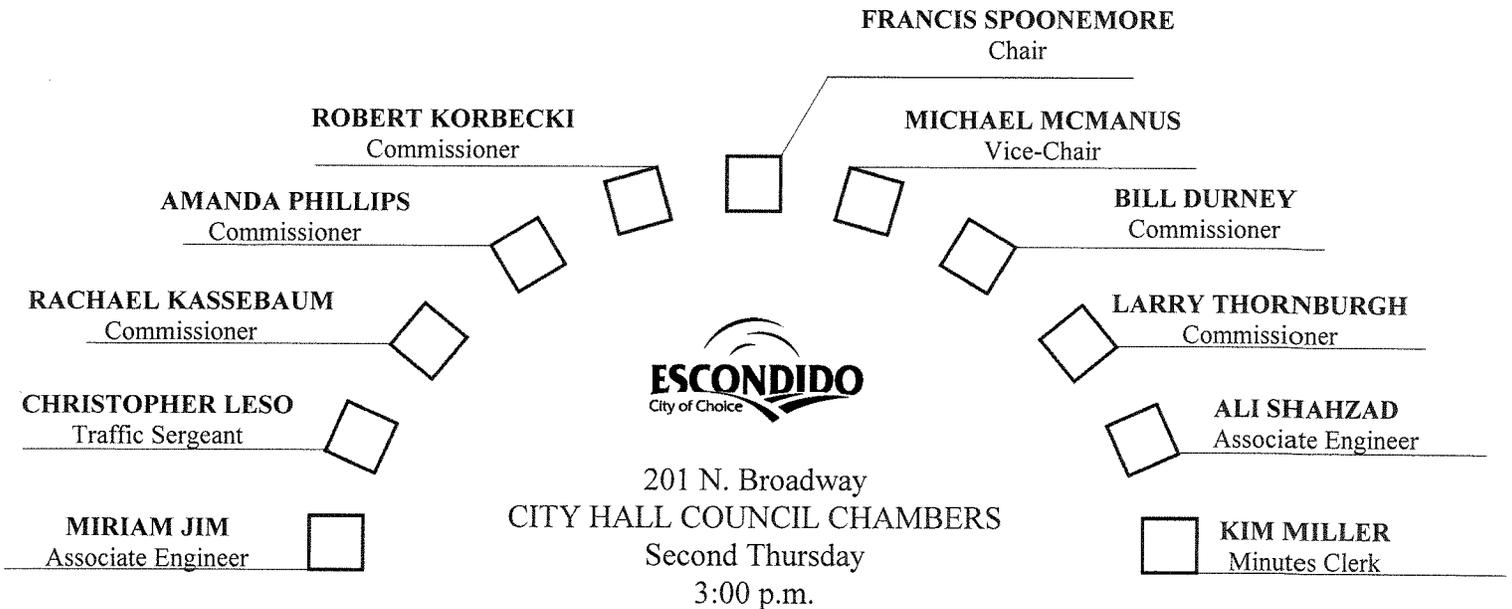


CITY OF ESCONDIDO

Transportation & Community Safety Commission



AGENDA

July 11th, 2019

Page | 1

- A. FLAG SALUTE
- B. ROLL CALL AND DETERMINATION OF QUORUM
- C. ORAL COMMUNICATIONS* (At this time, members of the public are encouraged to speak to the Commission concerning items not already on this agenda. A time limit of three [3] minutes per speaker and a total time allotment of fifteen [15] minutes will be observed.)

The Brown Act provides an opportunity for the members of the public to directly address the Commission on any item of interest to the public, before or during the Commission's consideration of the item. If you wish to speak regarding an agenda item, please fill out a speaker's slip and give it to the minute's clerk who will forward it to the Chairman.

If you wish to speak concerning an item not on the agenda, you may do so under "Oral Communications" which is listed on the agenda.

The City of Escondido recognizes its obligation to provide equal access to public meetings to those qualified individuals with disabilities. Please contact the Human Resources Department (839-4643) with any requests for reasonable accommodation, to include sign language interpreter, at least twenty-four (24) hours prior to the meeting.

D. APPROVAL OF MINUTES OF APRIL 11th, 2019 MEETING

E. CONSENT ITEMS – None.

F. NEW BUSINESS

1. 2018/2019 Traffic Management Project List (TMPL) - Final List of Projects

Source: Staff

Recommendation: Approval

Previous action: None

2. Speed Surveys – Various locations Citywide

Source: Staff

Recommendation: Approval

Previous action: None

G. OLD BUSINESS

1. An overview of various projects involving the City.

Source: Staff

Written or verbal reports may be presented on the following topics:

- a. Traffic Signals in Design: Felicita/Escondido Blvd LTP signal modification – Design in progress, awaiting ATP Fund Authorization.
- b. Traffic Signals – approved: El Norte/Bike Path crossing near bridge over flood control channel project awarded with Bridge widening. Citracado/Centre City (pending funding availability)
- c. Traffic Signals - Under Construction: Hotel Traffic Signal on La Terraza Blvd. El Norte/Fig & East Valley Pkwy/Date – Turn on anticipated July 8th, 2019.

H. SCHOOL AREA SAFETY

- a. Escondido High School field review of Traffic Management Plan with Principal, Escondido Police Dept. and Amanda Phillips regarding routing of drop-off /pick-up as portion of plan was implemented.
- b. Del Dios Academy – Bond Improvements. Signing/Striping design reviewed.
- c. Mission Middle School – Bond Improvements. On site pedestrian design reviewed.

- I. COUNCIL ACTION* (A briefing on recent Council actions on Commission related items.)
 - a. NONE

- J. ORAL COMMUNICATIONS* (At this time, members of the public are encouraged to speak to the Commission.)

- K. TRANSPORTATION COMMISSIONERS* (Commissioners may bring up questions or items for future discussion.)

- L. ADJOURNMENT

In order for the Transportation Commission to take action or conclude discussion, an item must appear on the agenda which is posted 72 hours in advance of the meeting. Therefore, all items brought up under the categories marked with an asterisk () can have no action. Such items can be referred to staff or scheduled for a future agenda.

AVAILABILITY OF SUPPLEMENTAL MATERIALS AFTER AGENDA POSTING: Any supplemental writings or documents provided to the Commission regarding any item on this agenda will be made available for public inspection in the Engineering Office located at 201 N. Broadway during normal business hours, or in the Council Chambers while the meeting is in session.

CITY OF ESCONDIDO

MINUTES OF THE REGULAR MEETING OF THE TRANSPORTATION AND COMMUNITY SAFETY COMMISSION

April 11, 2019

The regular meeting of the Escondido Transportation and Community Safety Commission was called to order at 3:06 p.m., Thursday, by Chair Spoonemore, in the City Council Chambers, 201 North Broadway, Escondido, California.

Commissioners present: Chair Spoonemore, Commissioner Durney, Commissioner Phillips, and Commissioner Kassebaum.

Commissioners absent: Vice Chair McManus, Commissioner Thornberg, and Commissioner Korbecki

Staff present: Julie Procopio, Director of Engineering Services; Owen Tunnell, Assist. City Engineer, Ali Shahzad, Associate Engineer/Traffic Division; Miriam Jim, Associate Engineer, Virpi Kuukka-Ruotsalainen, Engineer I, Christopher Leso, Traffic Sargent; and Kimberlianne Miller, Minutes Clerk

ORAL COMMUNICATIONS:

Clytie Koehler spoke in favor of Accessible Pedestrian Signals for requested locations for agenda item number F1. She also requested the sheltered bus stop on Beethoven Drive at the North County Mall be power-washed because of accumulated trash at the bus stop.

Ethel Miranda spoke in favor of Accessible Pedestrian Signals for requested locations for agenda item number F1.

Amy Kalivas spoke in favor of Accessible Pedestrian Signal to be installed at 1440 South Escondido Blvd near Access to Independence Organization.

MINUTES:

Moved by Chair Spoonemore, seconded by Commissioner Durney, to approve the minutes of the April 11, 2019, meeting. Motion carried unanimously.

