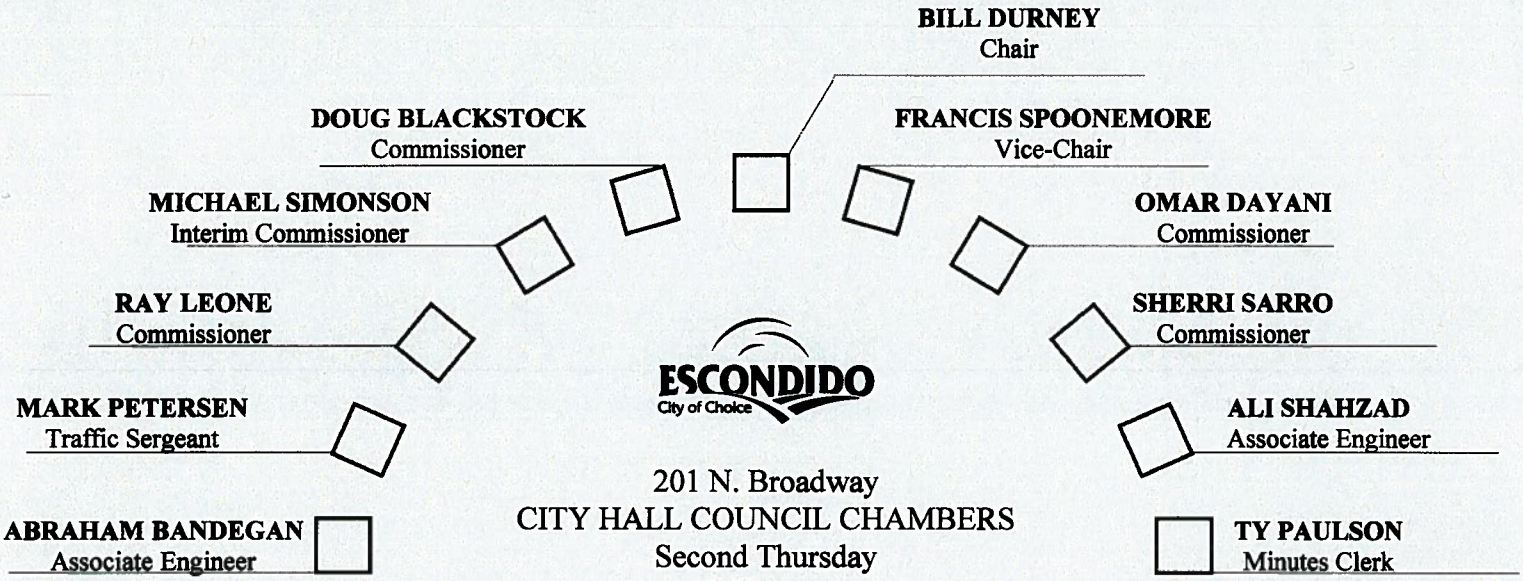
CITY OF ESCONDIDO

Transportation & Community Safety Commission



201 N. Broadway
CITY HALL COUNCIL CHAMBERS
Second Thursday
3:00 p.m.

AGENDA
July 9th, 2015

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 09, 2015 MEETING

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

- NONE-

F. NEW BUSINESS

1. Traffic Management Project List – FY 15/16 Rankings

Source: Staff

Recommendation: Approval.

Previous action: Traffic Management Projects Initiation and Approval Process.

2. Centre City Pkwy and Escondido Blvd. (North & South) - Eliminate Left Turn Movements

Source: Staff

Recommendation: Approval

Previous action: Commission requested Impact Analysis and temporary closure of southern intersection.

3. City of San Diego Crosswalk Policy Review. Mid-Block Crossing Warrants & Treatments

Source: Staff

Recommendation: Discussion & Comments

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. MTS Rapid Bus TSP Project – Bus Shelter construction - Completed

b. Traffic Signal in Design: El Norte/Fig & East Valley Pkwy/Date

c. Traffic Signals – Private Development in Plancheck: North Ash/ Vista Ave., North Ash/Sheridan Avenue, El Norte/Vista Verde Way in Design. Under Construction: Harmony Grove/Citracado Pkwy. and County/City Signal on Boyle/Bear Valley Pkwy.

Recommendation: Receive and file reports.

H. SCHOOL AREA SAFETY

a. Escondido High School Pedestrian Ramps.
b. Traffic Signal Timing Project along North Bear Valley Parkway 8 signals.

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

a. Broadway and 13th Avenue Stop Signs
b. Speed Surveys

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 9, 2015

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

Commissioners present: Vice-chair Durney, Commissioner Sarro, Commissioner Spoonemore, Commissioner Simonson, and Commissioner Leone.

Commissioners absent: Commissioner Dayani, and Chair Blackstock.

Staff present: Ed Domingue, Public Works Director/City Engineer; Julie Procopio, Assistant Director of Engineering; Homi Namdari, Assistant City Engineer; Ali Shahzad, Associate Engineer/Traffic Division; Abraham Bandegan, Associate Engineer/Traffic Division; Beth Kassebaum, Department Specialist; Mark Peterson, Escondido Police Department; and Ty Paulson, Minutes Clerk.

ORAL COMMUNICATIONS:

Rick Paul, Escondido, expressed his concern for the safety of the Escondido High School students who were walking on El Norte Parkway between Ivy and Broadway in order to access the school. He suggested that the school work with the Police Department in educating the students and warning them that citations would be issued.

MINUTES:

Moved by Commissioner Sarro, seconded by Commissioner Leone, to approve the minutes of the January 8, 2015, meeting. Motion carried unanimously.

CONSENT ITEMS: (Pulled from Consent Calendar by Vice-chair Durney)

1. Centre City Parkway and Escondido Boulevard (North & South) Eliminate Left Turn Movements

Abraham Bandegan, Associate Engineer, referenced the staff report and noted staff recommended the following: 1) Prohibiting the westbound left-turn movement at both the north and south intersection of Escondido Boulevard and Centre City Parkway; 2) prohibiting the westbound through movement at the

south intersection; and 3) install new signage and infrastructure improvements.

Vice-chair Durney asked what the percentage was in favor and opposed to staff's recommendation. Mr. Bandegan stated that the percentage was approximately 60 percent opposed and 40 percent in favor.

Commissioner Leone stated that he strongly objected, noting that the subject area was in his neighborhood. He stated that the real problem was at Citracado Parkway and Centre City Parkway, feeling that closing left-turn movements at the north and south intersections would funnel all traffic onto Citracado Parkway.

Vice-chair Durney and Mr. Bandegan discussed the circumstances of the two fatality accidents cited in the staff report. Mr. Bandegan noted that the south site was below the minimum site distance standards and the north site was a little above the minimum site distance standards.

Vice-chair Durney asked if the southern merge lane could be extended. Mr. Bandegan noted staff would look into this. Mr. Shahzad noted that one of the accidents occurred at the subject merge lane.

Commissioner Sarro asked if a traffic study had been conducted to determine the amount of vehicles using the subject intersections as well as potential impacts on traffic flows in the surrounding areas. She indicated that she would like to see more data and alternatives. She also asked if traffic signals were proposed for the two subject locations. Mr. Bandegan stated that these sites were not on the traffic priority list. Mr. Shahzad noted that traffic volumes had not been studied for the subject sites.

Commissioner Sarro felt more relevant accident data was needed for the subject area as well as knowing the cumulative impacts on the surrounding area.

Mr. Bandegan stated that staff's recommendation was based on eliminating the possible safety issues based on site distance.

Vice-chair Durney felt the Citracado/Centre City Parkway intersection could be impacted by the subject closures. He felt more information was needed. He also suggested separating the two intersections for consideration at a later meeting.

Homi Namdari, Assistant City Engineer, noted that Centre City Parkway was becoming a secondary highway similar to I-15. He stated that staff brought this to the Commission based on safety concerns.

Bill Metzker, Escondido, stated that he lived on Rorex Drive. He expressed his concern with the City eliminating the left turn out of Brotherton to Centre City Parkway, noting that this added traffic to other communities. He stated that he was opposed to eliminating left turn movements at the subject north location,

noting it was heavily used. He stated that this would require him and surrounding residents to travel down to Citracado or up to Felicita to access their properties. He felt one accident in six years was not a valid point to prohibit left turn movements.

Commissioner Sarro suggested restricting left-turn movements at the south site due to having poor site distance and safety concerns as well as considering this site for the Traffic Signal Priority List.

ACTION:

Moved by Commissioner Sarro, seconded by Commissioner Simonson, to prohibit through and left-turn movements at the Centre City Parkway and South Escondido Boulevard-South on an interim basis until further studies had been conducted for both the south and north intersections. Motion carried. Ayes: Sarro, Simonson, Durney, and Spoonemore. Noes: Leone. (4-1)

2. Free Limited-Time Parking Row on Municipal Parking Lot 1 and three (3) 15-minute stalls in Downtown Escondido.

Abraham Bandegan, Associate Engineer, referenced the staff report and noted staff recommended the Commission approve the Downtown Parking Subcommittee and staff proposal to recommend to City Council the addition of a row of free 3-hour parking in Lot 1, with two spaces designated for 15-minute parking, and converting one space of 2-hour parking on North Broadway at the intersection of Grand Avenue to 15-minute parking.

Vice-chair Durney questioned why this was not being considered for Lots 3, 4, and 6. Mr. Bandegan noted that staff wanted to use Lot 1 as a pilot program to determine whether it would be advantageous to implement it at other lots.

Commissioner Spoonemore asked how long the pilot program would last. Mr. Bandegan noted that no time period had been established, noting that the Commission could recommend a time period.

Julianne Jones, Escondido, noted that she was a merchant on Grand Avenue and a member of the Downtown Business Association (DBA). She stated that the DBA suggested changing the two-hour parking to three-hour parking immediately in order to provide parking for merchants. She noted that the area did not have adequate customer parking. She stated that as a hairdresser she was unable to adequately serve some of her customers in two hours. She also noted that the pilot program at the Mercado was successful.

Mr. Bandegan noted that the downtown parking subcommittee was actually looking at reducing the parking times, noting they were looking for a higher turnover rate.

Ms. Procopio stated that the staff recommendation came about as a result of holding a community meeting, receiving over 50 surveys from area businesses and residences, and through a compilation of data which was reported to the downtown parking subcommittee.

Vice-chair Durney was in favor of staff's recommendation with continuing to review both short-term and long-term parking.

ACTION:

Moved by Commissioner Sarro, seconded by Commissioner Simonson, to approve Consent Item 2. The motion included staff bringing this item back in six months with a final recommendation from the Downtown Parking Subcommittee. Motion carried unanimously.

NEW BUSINESS:

1. Traffic Management Project List – FY 15/16 Rankings

Abraham Bandegan, Associate Engineer, referenced the staff report and noted staff recommended that the following four top-ranked projects be selected for further design and evaluation: 1) School zone crosswalk improvements; 2) Gamble Street traffic management; 2) Lincoln Avenue, Ash Street and Mission Road (Pioneer Elementary School Area); and 4) Ash Street and Sheridan Avenue Intersection.

Discussion ensued regarding a clarification of the traffic budget.

Commissioner Spoonemore felt a $50,000 budget was difficult to work with. He questioned what it would take to review the traffic budget. Ms. Procopio noted that the City Council reviewed CIP budgets in May, noting that staff had requested $50,000 for next year. She also stated that the Commission could request additional funds.

Vice-chair Durney and staff discussed the differences between Ivy and Gamble.

Vice-chair Durney asked if the $30,000 being proposed for Gamble could be reduced and used in another location. He then referenced Project 4, Ash Street to East Lincoln Avenue, and asked if enough radius existed to make a right turn from Lincoln onto to Ash, feeling this would slow traffic. Mr. Bandegan noted staff could study this further.

Vice-chair Durney and staff discussed the status of the radar signage relocation as well as the feedback received for the installation of the stop signs for Project 7 (Eucalyptus Avenue).

Richard Conwell, 2257 Eucalyptus Avenue, Escondido, stated that he had a letter signed by 60 residents of Rancho Verde requesting that Eucalyptus Avenue be placed on the Traffic Priority List. He stated that Eucalyptus Avenue was inundated with excessive traffic from the Felicita area using it as an arterial street. He expressed his concern with individuals speeding once they passed the radar speed signs. He also expressed his concern with the intersections of Ventana and Eucalyptus and Stoneridge north and Eucalyptus not meeting the sight distance requirements and suggested that stop signs be installed at these locations.

Gail Conwell, 2257 Eucalyptus Avenue, Escondido, recommended that the Commission listen to the residents on Eucalyptus Avenue, noting that many of the residents had given up trying to do something about the traffic situations. She then asked why speed tables were not allowed in Escondido. She also asked if residents were allowed to fund traffic projects.

Vice-chair Durney asked if residents were allowed to pay for traffic improvements provided the improvements met code. Ms. Procopio replied in the affirmative.

Discussion ensued regarding potential traffic calming measures for Eucalyptus Avenue.

Mr. Shahzad noted that if the residents were committed to funding additional traffic calming measures for Eucalyptus Avenue, staff could work out a preliminary design and bring it back to the Commission.

Kimberly Israel, Escondido, noted that she was the coordinator of community outreach for the Escondido Union School District, project director for Escondido Safe Routes to School Program, and acting facilitator for the Escondido Smart Streets Coalition. She then provided the background and organizations involved with the Escondido Smart Streets Coalition. She stated that they had conducted over nine walk audits, convened numerous meetings with parents, community members, school staff, crossing guards, and students, which were where the priorities they submitted were generated. She indicated that priorities included high visibility crosswalks; specific traffic calming measures near schools and other high-volume student/pedestrian traffic locations. In conclusion, she noted that the funding would be a true investment in the youth, noting that three significant traffic accidents involving students near the schools had occurred since November. She then thanked the Public Works and Traffic Engineering team for their help as well as the Commission for their consideration.

Sandy Velasco, Escondido, Member of CX3, stated that she supported the incorporation of Smart Streets collective priority list into the Traffic Management Priority List. She then thanked the City for the improvements at the Mission and Ash intersections. She noted that they supported Smart Streets recommendation

for high-visibility crosswalks at all schools. She felt crosswalks created safer routes for students and promoted more walking.

Yazmin Lopez, Escondido, Member of CX3, referenced the area of Mission Avenue between Fig Street and Ash Street and asked that the City incorporate their proposed projects to projects already planned by the City. She asked that the City add high-visibility crosswalks at the intersection of Fig and Mission. She felt high-visibility crosswalks should be the standard for all schools. She also stated that they supported the proposed Lincoln Avenue, Ash Street and Mission Road project.

Arturo Velasco, Escondido, Member of CX3, stated that they supported the priority list submitted by Smart Streets. He expressed his concern with the high speeds of vehicles on Ash Street jeopardizing the safety of the residents and students in the area. He asked that a high-visibility crosswalk be installed at the intersection of Fig Street and 4th Avenue as well as installing crosswalks at the entrance of Escondido Creek in order to encourage exercise and commuting.

Yesenia Martinez, Escondido, Special Projects Coordinator for the Escondido Education Program, noted she was involved in a pilot program with the Escondido Police Department and Escondido Union District for the Safe Routes to and from school. She noted that the intersection of Ash and Sheridan was the most dangerous due to excessive vehicle speeds and requested that consideration be given to installing all-way stop traffic controls.

Mark Haines, Escondido, stated that he lived in close proximity to the radar speed signage on Eucalyptus Avenue. He stated that vehicles were speeding once they passed the radar signage. He expressed his concern with not being able to safely walk on the sidewalks on Eucalyptus Avenue due to speeds of vehicles. He expressed his concern with the excessive amount of cut-thru traffic and the new developments adding to the existing traffic issues on Eucalyptus Avenue.

