

Council Memorandum

February 27, 2024

To: Honorable Mayor Blackburn and Members of the City Council
From: Paz Gomez, Deputy City Manager Public Works
Via: Geoff Patnoe, Assistant City Manager 
Re: **Additional Materials Related to Staff Report Item No. 9: Acceptance of Proposals and Award of Agreement to Chen Ryan Associates, Inc., dba CR Associates, for Tamarack Avenue Complete Streets Services**

This memorandum provides additional information related to Item No. 9 on tonight's meeting agenda.

1. Item No. 9, Page 3 of 26: Regarding the installation of a pedestrian signal instead of stop signs at the intersection of Tamarack Avenue and Valley Street:

On June 3, 2019, the city's Traffic Safety Commission approved that an all-way stop not be established at the intersection of Tamarack Avenue and Valley Street because the intersection did not meet the requirements to justify stop signs. City staff conducted a comprehensive analysis of the intersection according to the "Multi-Way Stop Criteria," per the California Manual on Uniform Traffic Control Devices, which indicated that the intersection failed to meet any of the necessary criteria for implementing an all-way stop. These criteria include factors such as collision history, traffic volumes, number of left-turn conflicts and sight distance at the intersection.

The Traffic Safety Commission's staff report is provided in Attachment A. The Multi-Way Stop Warrant analysis and supporting data are provided in Attachment B.

Attachments: A. June 3, 2019, Traffic Safety Commission Staff Report: Investigate the need to establish an ALL-WAY-STOP at the intersection of Tamarack Avenue and Valley Street
B. Tamarack Avenue and Valley Street Multi-Way STOP Criteria Worksheet

cc: Scott Chadwick, City Manager
Cindie McMahon, City Attorney
Tom Frank, Transportation Director/City Engineer
Gina Herrera, Assistant City Attorney
John Kim, City Traffic Engineer

Public Works Branch

Transportation Department

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TRAFFIC SAFETY COMMISSION

Staff Report

Meeting Date: June 3, 2019
To: Traffic Safety Commission
Staff Contact: John Kim, Associate Engineer
john.kim@carlsbadca.gov or 760-602-2757
Subject: Investigate need to establish an ALL-WAY STOP at the intersection of Tamarack Avenue and Valley Street

Recommended Action

Recommend that City Council does not establish an ALL-WAY STOP at the intersection of Tamarack Avenue and Valley Street.

Executive Summary

Based on the engineering study conducted by staff and the criteria found in the California Manual on Uniform Traffic Control Devices, staff recommends that City Council does not establish an ALL-WAY STOP at the intersection of Tamarack Avenue and Valley Street.

Discussion

Tamarack Avenue is classified as a Neighborhood Connector Street in the Mobility Element of the General Plan. The street features curb and gutter, sidewalk and street lights on both sides of the street. Tamarack Avenue has a single vehicle lane and bicycle lane in each direction separated by a painted centerline. On-street parking is allowed on both sides of the street. The subject intersection serves as a connection between the residential neighborhood and three nearby schools, Valley Middle School, Magnolia Elementary School and Carlsbad High School (see Exhibit 1).

Tamarack Avenue is uncontrolled at the intersection of Valley Street. Painted yellow crosswalks are provided across Tamarack Avenue and Valley Street. The uncontrolled marked crosswalk across Tamarack Avenue at Valley Street has been augmented with a rectangular rapid flashing beacon system, which provides a pedestrian-activated flashing beacon to help assist pedestrians cross the intersection. The adjacent intersections on Tamarack Avenue, Highland Drive (approximately 1,080 feet to the west) and Park Drive (approximately 340 feet to the east) are all-way STOP controlled. The posted speed limit is 30 miles per hour on this portion of Tamarack Avenue.

Staff has received multiple requests to help facilitate pedestrian access across Tamarack Avenue at Valley Street. Because of the intersection's proximity to schools, there were some expressed concerns regarding the safety of school children. In response, staff conducted studies to see if adult crossing guards were justified. Staff utilizes the criteria found in the California Manual on Uniform Traffic Control Devices (CA MUTCD) to determine if adult crossing guards are appropriate. The criteria is found in Section 7D.02 of the CA MUTCD and considers factors as such as vehicular and pedestrian volumes at the subject intersection. The analysis was conducted

in 2017 and 2019 and the CA MUTCD criteria for adult crossing guards was not met after these studies. However, based on the concerns received, the police department has implemented adult crossing guards at this location.

Another request that staff has received has been for the installation of STOP signs on Tamarack Avenue at Valley Street. This request was most recently received during the public comment portion of the Traffic Safety Commission meeting of November 5, 2018. This staff report is in direct response to these requests.

The criteria to evaluate whether an ALL-WAY STOP would be appropriate is found in Section 2B.07 of the CA MUTCD, which looks at vehicular and pedestrian volumes as well as other factors to determine if an ALL-WAY STOP is justified at a particular location (See Exhibit 2).

Criteria A of Section 2B.07 allows consideration of an ALL-WAY STOP as an interim measure prior to the installation of a traffic signal (Criteria A). There are no funds allocated in the Capital Improvement Program for a traffic signal project at the subject intersection, so Criteria A was not satisfied.