CONSENT ITEMS: None

ACTION: None

NEW BUSINESS:

1. Audible Pedestrian Signal (APS) Ranking for requested locations

Ms. Kuukka-Ruotsalainen referenced the staff report and explained the ranking of all requested APS locations per the City of Escondido's Audible Pedestrian Signal (APS) Ranking Criteria. Staff recommended the Commission approval of the two highest scoring locations (El Norte Parkway at Morning View Drive and Escondido Boulevard at 15th Avenue) to be funded with ADA Transition funding. The possibility of funding a third location of Centre City Pkwy at El Norte Pkwy will be evaluated as a part of TMPL.

ACTION:

Moved by Chair Spoonemore, seconded by Commissioner Durney to approve ranking criteria with one point added for each pedestrian accident up to three and with ranking for new projects, updated quarterly. Motion carried unanimously.

2. 2018/2019 Traffic Management Project list (TMPL) Preliminary List of Projects

Ms. Jim referenced the staff report and presented the five projects on the TMPL. Staff recommended the top four ranked projects be selected for further design and evaluation.

Commissioner Durney asked if the top three ranked projects be selected instead of four because \$50,000 TCSC budget may not be sufficient for all four projects. Ms. Jim suggested selecting the top four projects for further evaluation and detail cost estimate. Commission can then decide whether to approve all the projects with the details presented at the July 2019 meeting.

ACTION:

Moved by Durney, seconded by Commissioner Kassebaum, to approve staff's recommendation. Motion carried unanimously.

3. Escondido High School Traffic Safety and Signal Warrant Report & Accident Data

Mr. Shahzad referenced the staff report and provided the summary of collision history and the CA-MUTCD Traffic Signal Warrants for the requested signal warrant analysis. The signal warrants for the northerly driveway were not met. The recommendation was to have the High School implement the Traffic Management Plan provided by City staff. An overview of the Traffic Calming measures that have

been implemented along the corridor like Road Diet with lane narrowing, adding a two way left turn lane (TWLTL), bike lanes, and radar feedback sign for southbound and additional sidewalk storage with a wide pedestrian ramp area at the signalized Sheridan intersection was presented.

4. Traffic Signal Installation and Left Turn Phasing Preliminary Priority List

Mr. Shahzad referenced the staff report for the traffic signal priority and protected left turn priority list. The candidate locations were presented with an overview of the Signal Warrants, SANTEC left turn warrant criteria and overall ranking based on need, volume and crash history. The list included six (6) intersections to be analyzed for traffic signal warrants and fifteen (15) intersections to be analyzed for protected left turn phasing. Staff will put out a Request for Proposal to hire a consultant to conduct a warrant analysis, analyze the intersections and rank them in an Engineering and Traffic Study.

OLD BUSINESS:

1. An overview of various projects involving the City
 - a. Traffic Signals in Design: Felicita/Escondido Left turn phasing - grant funded in design.
Traffic Signals: El Norte Bike path signal out for bids. Under construction: HSIP signals contract awarded for construction. La Terraza Hotel to begin construction soon.

Report received.

SCHOOL AREA SAFETY:

- a. Escondido High – On-Site circulation in parking lot for Pick-up/Drop-off.
- b. Bond Projects coordination discussion at Quarterly School Zone meeting.

Report received.

COUNCIL ACTION: None.

ORAL COMMUNICATIONS:

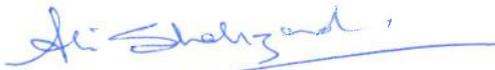
TRANSPORTATION COMMISSIONERS:

Commissioner Durney asked staff about the Pedestrian Bridge on East Valley Parkway near the Transit Center. Julie Procopio responded that it was a Smart Growth Incentive Program grant project.

Commissioner Kassebaum asked about the Video Detection Cameras on Woodward and Broadway traffic signal looked different. Mr. Shahzad indicated that they use Video Detection for Limit Line & Radar detection for advance detection as loops could not be installed on the bridge.

ADJOURNMENT:

Chair Spoonemore adjourned the meeting at 4:08 p.m. The next meeting of the Commission would be held July 11, 2019, at 3:00 p.m. in City Council Chambers, 201 North Broadway, Escondido.



Ali Shahzad, Associate Engineer



Kim Miller, Minutes Clerk



CITY OF ESCONDIDO

TRANSPORTATION and COMMUNITY SAFETY COMMISSION

Commission Report of: July 11th, 2019

Item No.: F1

Location: Citywide

Initiated By: Staff

Request: Final Review and Approval of City of Escondido 2019/20 Traffic Management Project List (TMPL)

Background:

At its January 9, 2014 meeting, the Transportation and Community Safety Commission (TCSC) adopted a policy to evaluate and prioritize traffic safety improvement projects using a Traffic Management Project List (TMPL). A scoring criteria for prioritization of the projects was presented to and approved by TCSC on April 9, 2014. High priority projects are selected in April and staff reports back in July with detailed design and cost information for TCSC review and budget approval of the selected projects.

City of Escondido 2019/20 Traffic Management Project List (TMPL) and the projects preliminary prioritization based on approved scoring criteria were presented to TCSC at the April 11, 2019 meeting. Four projects were selected for detailed design and possible funding in the 2019/20 funding cycle.

Discussion & Purpose:

One additional project is added to the 2019/20 TMPL for ranking and consideration based on a request received soon after the April 11, 2019 TCSC meeting. This new project is presented and ranked with the four previously selected projects for final review.

2019/20 TMPL

1. New Street Light on Eucalyptus Avenue (estimated cost: \$15,000) – New project

The resident of the address 2203 Eucalyptus Avenue made a request to the city for a street light at the end of Eucalyptus Avenue just south of Gamble Lane. Eucalyptus Avenue is not a through street at Gamble Lane and a fire gate for emergency access was installed at the end of Eucalyptus Avenue. A location map and an image of Eucalyptus Avenue are shown on Figure 1. The resident has stated that there is not adequate illumination at the end of the street and the fire gate has been hit by vehicles. The street light requested at the end of Eucalyptus Avenue was originally proposed as part of the Tract 692 subdivision development and is shown on the subdivision improvement plans dated 1998. However, the street light was not installed during the construction of the development project.

Eucalyptus Avenue is a two-lane local collector with parking allowed on both sides. There are a total of seven homes with driveway access onto Eucalyptus Avenue between Hillstone Avenue and the end of the roadway. Three existing street lights were installed on Eucalyptus Avenue north of Hamilton Lane as shown on Figure 1. "Not a Through Street" and "Dead End" signs were installed on Eucalyptus Avenue at Hamilton Lane and north of Hillstone Avenue to prevent unfamiliar drivers from entering this segment of Eucalyptus Avenue. The city accident database did not show any injury accidents at this location in the past three years.

City programs Community Development Block Grant (CDBG) funding for new street light installation projects and LED retrofit of existing street light projects in priority areas of low- to moderate-income communities in the city. However, Eucalyptus Avenue area does not qualify for the CDBG program fund. There is no other funding source available at this time for new street light installation in areas outside of the CDBG eligible communities. Therefore, it is recommended that this project be included on the TMPL for ranking and consideration.

Improvement of this project would include the installation of a new standard street light with LED fixture and installation of approximately 430' of new conduit and lighting conductors to the closest existing street light to connect to the existing street light circuit on Eucalyptus Avenue, as shown on Figure 2. The estimated cost of the project is \$15,000.



Figure 1 – Eucalyptus Avenue at Gamble Lane



Figure 2 – New street light installation on Eucalyptus Avenue

The following four projects were selected by TCSC at their April 2019 meeting for final design and approval.

2. Crosswalk Improvements at Citrus Avenue and Oak Hill Drive (estimated cost: \$25,000)

The crosswalk at the intersection of Citrus Avenue and Oak Hill Drive near Hidden Valley Middle School has been recommended by Escondido Union School District (EUSD) to be included on this year's TMPL due to the high volume of students utilizing this crosswalk and the amount of traffic on Citrus Avenue. The intersection of Citrus Avenue and Oak Hill Drive is side-street-stop-controlled on Oak Hill Drive with no marked crosswalk on Oak Hill Drive and a marked mid-block crosswalk on Citrus Avenue. Figure 3 depicts the location of the existing mid-block crosswalk on Citrus Avenue at Oak Hill Drive.