Officer Peterson concurred with prioritizing all-way stop controls at the intersection of Ash and Sheridan and installing radar signage at Lincoln and Ash. He also noted that there were constant speeding issues in the area of Escondido High School.

Vice-chair Durney suggested that the City work with the citizens on Eucalyptus Avenue.

ACTION:

Moved by Commissioner Sarro, seconded by Vice-chair Durney, to recommend funding the following projects in priority order: Projects 1 (School Zone Crosswalk), 3 (Ash Street and Sheridan Intersection), 4 (Lincoln Avenue, Ash Street and

Mission Road), 5 (Escondido High School Speed Radar Feed-Back Signage), and 7 (Traffic Management Eucalyptus Avenue). The motion also included requesting additional funding for Projects 2 (Traffic Management on Gamble Street) and 6 (North Broadway between Reidy Creek and North Avenue) and that priority be given to Project 6 if funding could not be provided for both projects. Motion carried. Ayes: Sarro, Spoonemore, Durney, and Simonson. Noes: None. Abstained: Leone. (4-1)

2. Truck Route Modifications – Update to Existing Route Map

Ali Shahzad, Associate Engineer, referenced the staff report and noted staff recommended the Commission approve the modified Truck Routes per Chapter III Mobility and Infrastructure of the 2012 adopted Escondido General Plan and amend Section 28-128 of the Traffic Municipal Code connecting 2nd Avenue east to East Valley Parkway and East Valley Parkway west to Escondido Boulevard. Additionally, staff recommended a route to connect Washington Avenue west to Mission Road along with deletion of Grand Avenue between Quince Street to Escondido Boulevard.

ACTION:

Moved by Vice-chair Durney, seconded by Commissioner Sarro, to approve staff's recommendation. Motion carried. Ayes: Sarro, Spoonemore, Durney, and Simonson. Noes: None. Abstained: Leone. (4-1)

3. Classical Academy on Woodward Avenue – Mid-Block Crossing with Guard Control

Ali Shahzad, Associate Engineer, referenced the staff report and noted staff recommended the Commission approve the installation of a mid-block crosswalk on Woodward Avenue fronting the school with solar powered flashing beacons on both approaches as part of the school zone signing and striping package.

ACTION:

Moved by Commissioner Sarro, seconded by Commissioner Simonson, to approve staff's recommendation. Motion carried. Ayes: Sarro, Spoonemore, Durney, and Simonson. Noes: None. Abstained: Leone. (4-1)

4. South Broadway and 13th Avenue – All Way Stop Control

Ali Shahzad, Associate Engineer, referenced the staff report and noted staff recommended the Commission recommend to City Council the installation of Stop Signs on 13th Avenue at the intersection with Broadway.

ACTION:

Moved by Vice-chair Durney, seconded by Commissioner Sarro, to approve staff's recommendation. Motion carried. Ayes: Sarro, Spoonemore, Durney, and Simonson. Noes: None. Abstained: Leone. (4-1)

5. Redwood Terrace – HAWK Controlled Crossing

Ali Shahzad, Associate Engineer, referenced the staff report and noted that staff recommended the Commission approve the warrant analysis to support a pedestrian signal at Redwood Terrace, 12th Avenue and Spruce Street crossing to assist in alerting drivers.

ACTION:

Moved by Commissioner Sarro, seconded by Commissioner Simonson, to approve staff's recommendation. Motion carried. Ayes: Sarro, Spoonemore, Durney, and Simonson. Noes: None. Abstained: Leone. (4-1)

6. Speed Surveys Citywide – New batch of speed surveys, including new speed limits

Ali Shahzad, Associate Engineer, referenced the staff report and noted that staff recommended the Commission recommend to City Council approval of the updated Engineering and Traffic Surveys (E&TS) for posted speeds on various street segments Citywide.

ACTION:

Moved by Commissioner Sarro, seconded by Vice-chair Durney, to approve staff's recommendation. Motion carried unanimously.

7. Commission Chair – Nomination and Vote

ACTION:

Moved by Commissioner Sarro, seconded by Commissioner Simonson, to nominate Vice-chair Durney to Chair. Motion carried unanimously.

ACTION:

Moved by Commissioner Sarro, seconded by Chair Durney, to nominate Commissioner Spoonemore to Vice-chair. Motion carried unanimously.

OLD BUSINESS:

1. An overview of various projects involving the City

    a. MTS Rapid Bus TSP Project – Bus Shelter Construction
    b. Traffic Signal Designs for El Norte/Fig & East Valley Parkway/Date – Design in progress
    c. 2nd Avenue and Quince Striping – Design in progress

Received.

SCHOOL AREA SAFETY

1. Intersection Crosswalk Striping near Schools – Ongoing with pavement rehab at traffic signals, as appropriate near school zones.

Received

ANY OTHER BUSINESS:

1. Future Agenda Items – A briefing of future agenda items proposed to be presented to the Transportation Commission.

Chair Durney referenced the street parking near his business located at 253 Escondido Boulevard, noting his vehicle had been sideswiped twice in a short period of time. He questioned whether striping would help alert drivers of parked vehicles. He asked that this be put on as a future agenda item, noting he would need to recuse himself. Mr. Shahzad noted that staff would look into the situation.

Chair Durney asked why the Fire Department did not allow speed bumps. Mr. Bandegan noted that the traffic management toolbox allowed speed cushions and speed tables with the Fire Department's approval.

COUNCIL ACTION:

a. Inspiration and Beethoven Stop Signs
b. Speed Surveys

Received.

ORAL COMMUNICATIONS: None.

TRANSPORTATION COMMISSIONERS:

Commissioner Sarro asked if staff had received any complaints about excessive speeds on La Honda. Mr. Namdari replied in the negative.

ADJOURNMENT:

Chair Durney adjourned the meeting at 5:04 p.m. The next meeting of the Commission would be held July 9, 2015, at 3:00 p.m. in City Council Chambers, 201 North Broadway, Escondido.

Ali Shahzad, Associate Engineer

Ty Paulson, Minutes Clerk

ESCONDIDO
City of Choice

CITY OF ESCONDIDO

TRANSPORTATION and
COMMUNITY SAFETY COMMISSION

Commission Report of: July 9th, 2015 **Item No.: F1**

Location: Citywide

Initiated By: Staff

Request: Final Review and Budget Approval for Selected Projects of City of Escondido 2015 Traffic Management Projects List (TMPL)

Background:

At its January 9, 2014 meeting, Transportation and Community Safety Commission (TCSC) adopted a policy to evaluate and prioritize traffic safety improvement projects using a Traffic Management Projects 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 2015 Traffic Management Projects List (TMPL) and the projects preliminary prioritization based on approved scoring criteria were presented to Transportation and Community Safety Commission at the April 9, 2015 meeting. Five projects were selected for detailed design and possible funding in the 2015 funding cycle.

Discussion & Purpose:

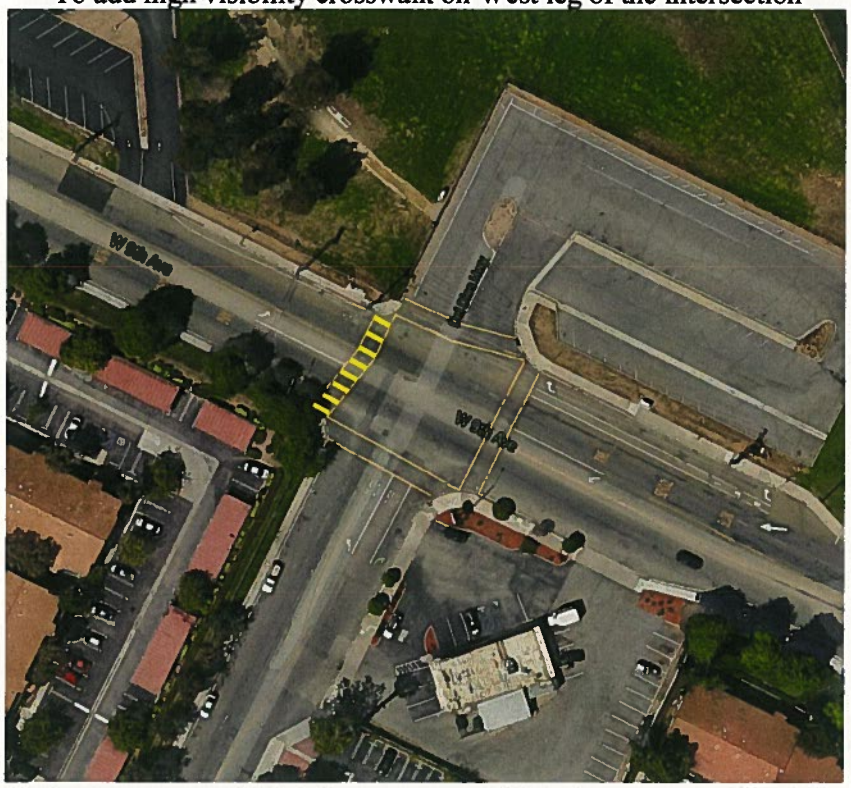
The five top-ranked projects selected from 2015 Traffic Management Projects List (TMPL), with a brief description of the traffic issue together with the proposed solution is provided below. These selected projects are evaluated and a more detailed engineering design are provided for Transportation Commissions' review and approval.

1. School Zone Crosswalk Improvement (est. $8000)

   Valuable data related to pedestrian and bicyclists' circulation was provided by Escondido Union School District (EUSD) and Bike-Walk Escondido based on a preliminary assessment of elementary and middle school zones by EUSD and input from Bike-Walk Escondido. Staff was requested to evaluate several different locations for the possibility installing high-visibility crosswalks. After input from the S2MART Streets Coalition, that includes members from EUSD, Bike-Walk Escondido, County Health and COMPACT, the following intersections were prioritized for installation of high visibility crosswalks. These

✓ S Citrus Ave and Oak Hill Dr
To add high-visibility crosswalk on South leg of the intersection

✓ Del Dios Hwy and W 9th Ave
To add high visibility crosswalk on West leg of the intersection

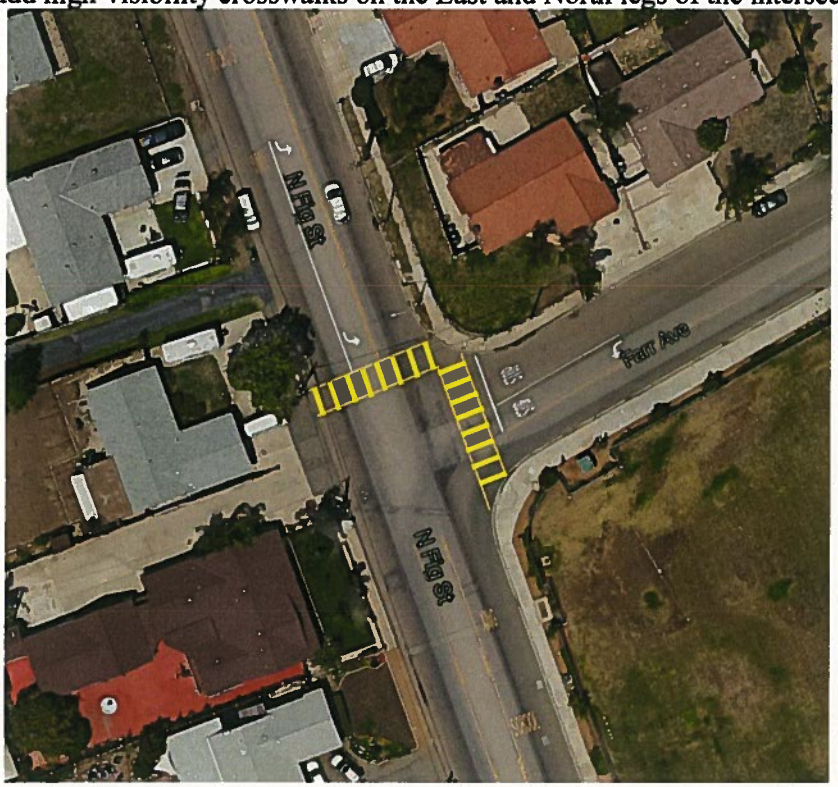


✓ S Citrus Ave and Reed Rd

To add high-visibility crosswalk on North leg of the intersection

✓ N Fig St and Far Ave

To add high-visibility crosswalks on the East and North legs of the intersection



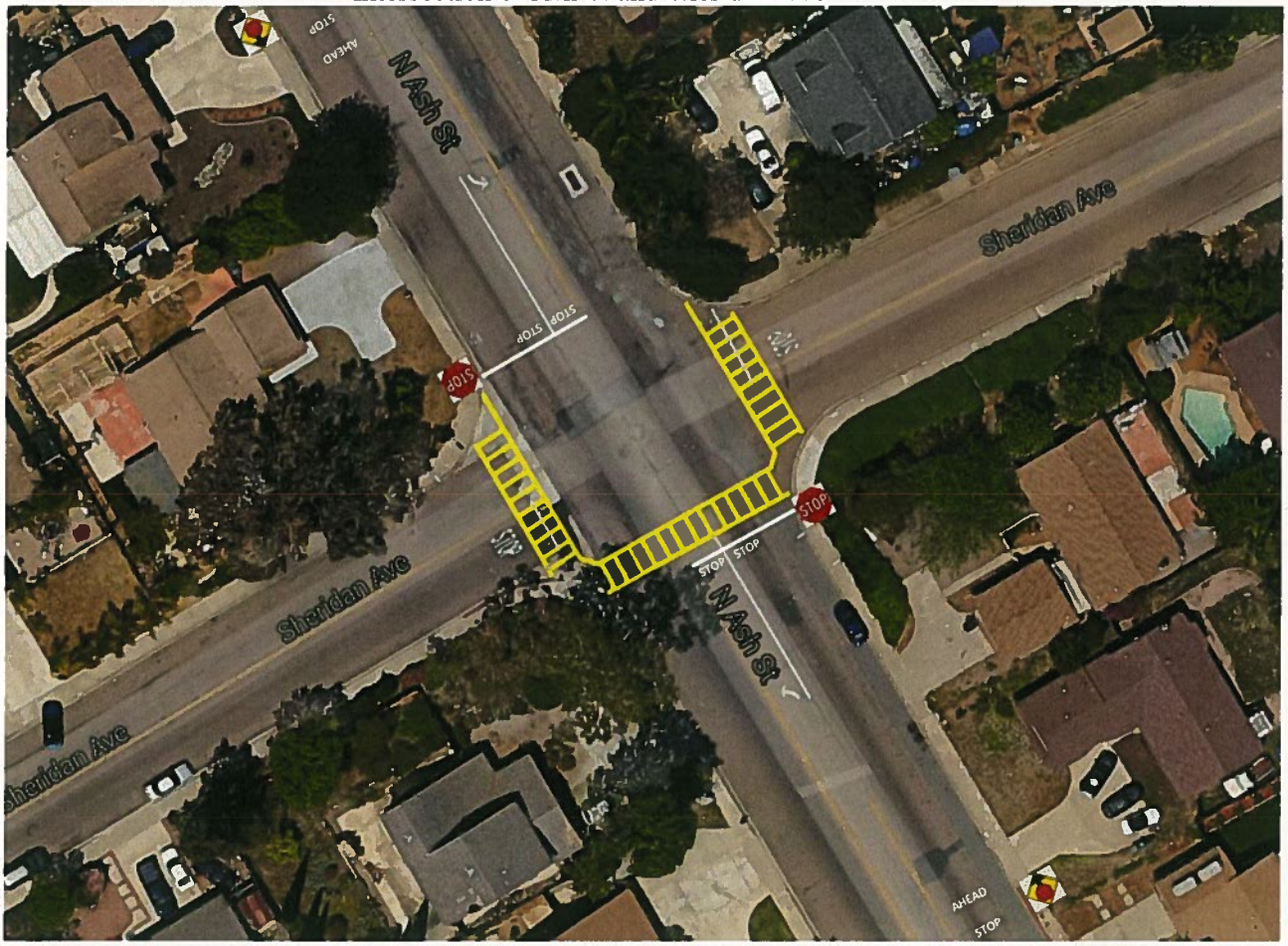
2. Ash St and Sheridan Ave intersection (est. $6000)

Traffic Engineering staff have evaluated various alternatives to assist with pedestrian and bicycle traffic concerns during the morning and afternoon peak periods. The considered effective measures have been installation of stop signs and also striping high-visibility crosswalks at this intersection. Modification of intersection control to provide a more comfortable crossing for the pedestrians was also analyzed by the Staff.

