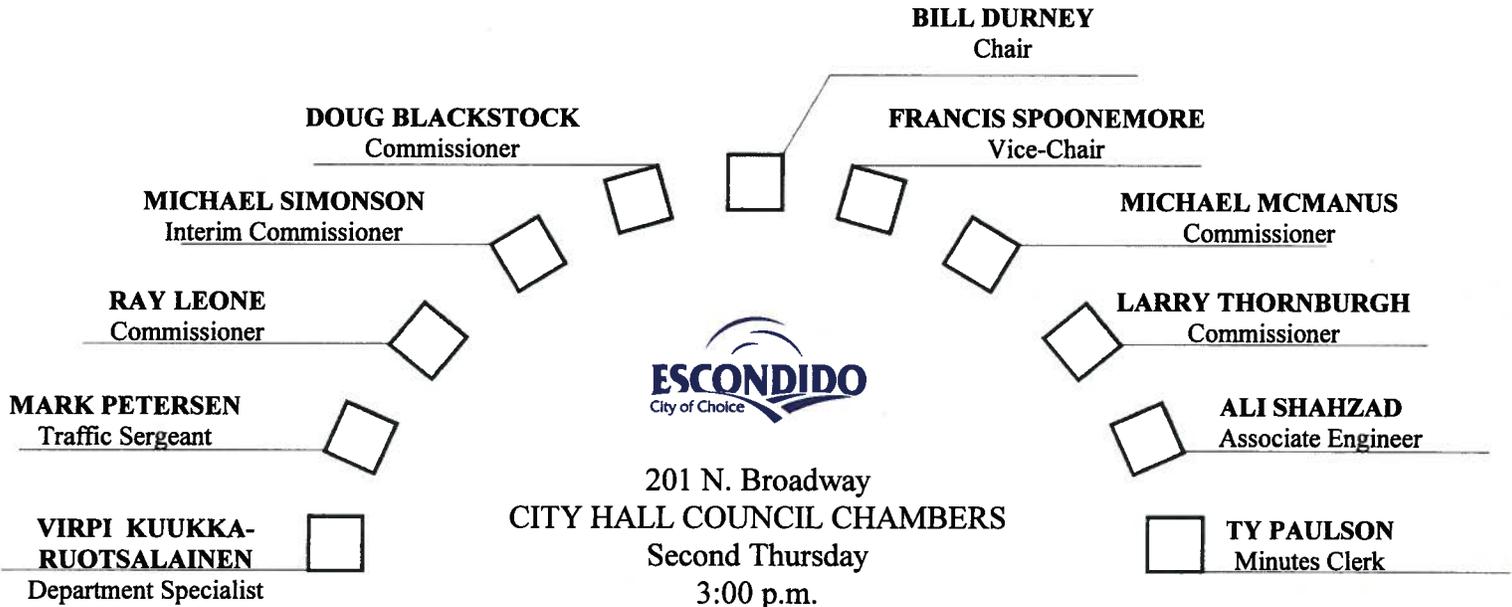


CITY OF ESCONDIDO

Transportation & Community Safety Commission



AGENDA April 14th, 2016 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 JANUARY 14, 2016 MEETING

E. CONSENT ITEMS – Staff will provide Overview for single vote

1. FY15/16 Pavement Project Striping cross-sections. (7 segments).

F. NEW BUSINESS

1. High Visibility Crosswalks for Mid-Blocks

Source: Staff

Recommendation: Approval

Previous action: None.

2. Speed Surveys – Various Locations

Source: Staff

Recommendation: Approval

Previous action: On-going new surveys of expired segments.

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. Gas tax funding reduction of \$1.6 M over last 3 years results in no funding for TMPL projects in FY16/17.
- b. North Bear Valley from Glenridge Rd. to East Valley Pkwy – Traffic signal timing synchronization near schools – Will present Before & After Travel Time report when Boyle/Bear Valley Signal is operational.
- c. Traffic Signal in Design: El Norte/Fig & East Valley Pkwy/Date – Design 100% complete to be submitted to Caltrans for review.
- d. Traffic Signals – Private Development in Plancheck: North Ash/ Vista Ave., North Ash/Sheridan Avenue, El Norte/Vista Verde Way. And Hotel Traffic Signal on La Terraza Blvd. Centre City/Washington signal modification. Centre City/Mission signal modification. Emmanuel Faith Traffic Signal on Encino/17th Ave. El Norte/Bike Path crossing near bridge over flood control channel. Under Construction: Harmony Grove/Citracado Pkwy., County/City Signal on Boyle/Bear Valley Pkwy. Work in Progress
- e. FY 15/16 TMPL Project Progress – Gamble St. Radar Signs, N. Broadway Radar Sign. Lack future funding.

- f. Centre City Pkwy corridor and 9th Avenue corridor – Traffic signal timing synchronization.

- g. Missing Link cycle track preliminary design by consultant (KOA).

Recommendation: Receive and file reports.

H. SCHOOL AREA SAFETY

- a. No new items.

I. COUNCIL ACTION* (A briefing on recent Council actions on Commission related items.)

- a. No new items.

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.

(April 14, 2016) TCSC Agenda

CITY OF ESCONDIDO

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

January 14, 2016

The regular meeting of the Escondido Transportation and Community Safety Commission was called to order at 3:00 p.m., Thursday, by Chair Durney, in the City Council Chambers, 201 North Broadway, Escondido, California.

Commissioners present: Chair Durney, Vice-chair Spoonemore, Commissioner Simonson, Commissioner Dayani, and Commissioner Blackstock.

Commissioners absent: Commissioner Leone and Commissioner Sarro.

Staff present: Julie Procopio, Assistant Director of Engineering; Ali Shahzad, Associate Engineer/Traffic Division; Abraham Bandegan, Associate Engineer/Traffic Division; Virpi Kuukka-Ruotsalainen, Department Specialist, and Ty Paulson, Minutes Clerk.

ORAL COMMUNICATIONS: None.

MINUTES:

Moved by Commissioner Blackstock, seconded by Commissioner Spoonemore, to approve the minutes of the October 8, 2015, meeting. Motion carried unanimously.

CONSENT ITEMS: None.

NEW BUSINESS:

1. FY 15/16 Traffic Management Project List - Gamble Street Traffic Calming

Abraham Bandegan, Associate Engineer, referenced the staff report and noted staff recommended the Commission authorize staff to continue implementing the approved traffic calming measures and allow staff to monitor the condition and report back to the Transportation Commission in six months.

Commissioner Blackstock expressed his concern with left turns eastbound on Lincoln and Gamble creating congestion during peak hours.

Commissioner Dayani and staff discussed the status of the speed and volume

surveys as well as conducting speed surveys before and after additional enforcement.

Discussion ensued regarding a clarification of the methods used for determining cut-thru traffic.

Brian Eveland, Escondido, stated that he was happy with the signs and radar that had been installed. He felt traffic volume was not the issue, noting it was the high speeds of vehicles. He stated that drivers were aware that the area was residential due to the area having only residential. He expressed his concern with left turns eastbound onto Lincoln on Gamble creating congestion. He also felt more citations should be issued in the subject area.

Discussion ensued regarding a clarification of the radar location and types of radar signs being used.

ACTION:

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

2. New City of Escondido Crosswalk Policy

Abraham Bandegan, Associate Engineer, referenced the staff report and noted staff recommended the Commission approve the new City of Escondido Crosswalk Policy.