Criteria B allows for consideration of an ALL-WAY STOP when there have been five or more reported collisions within a 12-month period that are susceptible to correction by an ALL-WAY STOP. Staff conducted an analysis of the collision history at the subject intersection and determined that there has been one reported collision in the past five years. Therefore, Criteria B was not satisfied.

Criteria C looks at traffic volumes to determine if an ALL-WAY STOP can be considered. A 24-hour traffic count was conducted on March 19, 2019, the summary of which is shown on Table 1.

Table 1: 24-Hour Traffic Count Summary at Tamarack Avenue and Valley Street

Time	Tamarack Avenue			Valley Street			Total Volume
	Eastbound	Westbound	Subtotal	n/a	Southbound	Subtotal	
0000-0100	10	8	18		0	0	18
0100-0200	8	1	9		2	2	11
0200-0300	8	2	10		1	1	11
0300-0400	4	9	13		1	1	14
0400-0500	11	42	53		3	3	56
0500-0600	32	74	106		5	5	111
0600-0700	88	208	296		19	19	315
0700-0800	398	431	829		257	257	1086
0800-0900	266	256	522		66	66	588
0900-1000	213	233	446		33	33	479
1000-1100	165	202	367		40	40	407
1100-1200	229	230	459		38	38	497
1200-1300	250	255	505		54	54	559
1300-1400	255	218	473		51	51	524
1400-1500	351	413	764		147	147	911
1500-1600	329	288	617		95	995	712
1600-1700	378	295	673		52	52	725
1700-1800	339	302	641		52	52	693
1800-1900	311	250	561		27	27	588
1900-2000	212	128	340		16	16	356
2000-2100	178	104	282		9	9	291
2100-2200	115	60	175		9	9	184
2200-2300	66	34	100		3	3	103
2300-2400	29	14	43		0	0	43
Totals	2813	2361	3802		515	515	9282

The average major street vehicular volume was found to be 639 vehicles per hour. The average minor street vehicular volume was found to be 96 vehicles per hour. Criteria C is satisfied if average major street volume is at least 300 vehicles per hour, average minor street volume is at least 200 vehicles per hour and if the minor street vehicle delay is at least 30 seconds. Therefore, the minimum traffic volume (Criteria C) was not satisfied and delay was not measured.

Criteria D allows consideration of a combination of reduced factors to determine if an ALL-WAY STOP can be considered. If there are four or more reported collisions and the major street volume is at least 240 vehicles per hour and if minor street volume is at least 160 units per hour, the criteria is considered satisfied. Based on the traffic count conducted, Criteria D was not satisfied.

The optional criteria found in Section 2B.07 (Left turn conflicts, vehicle/pedestrian conflicts, sight distance and residential street) were not found to be applicable for the subject intersection.

Based on these findings, staff recommends that an ALL-WAY STOP not be established at the intersection of Tamarack Avenue and Valley Street.