Hidden Valley Middle School, with student population of approximately 1,022, is located at 2700 Reed Road. Pedestrian counts provided by COMPACT reflect that 75 and 110 students crossed Citrus Avenue, and 23 and 78 students crossed Oak Hill Drive in the AM and PM school peaks, respectively.

Citrus Avenue between Bear Valley Parkway and Glenridge Road is classified as a two-lane Local Collector Road per City's Circulation Element. Under existing conditions, Citrus Avenue is a two-lane roadway with no two-way-left-turn lane. The average daily traffic on this segment of Citrus Avenue is 8,600 and the speed limit is 40 MPH. The 85th percentile speed on Citrus Avenue was measured to be 39 MPH.

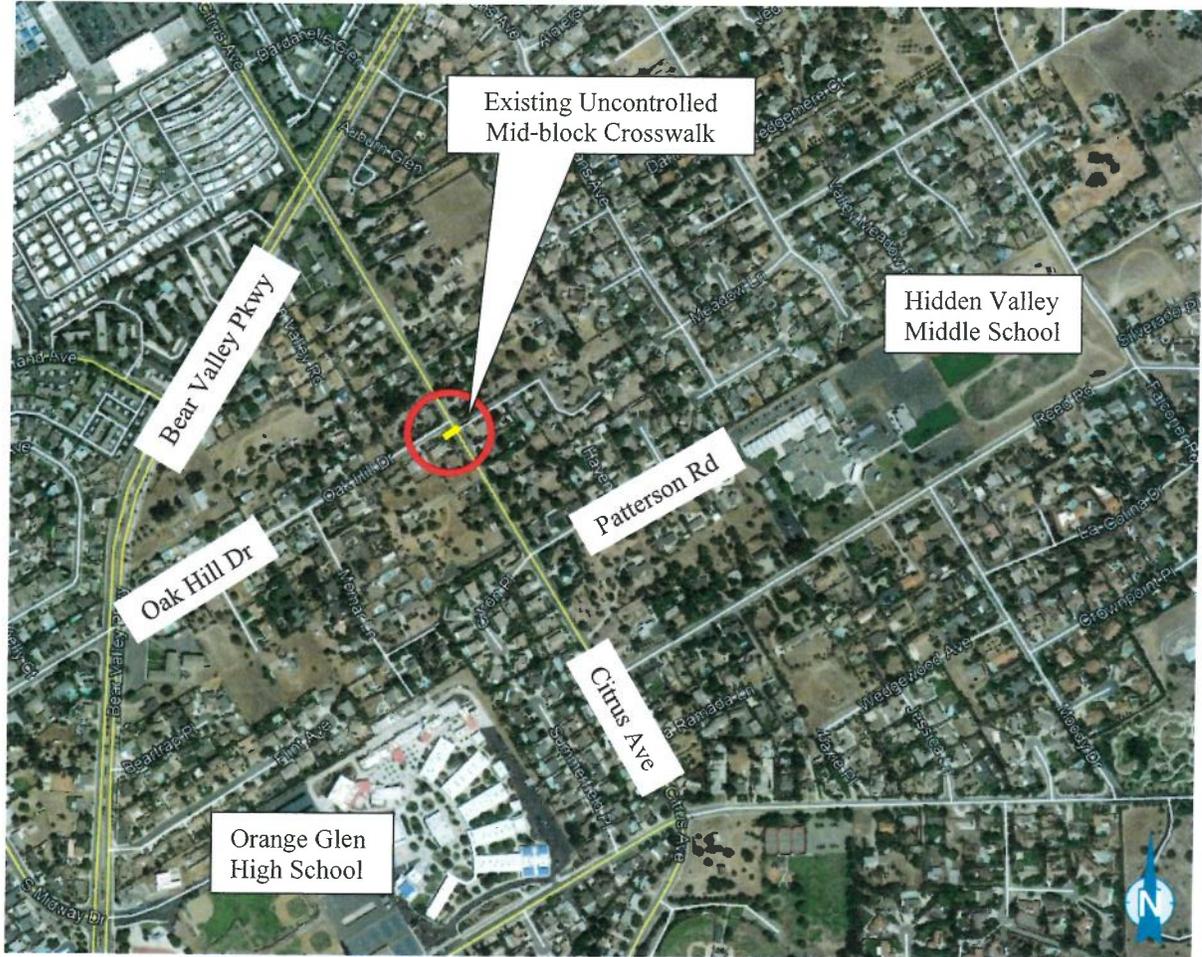


Figure 3 – Existing Mid-block Crosswalk at Citrus Avenue and Oak Hill Drive

Recommended Improvements

Per City’s Crosswalk Policy, the crosswalk treatments would be **Std. + Rectangular Rapid-Flashing Beacons (RRFB) + one treatment from “A”** based on the existing traffic data and roadway classification, see Attachment 1. The recommended improvements include new yield lines, crossing signage, crosswalk marking, solar-powered RRFB, and speed reduction markings on Citrus to slow drivers approaching the crosswalk located at a vertical curve. The recommended improvements are shown on Figure 4. The estimated cost of the project is \$25,000.

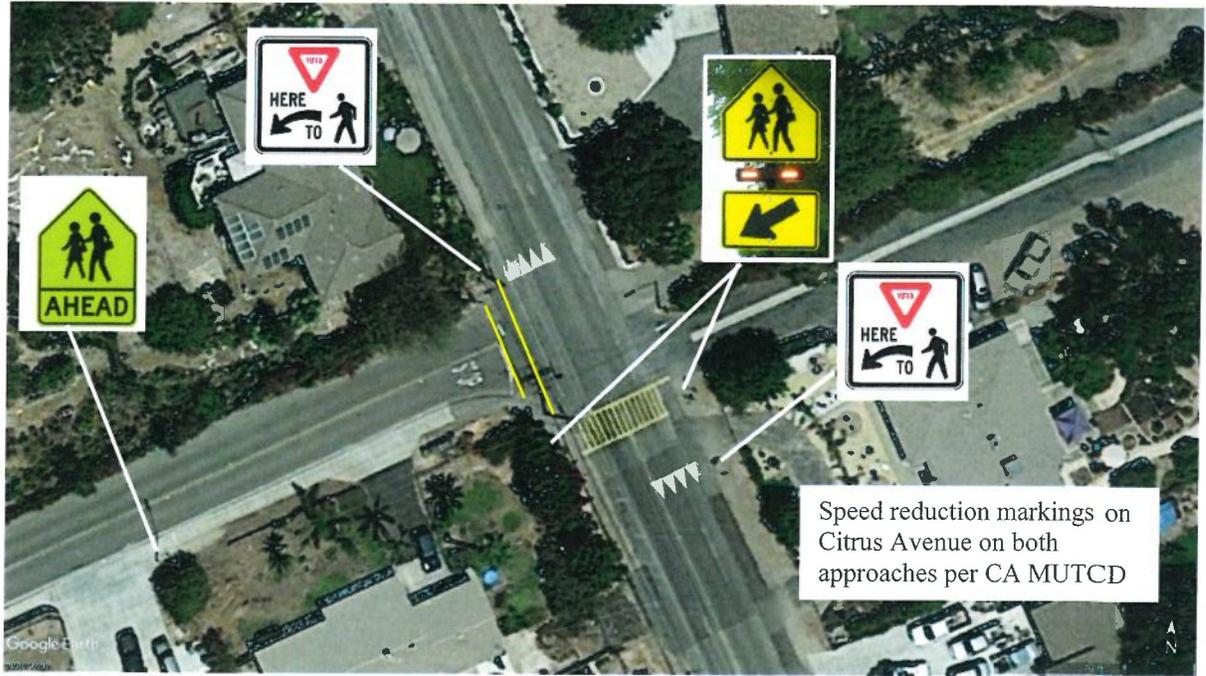
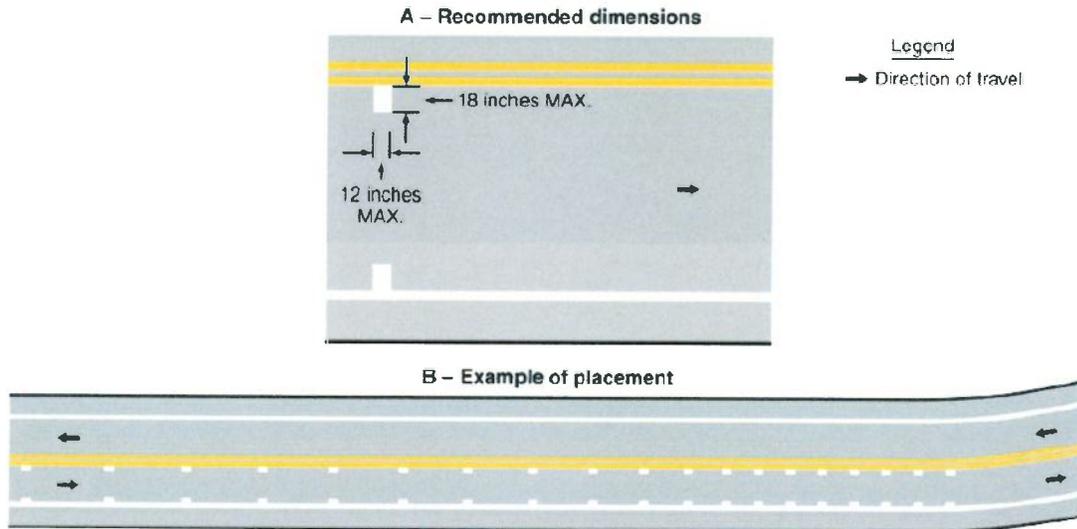


