considering the discussion regarding on-street parking, staff prepared the attached striping Option 5 for Segment 2 which reflects maintaining the on-street parking in lieu of the left turn lane at the intersection of Calle Ola Verde which follows and illustrated in the attachments:

Segment 2, Option 5

1. Narrow the travel lanes (one each way) to 11'.
2. Eliminate center striped median.
3. Eliminate left turn lane at intersection of Calle Ola Verde.
4. Maintain on-street parking on west side (ocean side) except at the Avenida Vista Hermosa intersection for 250 feet (12 parking spaces).
5. Install 7' bicycle lane with 2' buffer on both sides.

Staff understands the importance of community input for street improvements that affect the functionality and character of neighborhoods and clearly understood that the parking on the west side of the street serves the adjacent properties. Staff also recognizes the importance to design the roadway to best balance the needs of the users of the roadway include those that may not live directly adjacent to the roadway. A summary of the benefits and challenges of the options follows:

Option 1

Benefits

- a) Increased potential for traffic speed reduction due to increased perceived “friction” resulting from the elimination of the vehicle climbing lane.
- b) The buffered bike lanes provide a more inviting environment and more room for bicyclists.
- c) Improved sight distance at intersections.
- d) Majority of workshop attendees preferred Option 1 for Segment 1.

Limitations

- a) Eliminates vehicle climbing lane which may delay northbound traffic if a truck is traveling up the hill.

Option 2

Benefits

- a) Bike lanes provide more room for bicyclists.
- b) Improved sight distance at intersections.
- c) No delays to drivers.

Limitations

- a) Less potential for traffic speed reductions.
- b) The vehicle climbing lane may increase speeds as it is typically used as a passing lane.

Segment 2 – Avenida Faceta to Avenida Vista Hermosa

Option 3

Benefits

- a) Increased potential for traffic speed reduction due to increased perceived “friction” resulting from the elimination of the striped center median.
- b) The buffered bike lanes provide a more inviting environment and more room for bicyclists.
- c) Improved sight distance at intersections.
- d) Left turn lanes at intersections and driveways maintained.
- e) No delays to drivers.
- f) Removes portion of parking prohibition at intersection of Via Sargo for 90 feet (adds 4 parking spaces).
- g) Majority of workshop attendees preferred Option 3 for Segment 2.

Limitations

- a) Eliminates on-street parking spaces at the intersections of Avenida Vista Hermosa for 250 feet (12 parking spaces) and Calle Ola Verde for 120 feet (6 parking spaces) in order to maintain the left turn lanes. The net loss of on-street parking spaces is 14 parking spaces.

Option 4

Benefits

- a) The northbound bike lanes provides more room for bicyclists traveling northbound.
- b) Maintains existing on-street parking.
- c) Left turn lanes at intersections and driveways maintained.

- d) No delays to drivers.

Limitations

- a) The striped center median may encourage speeding.
- b) Less potential for traffic speed reductions.
- c) Less room for bicyclists.
- d) No bike lanes in the southbound direction, so bicyclists will need to share the travel lane with vehicles in this direction.

Option 5

Benefits

- a) Increased potential for traffic speed reduction due to increased perceived "friction" resulting from the elimination of the striped center median.
- b) The buffered bike lanes provide a more inviting environment and more room for bicyclists.
- c) Improved sight distance at intersections.
- d) Maintains on-street parking except at the Avenida Vista Hermosa intersection for 250 feet (12 parking spaces).
- e) Removes portion of parking prohibition at intersection of Via Sargo for 90 feet (adds 4 parking spaces).

Limitations

- a) Eliminates left turn lane at the following intersection: Calle Ola Verde.

Considering the low attendance, a notice was delivered to residents on October 31, 2014 which lists options including bike lanes, climbing lane elimination, and on-street parking impacts.

Staff recommends the Planning Commission consider the Options 1 and 2 for Segment 1 and Options 3 and 5 for Segment 2. Staff recommends the Planning Commission approve a motion to forward the recommended option to City Council. Elevations depicting the striping options are provided in Attachments B and C.

