



Memorandum Engineering Division

December 18, 2013

To: Planning Commission
From: Thomas Frank, Transportation Engineering Manager *TF*
Subject: **Avenida Vaquero Striping**
Copies: William E. Cameron, Public Works Director / City Engineer
Thomas Bonigut, Assistant City Engineer
Scott Kennedy, Police Administrative Sergeant

ISSUE:

Should the Planning Commission forward to the City Council a recommendation to approve restriping Avenida Vaquero shown as either Option B, or Option D as provided in the Attachments?

BACKGROUND:

Avenida Vaquero is scheduled for rehabilitation and restriping in the spring of 2014. Following the City's 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.

Avenida Vaquero is a collector street connecting Los Mares and the Forster Ranch area to Camino Capistrano and the Shorecliffs/north San Clemente Coastal area. The street has a 56 feet width 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 Avenida Vaquero. Additionally, Avenida Vaquero is a commonly used bicycle corridor which connects the Los Mares, Forster Ranch neighborhoods to the coastline. Following the completion of the buffered bike lanes on Camino Del Los Mares and the El Camino Real Class I bike path targeted to begin construction towards the end of 2014, bicycle volumes are expected to increase on Avenida Vaquero. Avenida Vaquero is also one of the few east-west bicycle corridors that has the most potential for use by bicyclists due to the more gradual slopes compared to other east-west corridors.

To receive public input, notices were sent out to residents within 300 feet of Avenida Vaquero and the Sun Post for a public workshop for the project. On October 17, 2013, staff held a public meeting to solicit input on striping options

aimed at reducing traffic speeds and improving bicycle safety. Staff explained the options shown in attachments A thru C and described the advantages and challenges with each alternative below; and these alternatives are illustrated in the attached figures.

No Change Option

1. Maintain existing parking / bicycle lanes (on each side of street).
2. Two travel lanes (one in each direction).
3. One existing center turn lane.

Option "A"

1. Narrow the travel lanes (one each way) to 10.5'.
2. Eliminate center left turn lane and parking on the east side of the street.
3. Maintain parking on west side of the street.
4. Install 9.5' bicycle lane buffer on east side, 2' buffer on west side (the 9.5' space could be used at a later date to implement a Class I).
5. Install 8' bicycle lane on east and west side.

Option "B"

1. Narrow the travel lanes (one each way) to 10.5'.
2. Eliminate center left turn lane.
3. Maintain parking on east and west side of the street.
4. Install 2' bicycle lane buffer on east and west side.
5. Install 8' bicycle lane on east and west side.

Option "C"

1. Narrow the travel lanes (one each way) to 10.5'.
2. Eliminate center left turn lane.
3. Eliminate parking on east and west side of the street.
4. Install 6' and 5.5' bicycle lane buffer on east and west side respectively.
5. Install 8' and 7.5' bicycle lane on east and west side respectively.

Attendees were informed that contrary to popular belief, studies have shown additional signage is ineffective in slowing traffic². In addition, State law requires speed limits to be based on the 85th percentile of measured traffic speeds. Traffic speed is dependent upon how comfortable the driver feels, and therefore, eliminating the center left turn lane and reducing the travel lane widths would increase the side friction and likely lower traffic speeds.

Meeting attendees expressed conflicting concerns over wanting to address traffic speed but also maintaining the existing center turn lane. Out of 20 attendees and comments received, 18 preferred keeping the current striping and were strongly opposed to eliminating the center turn lane. However, 15 of the 17 were agreeable to narrowing the travel lanes. Most of the arguments for keeping the center lane were based on residents having difficulty making left turns into their driveways ten years ago before the center lane was added. They explained that making the turns with the center lane allows cars behind them to go around rather than crowd up on their bumper.

Most attendees were opposed to eliminating parking on the easterly side of the street, citing their driveways are too short and their vehicles receiving damage from misguided golf balls. Other complaints included sight distance issues near Calle Vallarta.

In the end, the general consensus and preference of the meeting attendees was to keep the center left turn lane, narrow the travel lanes and give the additional width to the bicycle lanes. Considering the response from the attendees, staff prepared the attached striping Option D which reflects the preference of the majority of meeting attendees.

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 east 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. In consideration of the need for parking on the west side of the street, staff no longer recommends evaluating options A and C as this time. A summary of the benefits and challenges of the remaining Options are as follows:

Option B

Benefits

- a) Increased potential for traffic speed reduction due to increased perceived "friction" resulting from the elimination of the turn lane, increased presences of bicyclists, and the intermittent left hand turns.
- b) More inviting and more room for bicyclists likely resulting in greater potential for increase bicycle volume on the corridor.
- c) Improved sight distance near the Calle Vallarta intersection.
- d) Improved opportunity for future walkway from Calle Vallarta to Los Mares on east side of road.