Discussion ensued regarding a clarification of Treatment Measures 1-5 as outlined in the staff report.

Chairman Durney questioned whether unique crosswalks with painted designs would be allowed. Mr. Bandegan replied in the affirmative and noted that multiple alternative patterns would be provided at a future meeting.

Steve Reyes, Escondido, Member of CX3, noted that he was a student advocate for the Mission Park area's residents and students. He stated that he supported safe midblock crossings for Escondido Creek, noting that many pedestrians and bicyclists used this area and were using unsafe crossing areas. He also stated that higher visibility markings were more likely to be seen by drivers. He encouraged the City to implement high visibility crosswalks.

Axel Cojulun, Escondido, Member of CX3, was in favor of implementing high visibility crosswalks, noting this created safer streets and promoted more residents to be active. He stated that he supported safe midblock crossings for Escondido Creek, noting that many pedestrians and bicyclists used this area. He

also stated that higher visibility markings were more likely to be seen by drivers. He encouraged the City to implement high visibility crosswalks.

Commissioner Dayani thanked staff for a job well done.

ACTION:

Moved by Commissioner Simonson, seconded by Commissioner Dayani, to approve staff's recommendation. Motion carried unanimously.

3. Traffic Management Project List 2014 - Effectiveness

Abraham Bandegan, Associate Engineer, referenced the staff report and requested input.

Chairman Durney felt traffic patterns on Eucalyptus Avenue had improved but felt more should be done in the future. Mr. Bandegan noted that the Police Department was still doing additional enforcement and were aware of the current situation.

4. Speed Surveys – Various Locations

Virpi Kuukka-Ruotsalainen, Department Specialist, provided the staff report and recommended the Commission approve the speed surveys for Segments 1-19 as outlined in the staff report.

Chairman Durney and staff discussed the speed survey for Via Rancho Parkway from 1-15 to the west City limits.

ACTION:

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

OLD BUSINESS:

1. An overview of various projects involving the City
 - a. North Bear Valley from Glenridge Road to East Valley Parkway – Traffic signal timing synchronization near schools – Will present before and after travel time report in April
 - b. Traffic Signal in Designs: El Norte/Fig & East Valley Parkway/Date – Work in Progress
 - c. Traffic Signals – Private Development in plancheck: North Ash/Vista Avenue, North Ash/Sheridan Avenue, El Norte/Vista Verde Way and Hotel Traffic Signal on La Terraza Boulevard Under Construction:

- Harmony Grove/Citracado Parkway and County/City Signal on Boyle/Bear Valley Parkway. Work in progress
- d. FY 15/16 TMPL Project Progress

Received.

SCHOOL AREA SAFETY

- a. School Safety Evaluation with EPD and Escondido Union School District (EUSD)
- b. High visibility crosswalks at 5 intersections

Report received.

COUNCIL ACTION:

- a. Truck Route Modification

Report received.

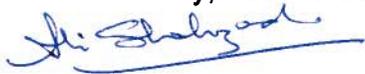
ORAL COMMUNICATIONS: None.

TRANSPORTATION COMMISSIONERS:

Commissioner Blackstock and staff discussed vehicle drop-off activities for car dealerships and schools taking up the public right-of-way.

ADJOURNMENT:

Chair Durney adjourned the meeting at 4:21 p.m. The next meeting of the Commission would be held April 14, 2016, at 3:00 p.m. in City Council Chambers, 201 North Broadway, Escondido.



Ali Shahzad, Associate Engineer

Ty Paulson, Minutes Clerk



CITY OF ESCONDIDO
TRANSPORTATION and
COMMUNITY SAFETY COMMISSION

Commission Report of: April 14th, 2016

Item No.: E1

Recommendation: Approve New Signing & Striping as proposed for the FY15/16 CityWide Pavement Project for Class II and Class III Bikeways.

Location: Auto Parkway, Washington Avenue, Felicita Avenue, Centre City Parkway, El Norte Parkway, Escondido Boulevard.

Initiated By: City Staff

Background:

In order to better implement the current City of Escondido General Plan goal of “Complete Streets” to accommodate all modes of traffic including pedestrians and bicyclists and also in compliance with City of Escondido Bicycle Master Plan, City Staff plans to design new striping plans for streets as they are being resurfaced.

Discussion & Purpose:

Seven (7) Major and Collector street segments are scheduled to be resurfaced completely during the FY15/16 Street Rehabilitation Project. They are listed on the next page with the descriptions for the signage and striping improvements. As a part of this project, bike lanes will be striped at two locations and widened at two locations to meet current standards. In addition a buffer will be added at two locations. Class III bike route signage will be installed at two locations.

Index 301.2 of Highway Design Manual recommends “*Reduction of Cross Section Elements Adjacent to Class II Bikeways as follow:*”

- 1) *There are situations where it may be desirable to reduce the width of the lanes in order to add or widen bike lanes or shoulders.*
- 2) *In determining the appropriateness of narrower traffic lanes, consideration should be given to factors such as motor vehicle speeds, truck volumes, alignment, bike lane width, sight distance, and the presence of on-street parking.*
- 3) *When on-street parking is permitted adjacent to a bike lane, or on a shoulder where bicycling is not prohibited, reducing the width of the adjacent traffic lane may allow for wider bike lanes or shoulders, to provide greater clearance between bicyclists and driver-side doors when opened.”*

The following striping cross sections are recommended:

1. Auto Parkway – Valley to N. Andreasen Dr.: Add a 5' bike lane and 2' buffer with 7' parking north side, 10' thru lane and a 11' curbside lane. And add Bike Lane legends and arrows at beginning of bike lanes, and at end before skip lines begin at intersections.
2. Washington Ave – CCP to Spruce: Add a 5' bike lane with 10' Two Way Left Turn Lane (TWLTL) and 10.5' thru lanes. And add Bike Lane legends and arrows at beginning of bike lanes, and at end before skip lines begin at intersections.
3. Felicita Avenue – Escondido Blvd to CCP: Change existing (4') class 2 bike lane striping to 5 foot bike lane (taking the extra width from the curbside lane), add florescent green 1(one) R10-15 "Turning Vehicles yield to bikes" on the e/b approach to Escondido Blvd., and 1 (one) R4-4 Begin Right turn lane yield to bikes on the w/b approach to CCP. And add Bike Lane legends and arrows at beginning of bike lanes, and at end before skip lines begin at intersections.
4. Centre City Parkway – Felicita Ave to 13th Ave: Add a 2' buffer zone into the #2 lane retaining the existing bike lane width. And add Bike Lane legends and arrows at beginning of bike lanes, and at end before skip lines begin at intersections.
5. El Norte Parkway – Nordahl Road to I-15 Caltrans Right of way – Class 2: Widen Class 2 bike lanes with chevron buffers at both approaches. Add R117 (CA) "Pass 3 feet Minimum" signs on Street lights as bike lanes are 4 ft. w/o buffers adjacent to trap rights. Add Bike lane and arrow legends at beginning of bike lanes and at end before skip lines begin at intersections. Change Detail 9 lane line skip striping to Detail 11, as posted speed is 45MPH.
6. El Norte Parkway – Iris to CCP: Add Class 3 Bike Route signage as curb side lanes are wide enough (no room for class 2) with 5 (five) total both sides D11-1 Bike Route signs at beginning of each intersection on the far side and 6 (six) total both sides R117 (CA) "Pass 3 feet Minimum" signs on Street lights to be added.
7. Escondido Blvd. – 5th Ave to Felicita Ave: Designated **Class 3**. Install 4 (four) total both sides D11-1 Bike Route at far side beginning of each intersection (as curb side lanes are wide enough) and 6 (six) total both sides R117 "Pass 3 feet Minimum" signs on Street lights, preferably under speed limit signs or at nearest street light after D11-1 Bike Route.