A traffic control signal is justified and the signal will be installed in the future as a mitigation measure for two separate development projects (Tract 932 and Resurrection Church) that are approved by the city. Per Section 2B.07 of 2014 CA-MUTCD "*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*" and also All-Way Stop Controlled (AWSC) intersection may be considered at locations where there is *"The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes"*.

Staff recommends that a formal warrant analysis be prepared for the addition of AWSC. Signage and striping high-visibility crosswalks at this intersection is also recommended.

Intersection of Ash St and Sheridan Ave



3. Lincoln Ave at Ash St (est. $8000)

   Currently the speed limit on Lincoln Ave, West of the intersection of Ash St is 40 mph and the other three legs of the intersection have speed limits of 35 mph. Staff has received complaints of speeding of traffic on S/B Ash St just after the intersection of Lincoln Ave and in advance of Mission Rd and also on E/B Lincoln Ave in advance of the free Right-Turn movement at Ash St. After evaluation of the traffic condition at pick-up and drop-off peak periods staff recommends extra signage, striping and advance warning signs and marking associated with bicycle and pedestrian activity at this location.

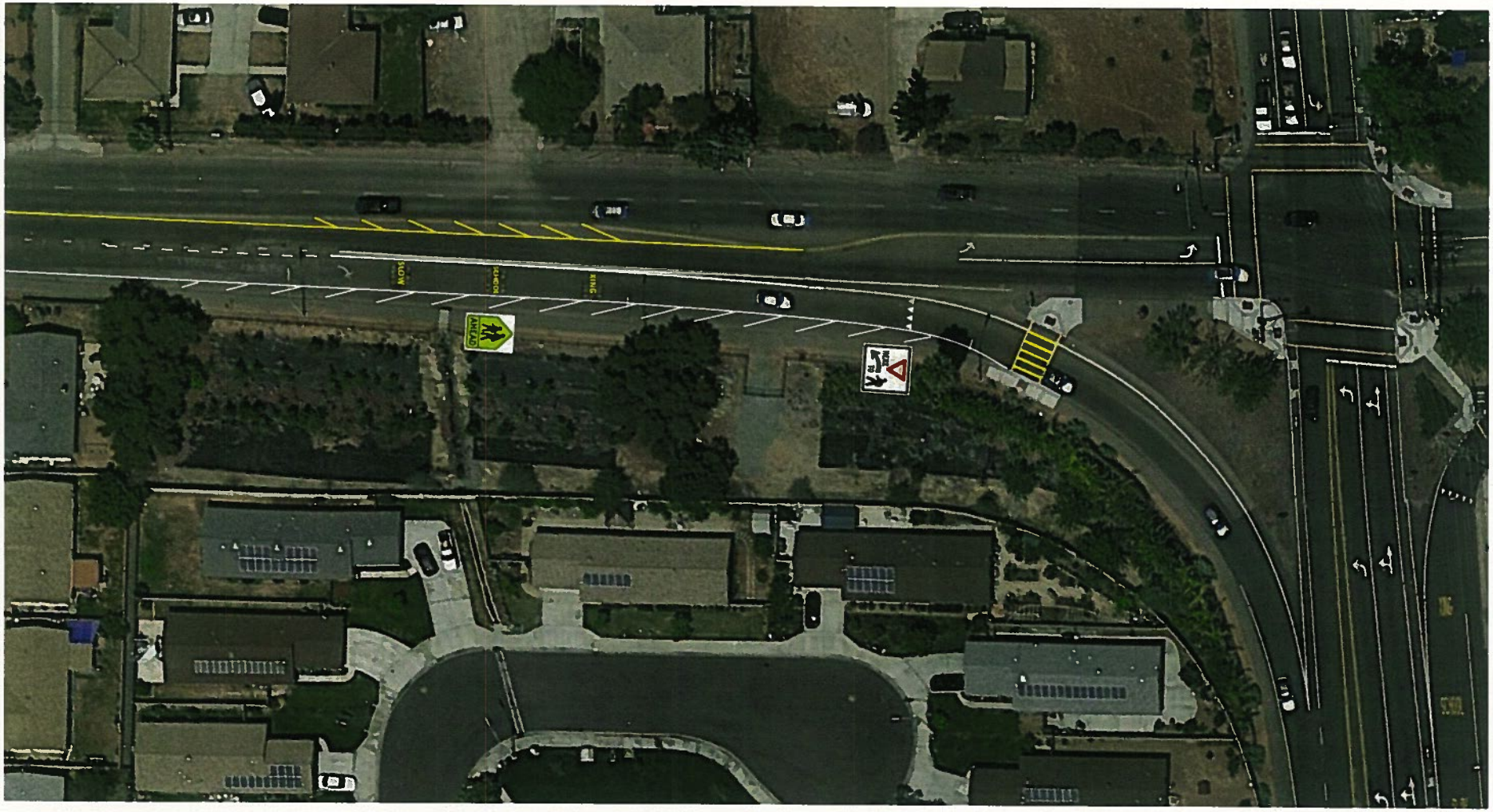
   The right turn only lane for E/B Lincoln Ave will be narrowed down to 11 feet to slow down the free right-turn volume onto S/B Ash St. Also a SW24-3(CA) and a R1-5 sign will be added to the lane. The existing crossing at the south-west corner of the intersection will be upgraded to a high visibility crosswalk. The next exhibit shows the intersection and the locations of the school crossings. The next exhibit shows the intersection and the locations of the school crossings.

4. Escondido High School Speed Radar Feed-Back Sign (est. $8000)

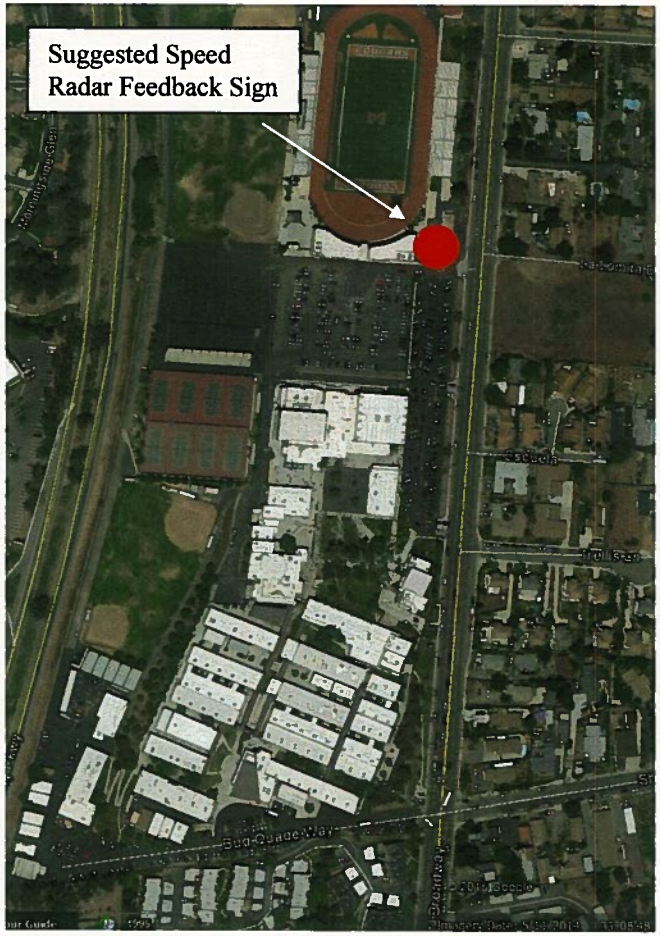
   Most of the pedestrian, bicycle and vehicular traffic of Escondido High School arrive from north and south of N Broadway, with a concentration of pedestrians at the intersection of Sheridan Avenue. During school traffic peak periods of morning and afternoon, the crosswalk at the intersection of N. Broadway and Sheridan Avenue is impacted by heavy student pedestrian traffic. School has 3 main access points on the west side of N Broadway.

   The City has received complaints of speeding by vehicles driving south on N Broadway coming toward the school area. A request for a speed radar feedback sign in the area was received. Staff believes the best location for a radar speed sign is at the northern access point to the school across from the La Lomita Dr intersection. The next exhibit shows the location of the proposed speed radar feedback sign.

Lincoln Ave at Ash St



Escondido High School proposed speed radar feedback sign



5. Traffic Management Eucalyptus Ave (est. $20000)

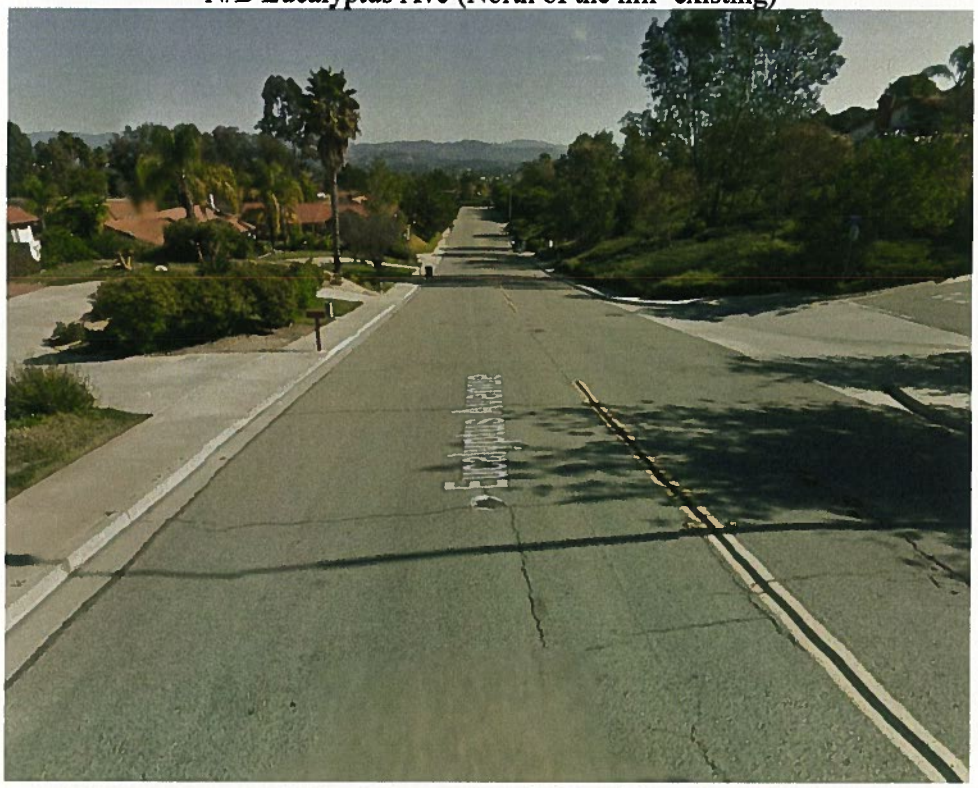
Eucalyptus Ave is classified as Local Collector in City of Escondido General Plan and City Staff have received complaints of speeding and cut-through traffic on this street. Considering the residential nature of the neighborhood, Escondido Police Department has helped by enforcing the speed limit. Two speed radar feedback signs have also been installed on this segment of Eucalyptus Ave in February 2014. Because the complaints persisted City Staff reevaluated the corridor for implementing extra measures of traffic management in the area. Two AWSC intersections were suggested by the Staff and approved by TCSC and City Council at the intersections of Shalimar Pl and Eucalyptus Ave and Hamilton Ave and Eucalyptus Ave. The Stop signs are currently installed. The recent speed survey in Feb 2015 has shown that the 85% speed has decreased from 40 mph to 37 mph.

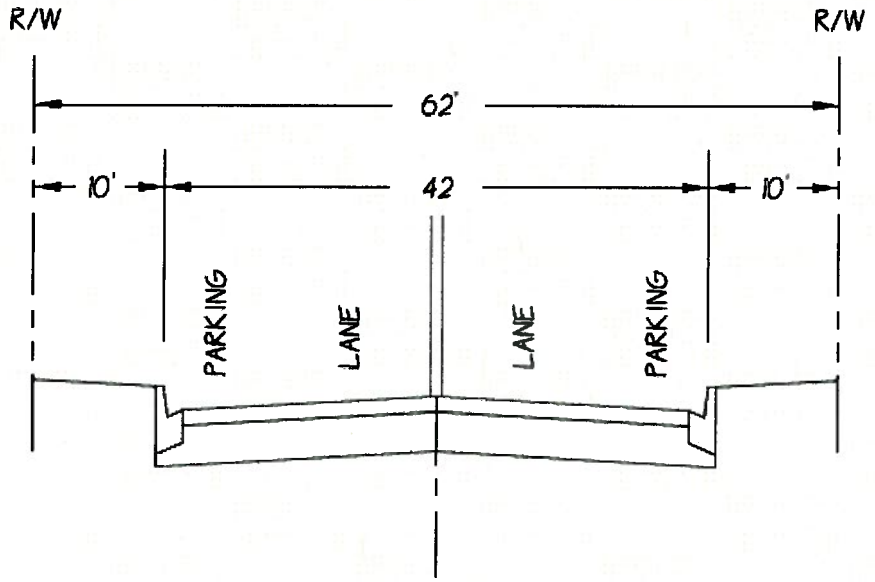
Since the speeding complaints persisted, City Staff has again evaluated the roadway segment for the possibility of adding parking lanes and implementing the lane narrowing strategy from the City of Escondido Traffic Management Toolbox (as shown in the next exhibits). Also the possibility of implementing extra traffic calming measures from the Traffic Management Toolbox such as striping Median Islands have been evaluated. The next exhibits show the locations possible to implement the median islands (Alternative B).

To receive resident feedback, emails have been sent out to the residents through the neighborhood watch program of Eucalyptus Ave and the exhibits showing the improvements have been attached. Letters requesting public input have also been sent out to all Eucalyptus Ave residents that have a frontage on this street. Exhibits were included in the letter and the possible alternatives have been provided for their review and possible feedback.