Limitations

- a) Eliminates Turn Lane which is preferred by a majority of residents attending the workshop.
- b) Delays to through traffic travel time slightly during left turns.

Option D

Benefits:

- a) Maintains Turn Lane which is preferred by a majority of residents attending the workshop.
- b) Increased potential for speed reduction due to increased perceived "friction" resulting from the narrower vehicular lanes and possible increased presences of bicyclists.
- c) More inviting and more room for bicyclists likely resulting in greater potential for increase bicycle volume on the corridor.
- d) No delays to drivers.

Limitations

- a) Less potential for traffic speed reductions.
- b) Less room for bicyclists and potential for increased bicycle trips.

Considering the above, staff recommends the Planning Commission consider the Options B and D and approve a motion to forward the recommended option to City Council. Elevations depicting the existing lane configurations, Option B and Option D, are provided in Attachment 2.

RECOMMENDATION:

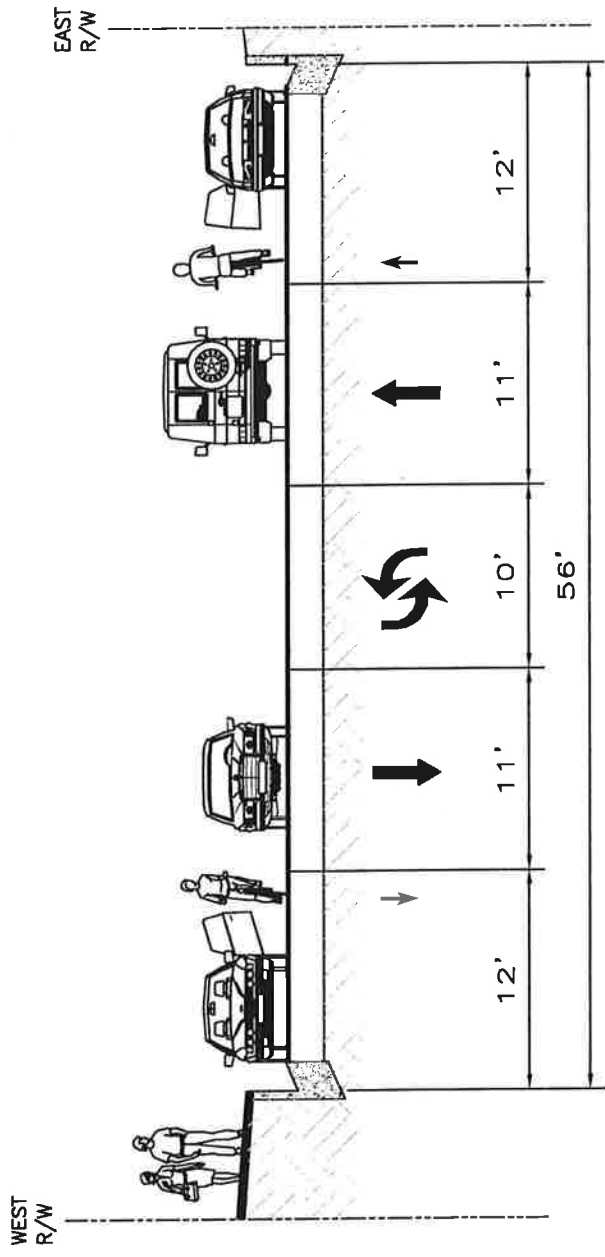
STAFF RECOMMENDS THAT the Planning Commission forward to the City Council a recommendation to approve restriping Avenida Vaquero shown as either Option B, or Option D as provided in the Attachments.

Attachments:

1. Location Map
2. Elevations of Options A through D

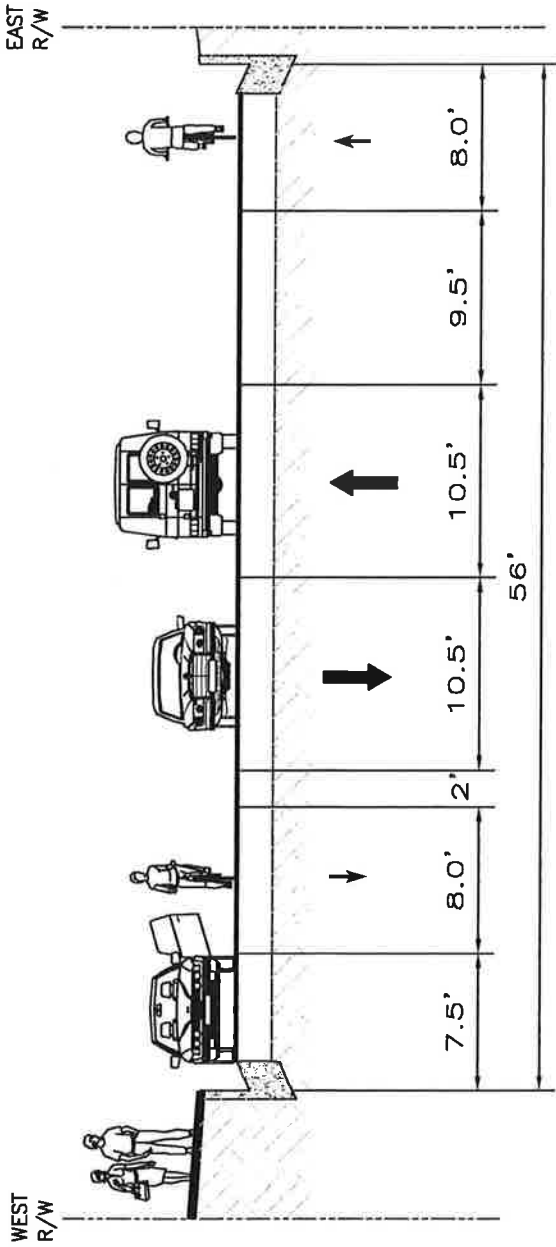
Footnotes:

1. Fitzpatrick, Kay et al, "Design Factors That Affect Driver Speed on Suburban Arterials," Research Report 1769-3, Texas Transportation Institute, June 2000.
2.
 - a) "MATES, Michigan Department of Transportation, Issue No.54, June 1991.
 - b) "SMART Puts Brakes on Speeders," Arcadia Tribune, Sunday, April, 29, 1990.
 - c) "Police Get SMART to Stop Speeders," The Charlotte Observer, Thursday, June 22, 1989.