The Cross Sections are presented in the following sheets.

Auto Parkway – Valley to N. Andressen Dr

35' curb to curb, add Class 2 Blue Lane

Cross section not to scale

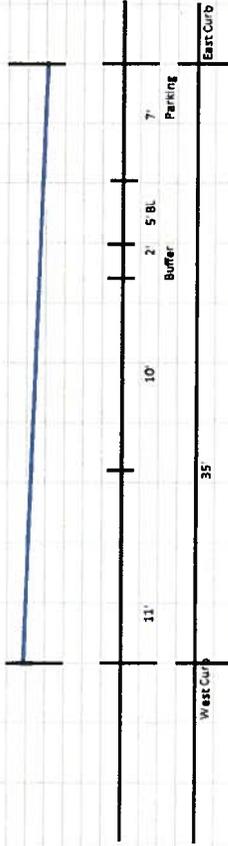
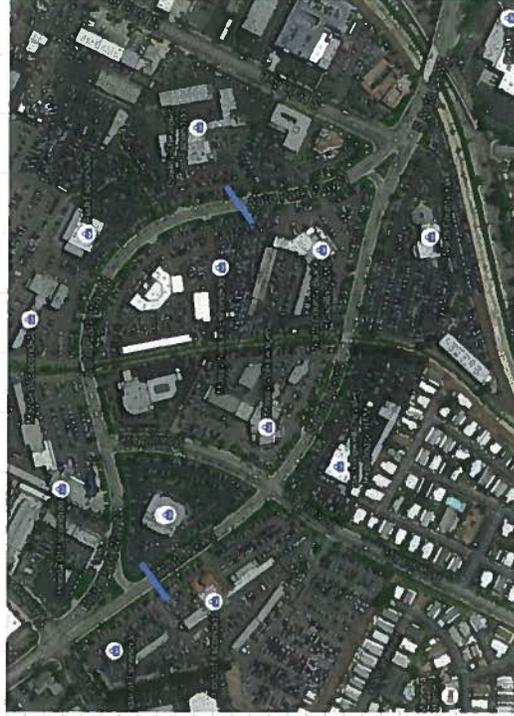
Speed limit 35, on-street parking

Will be added to bid: Auto Parkway @ Mission and Auto Pkwy @ Citracado striping/signage changes

Striping details of intersections will be provided after surveyed.

South Auto Parkway, Cross section shown with parking

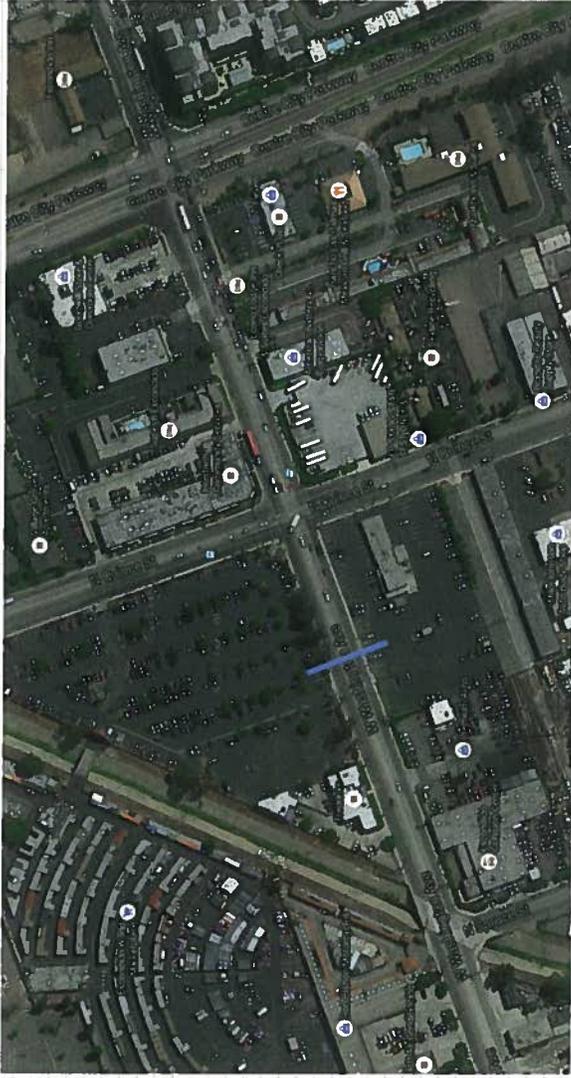
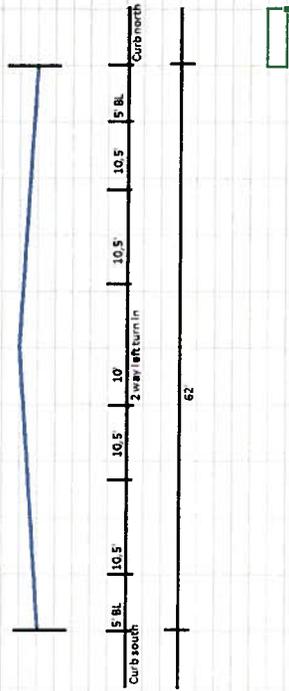
Bike Lane width varies from 5' to 4' on bridges and intersections



New Striping Cross-Sections
 April 14th, 2016
 Page 4 of 9

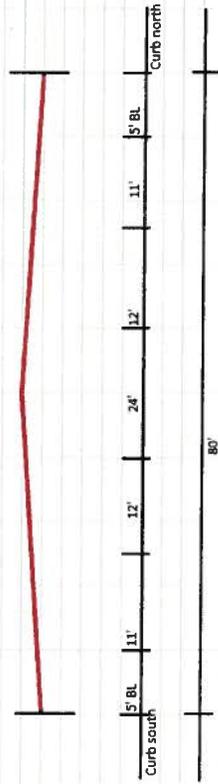
Washington Avenue (CCP to Spruce)
 Cross section not to scale
 Add Class 2 Bike Lane without buffer

Replace no parking anytime signage with No Parking Bike Lane signage R7-3b
 With 10' TWLTL and 10' S' thru lanes modification