S/B Eucalyptus Ave (South of the hill - existing)

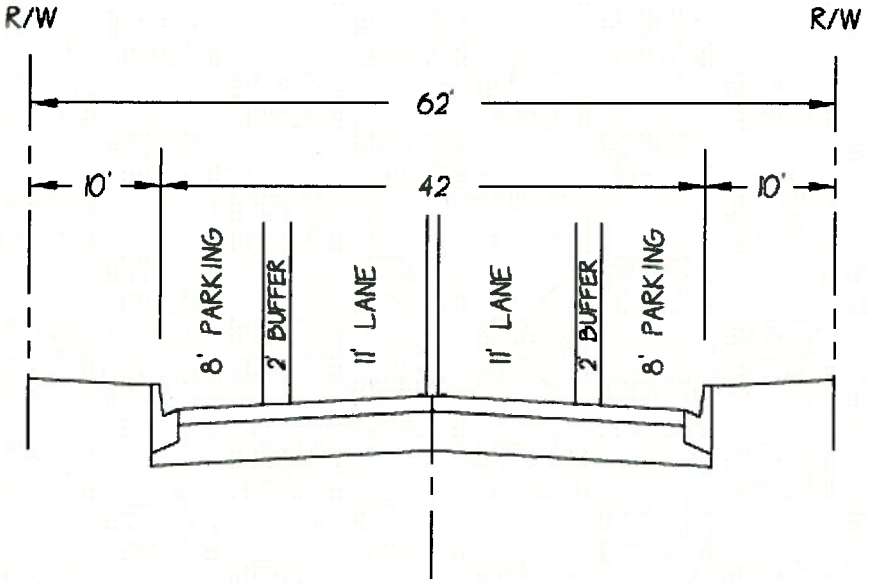
N/B Eucalyptus Ave (North of the hill- existing)





EXISTING EUCALYPTUS AVENUE
LOCAL COLLECTOR

NOT TO SCALE



PROPOSED EUCALYPTUS AVENUE
LOCAL COLLECTOR

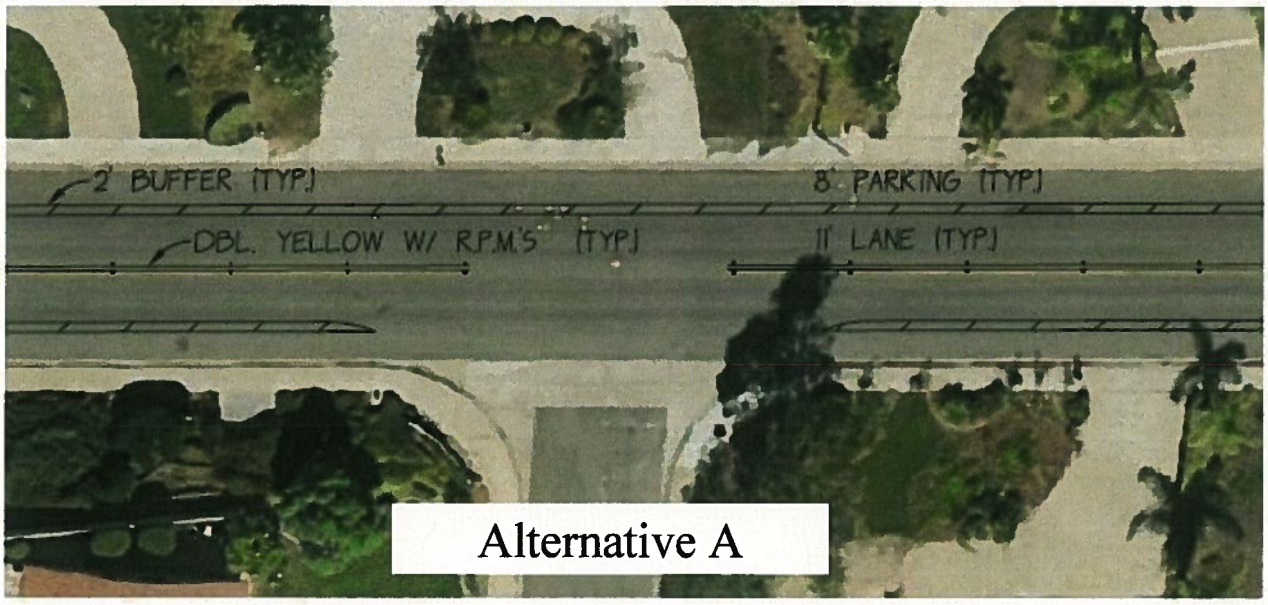
NOT TO SCALE

Alternative A

ESCONDIDO
City of Choice

EXISTING EUCALYPTUS AVENUE
LOCAL COLLECTOR

NOT TO SCALE



PROPOSED EUCALYPTUS AVENUE
LOCAL COLLECTOR

NOT TO SCALE

NOTE: DOUBLE YELLOW LANE LINE HAS RAISED PAVEMENT MARKERS (R.P.M.'S) SPACED EVERY 24' ON BOTH SIDES OF THE STRIPING.

ESCONDIDO
City of Choice

Eucalyptus Ave North of the Hill

Eucalyptus Ave South of the Hill

Eucalyptus Ave South of the Hill

Recommendation: Staff recommends approval of the proposed designs and funding of the five projects preliminarily selected by the Commission during their April 2015 meeting. 2015 Traffic Management Projects List (TMPL), their original ranking, preliminarily selected projects and their estimated costs are provided below.

Project Name	Measures of Prioritization				Score (max. 30)	Ranking By Staff	Selected By TCSC	Cost Estimate
	Road Condition (max. 6)	Road Usage (max. 6)	Anticipated Effectiveness (max. 6)	Problem Severity x 2 (max. 12)				
School Zone Crosswalk Improvements	2	5	4	10	21	1	✓	$8,000
Gamble St Traffic Management	4	2	4	10	20	2	x	
Lincoln Ave, Ash St and Mission Rd	2	6	5	6	19	3	✓	$6,000
Ash St and Sheridan Ave AWSC and Crosswalk	0	6	6	6	18	4	✓	$8,000
Escondido High School Speed Radar Sign	0	5	4	8	17	5	✓	$8,000
N Broadway between Reidy Creek and North Ave	3	4	4	4	15	6	x	
Eucalyptus Ave Traffic Management	3	2	5	4	14	7	✓	$20,000

Necessary Council Action: Approval of the Stop signs on Ash St and Sheridan Ave

Respectfully submitted,

Prepared by:

Abraham Bandegan, PE, PTP
Associate Engineer/Traffic Division

Reviewed by:

Julie B. Procopio, PE
Assistant Director of Public Works Dept.

Approved by:

Edward N. Domingue, PE
Director of Public Works Dept./City Engineer

ESCONDIDO
City of Choice

CITY OF ESCONDIDO

TRANSPORTATION and
COMMUNITY SAFETY COMMISSION

Commission Report of: July 9th, 2015 **Item No.: F2**

Location: Centre City Parkway & North & South Escondido Boulevard

Initiated by: Staff

Request: Review and Approve Left-Turn and Through Movement Restrictions at Two Intersections

Background & Data:

Centre City Parkway (CCP) is four-lane Super Major road which is a primary north-south route for vehicles through Escondido. In the section between I-15 and Felicita Avenue, the roadway has an ADT of approximately 27,400 and a design speed of 65MPH.

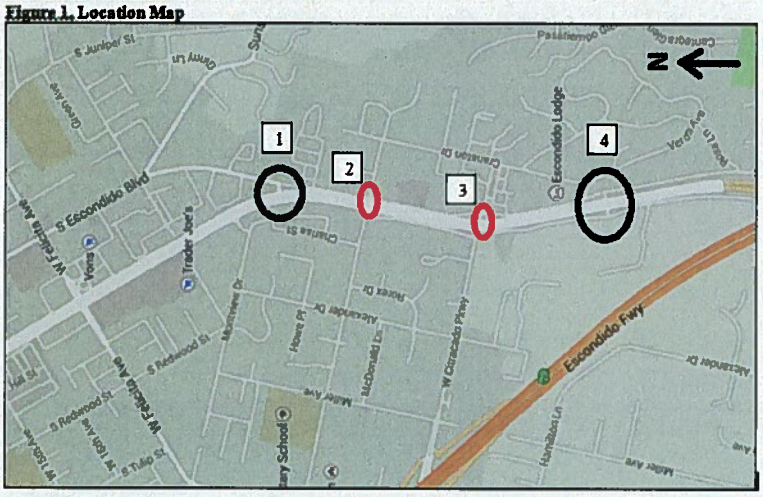
Escondido Boulevard is a two-lane Local Collector in this area with an ADT of approximately 4,100 and a design speed of 35MPH. Escondido Boulevard intersects with Centre City Parkway at four locations.

1. The first intersection is located north of Brotherton Road and is one-way stop controlled on to CCP.
2. The second intersection is at Brotherton and is a 3-way stop control with limited access to CCP.
3. The third is intersection at Citracado Parkway and is two-way stop controlled. There is a Traffic Signal at CCP & Citracado just west of Escondido Blvd. intersection with Citracado Pkwy.
4. The fourth intersection is at Cranston Dr. and is stop controlled on to CCP.

At locations 1 & 2, Centre City Parkway traffic does not stop. Figure 1 provides a location map, while Figures 2 and 3 provide more detailed intersection pictures.

Staff identified these two locations #1 and # 4 as candidates for turn movement restrictions based on sight distance engineering judgment and accident data.

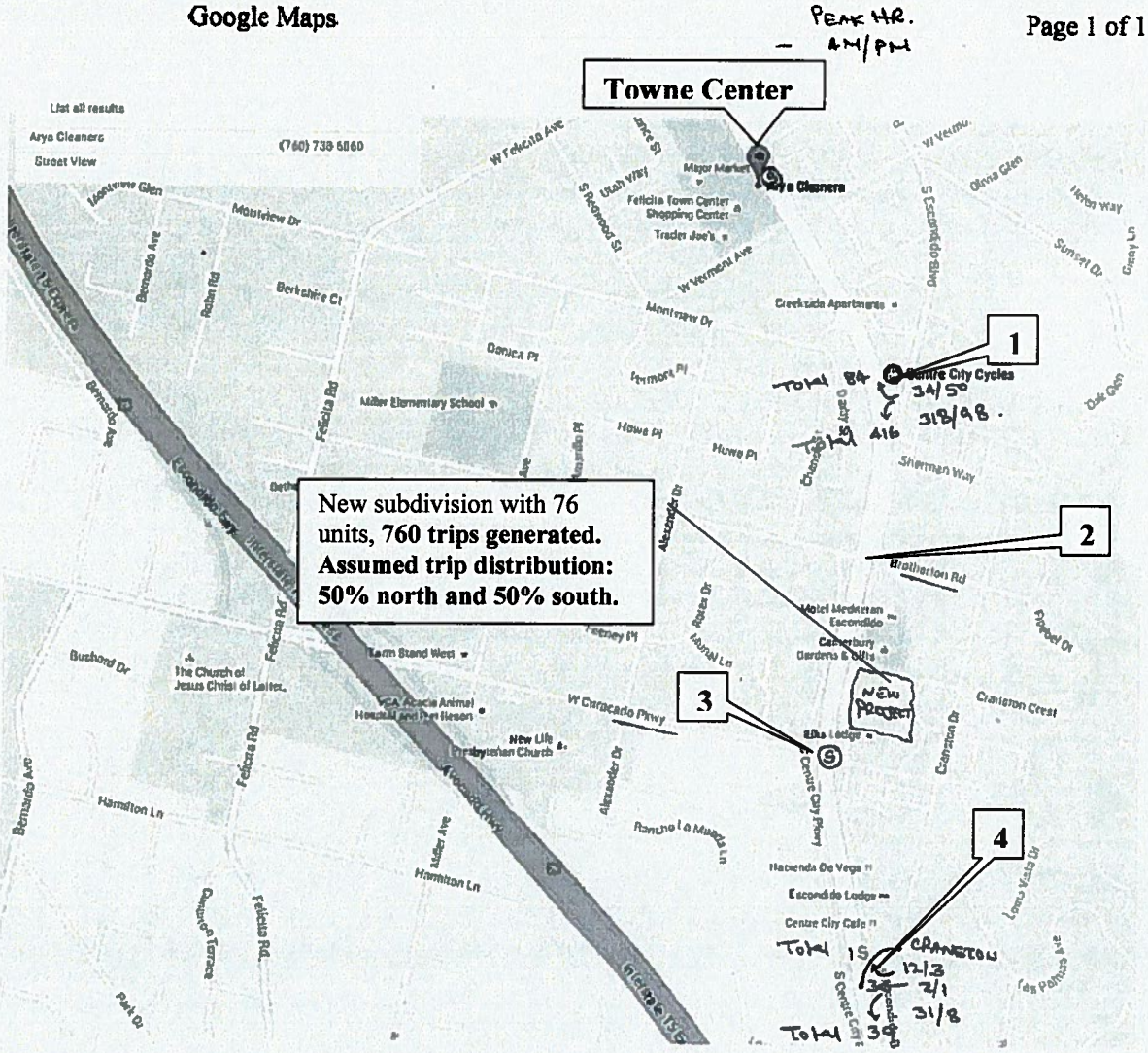
Figure 1, Location Map



Analysis, Discussion and Purpose:
The purpose of this study was to evaluate the proper intersection control for the two locations where Escondido Boulevard intersects Centre City Parkway, and specifically if westbound left-turn and through movements should be prohibited at the two candidate locations #1 and # 4.

Sight Distance Analysis: A field evaluation was conducted to determine the current sight distance in both directions at intersection 1 & 4, as well as photograph the current roadway conditions. Based on the design speed of the roadway (Super Major/Prime), the minimum stopping sight distance required is 430 feet per COE Design Standards.

Turning Movement Data Collected & New Project



The data collected shows in the AM/PM Peak Hour:

- **North Location #1:** - 32/50 Northbound; Total 84. 318/98 Southbound; Total AM/PM is **416.**
- **South Location #4:** - 12/3 Northbound; Total 15. Thru 2/1 and 31/8 Southbound; Total AM/PM is **39.**
- New subdivision with 76 units north of Citracado on Escondido Blvd., **760 trips generated.** Will impact the Citracado intersection.