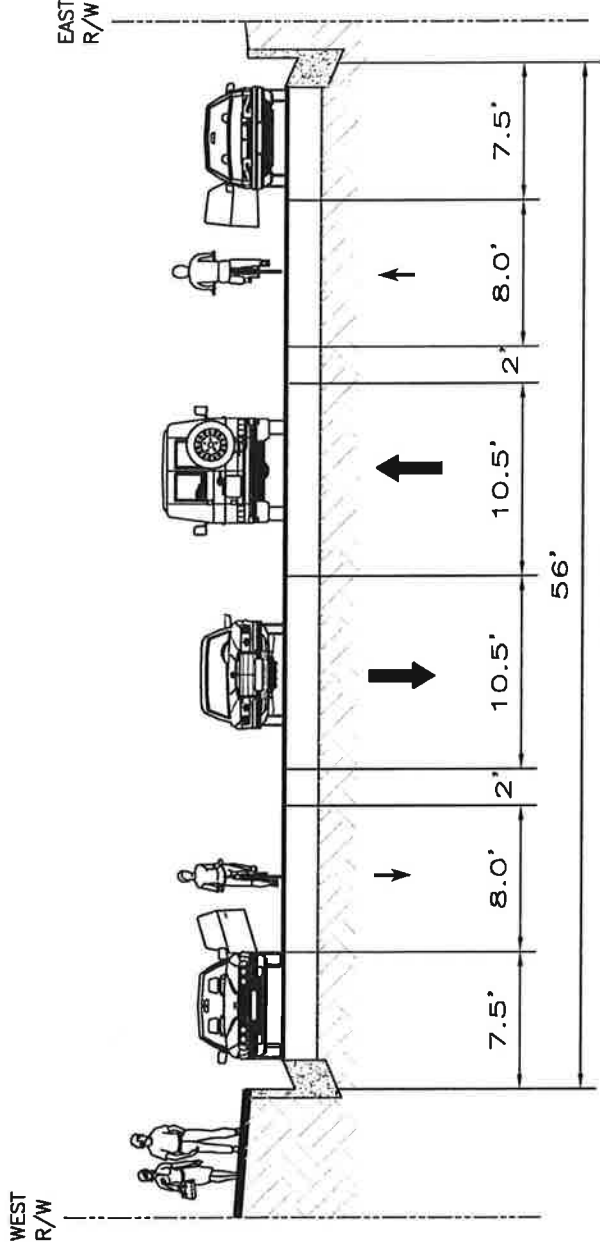
EXISTING TYPICAL ELEVATION

AVENIDA VAQUERO



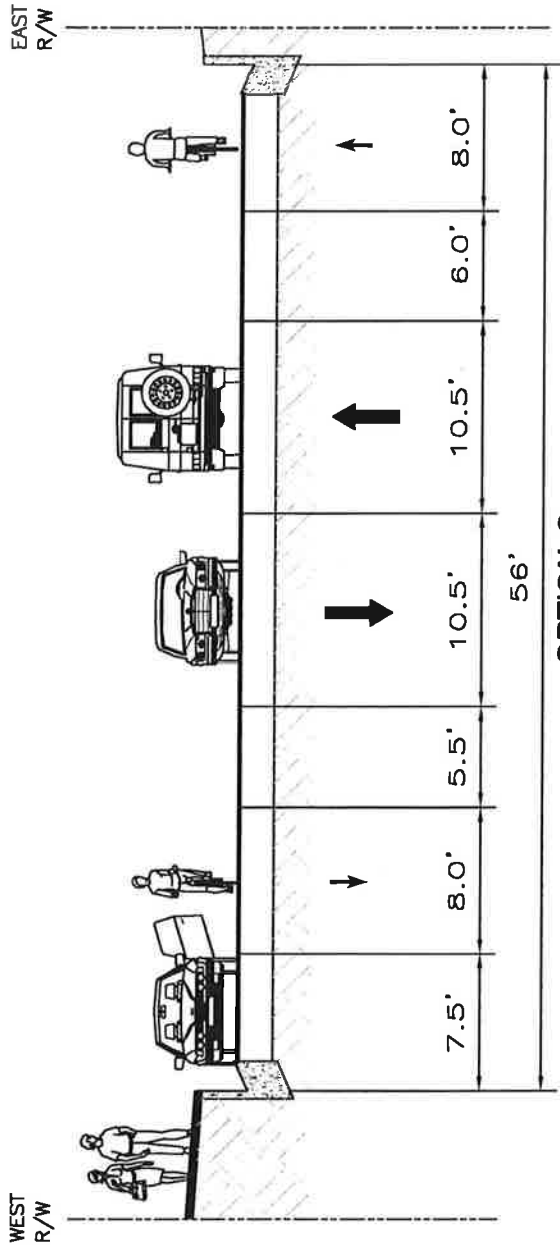
OPTION A

**9.5' EAST BUFFER - NO PARKING EAST SIDE,
FUTURE CLASS 1 EAST SIDE**



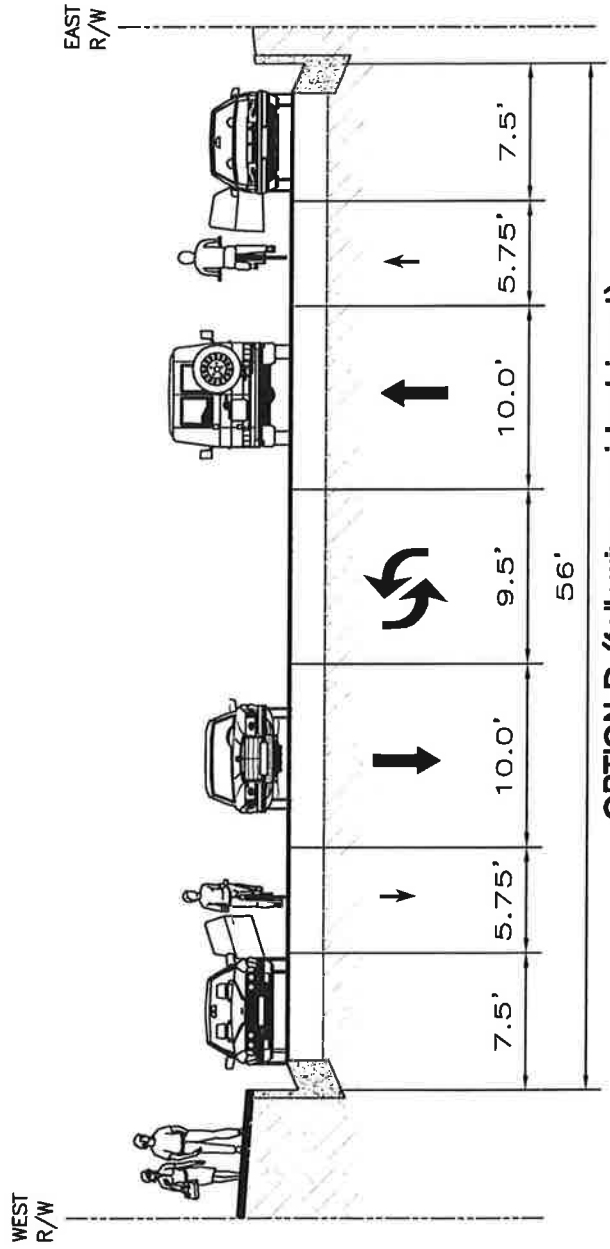
OPTION B

2' BUFFER PARKING ON EAST SIDE



OPTION C

**5'-6' BUFFERS
NO PARKING ON EAST SIDE**



OPTION D (following resident input)

PARKING ON BOTH SIDES