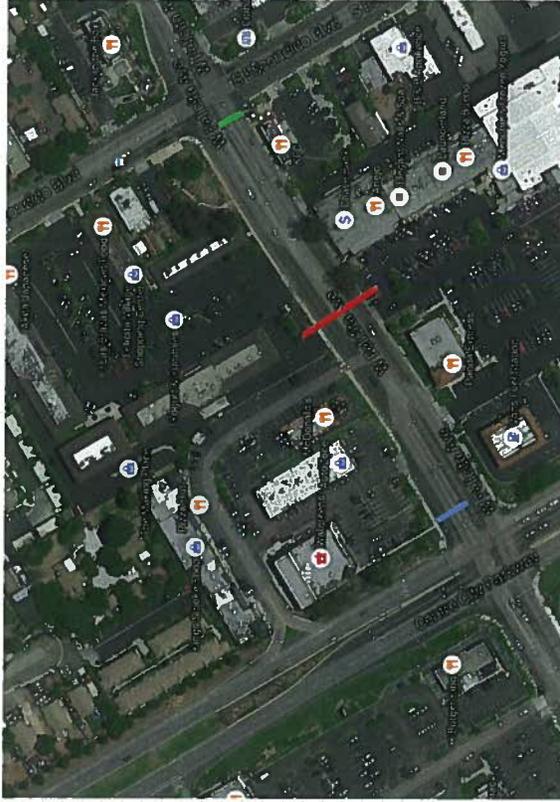
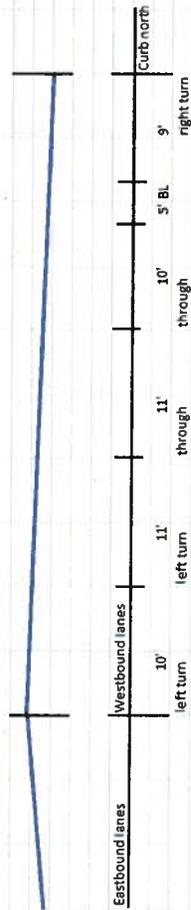


Felicitas - Centre City Parkway to Escondido Blvd
 app 80' curb to curb, add Class 3 bike lane
 Cross section not to scale
 Speed limit 35

Mid-segment with 2-way left turn lane
 bike lane, no buffer

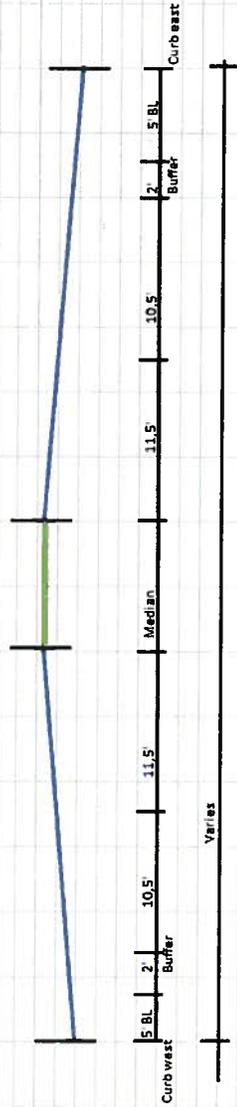


Westbound intersection at CCP
 Right turn ln, 2 x left turn lanes
 bike lane, no buffer

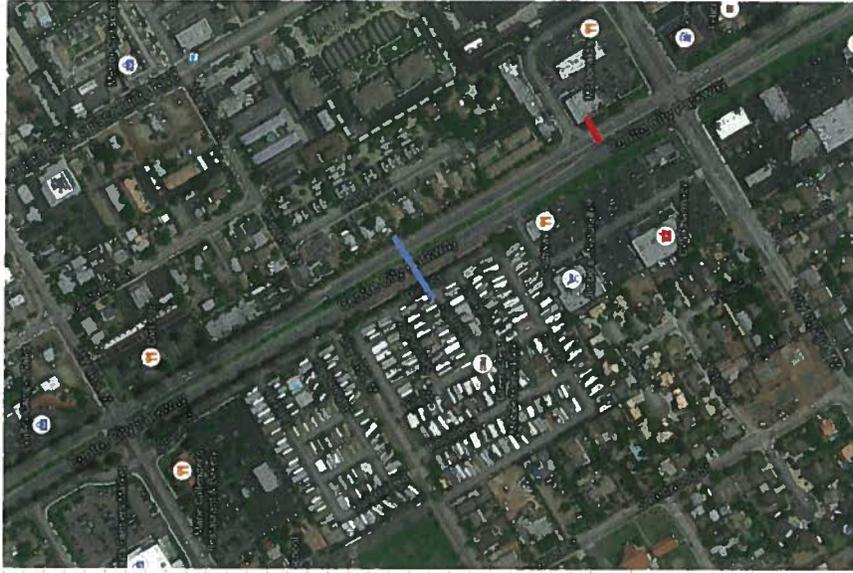
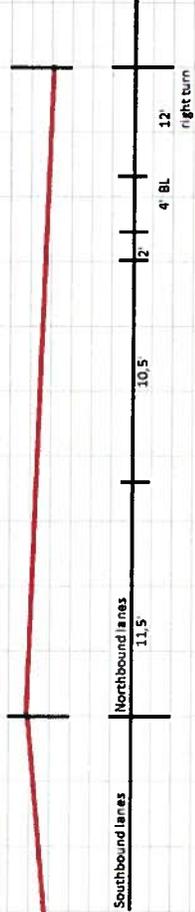


Centre City Parkway (Felicitia to 13th)
 Add Class 2 Bike Lane with 2' buffer
 Cross section not to scale

Bike lane width 4-5'



Detail: Northbound cross section with exit/entrance to property
 4' Bike Lane, 2' buffer



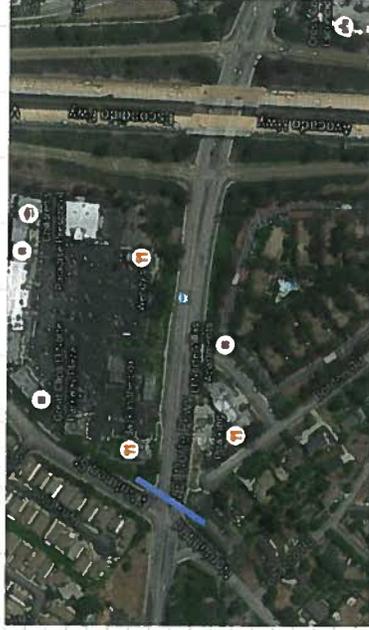
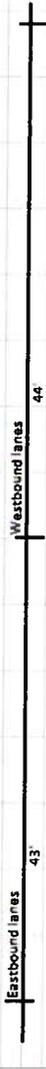
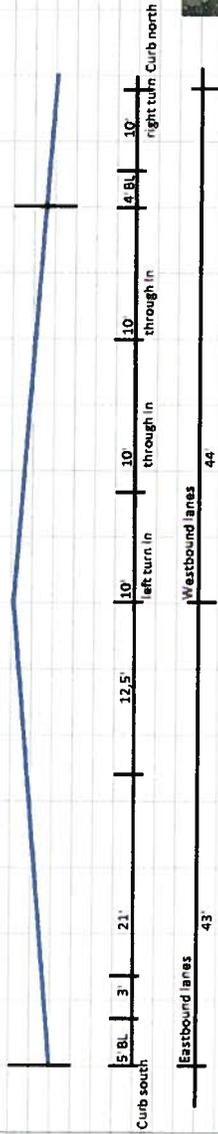
El Norte Parkway (Nordahl to I-15 Caltrans right-of-way)

Add Class 2 bike lane

Cross section not to scale

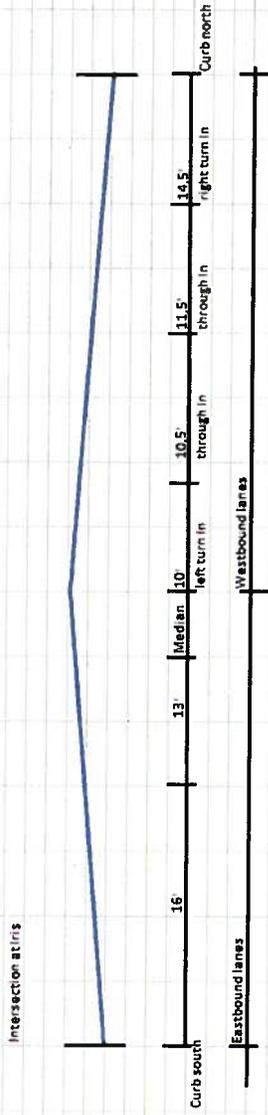
Speed limit 45

Intersection at Nutmeg St
 5 feet Bl w/ 3' buffer Eastbound, 4' Bl w/o buffer Westbound



El Norte Parkway (Iris to CCP)
 Class 3 bike lane (no room for Class 2)
 Cross section not to scale

five D11-1 (Bike Route) signs as curb side lanes are wide enough
 six R117 (Pass 3 feet Minimum) signs on Street lights to be added
 No Sharrow & BMU/FL signs, as speed limit is 45



Recommendation:

Approve New Signing & Striping as proposed for the FY15/16 CityWide Pavement Project.