Figure 3B-28. Example of the Application of Speed Reduction Markings



Source: 2014 CA MUTCD

Figure 4 – Recommended Crosswalk Improvements at Citrus Avenue and Oak Hill Drive

3. Pioneer Elementary School Crosswalk Improvements (estimated cost: \$7,500)

The uncontrolled crosswalk at the eastbound channelized right-turn lane of the signalized intersection of Lincoln Avenue and Ash Street has been recommended by EUSD and COMPACT to be included on this year's TMPL. The intersection is adjacent to the Pioneer Elementary School with a student population of approximately 740. The location of the uncontrolled crosswalk is shown on Figure 5.

Improvements to this crosswalk have been implemented as part of the 2015 TMPL, which included high visibility crosswalk, yield line, striping improvements, and advanced crosswalk signage on eastbound Lincoln Avenue. EUSD and COMPACT expressed concerns about right-turning vehicles not yielding to pedestrians at the crosswalk and vehicles making lane change close to the crosswalk still persist after the previous crosswalk improvements were completed.

Lincoln Avenue between Fig Street and Ash Street is classified as a Prime Arterial according to City's Circulation Element. The existing roadway is a four-lane roadway with no center turn lane. On-street parking is prohibited. The average daily traffic on this segment of Lincoln Avenue is 24,699 and the speed limit is 40 MPH.



Figure 5 - Uncontrolled Crosswalk at Lincoln Avenue and Ash Street

Recommended Improvements

The recommended improvements include 1) replacing old signs on Lincoln Avenue approaching Ash Street to be compliant with CA MUTCD, 2) adding YIELD pavement legend upstream of the existing yield line to increase drivers' awareness to yield to pedestrians, 3) removing the wild palm tree that casts shadows on the crosswalk in the afternoon, and 4) adding new chevron striping and 6" bolts dots (raised white non-retroreflective markers) to deter drivers from making lane change in the striped gore area. The estimated cost for the project is \$7,500.

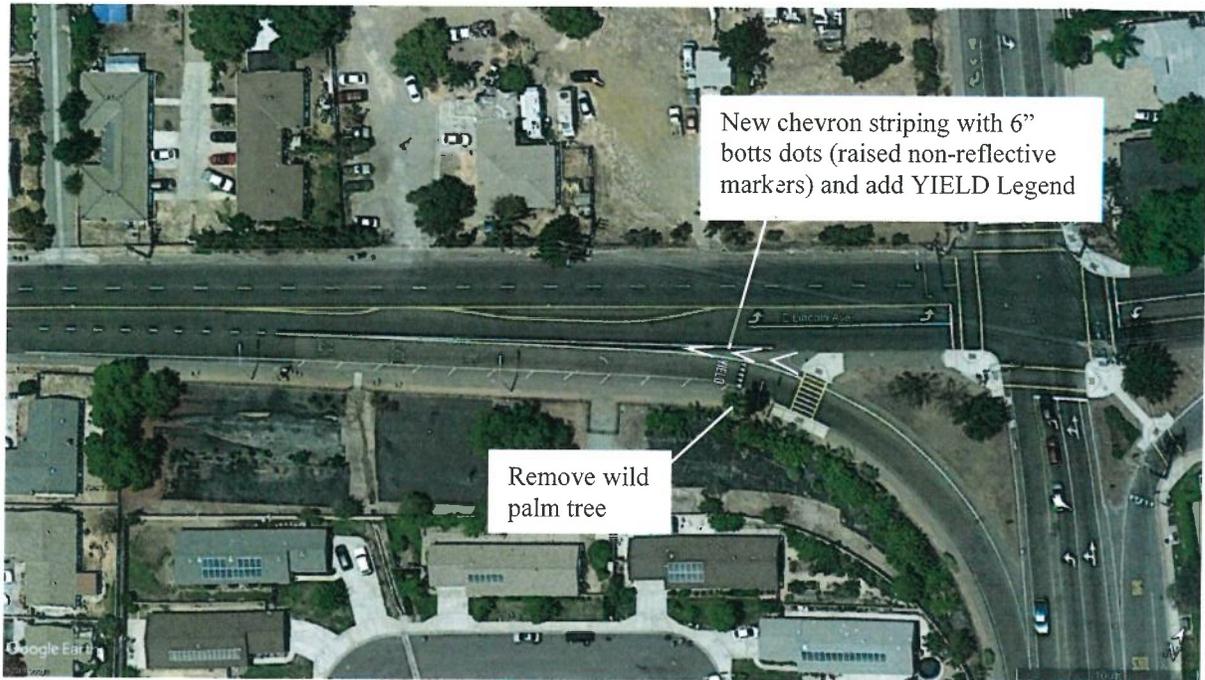


Figure 6 – Recommended Improvements on EB Lincoln Avenue at Ash Street

4. Countdown Pedestrian Indications in School Zones (estimated cost: \$7,500)

COMPACT has provided the recommendation on the top five signalized intersections for upgrades based on the amount of students crossing at the location and its proximity to existing schools. The total number of new pedestrian countdown timers required would be thirty-eight (38) units. The estimated cost for the project is \$7,500.

- 1) Mission Avenue and Ash Street (Mission Middle School)
- 2) Bear Valley Parkway and Citrus Avenue (Orange Glen High School School)
- 3) Bear Valley Parkway and East Valley Parkway (Orange Glen Elementary School)
- 4) Midway Drive and Oak Hill Road (Oak Hill Elementary School)
- 5) Midway Drive and Grand Avenue (Oak Hill Elementary School)

5. Accessible Pedestrian Signals at Centre City Parkway and El Norte Parkway (estimated cost: \$10,000)

The City has received requests for Accessible Pedestrian Signals (APS) at six signalized intersections within the City. These requests were made by residents who are visually-impaired, a senior center, and an organization who serves those with vision impairment. APS's are devices integrated with pedestrian push button that communicate information about pedestrian timing in nonvisual format such as audible tones, verbal messages, and/or vibrating surfaces.

TCSC at its January 2019 meeting approved the ranking analysis criteria for the adopted City APS Policy. This ranking criteria was used to prioritize the signalized intersections where APS requests have been received by the City. The intersection of Centre City Parkway/El Norte Parkway recommended for 2019/20 TMPL consideration was ranked 4th on the APS intersection list, see Table 1.