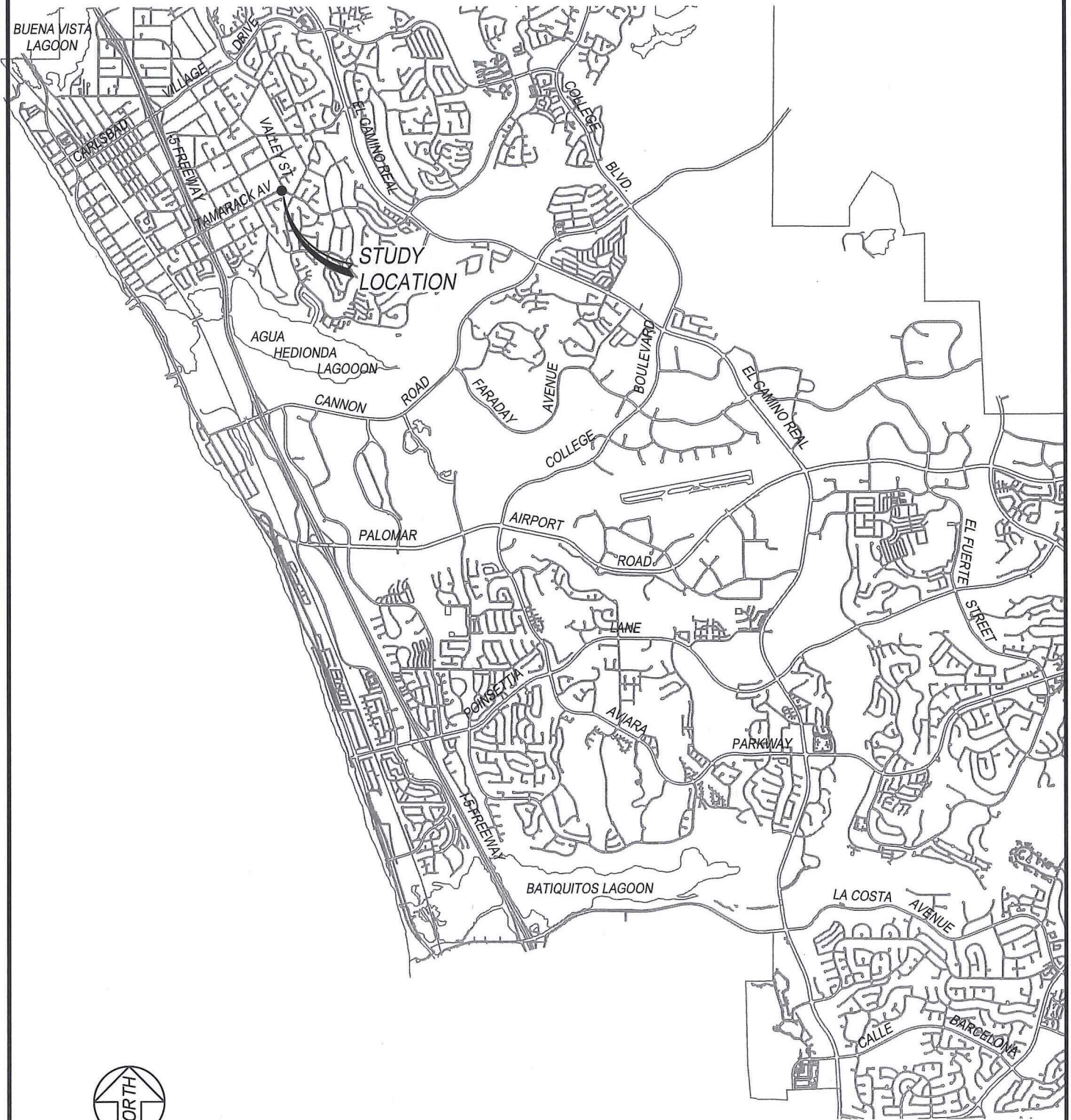
Necessary Council Action

City Council must adopt an ordinance to establish all-way stop control if recommended.

Exhibits

1. Location Map
2. Multi-Way STOP Criteria work sheet

LOCATION MAP



MULTI-WAY STOP CRITERIA

Transportation Department, City of Carlsbad

CALC _____ JTK _____ DATE 5/20/2019
CHK _____ DATE _____

Major St: Tamarack Avenue Critical Approach Speed 30 mph
Minor St: Valley Street Critical Approach Speed 25 mph

Critical speed of major street traffic > 40mph ----- ☐ **RURAL (R)**
Otherwise ----- ☒ **URBAN (U)**

The decision to install multiway stop control should be based on an engineering study. The following criteria should be considered in the engineering study for multiway stop sign installation:

Criteria A - Interim Traffic Control Measure SATISFIED YES ☐ NO ☒

Where traffic control signals are justified, the MULTI-WAY STOP is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.

Criteria B - Accident Experience SATISFIED YES ☐ NO ☒

Five or more reported crashes within a 12-month period that are susceptible to correction by a MULTI-WAY STOP installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.

01/01/2015 through 05/20/2019 – one collision (4/26/2016)

Criteria C - Minimum Traffic Volumes SATISFIED YES ☐ NO ☒

(All Parts C.1, C.2a and C.2b below must be satisfied)

C.1 Major Street Vehicular Volume Yes ☒ No ☐

	U	R	0700-0800	0800-0900	1200-1300	1400-1500	1500-1600	1600-1700	1700-1800	1800-1900	Hour
Both Approaches Major Street	300	210	829	522	505	764	617	673	641	561	Average= 639.00

C.2 a. Minor Street Vehicular, Pedestrian & Bicycle Volume Yes ☐ No ☒

	U	R	0700-0800	0800-0900	1200-1300	1400-1500	1500-1600	1600-1700	1700-1800	1800-1900	Hour
Both Approaches Minor Street	200	140	263	66	54	154	100	52	52	27	Average= 96.00

b. Minor Street Vehicle Delay Yes ☐ No ☐ N/A ☒

Peak Hour	Peak Hour Volume	Minimum Delay Requirement, seconds per vehicle	Average Delay, seconds per vehicle
		30 seconds	

Criteria D – Combination of Criteria SATISFIED YES ☐ NO ☒

REQUIREMENT	CRITERIA	FULFILLED
THREE CRITERIA SATISFIED 80%	B. Four or more reported crashes within a 12-month period.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	C.1. Major Street Volume of at least 240 vehicles per hour	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	C.2. Minor Street Volume of at least 160 units per hour	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

MULTIWAY STOP CRITERIA

Transportation Department, City of Carlsbad

Major St:	<u>Tamarack Avenue</u>	Critical Approach Speed	<u>30</u>	mph
Minor St:	<u>Valley Street</u>	Critical Approach Speed	<u>25</u>	mph

Other criteria that may be considered in an engineering study include:

Option A – Left Turn Conflicts SATISFIED YES ☐ NO ☒

The need to control left-turn conflicts;

Option B – Vehicle/Pedestrian Conflicts SATISFIED YES ☐ NO ☒

The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;

Option C – Sight Distance SATISFIED YES ☐ NO ☒

Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and

Option D – Residential Street SATISFIED YES ☐ NO ☒

An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.