RECOMMENDATION:

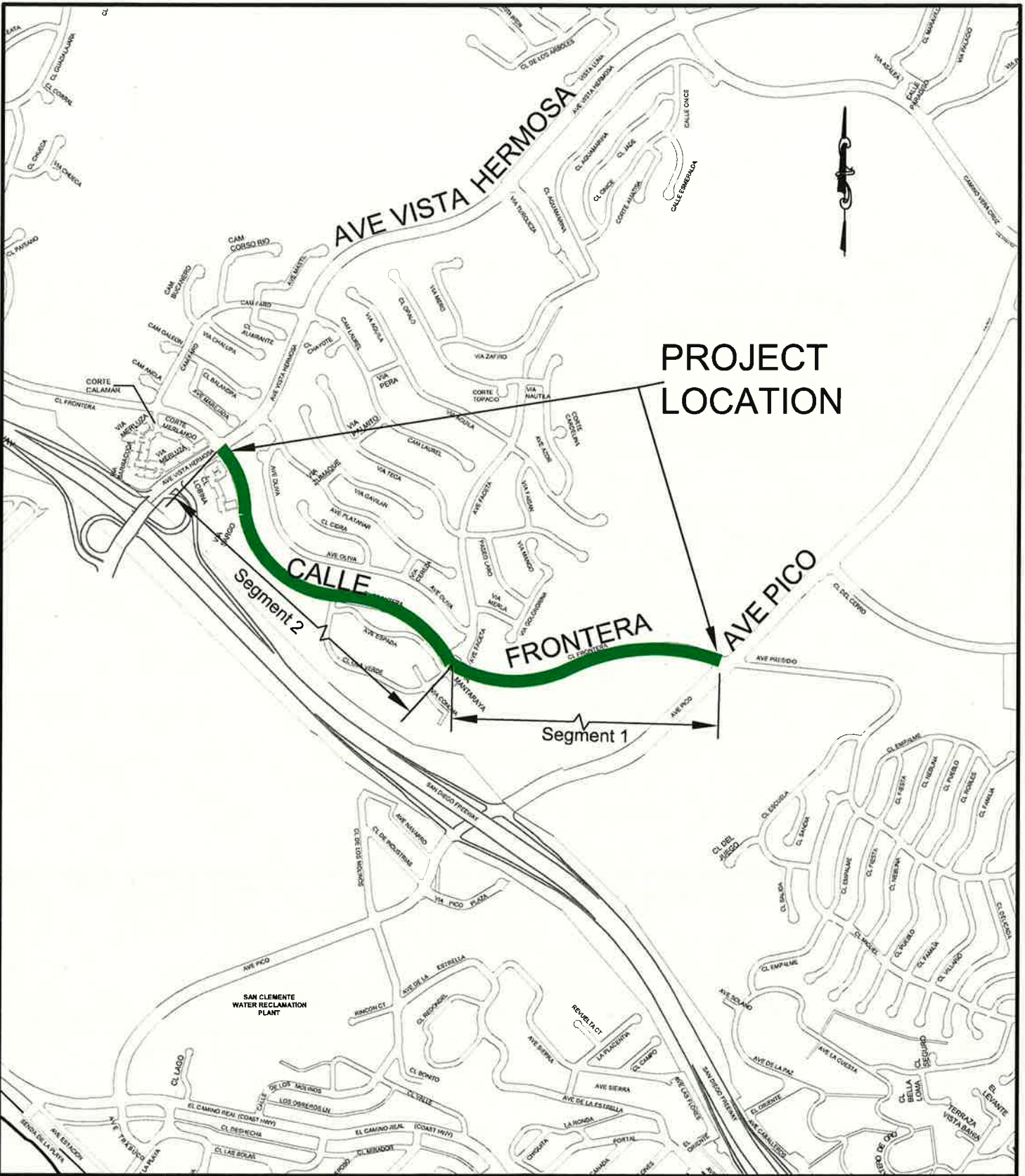
STAFF RECOMMENDS THAT the Planning Commission forward to the City Council a recommendation to approve restriping Calle Frontera shown as either Option 1 or 2 for Segment 1 and either Option 3 or 5 for Segment 2. The elevations of the options are provided in the Attachments.

Attachments:

- A. Location Map
- B. Segment 1, Elevations of Options 1 and 2
- C. Segment 2, Elevations of Options 3 through 5

Footnotes:

- 1. Fitzpatrick, Kay et al, "Design Factors That Affect Driver Speed on Suburban Arterials," Research Report 1769-3, Texas Transportation Institute, June 2000.