The project to upgrade the existing pedestrian push buttons to APS's at this location would require installation of eight new APS units at the intersection. The estimated cost for the project is \$10,000.

Ranking	Intersection	Total Score	Funding
1	El Norte Pkwy/Morning View Dr	49	ADA Budget
2	Centre City Pkwy/Valley Pkwy	49	Improvements to be completed by a developer
3	Escondido Blvd/15 th Ave	47	ADA Budget
4	Centre City Pkwy/El Norte Pkwy	46	2019/20 TMPL Consideration
5	El Norte Pkwy/Country Club Ln	45	None Recommended at this time
6	El Norte Pkwy/Nutmeg/Nordahl Rd	42	None Recommended a this time
Source: TCSC Staff Report, Ranking Analysis for APS Citywide, 4-11-19			

Table 1 – APS Ranking

TMPL Prioritization:

Using the point-based scoring criteria in this report, all five projects were evaluated and scored. Traffic Management Project List (TMPL) prioritization table, Table 2, summarizes the scores of each of the five projects. Four top ranked projects are recommended for implementation considering an estimated \$50,000 Transportation and Community Safety budget.

Project Name	Measures of Prioritization								Score (max. 30)	Estimated Cost
	Road Condition (max. 6)		Road Usage (max. 6)		Anticipated Effectiveness (max. 6)		Problem Severity x 2 (max. 12)			
	Geometric Design	Roadside Improvement	Bike and Pedestrian Volume	Average Daily Traffic (ADT)	Feasibility of the Solution	Effectiveness of the Solution	Frequency of Accidents	Speeding Problem		
Crosswalk Improvements at Citrus Ave and Oak Hill Dr (Hidden Valley Middle School)	2	2	3	3	3	2	2	2	19	\$25,000
Crosswalk Improvements at Lincoln Ave and Ash St (Pioneer Elementary School)	1	2	3	3	3	1	2	4	19	\$7,500
Countdown Pedestrian Indications at Five Locations in School Zones	1	2	3	3	3	2	2	2	18	\$7,500
Accessible Pedestrian Signals at El Norte/Centre City Parkway	1	1	2	3	3	2	2	2	16	\$10,000
New Street Light on Eucalyptus Ave	1	1	1	1	2	2	2	2	12	\$15,000

Points Details:
Road Condition:
 Geometric Design of Road: Not Standard = 3, Substandard = 2, Partially Substandard = 1
 Roadside Improvement: Unimproved = 3, Partially Unimproved = 2, Mostly Improved with Gaps in Improvement = 1
Road Usage:
 Bike and Pedestrian Volume: High = 3, Medium = 2, Low = 1
 ADT: >7400veh/day = 3, >5400veh/day and <=7400 veh/day = 2, >3400veh/day and <=5400veh/day = 1
Anticipated Effectiveness:
 Feasibility of the Solution: High=3, Medium=2, Low=1
 Effectiveness of the Solution: High=3, Medium=2, Low=1
Problem Severity:
 Frequency of Accidents: Accident Rate >= 1.5 = 6, 1.5 > Accident Rate >= 0.5 = 4, 0.5 > Accident Rate = 2
 Speeding Problem: (85% - Design Speed) >= 10mph = 6, 5mph <= (85% - Design Speed) < 10mph=4, (85% - Design Speed) < 5mph=2

Table 2 – 2019/20 TMPL Prioritization Table

Recommendation: Staff recommends that the top four ranked projects be selected for implementation.

Necessary Council Action: None.

Respectfully submitted,

Prepared by:



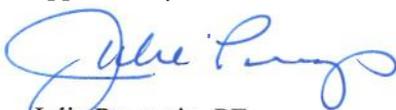
Miriam Jim, PE, TE
 Associate Engineer

Reviewed by:



Owen Tunnell, PE
 Assistant City Engineer

Approved by:



Julie Procopio, PE
 Director of Engineering Services/City Engineer

Attachment 1: City’s Crosswalk Policy – Treatments (1 of 2)

3. Treatments

If a proposed crossing location meets the criteria set by both the Basic and Point warrants, the next step is to evaluate the most appropriate crossing treatment(s) to be installed with the marked crosswalk.

Using paragraphs 09 and 09a of section 3B.18 of the new 2014 CA-MUTCD as a guideline, and also considering City of San Diego proposed treatments for different cross sections, ADTs and speed limits, the following treatment thresholds are proposed to be added to the new City of Escondido Crosswalk Policy.

ADT \ Cross Section	<1500	1500 - 5000	5000-12000	> 12000
Two-lane roads (without TWLTL)	Std.	Std. + RRFB**	Std. + RRFB** + one from (A)	D
Two-lane roads (with TWLTL)	Std. one measure from (B)	For SL < 35 Std. + RRFB** For SL ≥ 35 Std. + RRFB** + one measure from (B)	Std. + RRFB** + one measure from (B)	D
Four Lanes or more	N/A	Std. + RRFB** + one measure from (C)	For SL < 35 Std. + RRFB** + one measure from (C) For SL ≥ 35 Measure D	Signal or HAWK

* SL: Speed Limit of the roadway

** RRFB (Rectangular Rapid Flashing Beacons), or other approved flashing beacon.

Std.: Advanced yield lines with associated Yield Here to Pedestrians (R1-5, R1-5a) signs should be placed 20 to 50 feet in advance of the crosswalk, adequate visibility should be provided by parking prohibitions, pedestrian crossing (W11-2) warning signs with diagonal downward pointing arrow (W16-7p) plaques should be installed at the crosswalk, and a high-visibility crosswalk marking pattern should be used. All Signing and Striping shall comply with CA-MUTCD standards.

MEASURES:

- (A)
 1. Raised Crosswalk or other traffic calming treatment in accordance with C.O.E. TMPL Guidelines
 2. Speed Radar Feedback Signs for both approaches
- (B)
 1. Raised Crosswalk
 2. Speed Radar Feedback Signs for both approaches
 3. Pedestrian refuge islands
- (C)
 1. Road Diet
 2. Raised Crosswalk
 3. Speed Radar Feedback Signs for both approaches
 4. Pedestrian refuge islands
 5. Road Diet

Attachment 1: City's Crosswalk Policy – Treatments (2 of 2)

- (D)** 1. A Traffic Signal is required if the CA MUTCD warrants are met and it is recommended by a traffic engineering study. Otherwise at least one of the following is required.
2. HAWK Hybrid Beacon if the CA MUTCD warrants are met.
3. Horizontal deflection traffic Calming treatment (**) with RRFBs if the City of Escondido's Traffic Calming Guidelines are met to include:

- a. Pedestrian refuge islands & Bulbouts
- b. Road Diet
- c. Roundabouts

(**) Horizontal deflection treatments include, but are not limited to: roundabouts, pedestrian refuge islands, and pedestrian bulb-outs.



CITY OF ESCONDIDO

**TRANSPORTATION and
COMMUNITY SAFETY COMMISSION**

Commission Report of: July 11th, 2019

Item No.: F2

Location: Various locations Citywide

Initiated By: City Staff

Request: Recommend approval to the City Council of updated Engineering & Traffic Surveys (E&TS) for posted speeds on various street segments Citywide.

Background & Survey Methodology:

To satisfy the requirements of Section 40802(b) of the California Vehicle Code (CVC), Engineering and Traffic Surveys are required by the State of California to establish speed limits and to enforce those limits using radar or other speed measuring devices. These surveys must be updated periodically (every 5, 7 or 10 years, depending upon specific criteria) to ensure the speed limits reflect current conditions as dictated by the 2018 California Vehicle Code (CVC). The surveys must be conducted in accordance with applicable provisions of Section 627 "Engineering and Traffic Survey" of the California Vehicle Code (CVC), following procedures outlined in the 2014 California Manual on Uniform Traffic Control Devices (CA-MUTCD) Revision 4 dated March 29, 2019,

A brief description of the procedure is presented below:

1. Measurement of Actual Prevailing Speeds

The actual speed of 100 vehicles on each street segment was measured using a calibrated radar meter. Both directions of travel were surveyed. From this data, the prevailing or 85th percentile speed (speed at or below which 85 percent of the vehicles sampled were traveling), ten miles per hour pace speed (increment of ten miles per hour containing the greatest number of measurements) and percent of vehicles in the pace were determined.