NORTH INTERSECTION (Location 1)

Figure 1. CCP at Escondido Boulevard - North

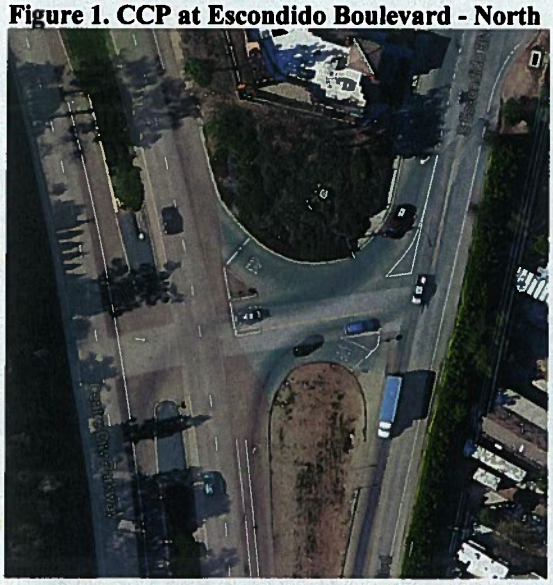


Figure 2. CCP at Escondido Boulevard – South @ Cranston

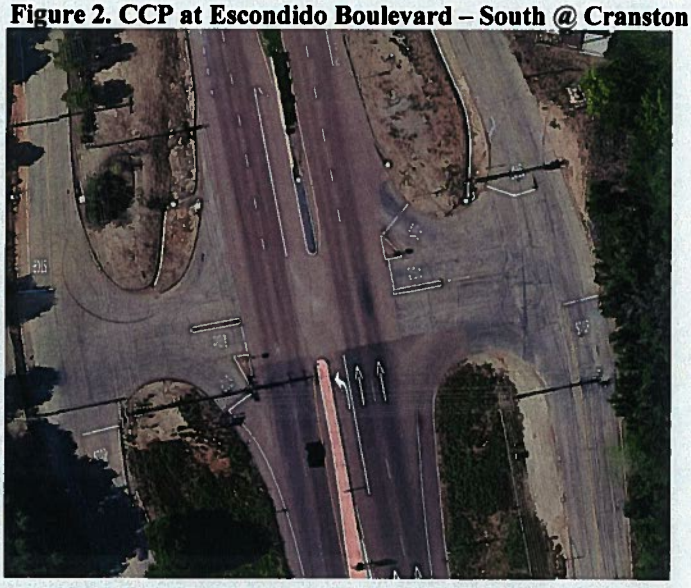


Figure 3. North intersection - looking south

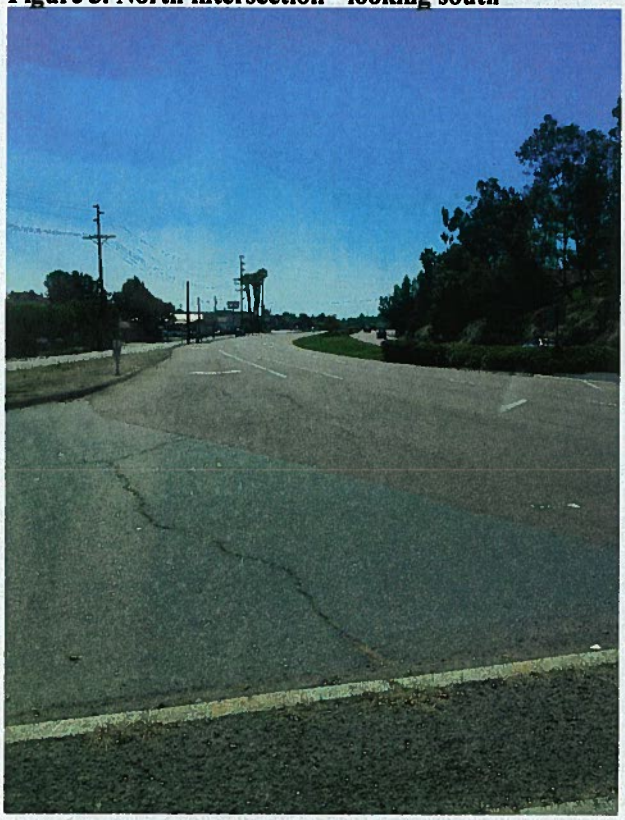
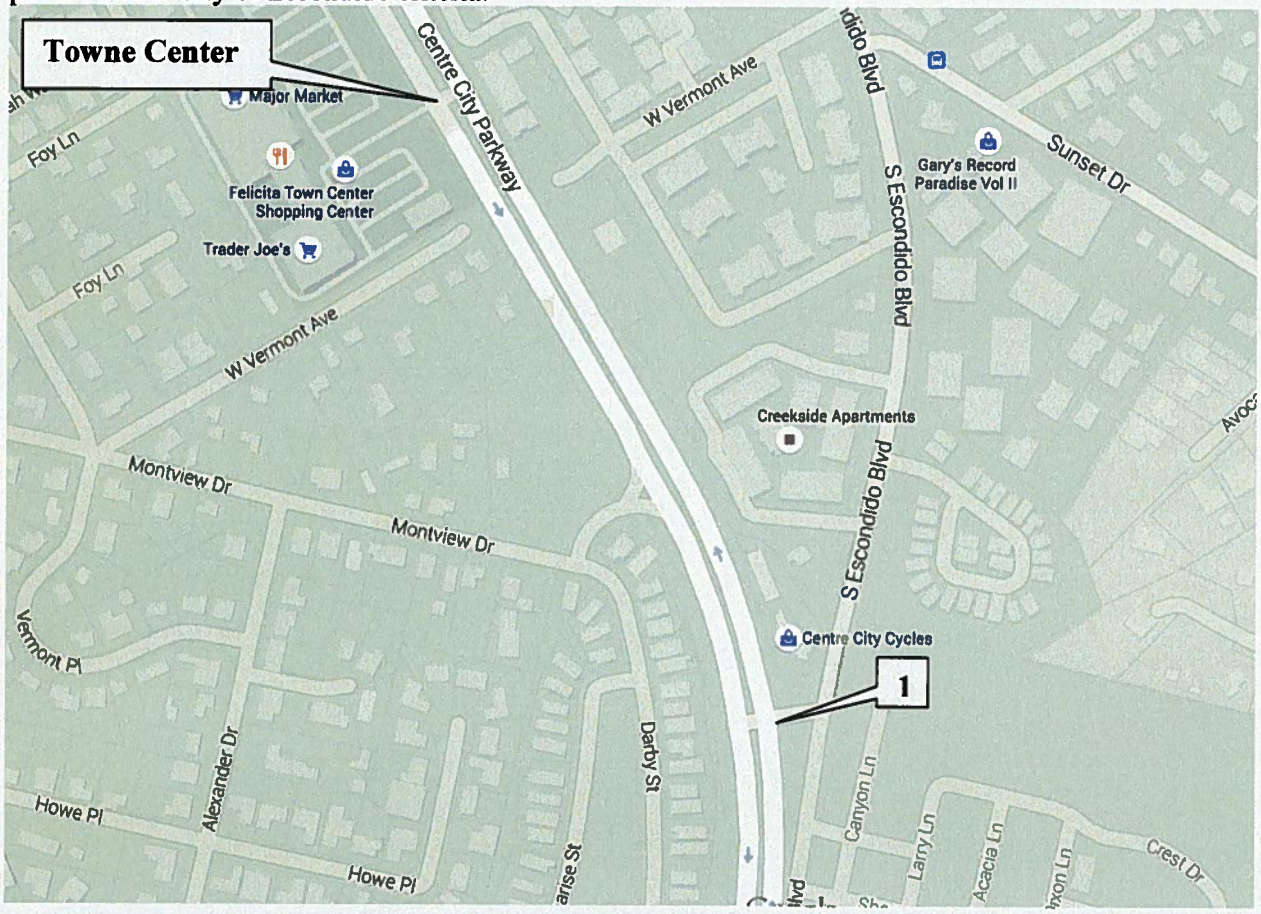


Figure 4. North intersection - looking north

- For the <u>northern intersection</u> of CCP and Escondido Boulevard, vehicles stopped waiting to turn onto CCP <u>can see for 540 feet to the south</u> and for <u>500 feet to the north</u>. <u>There is a median refuge and an acceleration lane for turning vehicles on CCP</u>

Impact Analysis at signalized intersection of Towne Center and CCP.

For the Trips Diverted to the North with the closure of lefts out to the storage lane, the impacts are analyzed per the below City of Escondido criteria.



For Segments - The following thresholds which shall be used to identify if a project causes a significant traffic impact under any scenario. If these values are exceeded in a roadway segment or an intersection that is operating at LOS D or worse, it is determined to be a significant impact and the project shall identify mitigation measures.

CITY OF ESCONDIDO TRAFFIC IMPACT SIGNIFICANCE THRESHOLDS

Level of Service With Project	Allowable Change due to Project Impact		
	Roadway Segments		Intersections
	V/C [a]	Speed Reduction (mph) [b]	Delay (sec.) [c]
D, E, or F	0.02	1	2

Footnotes:

a. Volume to Capacity for daily segments analyses
b. Speed in MPH for peak hour arterial operations
c. Delay in seconds for signalized and unsignalized intersection analyses

For Signalized Intersections - Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or LOS traffic impact on a signalized intersection:

- The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a signalized intersection currently operating at LOS E or LOS F, or will cause a signalized intersection to operate at a LOS E or LOS F as identified in *Table below*.

- Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance, or other factors, the project would significantly impact the operations of the intersection.

MEASURES OF SIGNIFICANT PROJECT IMPACTS TO CONGESTION ON INTERSECTIONS
ALLOWABLE INCREASES ON CONGESTED INTERSECTIONS

Level of service	Signalized	Unsignalized
LOS E	Delay of 2 seconds or less	20 or less peak hour trips on a critical movement
LOS F	Either a Delay of 1 second, or 5 peak hour trips or less on a critical movement	5 or less peak hour trips on a critical movement

General Notes:

1. A critical movement is an intersection movement (right-turn, left-turn, through-movement) that experiences excessive queues, which typically operate at LOS F.
2. By adding proposed project trips to all other trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project is responsible for mitigating its share of the cumulative impact.
3. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable LOS, when such traffic uses a significant amount of remaining road capacity.
4. For determining significance at signalized intersections with LOS F conditions, the analysis must evaluate both the delay *and* the number of trips on a critical movement, exceedance of either criteria result in a significant impact.

With the Turn Restriction on N. Escondido at CCP Location 1, the LOS of Towne Centre/CCP intersection was analyzed conservatively assuming all the trips are diverted to the intersection. The intersection currently operates at LOS A and experiences a delay of 5.3 seconds that degrades to LOS C and delay of 28.3 seconds with the additional U-Turners at the intersection. Therefore, delays increase by 23 seconds, and LOS operation dropping two letter grades to LOS C. Not a significant impact per COE criteria, but never the less substantial.

Crash History

Between 2009 and 2014, there were eight (8) crashes at the intersection of Escondido Boulevard and Centre City Parkway. Unfortunately, because of the coding of the crashes, staff was unable to determine which crashes occurred at the north intersection and which at the south intersection. However, seven of the eight crashes were due to turning vehicles not yielding the right-of-way to vehicles on Centre City Parkway (California Vehicle Code 21801A or 21802A). Included in the eight crashes were two fatality crashes, for which staff did have access to the full crash report.

The 2009 fatality occurred at the south intersection and was the result of a vehicle, attempting to turn left from Escondido Boulevard onto CCP southbound, which did not yield right-of-way to a northbound vehicle on CCP. Similarly, the 2010 fatality occurred at the north intersection; again a vehicle, attempting to turn left from Escondido Boulevard onto CCP southbound, did not yield right-of-way to a northbound vehicle on CCP.

Recommended Countermeasures for Location 1.

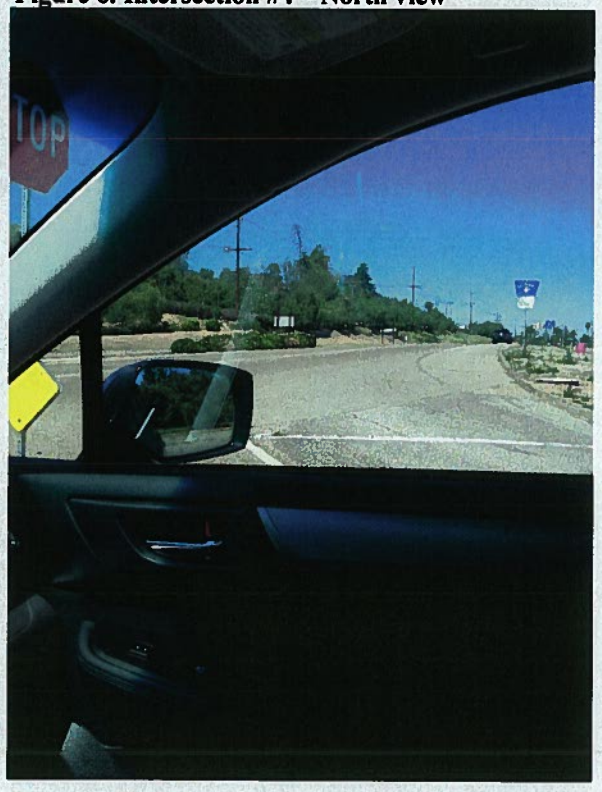
Based on the counts, impacts to adjacent intersection, and the collision analysis the recommendation in-lieu of turn restrictions are as follows:

- ***Striping to delineate and emphasize turn movements and advance warning signage W 70 "Cross Traffic Ahead" 500 ft. south on Northbound CCP approaching intersection.***

SOUTH INTERSECTION (Location 4)

Figure 5. Intersection #4 – South view

Figure 6. Intersection #4 – North view



The data collected for the south location is very low volume as mentioned before:

- **Location #4:** - 12/3 Northbound; Total 15. Thru 2/1 and 31/8 Southbound; Total AM/PM is **39**
- At this southern intersection, vehicles stopped at the stop bar can see in excess of 1000 feet to the south, but only 370 feet to the north. At this intersection, there is no median refuge or acceleration lane for turning vehicles. Therefore, drivers at this intersection who are waiting to turn left or cross CCP do not have sufficient sight distance to safely turn or go straight through the intersection. Figures 5 & 6 show the different sight lines at these intersections.

Based on very low volumes and the fact that the minimum sight distance is not met, Staff is recommending that left turns from Escondido Boulevard onto southbound Centre City Parkway be prohibited at south intersection #4. Additionally, staff recommends prohibiting the westbound through movement at the southernmost intersection #4. **Figures 8 and 9** show the proposed lane usage and turning movements - ***This has been installed on a temporary basis as recommended by the Transportation Commissioners at the April Commission Meeting.***

Temporary Left Turn restriction at Location #4.

Impact Analysis at Escondido and Citracado: *Restricting left turns and through movements at location 4 would add 31 trips to the intersection of Citracado & Escondido, increasing delay by 2.3 sec. The signal would continue to operate at LOS B.*

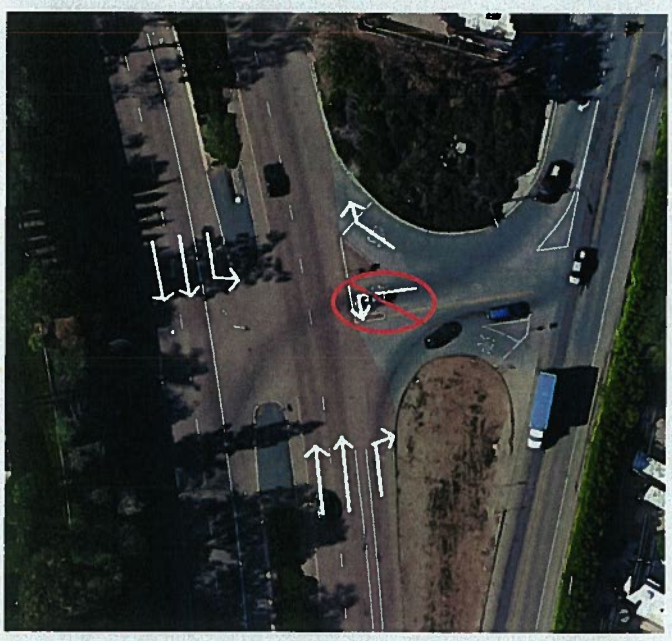


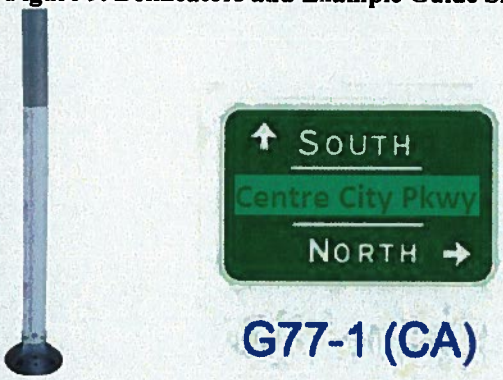
Figure 7. Proposed Configuration - North