Necessary Council Action: None

Respectfully submitted,

Prepared by:



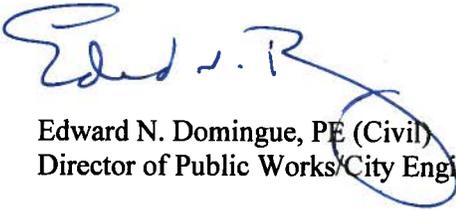
Ali Shahzad, PE (Traffic)
Associate Engineer/Traffic Division

Reviewed by:



Julie B. Procopio, PE (Civil)
Assistant Director of Public Works

Approved by:



Edward N. Domingue, PE (Civil)
Director of Public Works/City Engineer



CITY OF ESCONDIDO

TRANSPORTATION and COMMUNITY SAFETY COMMISSION

Commission Report of: April 14th, 2016

Item No.: F1

Location: Various locations Citywide

Initiated By: City Staff

Request: Approve High-Visibility Crosswalk Marking Style for mid-block and uncontrolled crossings.

Background:

As policymakers continue to encourage active transportation in the United States, there is increasing importance by all road users to understand right-of-way laws. Also, engineers and planners should implement the most effective crosswalk marking patterns. The effect of various crosswalk marking patterns should also be understood, in terms of which ones are most effective at causing motorists to yield the right-of-way to pedestrians.

In order to better implement the current City of Escondido General Plan goal of "Complete Streets" to accommodate all modes of traffic including pedestrians and bicyclists and also in compliance with City of Escondido Bicycle Master Plan, City Staff recommends updating the standard used to mark crosswalks at mid-block and uncontrolled locations as streets are being resurfaced.

Discussion & Purpose:

High-visibility markings are more easily detected by motorists and have been shown to lead to a reduction in pedestrian-vehicle collisions when compared to transverse line crosswalks. Installation of high-visibility markings at uncontrolled crossing locations is recommended whenever a determination is made to provide a marked crosswalk. Installing the most visible crosswalk marking styles is important to increase the likelihood that approaching motorists will see marked crosswalks in time to become aware of the possibility of pedestrians crossing the street ahead.

There are two types (basic and high visibility) of crosswalks that can be considered. Basic crosswalks "Standard" are (two) parallel lines that should be the normal treatment at controlled pedestrian crossings where it has been determined that a marked crosswalk is appropriate. High-visibility ladder style crosswalk markings consist of three major styles: continental, ladder, or bar pair. If used, the preferred style is the "ladder".

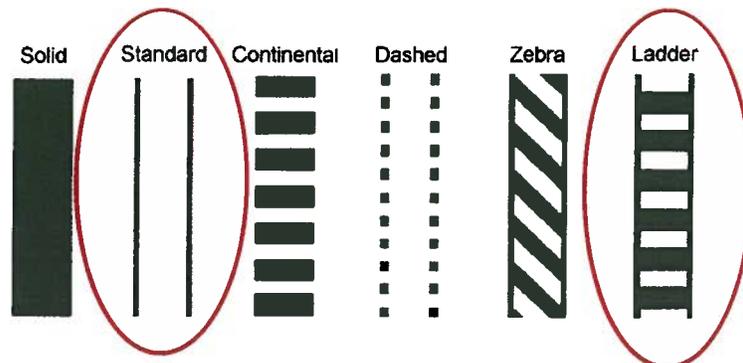


Figure 10-9. Illustration. Common crosswalk marking patterns.

Source: Safety Effects of Marked versus Unmarked Crosswalks at Uncontrolled Locations⁷⁾

Driver's View of Marked Crosswalks.



Crosswalk A is a traditional parallel line crosswalk.

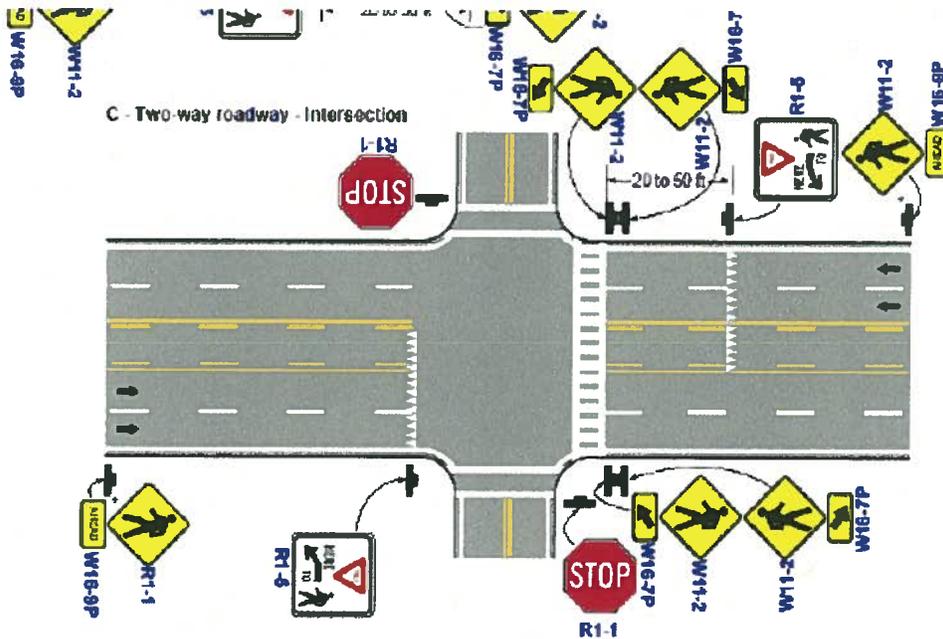


Crosswalk B is high-visibility crosswalk with a ladder design.

CA-MUTCD Guidance:

15 If used, the diagonal or longitudinal lines should be 12 to 24 inches wide and separated by gaps of 12 to 60 inches. The design of the lines and gaps should avoid the wheel paths if possible, and the gap between the lines should not exceed 2.5 times the width of the diagonal or longitudinal lines.

Figure 3B-17 (CA). Examples of Crosswalk Enhancements at Uncontrolled Multilane Approaches



Collisions

While the marked versus unmarked crosswalk debate has produced the most studies on collisions in crosswalks, other studies have focused on whether high-visibility crosswalks improve pedestrian safety. They found that the presence of a high-visibility crosswalk reduced pedestrian-vehicle collisions by a statistically significant 48 percent.