2. Accident Records

From the accident reports, the number of accidents for each segment was used to calculate the accident rate, which is defined as the number of accidents per million vehicle miles (acc/mvm) of travel on that segment. The accident rate for each segment was then compared to the most recent statewide average for similar type roads. This information is shown on the survey summary sheets.

3. Traffic and Roadside Conditions

Each route was driven and notation made of its features, especially those not readily apparent to reasonable drivers, as well as those that might be combined with other factors to justify downward or upward speed zoning. These features are listed in the survey summary sheets for each segment.

4. Residential Density

A comprehensive review of the residential density was not done, but information regarding the adjacent land use to the roadway segments was noted and included in the survey summary sheets.

5. Pedestrian and Bicyclist Safety

The accident records were used to evaluate the pedestrian and bicyclist safety aspects of the roadway segments.

6. School Zones

Proximity to schools was taken into account to evaluate the speeds through the roadway segments.

The standard used followed procedures outlined in the California Manual on Uniform Traffic Control Devices (CA-MUTCD) Section 2B.13, Revision 4 dated March 29, 2019,

Standard:

When a speed limit is to be posted, it shall be established at the nearest 5 mph increment of the 85th-percentile speed of free-flowing traffic, except as shown in the two Options below.

Option:

1. The posted speed may be reduced by 5 mph from the nearest 5 mph increment of the 85th-percentile speed, in compliance with CVC Sections 627 and 22358.5. See Standard below for documentation requirements.

2. For cases in which the nearest 5 mph increment of the 85th-percentile speed would require a rounding up, then the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed, if no further reduction is used. Refer to CVC Section 21400(b).

Discussion & Purpose:

Per California Vehicle Code Section 22354, in order for a posted speed limit to be legally enforceable by the Police Department radar detection, it must be all of the following:

- 1) Between 25 mph and 65 mph,
- 2) Supported by an engineering speed survey, and
- 3) Ratified by City Council by resolution or ordinance.

The guidelines for preparing an engineering speed survey are found within the California Manual on Uniform Traffic Control Devices (CA-MUTCD) 2014 edition Revision 4, a document published by the Federal Highway Administration and modified by CALTRANS for use in California. The 85th percentile speed (the speed at which 85% of drivers drive at or below) is often referred to as the critical speed; it is the primary speed that determines what drivers believe to be safe and reasonable. When determining speed limits, the California MUTCD gives guidance that states, *“The speed limit should be established at the nearest 5 mph increment of the 85th-percentile speed of free-flowing traffic.”*

Additional guidance from the MUTCD California states, *“The establishment of a speed limit of more than 5 mph below the 85th percentile speed should be done with great care as studies have shown that establishing a speed limit at less than the 85th percentile generally results in an increase in collision rates; in addition, this may make violators of a disproportionate number of reasonable majority of drivers.”*

Although conditions on the roadway such as width, curvature, surface conditions and any other readily apparent features do not provide a basis for downward speed zoning, the CA-MUTCD states that local authorities may consider residential density, as well as pedestrian and bicycle safety.

Recommendation:

As part of the City of Escondido’s speed survey program, staff has performed speed surveys at 16 segment locations, with data being collected for each segment.

Based on the above guidelines, all of the surveyed segments were evaluated and speed limits recommended. The overview of the Speed Surveys is presented in Table 1; the last column shows the recommended speed limits on all study segments.

- For speed surveys 1, 3, 4, 9, 13 and 15 the recommended speed limit is set based on the 85th-percentile speed of the new speed survey.
- For speed surveys 2, 5, 7, 8, 11, 12, 14 and 16 the recommended speed limit reflects a reduction of 5mph from the 85th-percentile speed based on Option 2 in the MUTCD standard, as delineated above. In this case, the posted speed limit will not change.
- For speed surveys 6 and 10 the recommended speed limit reflects a reduction of 5mph from the 85th-percentile speed based on Option 2 in the MUTCD standard, as delineated above. In this case, the posted speed limit will decrease by 5 mph.

Table 1 - Overview of Speed Surveys

Segment No.	Street Name	Segment		Previous Speed Survey	Posted Speed Limit (MPH)	Classification	85 th Percentile (MPH)	Recommended Speed Limit (MPH)	Speed Limit to be posted, per Traffic Engineer
	Zone	From	To			Design Speed			
1	Bernardo Avenue 1	Cul-de-sac s/o Sky Crest	Eleventh Ave	05/22/12	35	LC 35	35	35	35
2**	Borden 1	Rock Springs	Seven Oakes	06/14/12	35	LC 35	40	40	35
3	Broadway 8	Washington	Grand Ave	09/27/13	35	M 50	37	35	35
4	Broadway 10	Third Ave	Fifth Ave	09/20/13	30 (25WCAP)	C 40	29	30	30 (25WCAP)
5**	Date 1	Grand Ave	Fifth/Chestnut	06/07/12	35	C 40	40	40	35
6*	Eleventh Ave 2	Valley Pkwy	Del Dios Rd	05/22/12	35	LC 35	32	30	30 ↓
7**	Eleventh Ave 3	Del Dios Rd	Bernardo Ave	05/23/12	35	LC 35	40	40	35
8**	Juniper 1	Washington	Pennsylvania	06/20/12	25	C 40	31	30	25

9	Juniper 2	Pennsylvania	Second	06/20/12	25 (25WCAP)	C 40	25	25	25 (25WCAP)
10*	Seventeenth 1	Juniper	City Limits	11/21/11	40	C 40	38	40	35 (25WCAP) ↓
11**	Simpson Way 1	Hale	Venture	06/14/12	35	LC 35	40	40	35
12**	Thirteenth 1	Tulip	Centre City	06/14/12	30 (25WCAP)	LC 35	33	35	30(25WCA P)
13	Thirteenth 2	Centre City	Escondido	06/14/12	30	C 40	32	30	30
14**	Thirteenth 3	Escondido	Juniper	06/14/12	30 (25WCAP)	C 40	34	35	30 (25WCAP)
15	S Tulip 1	Thirteenth	Ninth	06/14/12	30	LC 35	31	30	30
16**	Wanek Rd 1	Citrus	Valley	06/14/12	35	LC 35	39	40	35

* Indicates new established speed survey which requires City Council approval. Engineering and Traffic Survey attached to Commission Report

** Indicates round down the speed limit to the lower five miles per hour increment, per CVC 21400 (b), or higher than average collision rate.

↓ Indicates speed going down.

↑ Indicates speed going up.

Necessary Council Action: Two (2) survey segments on Eleventh Avenue and Seventeenth Avenue for changes to existing speed limits.