PROJECT
LOCATION

SAN CLEMENTE
WATER RECLAMATION
PLANT



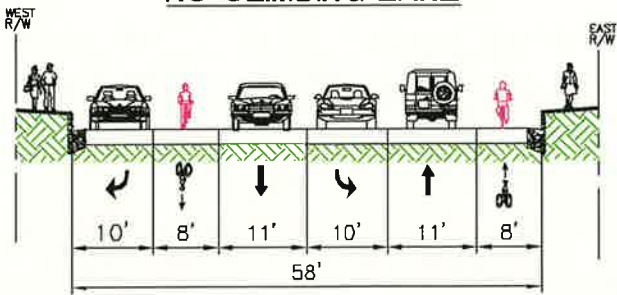
CITY OF SAN CLEMENTE
910 Calle Negocio, Suite 100
San CLEMENTE, CA 92673
Tel (949) 361-6100
Fax (949) 361-8316

LOCATION MAP

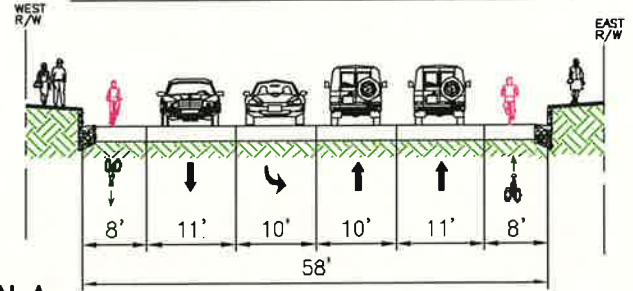
**STRIPING OPTIONS ON
CALLE FRONTERA**

CALLE FRONTERA
from AVENIDA PICO to AVENIDA FACETA
Segment 1

**OPTION 1 - ADD BIKE LANES,
 NO CLIMBING LANE**



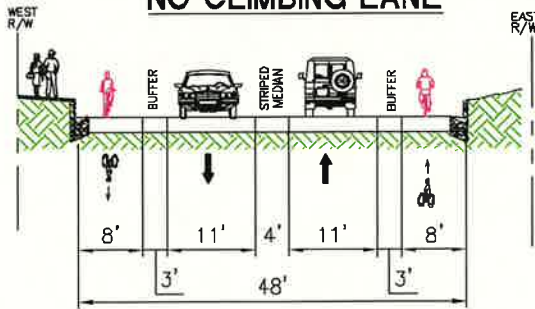
**OPTION 2 - ADD BIKE LANES
 WITH CLIMBING LANE,
 NO EXCLUSIVE RIGHT TURN LANE**



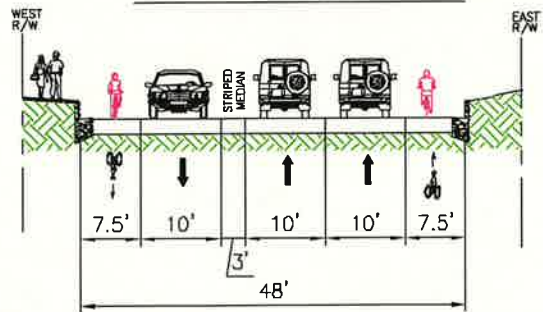
SECTION A

CALLE FRONTERA at AVENIDA PICO

**OPTION 1 - ADD BUFFERED BIKE LANES,
 NO CLIMBING LANE**



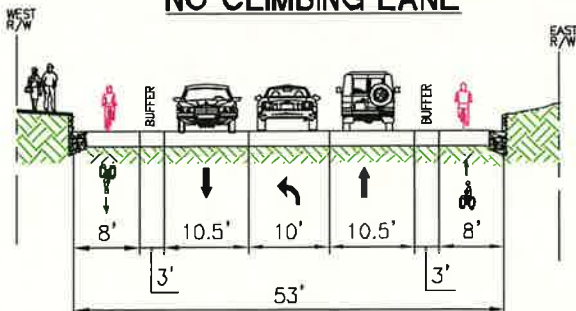
**OPTION 2 - ADD BIKE LANES
 WITH CLIMBING LANE**