Visibility

Visibility is another concern in crosswalk design. One limitation of crosswalk markings is they are often much less visible to motorists approaching at a fast speed than to pedestrians about to cross the roadway. Transverse lines are particularly difficult for motorists to see, and for this reason, many agencies are beginning to change crosswalk markings to patterns that provide greater visibility. In 2010, the ITE Traffic Engineering Council Committee analyzed a 1970 study by Bruce Herms that looked at the apparent width of a crosswalk as viewed from an approaching vehicle. Using current standards for motorist eye height and perception-reaction time, the committee determined that transverse crosswalks were “essentially not visible” because the apparent width of a 10 foot crosswalk was often below a quarter inch when viewed in the windshield pane.

Marking Patterns

Many options emerge once a locality decides to install a marked crosswalk. A variety of pavement markings patterns are used throughout the United States for marked crosswalks. The type of marking chosen is often based on the local transportation engineer’s judgment or cost considerations. Typical patterns, as shown in Figure on previous page, include transverse lines, ladder, continental, and diagonal (zebra) markings.

No studies have determined that one type of high visibility crosswalk is better than others, only that high visibility is recommended at uncontrolled crosswalk locations.

Recommended Pattern: After consulting with the Police Department and School District representatives, it is determined that the ladder type high visibility crosswalk is preferred. Many of the mid-block crossing locations in the City serve schools.

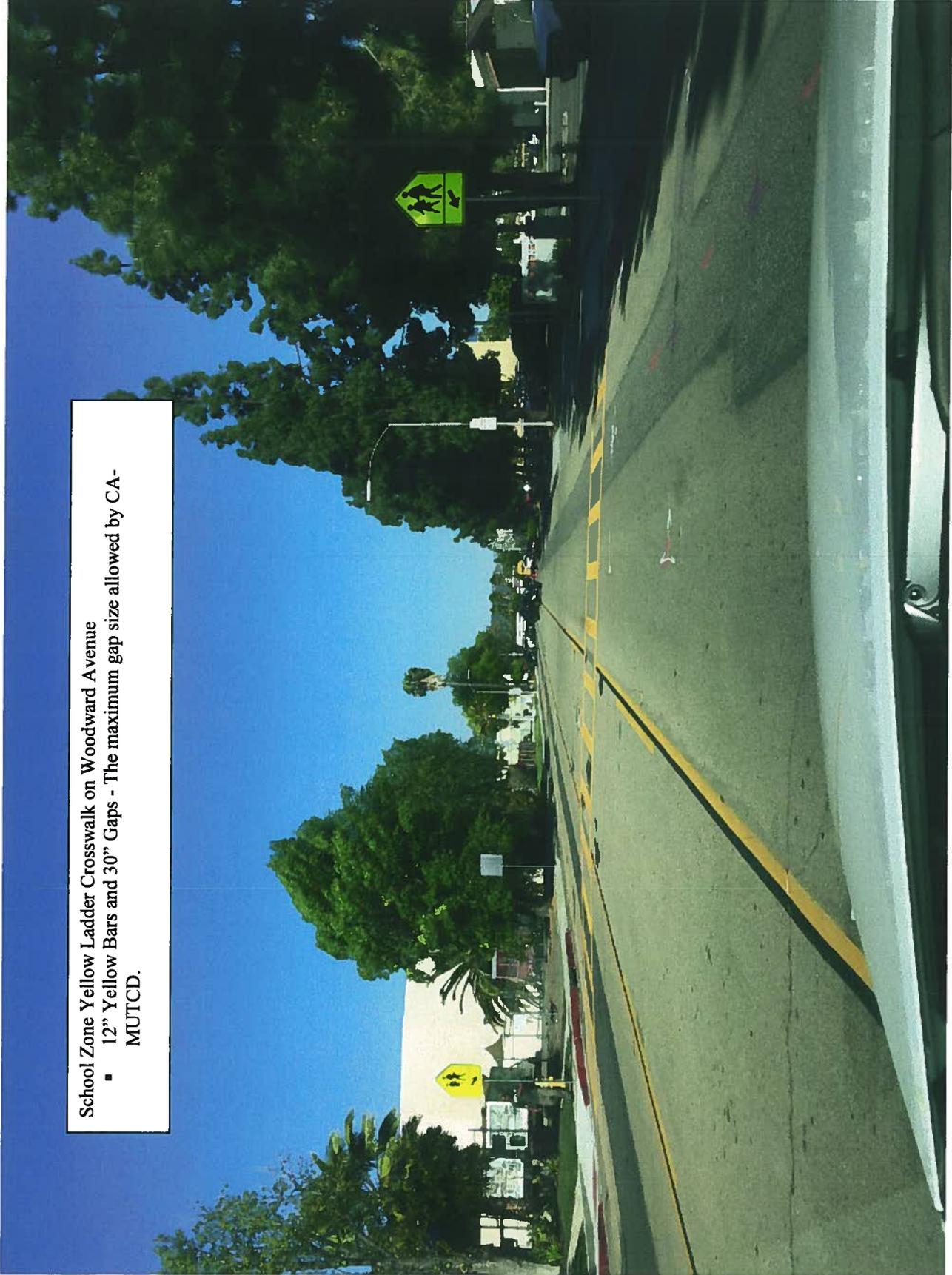
The outer boundary of the ladder style crosswalk is important to direct young school-children to within the crosswalk zone. Therefore, the ladder style high visibility crosswalk is recommended.

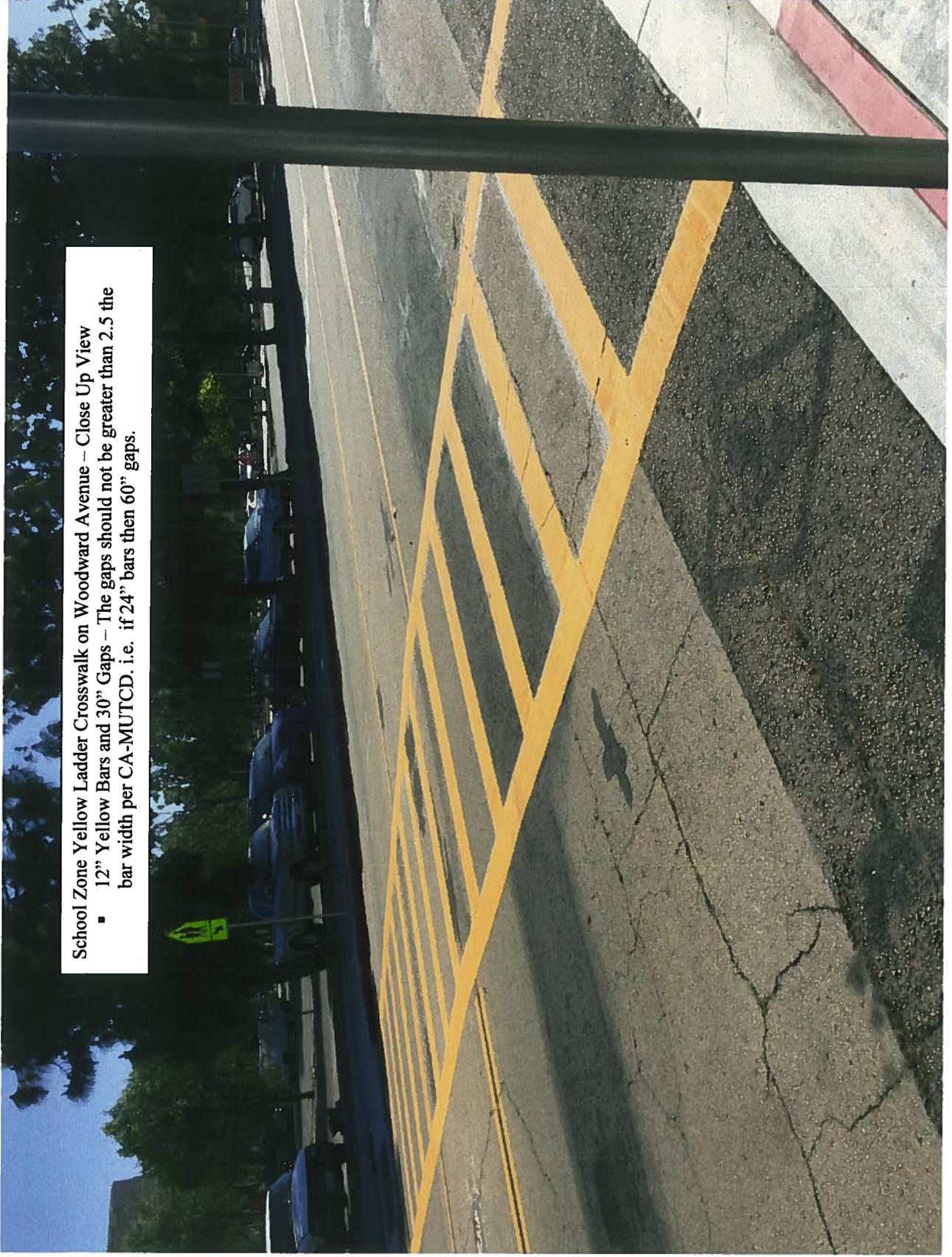
For signalized or controlled locations staff recommends that parallel bar crosswalks be implemented along all crossing locations. While the MUTCD does not require this, staff recommends delineation of the crossing zone in order to show pedestrians and motorists the proper location for crossing. High visibility crosswalks would be considered only at specific intersections when conditions require this additional measure. However, staff feels that using high visibility crosswalks at every controlled crossing location would reduce their impact.