Respectfully submitted,

Prepared by:

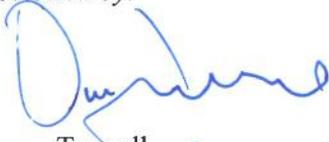


Ali M. Shahzad, PE (Traffic)
 Associate Engineer/Traffic Division



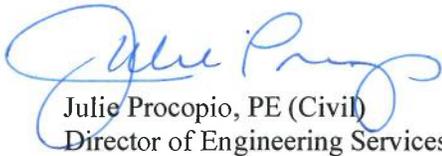
Virpi Kuukka-Ruotsalainen,
 Engineer I/Traffic Division

Reviewed by:



Owen Tunnell,
Assistant City Engineer

Approved by:



Julie Procopio, PE (Civil)
Director of Engineering Services/City Engineer

Attachments:

- Attachment 1: Speed Zone Evaluation Eleventh Avenue Survey
- Attachment 2: Speed Zone Evaluation Seventeenth Avenue Survey



**CITY OF ESCONDIDO
TRAFFIC ENGINEERING DIVISION
SPEED ZONE EVALUATION**

Location: Eleventh Avenue (Valley Parkway to Del Dios Rd)		Date: 03/07/2019
Time: 13:30 PM	Weather: Cloudy	Road Conditions: Normal

ENGINEER'S FINDINGS

1. Prevailing Vehicular Speed Data	
Posted Speed(s): 35 MPH	School zone: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
85% Speed: 32 MPH	10MPH Pace: 20-29 MPH
50% Speed: 26 MPH	% in Pace: 68%

2. Accident Data	
Street Classification: Local Collector	Approximate ADT: 1,559 vehicles/day
Accident Rate: 0.0 accidents/mvm	For period: January 2016 through December 2018
City-wide for streets of similar characteristics: 1.06 accidents/mvm (Urban Street, 2-3 lanes, District 11/CA)	

3. Traffic and Roadside Conditions	
Land Use:	Single and multiple family residential.
Geometrics:	Straight. Moderate grades near Valley Parkway and Del Dios Highway. Narrow in places.
Other Features:	Two lanes with no center line. 25% fully improved. Dirt shoulders. Short stretches of sidewalk. On-street parking, limited near Valley Pkwy. Numerous side streets and driveways. Signal at Valley Pkwy. All-Way Stop at Del Dios Rd. Truck limit 10 tons. Fire Station #6 nearby.
Unusual Conditions: None.	
Density: <input checked="" type="checkbox"/> Single Family <input checked="" type="checkbox"/> Multiple Family	Presence of: <input checked="" type="checkbox"/> Bicycles <input checked="" type="checkbox"/> Pedestrians

4. Engineer's Recommendation	Posted Speed 30 MPH
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Explanation:

This speed zone has been reevaluated in accordance with the following:

- California Manual on Uniform Traffic Control Devices for Streets and Highways (Nov. 07, 2014 Edition. Rev 4 March 29, 2018),
- California Vehicle Code, 2019 version, with respect to design and prevailing speeds, accident history, pedestrian activity, driveway spacing, and roadway, weather, and traffic conditions,
- And for stopping sight distance per American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Streets 2011, 6th Edition.

The combined Eastbound and Westbound 85th percentile of 32 mph would indicate posting a 30 mph speed limit.

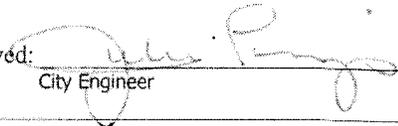
5. Approvals

Recertification of existing speed zone per Sections 22357 (Increase of Local Speed Limits to 65 MPH), 22358 (Decrease of Local Speed Limits), and 40802 (Speed Traps) of the California Vehicle Code.



Approved: 
Traffic Engineer, RTE#: 2295

Establishment of new speed zone

Approved: 
City Engineer

Action Dates:

Transportation Commission: 07/11/2019

City Council:

Ordinance No.:

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Escondido

Traffic: Normal Weather: Cloudy Road: Normal

DATE: 3/7/2019

Location: 11th Ave E/O Fun Ln

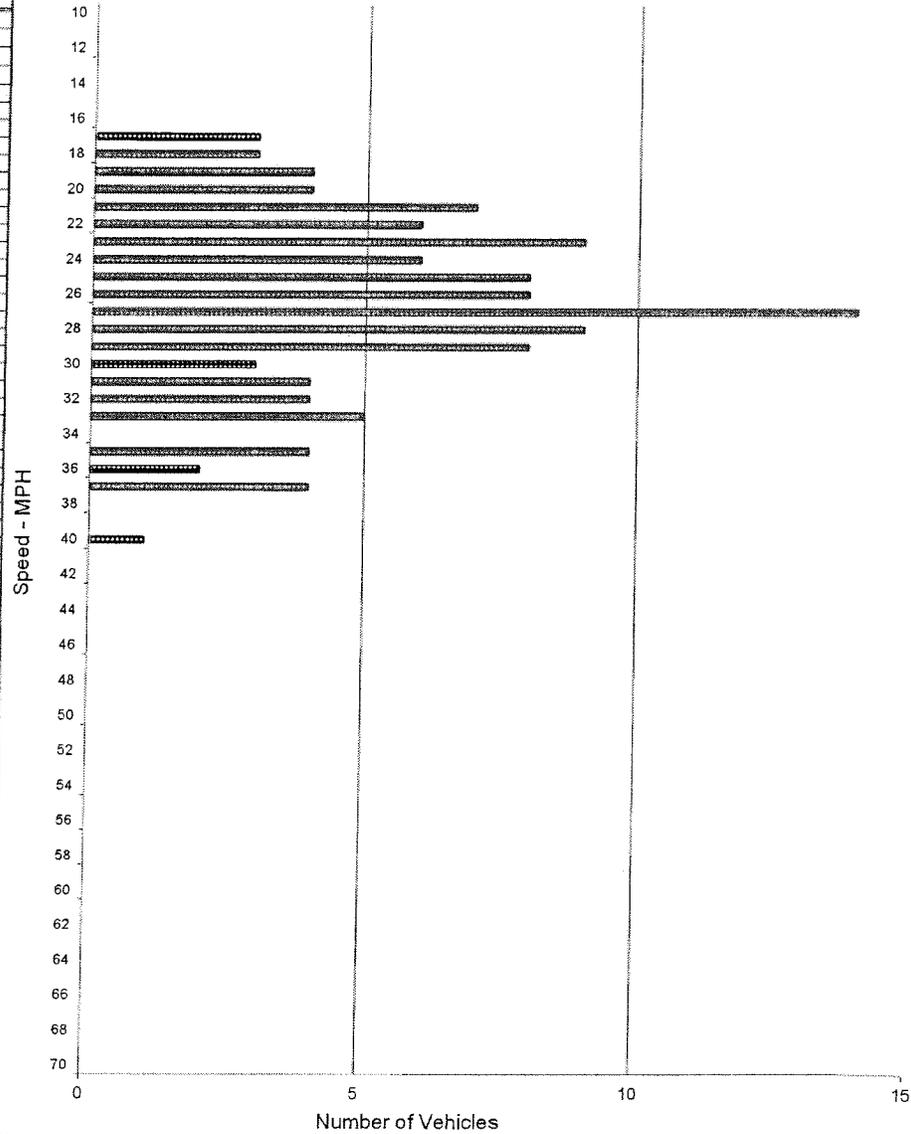
TIME: 13:30-14:45

Posted Speed: 35 MPH

Project #: 19-4093-008

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles	Cumulative percentage
<=10		0%
11		0%
12		0%
13		0%
14		0%
15		0%
16		0%
17	3	3%
18	3	5%
19	4	9%
20	4	12%
21	7	18%
22	8	23%
23	9	31%
24	8	36%
25	8	43%
26	8	50%
27	14	62%
28	9	70%
29	8	77%
30	3	79%
31	4	83%
32	4	86%
33	5	91%
34		91%
35	4	94%
36	2	96%
37	4	99%
38		99%
39		99%
40	1	100%
41		100%
42		100%
43		100%
44		100%
45		100%
46		100%
47		100%
48		100%
49		100%
50		100%
51		100%
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57		100%
58		100%
59		100%
60		100%
61		100%
62		100%
63		100%
64		100%
65		100%
66		100%
67		100%
68		100%
69		100%
>=70		100%



SPEED PARAMETERS											
Class	Count	Average Speed	Range	15th Percentile	50th Percentile	85th Percentile	10 MPH Pace	Percent in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	116	25.4	17 - 40	21 mph	26 mph	32 mph	20 - 29	79	68%	8% / 10	24% / 27



**CITY OF ESCONDIDO
TRAFFIC ENGINEERING DIVISION
SPEED ZONE EVALUATION**

Location: 17 th Avenue (Juniper St. to easterly City Limits)		Date: 03/14/2019
Time: 11:00 AM	Weather: Cloudy	Road Conditions: Normal

ENGINEER'S FINDINGS

1. Prevailing Vehicular Speed Data	
Posted Speed(s): 40 (25 WCAP)MPH	School zone: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
85% Speed: 38 MPH	10MPH Pace: 29-38 MPH
50% Speed: 34 MPH	% in Pace: 79%