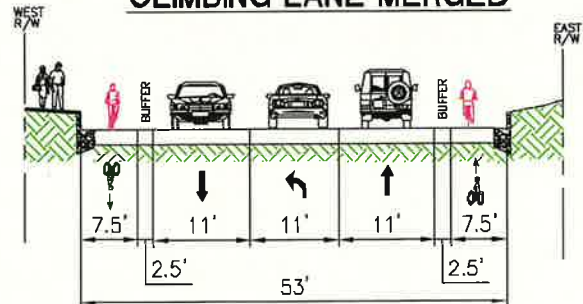
SECTION B

CALLE FRONTERA, 900' NORTHWEST OF AVENIDA PICO

**OPTION 1 - ADD BUFFERED BIKE LANES,
 NO CLIMBING LANE**



**OPTION 2 - ADD BUFFERED BIKE LANES
 CLIMBING LANE MERGED**

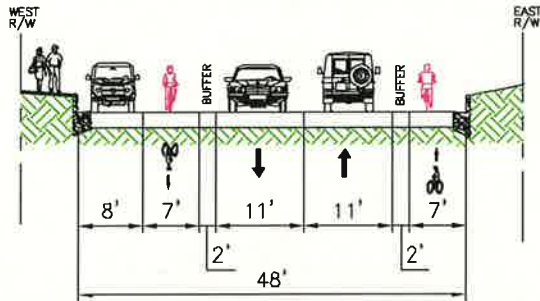


SECTION C

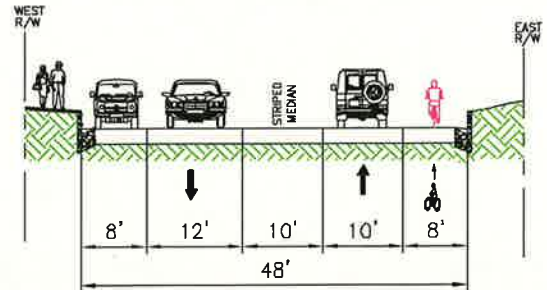
CALLE FRONTERA at AVENIDA FACETA

CALLE FRONTERA from AVENIDA FACETA to AVENIDA VISTA HERMOSA Segment 2

**OPTION 3 - ADD BUFFERED BIKE LANES
KEEP LEFT TURNS AT INTERSECTIONS
SOME PARKING REMOVED AT INTERSECTIONS**



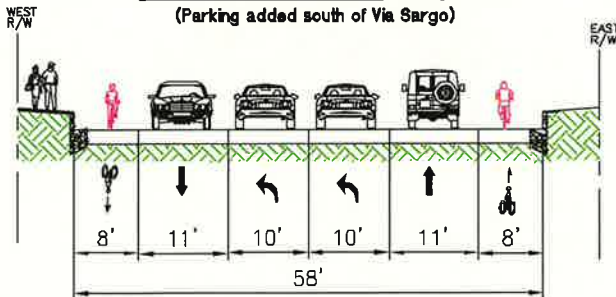
**OPTION 4 - KEEP STRIPED MEDIAN
ADD NORTHBOUND BIKE LANE**



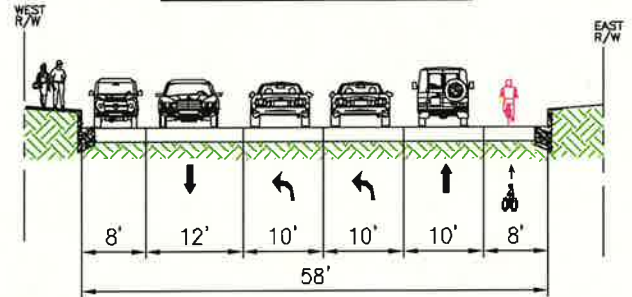
SECTION D

CALLE FRONTERA, 200' NORTH OF AVE FACETA TO VIA SARGO

**OPTION 3 - ADD BIKE LANES.
PARKING PROHIBITED ON WEST SIDE
AT VISTA HERMOSA INTERSECTION
(Parking added south of Via Sargo)**



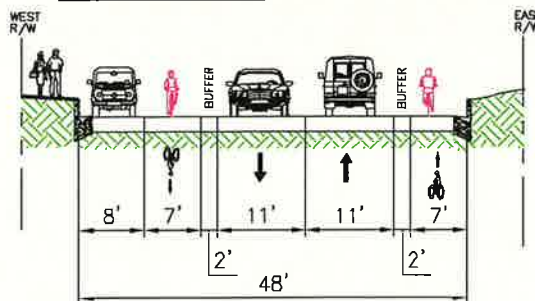
**OPTION 4 - KEEP PARKING ON WEST SIDE
AT VISTA HERMOSA INTERSECTION
ADD NORTHBOUND BIKE LANE**



SECTION E

CALLE FRONTERA AT AVENIDA VISTA HERMOSA

**OPTION 5 - ADD BUFFERED BIKE LANES.
MAINTAIN ON-STREET PARKING
ELIMINATE LEFT TURNS AT INTERSECTIONS**



SECTION D

CALLE FRONTERA, 200' NORTH OF AVE FACETA TO VIA SARGO