




City of Santa Barbara
Transportation & Circulation Committee
Staff Report

DATE: May 24, 2012
TO: Transportation and Circulation Committee (TCC)
FROM:  Brian D'Amour, Supervising Civil Engineer
SUBJECT: De La Vina at Figueroa Intersection Improvements Project

RECOMMENDATION:

That the Transportation and Circulation Committee (TCC) receive a report on the proposed design for the De La Vina at Figueroa Intersection Improvements Project (Project).

EXECUTIVE SUMMARY:

On January 24, 2012, Council received a report on the options for improvements at the intersection of De La Vina and Figueroa Streets. Given four alternatives, Council directed staff to move forward with installing curb extensions at all corners of the intersection, as well as safety lighting. Highway Safety Improvement Project (HSIP) grant funding has been awarded to the City for this project alternative.

BACKGROUND:

The frequency of pedestrian-involved crashes at the intersection of De La Vina and Figueroa Streets peaked between July 2008 and August 2009, when four pedestrian-involved crashes were reported, including one fatality. Since August 2009, one pedestrian-involved crash has been reported, which occurred in May 2010.

There have been no crashes reported at the intersection of De La Vina and Figueroa since that pedestrian-involved crash in May 2010 (please note that availability of crash data can take several months). It is unknown whether there is a trend moving towards less frequent intersection related crashes, or whether we are experiencing a temporary lull in crashes. Typically, crash data from the three most recent years are considered when looking for trends. Because there have been relatively few recent crashes, data for the past ten years is presented in Table 1 to illustrate long term trends. Most of the pedestrian-involved crashes (8 of 10) have happened during daylight hours. As illustrated in Table 2, the pedestrian involved crashes have not been concentrated at one particular segment of the intersection.

Table 1- Ten Year Crash History – De La Vina and Figueroa Streets

Year	Correctable Type Vehicle/Vehicle Crashes	Pedestrian Involved Crashes		
		Total	Day	Night
2001	2	1	1	0
2002	1	0	0	0
2003	2	1	1	0
2004	0	1	1	0
2005	1	0	0	0
2006	2	1	0	1
2007	1	1	1	0
2008	0	2	1	1
2009	1	2	2	0
2010	0	1	1	0
2011*	0	0	0	0
Total	10	10	8	2

* As of November 28, 2011. Availability of crash data can take several months.

Table 2- Location of Pedestrian Involved Crashes, 2001 to 2011

	Intersection Segment			
	North	West	South	East
Number of Pedestrian Crashes	2	1	3	3

PROJECT DESCRIPTION:

The alternative chosen for the Project by Council is to add curb extensions at all corners. As applied to pedestrian applications, curb extensions provide two benefits: 1) improved visibility by moving the starting point for the pedestrian closer to the travel lane; and, 2) a decrease in the pedestrian crossing distance.

Curb extensions designed for pedestrian applications can be designed differently than curb extensions designed for traffic calming purposes. The goal of traffic calming is typically to slow traffic, and that is usually accomplished by introducing a horizontal deflection (like a curb extension or median) or vertical deflection (like a speed hump) to the roadway. The more pronounced the traffic calming device, the more likely traffic will be slowed. Curb extensions designed for pedestrians only have to extend far enough into the roadway to gain the desired sight distance and decrease the crossing distance.

A good starting point for this type of design is to overlay all possible turning movements by a large delivery truck (the design vehicle for Downtown Santa Barbara). Areas of unused pavement near the corners of the intersection are potential areas to locate curb extensions.

Driving lanes that are wide enough for vehicles and bikes to share are fourteen feet wide. For De La Vina Street, two of these shared lanes are needed (for a total width of twenty-eight feet). De La Vina Street is thirty-six feet wide, meaning that up to eight feet is available for curb extensions (four feet per side).

A preliminary plan showing curb extensions on all corners is shown on the Attachment. Curb extensions are intentionally not shown in areas that would interfere with the normal movements of larger vehicles.

An analysis of gaps in traffic was performed to determine the number of crossing opportunities for pedestrians. At thirty-six feet wide, most pedestrians can cross De La Vina Street with a fourteen second gap in traffic. At twenty-eight feet wide, most pedestrians would be able to cross De La Vina Street with an eleven second gap. As illustrated in Table 3, reducing the crossing distance by eight feet could provide approximately 45 percent more crossing opportunities (1046 versus 720) between the hours of 7:00 A.M. and 7:00 P.M. on a typical weekday.

Table 3 – Pedestrian Crossing Opportunities By Time of Day and Crossing Distance at De La Vina and Figueroa Streets

Hour of Day	Opportunities to Cross Per Hour	
	36-foot Crossing (Existing)	28-foot Crossing
7:00 AM	80	98
8:00 AM	66	93
9:00 AM	75	105
10:00 AM	68	89
11:00 AM	58	85
12:00 PM	54	88
1:00 PM	53	82
2:00 PM	55	83
3:00 PM	53	81
4:00 PM	43	73
5:00 PM	45	70
6:00 PM	70	99
Total	720	1046

In addition to the curb extensions, the Project will to add improved lighting. A single streetlight exists on the southwest corner of the intersection. With the completion of the Project there will be a new City standard streetlight installed on both the northern and southern sides of the intersection, and the existing streetlight on the southwest corner will be removed. Providing a streetlight on both the north and south sides of the intersection will improve lighting for the crossing on the north leg of the intersection. The exact locations of new streetlights are still to be determined.

FUNDING:

HSIP grant funding, which is Federal funding administered by Caltrans, was awarded for the project as proposed. The grant totals \$326,000, which includes funding for both construction and construction engineering services.

MR/ks

ATTACHMENT: 1. Preliminary Design



PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

APPROVED: _____ DATE: _____
CITY ENGINEER ORIGINAL SIGNED DATE: _____

NO.	DATE	APPROVED	DESIGN	DRAWN	CHECKED	ED.

DE LA VINA AT FIGUEROA INTERSECTION IMPROVEMENTS PROJECT
DE LA VINA ST AT FIGUEROA ST
 PRELIMINARY DESIGN

2010-XXXX	PRJ. NO.
XXXX	G1
C-1-XXXX	SH. DES.
	CWG. NO.
SH. 1	OF 1

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