2. Accident Data	
Street Classification: Collector	Approximate ADT: 12,935 vehicles/day (2019)
Accident Rate: 0.48 accidents/mvm	For period: January 2016 through December 2018
City-wide for streets of similar characteristics: 1.06 accidents/mvm (Urban Street, 2-3 lanes, District 11/CA)	

3. Traffic and Roadside Conditions	
Land Use:	Single & multiple family residential. Church with Elementary School.
Geometrics:	Straight segments separated by a horizontal curve with advisory speed posted. Prominent crest vertical curve east of Juniper with advisory speed posted.
Other Features:	Two lanes separated by double yellow centerline or TWLTL. 70% improved, gaps in sidewalk. Traffic signal at S Juniper St, Encino Dr. Limited on-street parking. School crosswalks at Juniper, Encino. Juniper Elementary School nearby. Truck limit.
Unusual Conditions:	Congested during church events. Numerous hidden driveways and side streets.
Density: <input checked="" type="checkbox"/> Single Family <input checked="" type="checkbox"/> Multiple Family	Presence of: <input checked="" type="checkbox"/> Bicycles <input checked="" type="checkbox"/> Pedestrians

4. Engineer's Recommendation	Posted Speed 35 (25WCAP) MPH
Explanation:	
<p>This speed zone has been reevaluated in accordance with the following:</p> <ul style="list-style-type: none"> a. California Manual on Uniform Traffic Control Devices for Streets and Highways (Nov. 07, 2014 Edition. Rev 4 March 29, 2018), b. California Vehicle Code, 2019 version, with respect to design and prevailing speeds, accident history, pedestrian activity, driveway spacing, and roadway, weather, and traffic conditions, c. And for stopping sight distance per American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Streets 2011, 6th Edition. <p>➤ The combined Eastbound and Westbound 85th percentile of 38 mph would indicate posting a 40 mph speed limit.</p>	

Justification:

- The recommended posted speed is **35 MPH**, downgraded 5 mph due to High number of urban and rural residential driveways that are not readily apparent to the driver with need to maintain adequate sight distance, Vehicle Pace Speed, and per CVC Section 22358 and 22358.5.

Support:

- The posted speed limit may be reduced by 5 mph from the nearest 5 mph increment of the 85th-percentile speed, in compliance with CVC Sections 21400 (b), 627, and 22358.5. This option can be utilized if the conditions and justifications for using this lower speed limit are documented in the Engineering & Traffic Survey (ET&S) and approved by a registered Civil or Traffic Engineer.
- The 10-mph Pace is the 10-mph increment range, which contains the largest number of recorded vehicles. The pace is a measure of the dispersion of speeds within the sample surveyed. Speed limits are normally set to fall within the 10-mph pace. However, conditions not readily apparent to the driver or adhering to State mandated limits such as Residence Districts may require setting limits below the 10-mph pace.

5. Approvals

- Recertification of existing speed zone per Sections 22357 (Increase of Local Speed Limits to 65 MPH), 22358 (Decrease of Local Speed Limits), and 40802 (Speed Traps) of the California Vehicle Code.



Approved: *Ali Mateen Sharad*
Traffic Engineer, RTE#: 2295

- Establishment of new speed zone

Approved: *John P. [Signature]*
City Engineer

Action Dates:

Transportation Commission: 07/11/2019

City Council:

Ordinance No.:

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Escondido

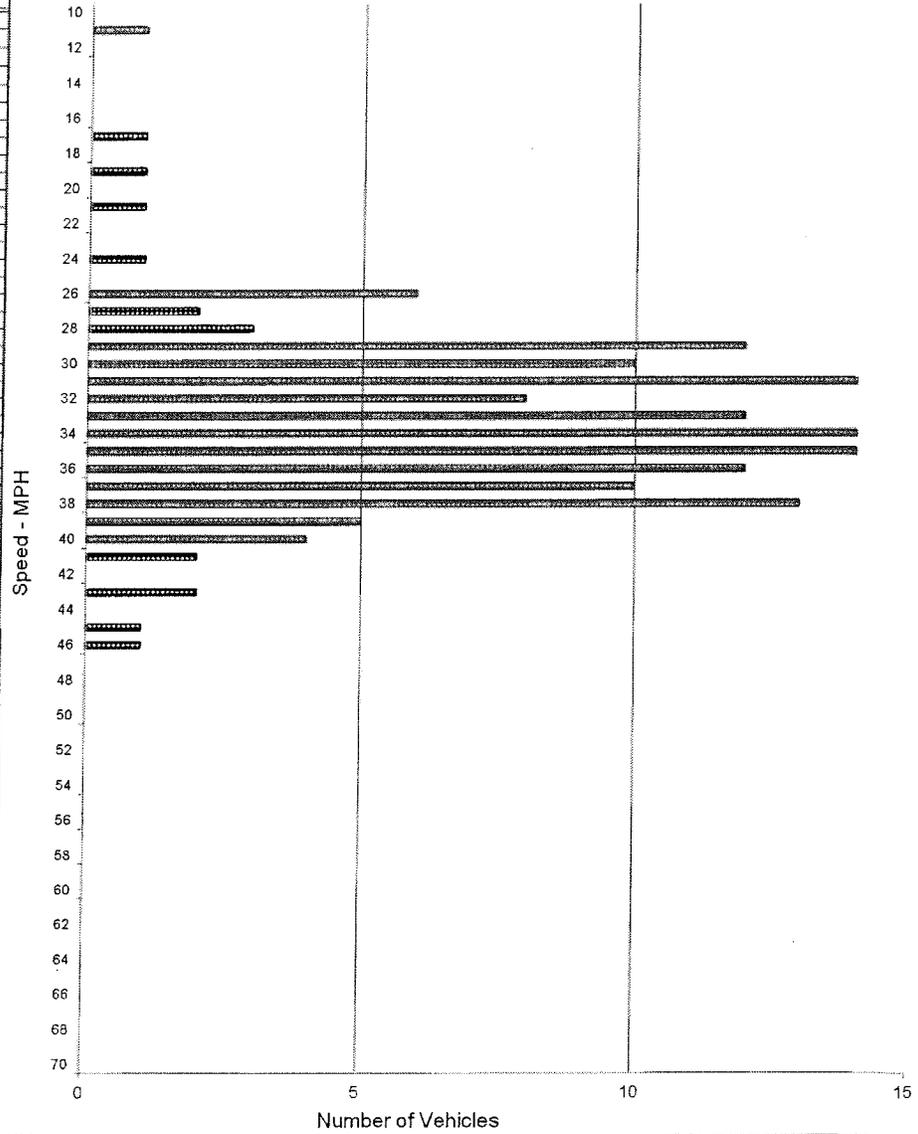
Traffic: Normal Weather: Cloudy Road: Normal

DATE: 3/14/2019
TIME: 11:00-11:30

Location: 17th Ave Bet. Juniper St & City Limits
Posted Speed: 40 MPH Project #: 19-4093-012

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles	Cumulative percentage
<=10		0%
11	1	1%
12		1%
13		1%
14		1%
15		1%
16		1%
17	1	1%
18		1%
19	1	2%
20		2%
21	1	3%
22		3%
23		3%
24	1	3%
25		3%
26	6	7%
27	2	9%
28	3	11%
29	12	19%
30	10	25%
31	14	35%
32	8	40%
33	12	48%
34	14	57%
35	14	67%
36	12	75%
37	10	81%
38	13	90%
39	5	93%
40	4	96%
41	2	97%
42		97%
43	2	99%
44		99%
45	1	99%
46	1	100%
47		100%
48		100%
49		100%
50		100%
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61		100%
62		100%
63		100%
64		100%
65		100%
66		100%
67		100%
68		100%
69		100%
>=70		100%



SPEED PARAMETERS											
Class	Count	Average Speed	Range	15th Percentile	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	150	33.3	11 - 46	29 mph	34 mph	38 mph	29 - 38	119	79%	10% / 16	10% / 15