Some high visibility crosswalks around the City are shown on the next few pages.

School Zone Yellow Ladder Crosswalk on Woodward Avenue

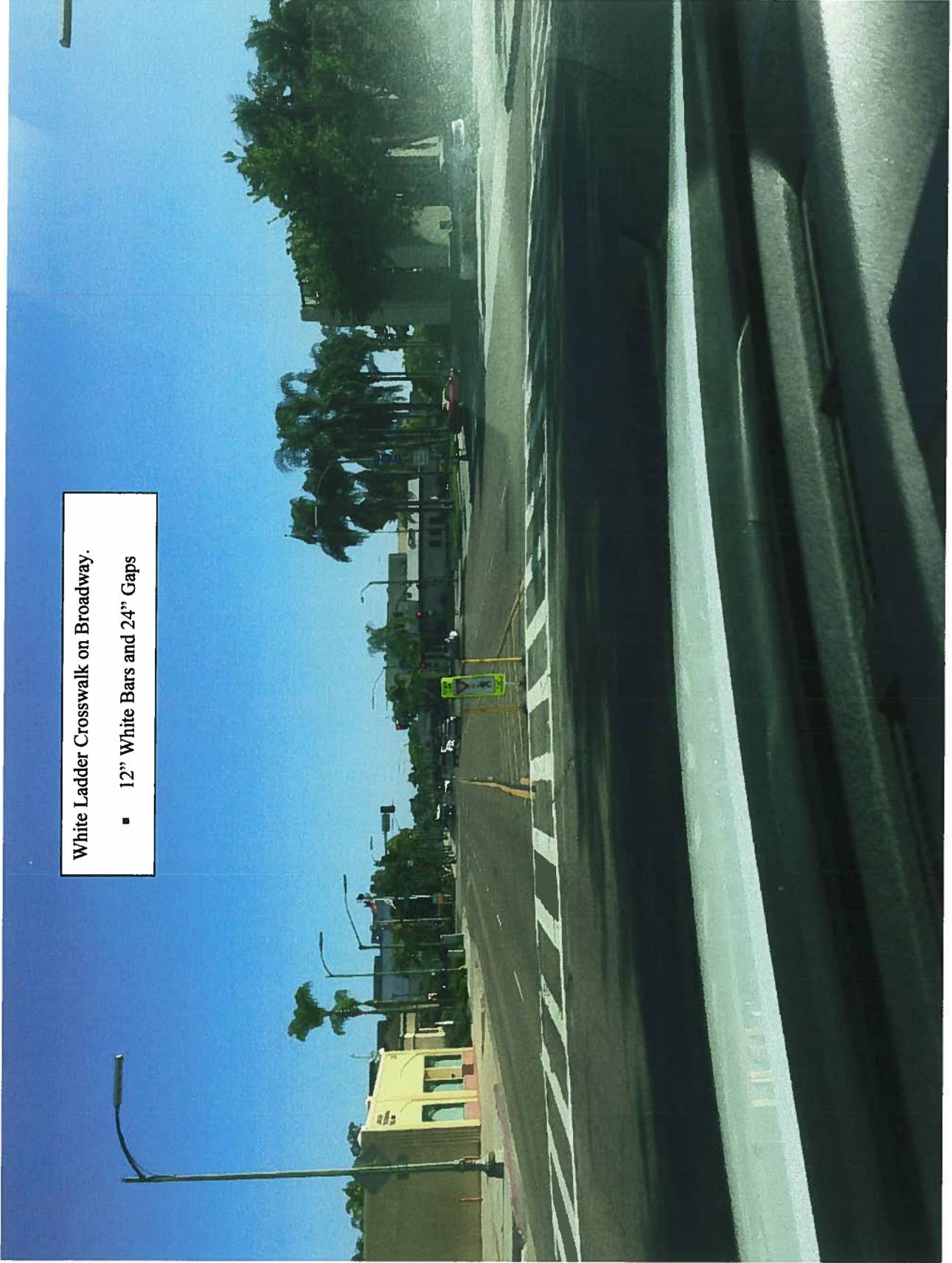
- 12" Yellow Bars and 30" Gaps - The maximum gap size allowed by CA-MUTCD.





School Zone Yellow Ladder Crosswalk on Woodward Avenue – Close Up View

- 12" Yellow Bars and 30" Gaps – The gaps should not be greater than 2.5 the bar width per CA-MUTCD. i.e. if 24" bars then 60" gaps.