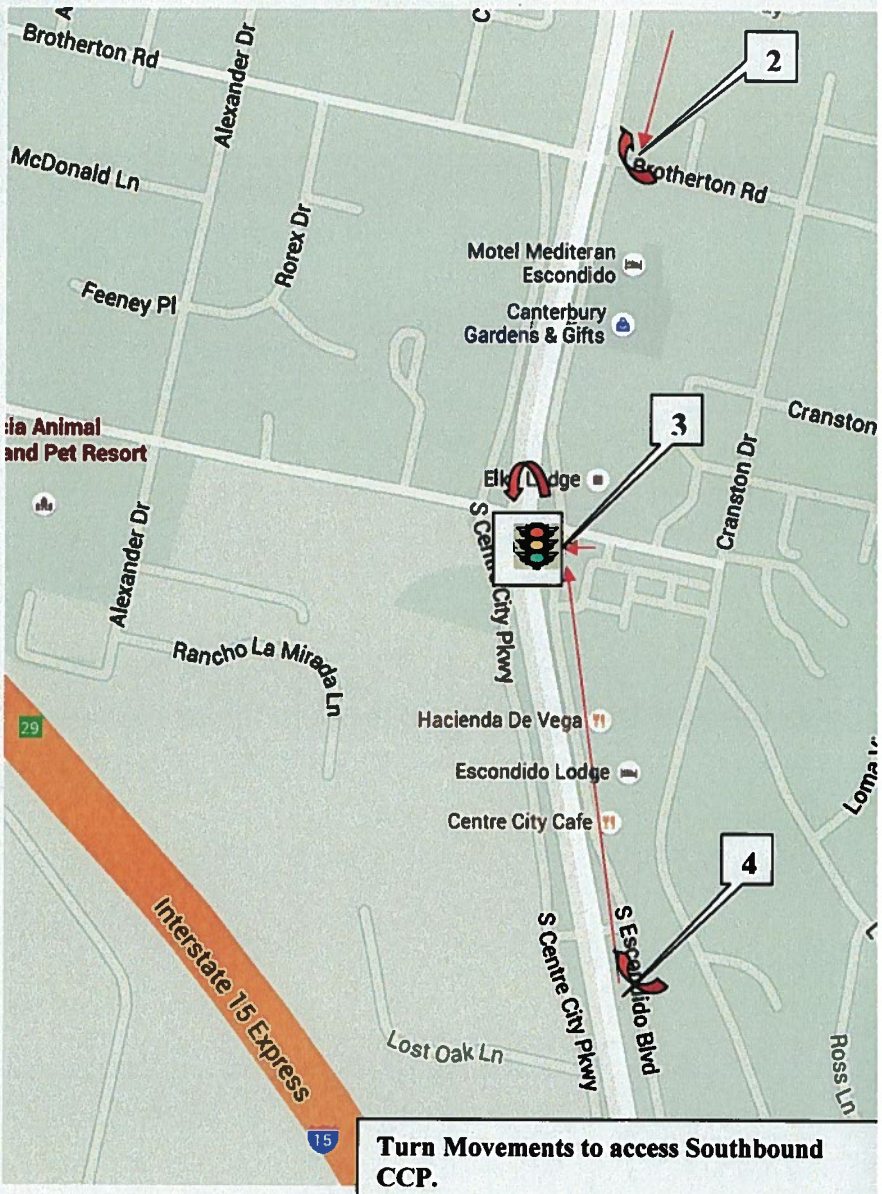
As previously presented:

With these restrictions, vehicles desiring to transition from Escondido Boulevard to Centre City Parkway southbound will primarily be rerouted to the intersection at CCP and Citracado Parkway. This signalized intersection can safely and sufficiently maintain the flow of vehicles onto Centre City Parkway. Alternately, at the south intersection, drivers would have the option to turn right onto CCP northbound, and then make a U-turn at the traffic signal at Citracado to proceed southbound on CCP.

Figure 8. Proposed Configuration - South

Figure 9. Delineators and Example Guide Sign.





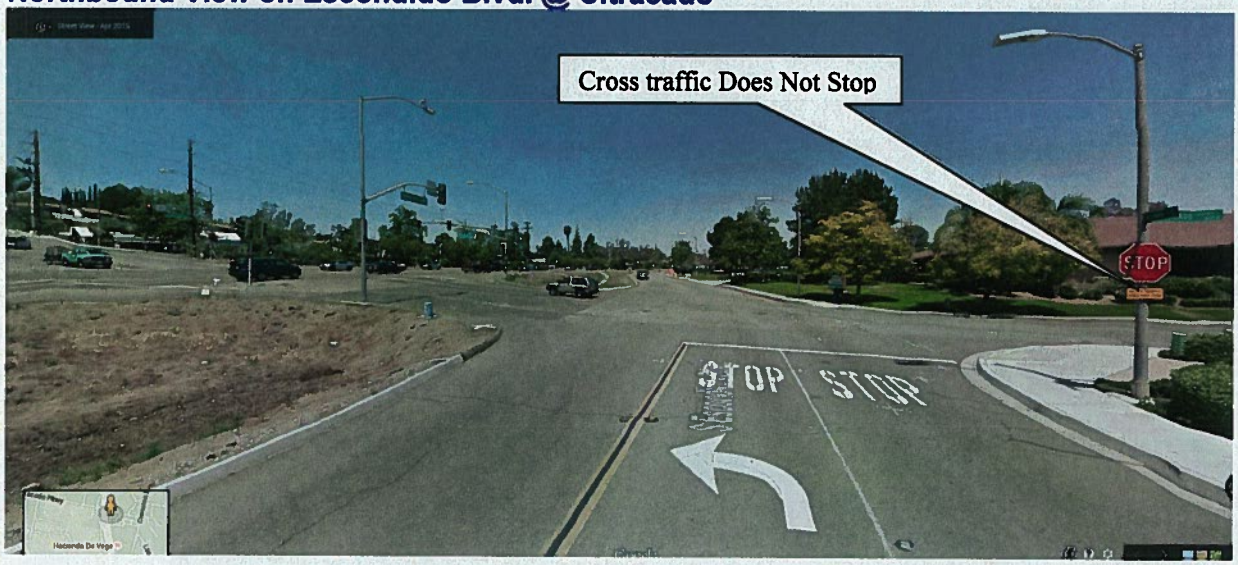
Turn Movements to access Southbound CCP.

Stop Sign Justification:
To improve the function of the intersection of Citracado & Escondido and the other side of the intersection of S. Centre City Pkwy and Citracado Pkwy, a 3-way stop control is warranted due the volume entering the intersection from all approaches averages more than 300 vehicles per hour for any 8 hour of an average day; and there is a need to control left –turn conflicts as w/b bound vehicles on Citracado east of Escondido do not anticipate and see the vehicles coming off CCP onto Escondido n/b. The volumes will increase further when the new subdivision development being constructed north of the intersection could contribute 50% of its 760 trips, i.e. an additional 380 trips to this intersection. A similar issue with a new development north on S. CCP exists on the west side of CCP at the other intersection, that would also need a Stop control.

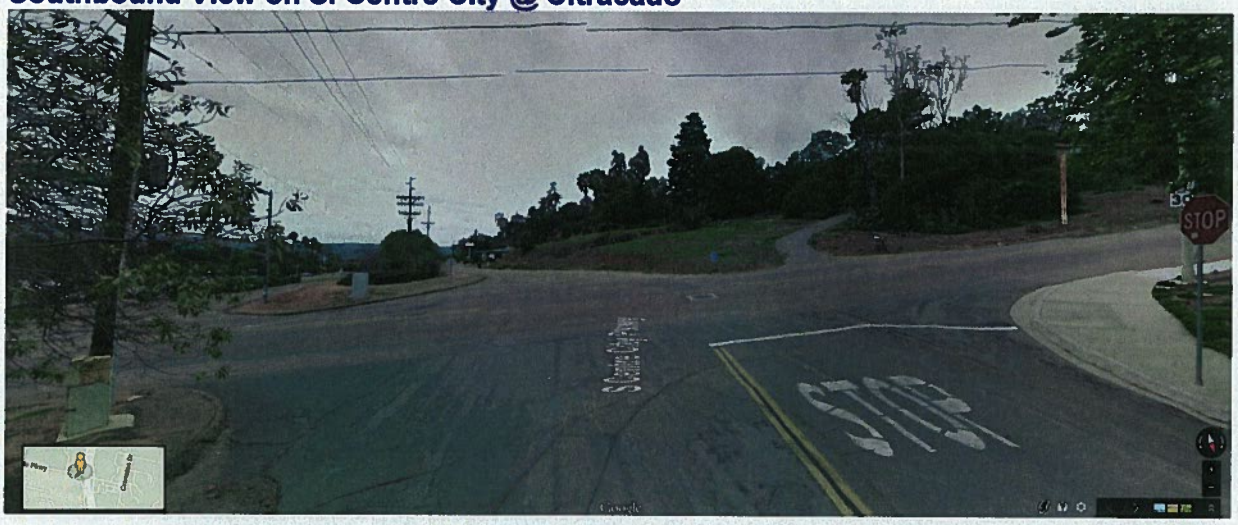
Additionally, the downgrades on Citracado at both locations increases the chances where a road user, after stopping, cannot react to and adequately see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop.

Southbound View on Escondido Blvd. @ Citracado

Northbound View on Escondido Blvd. @ Citracado

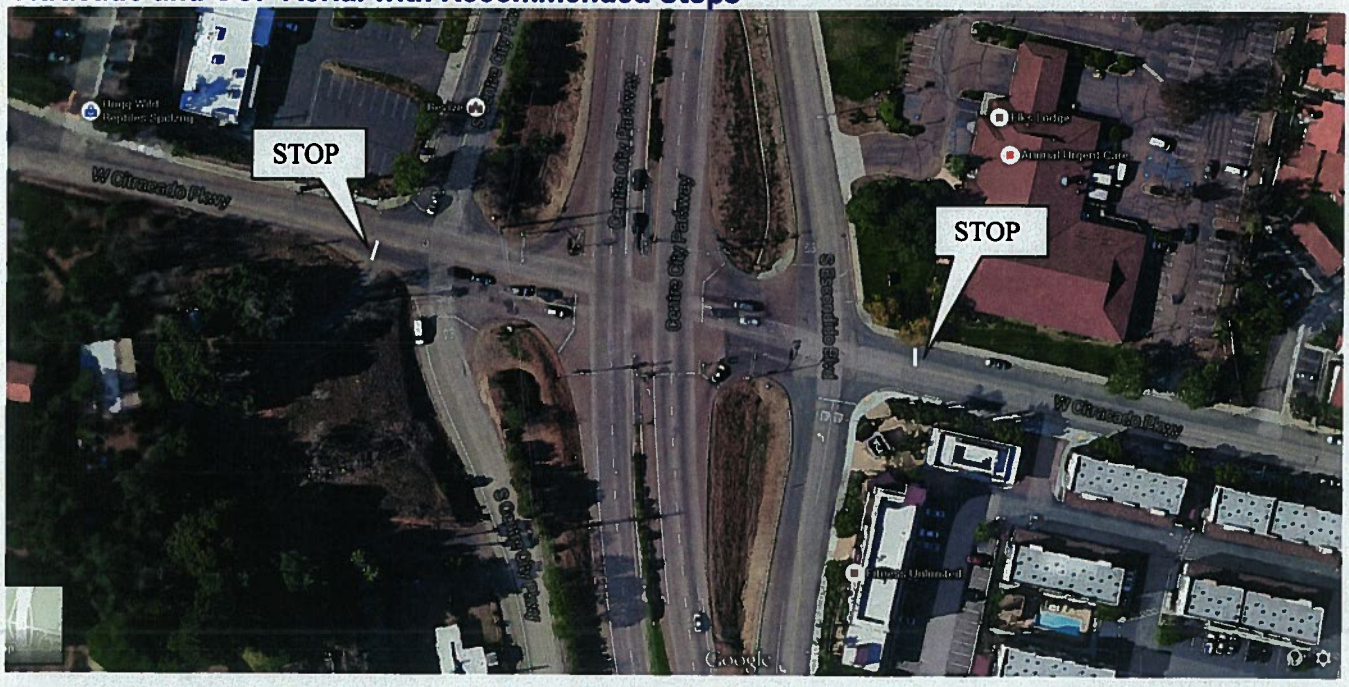


Southbound View on S. Centre City @ Citracado



Northbound View on S. Centre City @ Citracado

Citracado and CCP Aerial with Recommended Stops



Staff also conducted public outreach through posting temporary signs at the two intersections. These signs alerted drivers that these restrictions were under consideration and provided the Traffic Engineering department phone number. Total 35 calls were received, the number in support were approximately 20% number opposed were 80%, however they did not indicate which location they were referring to.

Recommendation:

Approve Staff recommendations at both Escondido Boulevard intersections with Centre City Parkway;

1. Eliminate westbound left-turn and through movements at Location 4 intersection permanently, and add a concrete median channelizer for right-outs only.
2. Improve signage and striping at Location 1 intersection to make drivers execute proper left turn maneuvers and to warn northbound CCP drivers that there is "cross traffic ahead".
3. Install Stop Sign at the w/b and e/b approach of Citracado Pkwy at its approach with Escondido Blvd, and South Centre City Pkwy making it a 3-Way stop at both intersections.

Necessary Council Action: Approve 3-Way Stop at Citracado Pkwy at its approach with Escondido Blvd.

Respectfully submitted,

Prepared by:

Ali Shahzad, PE (Traffic)
Associate Engineer

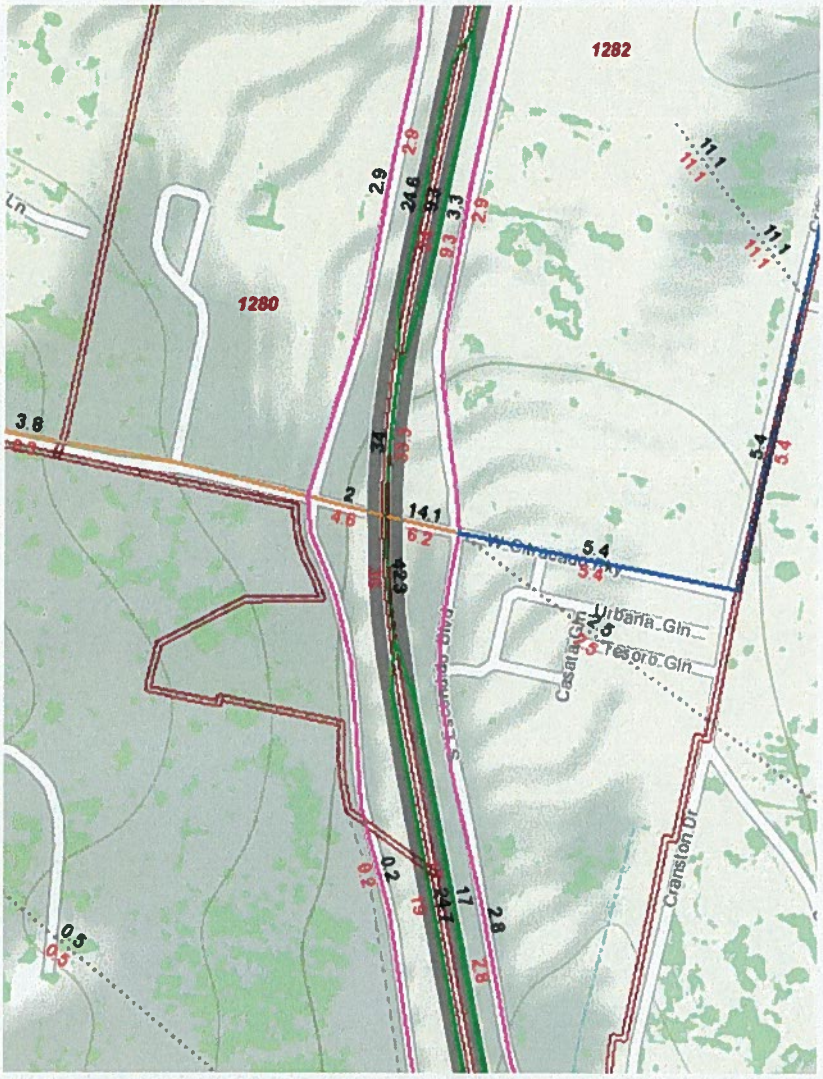
Reviewed by:

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

Approved by:

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

Attachments: ADT, TMC Data, Collision History and Synchro Analysis



2014 Collisions

CCP/Citracado

14000451	2	0	22106	VC	STARTING PARKED VEHICLES OR BACKING	1/11/14	16:59	0	CENTRE CITY	PARKWAY	14	FEET	CITRACADO	PARKWAY
14004858	1	0	21453A	VC	RED OR STOP,VEHICLES STOP AT LIMIT LINE	4/19/14	10:45	0	CENTRE CITY	PARKWAY			CITRACADO	PARKWAY
14007752	0	0	21453A	VC	RED OR STOP,VEHICLES STOP AT LIMIT LINE	6/26/14	23:22	0	CENTRE CITY	PARKWAY			CITRACADO	PARKWAY
14009002	1	0	21453C	VC	SIGNAL LIGHTS:RED ARROW (I)	7/27/14	13:40	0	CENTRE CITY	PARKWAY			CITRACADO	PARKWAY
14010450	1	0	23152A	VC	DUI ALCOHOL (M)	9/1/14	10:22	0	CENTRE CITY	PARKWAY	665	Feet	CITRACADO	PARKWAY

CCP/Escondido

14007833	0	0	23152B	VC	DUI ALCOHOL 0.08 PERCENT	6/28/14	21:29	0	CITRACADO	PARKWAY	528	FEET	ESCONDIDO	BOULEVARD

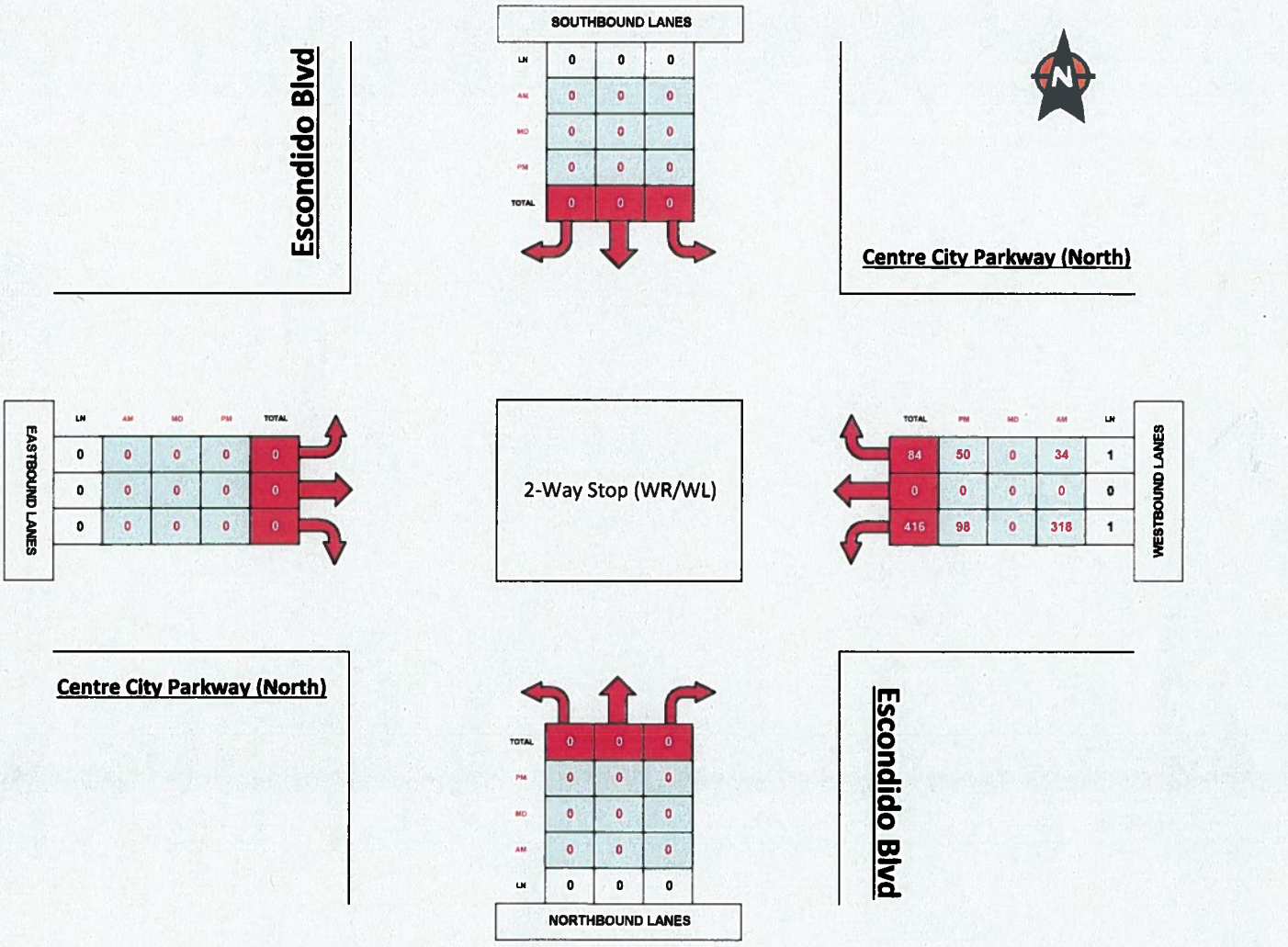
CCP/Cranston

14005429	1	0	22350	VC	VIOLATION OF BASIC SPEED LAW, SPEED UNSAFE FOR CONDITIONS	5/2/14	14:43	0	CITRACADO	PARKWAY	108	FEET	CRANSTON	DRIVE

PEAK HOUR ITM SUMMARY

#007 Escondido Blvd & Centre City Parkway (North)

LOCATION#:	007	QTD PROJ#:	2015166	AM PEAK:	700 AM
NORTH / SOUTH:	Escondido Blvd	DATE:	Tuesday, April 28, 2015	MD PEAK:	
EAST / WEST:	Centre City Parkway (North)	VICINITY:	Escondido, CA	PM PEAK:	400 PM



QUALITY TRAFFIC DATA, LLC
9701 W Pico Blvd, Suite 205, Los Angeles, CA 90035
Phone: 310-341-0019 Fax: 310-807-9247 Info@QualityTrafficData.com

AM COUNT	7:00 AM	TO	9:00 AM
MD COUNT	-	TO	-
PM COUNT	4:00 PM	TO	6:00 PM

VEHICLE TURNING MOVEMENT COUNT

#007 Escondido Blvd & Centre City Parkway (North) - AM PEAK

LOCATION#:	007	QTD PROJ#:	2015166
NORTH / SOUTH:	Escondido Blvd	DATE:	Tuesday, April 28, 2015
EAST / WEST:	Centre City Parkway (North)	VICINITY:	Escondido, CA

DIRECTION:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTALS
LANES:	0	0	0	0	0	0	0	0	0	1	0	1	
7:00 AM										79		7	86
7:15 AM										73		9	82
7:30 AM										87		9	96
7:45 AM										79		9	88
8:00 AM										66		6	72
8:15 AM										52		11	63
8:30 AM										54		10	64
8:45 AM										41		1	42

VOLUME STATS:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
TOTAL:	0	0	0	0	0	0	0	0	0	531	0	62	593
P.H.V: (1)	0	0	0	0	0	0	0	0	0	318	0	34	352
P.H.F: (2)		0.000			0.000			0.000			0.917		0.917

(1) Peak Hour Volume (Peak Hour Begins At 700 AM)
(2) Peak Hour Factor (directional aggregate)

QUALITY TRAFFIC DATA, LLC
9701 W Pico Blvd, Suite 205, Los Angeles, CA 90035
Phone: 310-341-0019 Fax: 310-807-9247 Info@QualityTrafficData.com

VEHICLE TURNING MOVEMENT COUNT

#007 Escondido Blvd & Centre City Parkway (North) - PM PEAK

LOCATION#:	007	QTD PROJ#:	2015166
NORTH / SOUTH:	Escondido Blvd	DATE:	Tuesday, April 28, 2015
EAST / WEST:	Centre City Parkway (North)	VICINITY:	Escondido, CA

DIRECTION:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTALS
LANES:	0	0	0	0	0	0	0	0	0	1	0	1	
4:00 PM										23		10	33
4:15 PM										23		17	40
4:30 PM										24		12	36
4:45 PM										28		11	39
5:00 PM										21		11	32
5:15 PM										26		11	37
5:30 PM										18		4	22
5:45 PM										22		5	27

VOLUME STATS:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
TOTAL:	0	0	0	0	0	0	0	0	0	185	0	81	266
P.H.V: (1)	0	0	0	0	0	0	0	0	0	98	0	50	148
P.H.F: (2)		0.000			0.000			0.000			0.925		0.925

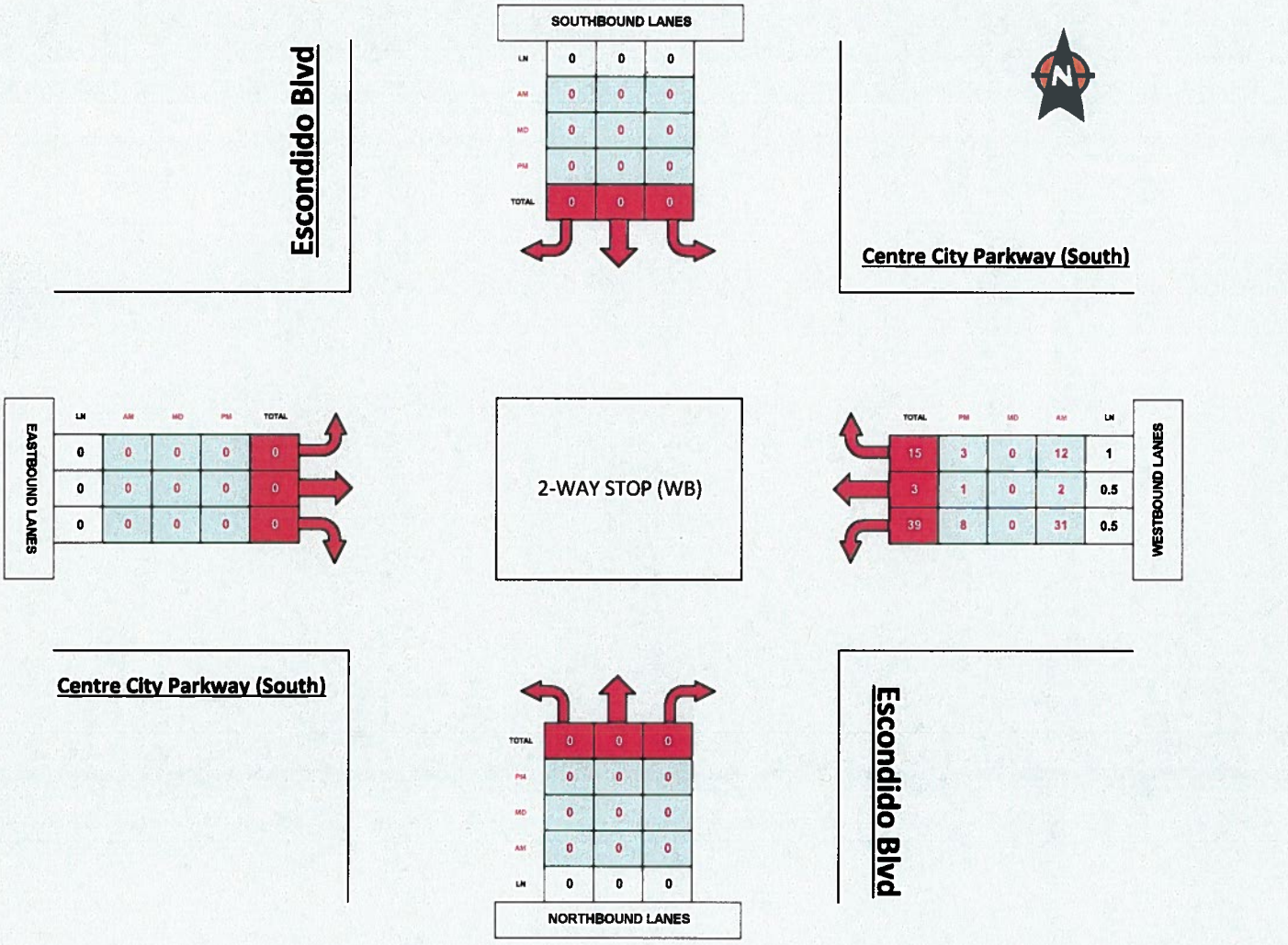
(1) Peak Hour Volume (Peak Hour Begins At 400 PM)
(2) Peak Hour Factor (directional aggregate)

QUALITY TRAFFIC DATA, LLC
9701 W Pico Blvd, Suite 205, Los Angeles, CA 90035
Phone: 310-341-0019 Fax: 310-807-9247 Info@QualityTrafficData.com

PEAK HOUR ITM SUMMARY

#008 Escondido Blvd & Centre City Parkway (South)

LOCATION#:	008	QTD PROJ#:	2015166	AM PEAK:	700 AM
NORTH / SOUTH:	Escondido Blvd	DATE:	Tuesday, April 28, 2015	MD PEAK:	
EAST / WEST:	Centre City Parkway (South)	VICINITY:	Escondido, CA	PM PEAK:	445 PM



QUALITY TRAFFIC DATA, LLC
9701 W Pico Blvd, Suite 205, Los Angeles, CA 90035
Phone: 310-341-0019 Fax: 310-807-9247 Info@QualityTrafficData.com

AM COUNT	7:00 AM	TO	9:00 AM
MD COUNT	-	TO	-
PM COUNT	4:00 PM	TO	6:00 PM

VEHICLE TURNING MOVEMENT COUNT

#008 Escondido Blvd & Centre City Parkway (South) - AM PEAK

LOCATION#:	008	QTD PROJ#:	2015166
NORTH / SOUTH:	Escondido Blvd	DATE:	Tuesday, April 28, 2015
EAST / WEST:	Centre City Parkway (South)	VICINITY:	Escondido, CA

DIRECTION:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTALS
LANES:	0	0	0	0	0	0	0	0	0	0.5	0.5	1	
7:00 AM										12	0	3	15
7:15 AM										8	2	2	12
7:30 AM										7	0	3	10
7:45 AM										4	0	4	8
8:00 AM										2	0	7	9
8:15 AM										4	0	3	7
8:30 AM										5	0	1	6
8:45 AM										5	0	0	5

VOLUME STATS:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
TOTAL:	0	0	0	0	0	0	0	0	0	47	2	23	72
P.H.V: (1)	0	0	0	0	0	0	0	0	0	31	2	12	45
P.H.F: (2)		0.000			0.000			0.000			0.750		0.750

(1) Peak Hour Volume (Peak Hour Begins At 700 AM)
(2) Peak Hour Factor (directional aggregate)

QUALITY TRAFFIC DATA, LLC
9701 W Pico Blvd, Suite 205, Los Angeles, CA 90035
Phone: 310-341-0019 Fax: 310-807-9247 Info@QualityTrafficData.com

VEHICLE TURNING MOVEMENT COUNT

#008 Escondido Blvd & Centre City Parkway (South) - PM PEAK

LOCATION#:	008	QTD PROJ#:	2015166
NORTH / SOUTH:	Escondido Blvd	DATE:	Tuesday, April 28, 2015
EAST / WEST:	Centre City Parkway (South)	VICINITY:	Escondido, CA

DIRECTION:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTALS
LANES:	0	0	0	0	0	0	0	0	0	0.5	0.5	1	
4:00 PM										2	0	0	2
4:15 PM										2	0	2	4
4:30 PM										2	0	0	2
4:45 PM										2	1	1	4
5:00 PM										1	0	1	2
5:15 PM										4	0	0	4
5:30 PM										1	0	1	2
5:45 PM										1	0	1	2