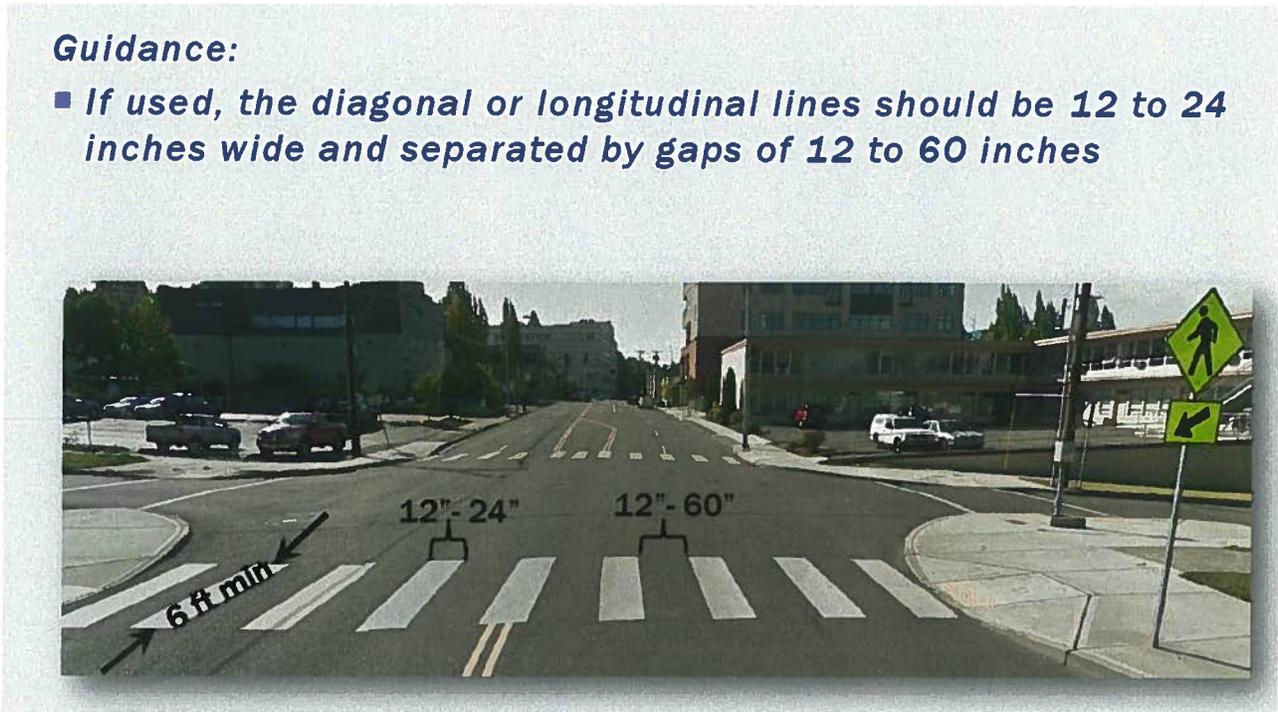


White Ladder Crosswalk on Broadway.

- 12" White Bars and 24" Gaps

Guidance:

- If used, the diagonal or longitudinal lines should be 12 to 24 inches wide and separated by gaps of 12 to 60 inches



Recommendation:

Approve High-Visibility ladder type Crosswalk Marking Style for Mid-block and Uncontrolled crossings.

Necessary Council Action: None

Respectfully submitted,

Prepared by:

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

Reviewed by:

Julie B. Procopio, PE (Civil)
Assistant Director of Public Works

Approved by:

Edward N. Domingue, PE (Civil)
Director of Public Works/City Engineer



CITY OF ESCONDIDO
TRANSPORTATION and
COMMUNITY SAFETY COMMISSION

Commission Report of: April 14th, 2016

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 2015 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 California Manual on Uniform Traffic Control Devices (CA-MUTCD) dated November 7, 2014.

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, dated November 7, 2014:

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).

Standard:

If the speed limit to be posted has had the 5 mph reduction applied, then an E&TS shall document in writing the conditions and justification for the lower speed limit and be approved by a registered Civil or Traffic Engineer. The reasons for the lower speed limit shall be in compliance with CVC Sections 627 and 22358.5.

Support:

The following examples are provided to explain the application of these speed limit criteria:

Example 1. Using Option 1 above and first step is to round down: If the 85th percentile speed in a speed survey for a location was 37 mph, then the speed limit would be established at 35 mph since it is the closest 5 mph increment to the 37 mph speed. As indicated by the option, this 35 mph established speed limit could be reduced by 5 mph to 30 mph if the conditions and justification for using this lower speed limit are documented in the E&TS and approved by a registered Civil or Traffic Engineer.

Example 2. Using Option 1 above and first step is to round up: If the 85th percentile speed in a speed survey for a location was 33 mph, then the speed limit would be established at 35 mph since it is the closest 5 mph increment to the 33 mph speed. As indicated by the option, this 35 mph speed limit could be reduced by 5 mph to 30 mph if the conditions and justification for using this lower speed limit are documented in the E&TS and approved by a registered Civil or Traffic Engineer.

Example 3. Using Option 2 above and first step is to round up: If the 85th percentile speed in a speed survey for a location was 33 mph, instead of rounding up to 35mph, the speed limit can be established at 30mph, but no further reductions can be applied (which is allowed in the two examples above).

Standard:

Examples 1 and 2 for establishing posted speed limits shall apply to engineering and traffic surveys (E&TS) performed on or after July 1, 2009 in accordance with the Department's Traffic Operations Policy Directive Number 09-04 dated June 29, 2009.

Option:

After January 1, 2012, Example 3 may be used to establish speed limits. Refer to CVC 21400(b).

Support:

Any existing E&TS that was performed before July 1, 2009 in accordance with previous traffic control device standards is not required to comply with the new criteria until it is due for reevaluation per the 5, 7 or 10 year criteria."

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, 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 10 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, 4, 5, 6, 7, & 10 (as highlighted), 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, then, the posted speed limit will not change.

- Road Classifications:**
- Unclassified – UC (like a LC)
 - Local Collector – LC
 - Collector – C
 - Major – M
 - Super Major – SM
 - Prime Arterial – PA
 - Super Prime Arterial - SPA

Table 1 - Overview of Speed Surveys

Segment No.	Street Name	Segment		Previous Speed Survey	Design Speed & Road Class.	Posted Speed Limit (MPH)	85th Percentile (MPH)	Recomm. Speed Limit (MPH)	Speed Limit to be posted, per Traffic Engineer
		From	To						
1	Ash	City Limit (Hubbard Ave)	El Norte	12/08/10	C	35	42	40	35
2	Beethoven	Bear Valley	Sierra Linda	11/07/07	UNCL	30	32	30	30
3	Citracado	W Valley Pkwy	Scenic Trail Way	N/A	M	None (25WC AP)	38	40	40 (25WCAP)
4	Hidden Trails Road	Valley	End	11/03/10	LC	35 (25WC AP)	42	40	35 (25WCAP)
5	Morning View	Lincoln	El Norte	11/30/10	LC	35	39	40	35
6	Sheridan	Broadway	Archwood Place	04/23/07	LC	25	32	30	25
7	Sheridan	Ash	Conway	04/24/07	LC	25	36	35	25
8	Valley Parkway	Avenida Del Diablo	Claudan	10/16/08	M	50	52	50	50
9	Washington	El Norte	Citrus	12/09/08	C	40	40	40	40
10	Washington	Citrus	Ash	06/02/10	C	35	42	40	35

* Indicates speed survey which requires City Council approval.

** Indicates round down the speed limit to the lower five miles per hour increment, per CVC 21400 (b), 22358.5, or higher than average collision rate or pace speed.

↓ Indicates speed going down.

↑ Indicates speed going up.

Necessary Council Action: Approval of one (1) new speed zone.

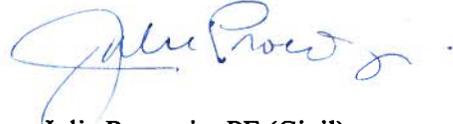
Respectfully submitted,

Prepared by:



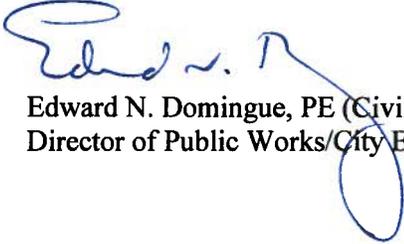
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