VOLUME STATS:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
TOTAL:	0	0	0	0	0	0	0	0	0	15	1	6	22
P.H.V: (1)	0	0	0	0	0	0	0	0	0	8	1	3	12
P.H.F: (2)		0.000			0.000			0.000			0.750		0.750

(1) Peak Hour Volume (Peak Hour Begins At 445 PM)
(2) Peak Hour Factor (directional aggregate)

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A.M. EXISTING CONDITIONS

Lanes, Volumes, Timings
311: Centre City Parkway & Town Centre Dwy

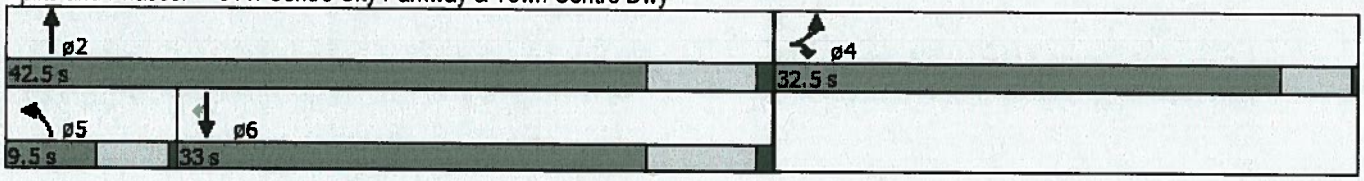
6/26/2015

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	17	50	31	574	988	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	130	200			395
Storage Lanes	1	1	2			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	3433	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	3433	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		75				51
Link Speed (mph)	30			60	60	
Link Distance (ft)	652			5390	952	
Travel Time (s)	14.8			61.3	10.8	
Peak Hour Factor	0.67	0.67	0.88	0.88	0.82	0.82
Adj. Flow (vph)	25	75	35	652	1205	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	75	35	652	1205	51
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Prot	Prot	NA	NA	Perm
Protected Phases	4	4	5	2	6	
Permitted Phases						6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	5.0	4.0	4.0	4.0
Minimum Split (s)	32.5	32.5	9.5	11.0	29.0	29.0
Total Split (s)	32.5	32.5	9.5	42.5	33.0	33.0
Total Split (%)	43.3%	43.3%	12.7%	56.7%	44.0%	44.0%

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Maximum Green (s)	28.0	28.0	5.0	35.5	26.0	26.0
Yellow Time (s)	4.0	4.0	4.0	6.0	6.0	6.0
All-Red Time (s)	0.5	0.5	0.5	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-0.5	-0.5	-3.0	-3.0	-3.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	None
Walk Time (s)	8.0	8.0			8.0	8.0
Flash Dont Walk (s)	20.0	20.0			14.0	14.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	6.9	6.9	6.9	28.8	26.2	26.2
Actuated g/C Ratio	0.19	0.19	0.19	0.81	0.74	0.74
v/c Ratio	0.07	0.20	0.05	0.23	0.46	0.04
Control Delay	19.9	8.3	20.0	2.3	6.1	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.9	8.3	20.0	2.3	6.1	2.4
LOS	B	A	B	A	A	A
Approach Delay	11.2			3.2	6.0	
Approach LOS	B			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 35.5			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 5.3		Intersection LOS: A	
Intersection Capacity Utilization 37.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 311: Centre City Parkway & Town Centre Dwy



A.M. w/ 318 U TURNS.

Lanes, Volumes, Timings
311: Centre City Parkway & Town Centre Dwy

6/26/2015

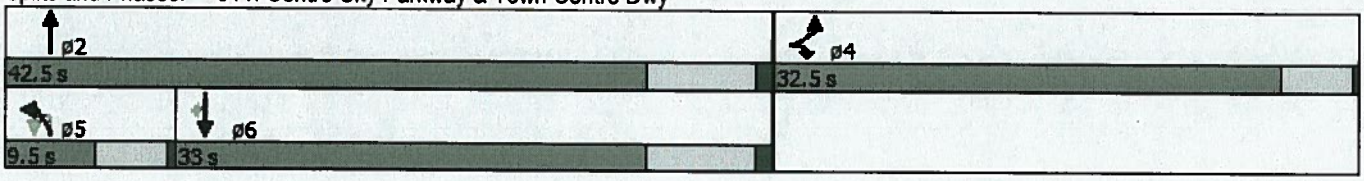
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Volume (vph)	17	50	318	31	574	988	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	130		200			395
Storage Lanes	1	1		2			1
Taper Length (ft)	25			25			
Lane Util. Factor	1.00	1.00	0.95	0.97	0.95	0.95	1.00
Frt		0.850					0.850
Flt Protected	0.950			0.950			
Satd. Flow (prot)	1770	1583	0	3433	3539	3539	1583
Flt Permitted	0.950			0.678			
Satd. Flow (perm)	1770	1583	0	2450	3539	3539	1583
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		13					51
Link Speed (mph)	30				60	60	
Link Distance (ft)	652				5390	952	
Travel Time (s)	14.8				61.3	10.8	
Peak Hour Factor	0.67	0.67	0.92	0.88	0.88	0.82	0.82
Adj. Flow (vph)	25	75	346	35	652	1205	51
Shared Lane Traffic (%)							
Lane Group Flow (vph)	25	75	0	381	652	1205	51
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	R NA	Left	Left	Left	Right
Median Width(ft)	12				24	24	
Link Offset(ft)	0				0	0	
Crosswalk Width(ft)	16				16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	9	15			9
Number of Detectors	1	1	1	1	1	1	1
Detector Template							
Leading Detector (ft)	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Prot	custom	Prot	NA	NA	Perm
Protected Phases	4	4		5	2	6	
Permitted Phases			5				6
Detector Phase	4	4	5	5	2	6	6
Switch Phase							
Minimum Initial (s)	4.0	4.0	5.0	5.0	4.0	4.0	4.0
Minimum Split (s)	32.5	32.5	9.5	9.5	11.0	29.0	29.0
Total Split (s)	32.5	32.5	9.5	9.5	42.5	33.0	33.0
Total Split (%)	43.3%	43.3%	12.7%	12.7%	56.7%	44.0%	44.0%

Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Maximum Green (s)	28.0	28.0	5.0	5.0	35.5	26.0	26.0
Yellow Time (s)	4.0	4.0	4.0	4.0	6.0	6.0	6.0
All-Red Time (s)	0.5	0.5	0.5	0.5	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-0.5		-0.5	-3.0	-3.0	-3.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lead	Lead		Lag	Lag
Lead-Lag Optimize?			Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5
Recall Mode	None	None	None	None	None	None	None
Walk Time (s)	8.0	8.0				8.0	8.0
Flash Dont Walk (s)	20.0	20.0				14.0	14.0
Pedestrian Calls (#/hr)	0	0				0	0
Act Effct Green (s)	7.2	7.2		5.9	36.7	24.1	24.1
Actuated g/C Ratio	0.16	0.16		0.13	0.82	0.54	0.54
v/c Ratio	0.09	0.28		2.07dl	0.22	0.63	0.06
Control Delay	20.6	20.2		136.0	2.5	10.0	2.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	20.6	20.2		136.0	2.5	10.0	2.7
LOS	C	C		F	A	A	A
Approach Delay	20.3				51.7	9.7	
Approach LOS	C				D	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 44.8			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 28.3		Intersection LOS: C	
Intersection Capacity Utilization 50.6%		ICU Level of Service A	
Analysis Period (min) 15			

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 311: Centre City Parkway & Town Centre Dwy



EXISTING A.M. (Before)

Lanes, Volumes, Timings
310: Centre City Parkway & Citracado Pkwy

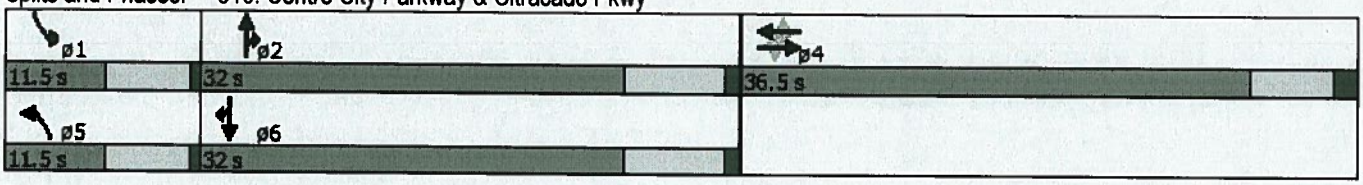
6/29/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	63	19	9	165	70	3	8	612	11	13	778	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	65		0	175		50	150		50
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.951			0.993				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1771	0	1770	1850	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.700			0.731			0.950			0.950		
Satd. Flow (perm)	1304	1771	0	1362	1850	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			4				123			123
Link Speed (mph)		30			30			60			60	
Link Distance (ft)		2099			796			1500			5390	
Travel Time (s)		47.7			18.1			17.0			61.3	
Peak Hour Factor	0.71	0.71	0.71	0.83	0.83	0.83	0.83	0.83	0.83	0.88	0.88	0.88
Adj. Flow (vph)	89	27	13	199	84	4	10	737	13	15	884	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	40	0	199	88	0	10	737	13	15	884	138
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA	Prot	Prot	NA	Prot
Protected Phases		4			4		5	2	2	1	6	6
Permitted Phases	4			4								
Detector Phase	4	4		4	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.5	36.5		36.5	36.5		11.5	30.0	30.0	11.5	32.0	32.0
Total Split (s)	36.5	36.5		36.5	36.5		11.5	32.0	32.0	11.5	32.0	32.0
Total Split (%)	45.6%	45.6%		45.6%	45.6%		14.4%	40.0%	40.0%	14.4%	40.0%	40.0%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	30.0	30.0		30.0	30.0		6.0	25.0	25.0	6.0	25.0	25.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	6.0	6.0	5.0	6.0	6.0
All-Red Time (s)	1.5	1.5		1.5	1.5		0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	-2.5	-2.5		-2.5	-2.5		-1.5	-3.0	-3.0	-1.5	-3.0	-3.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	3.0	3.0	2.5	3.0	3.0
Recall Mode	None	None		None	None		None	None	None	None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0							
Flash Dont Walk (s)	23.0	23.0		23.0	23.0							
Pedestrian Calls (#/hr)	0	0		0	0							
Act Effct Green (s)	15.3	15.3		15.3	15.3		8.1	20.7	20.7	8.1	20.7	20.7
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.18	0.45	0.45	0.18	0.45	0.45
v/c Ratio	0.21	0.07		0.44	0.14		0.03	0.46	0.02	0.05	0.56	0.18
Control Delay	14.6	10.5		17.5	13.0		23.6	11.4	0.0	23.5	12.3	4.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.6	10.5		17.5	13.0		23.6	11.4	0.0	23.5	12.3	4.1
LOS	B	B		B	B		C	B	A	C	B	A
Approach Delay		13.3			16.2			11.3			11.4	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 46.2			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 12.1		Intersection LOS: B	
Intersection Capacity Utilization 44.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 310: Centre City Parkway & Citracado Pkwy



PROPOSED A.M. w/ 31 L.T. FROM CRANSTON.

Lanes, Volumes, Timings
310: Centre City Parkway & Citracado Pkwy

6/29/2015

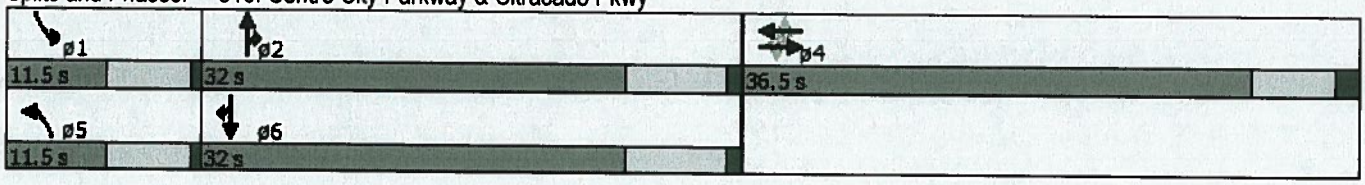
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	63	19	9	196	70	3	8	612	11	13	778	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	65		0	175		50	150		50
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.951			0.993				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1771	0	1770	1850	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.700			0.731			0.950			0.950		
Satd. Flow (perm)	1304	1771	0	1362	1850	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			4				123			123
Link Speed (mph)		30			30			60			60	
Link Distance (ft)		2099			796			1500			5390	
Travel Time (s)		47.7			18.1			17.0			61.3	
Peak Hour Factor	0.71	0.71	0.71	0.83	0.83	0.83	0.83	0.83	0.83	0.88	0.88	0.88
Adj. Flow (vph)	89	27	13	236	84	4	10	737	13	15	884	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	40	0	236	88	0	10	737	13	15	884	138
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA	Prot	Prot	NA	Prot
Protected Phases		4			4		5	2	2	1	6	6
Permitted Phases	4			4								
Detector Phase	4	4		4	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.5	36.5		36.5	36.5		11.5	30.0	30.0	11.5	32.0	32.0
Total Split (s)	36.5	36.5		36.5	36.5		11.5	32.0	32.0	11.5	32.0	32.0
Total Split (%)	45.6%	45.6%		45.6%	45.6%		14.4%	40.0%	40.0%	14.4%	40.0%	40.0%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	30.0	30.0		30.0	30.0		6.0	25.0	25.0	6.0	25.0	25.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	6.0	6.0	5.0	6.0	6.0
All-Red Time (s)	1.5	1.5		1.5	1.5		0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	-2.5	-2.5		-2.5	-2.5		-1.5	-3.0	-3.0	-1.5	-3.0	-3.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	3.0	3.0	2.5	3.0	3.0
Recall Mode	None	None		None	None		None	None	None	None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0							
Flash Dont Walk (s)	23.0	23.0		23.0	23.0							
Pedestrian Calls (#/hr)	0	0		0	0							
Act Effct Green (s)	17.0	17.0		17.0	17.0		8.1	21.3	21.3	8.1	21.3	21.3
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.17	0.44	0.44	0.17	0.44	0.44
v/c Ratio	0.19	0.06		0.49	0.14		0.03	0.47	0.02	0.05	0.57	0.18
Control Delay	14.1	10.2		18.1	12.7		25.1	12.3	0.0	25.1	13.4	4.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.1	10.2		18.1	12.7		25.1	12.3	0.0	25.1	13.4	4.4
LOS	B	B		B	B		C	B	A	C	B	A
Approach Delay		12.9			16.6			12.3			12.4	
Approach LOS		B			B			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 48.5 - 46.2 = 2.3 sec.
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 13.0 Intersection LOS: B
Intersection Capacity Utilization 45.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 310: Centre City Parkway & Citracado Pkwy



ESCONDIDO
City of Choice

CITY OF ESCONDIDO

TRANSPORTATION and
COMMUNITY SAFETY COMMISSION

Commission Report of: July 9th, 2015 **Item No.: F3**

Location: Citywide

Initiated By: Staff

Request: City of San Diego Crosswalk Policy Review and Receive Recommendation on Updating Current City of Escondido Crosswalk Policy

Background:

Marked crosswalks can be used at controlled and uncontrolled intersections and at midblock crossings. There have been many changes in technology and practice related to pedestrian safety since the last City of Escondido Crosswalk Policy was adopted in 1975. Transportation and Community Safety Commission recommended staff update current City of Escondido Crosswalk Policy.

On June 2, 2015 City of San Diego Council approved an amendment to Council Policy 200-07 "Marked Crosswalk Criteria at Uncontrolled Locations" to incorporate changes in pedestrian safety practices and technology. The purpose of this policy was to provide a comprehensive, systematic and progressive set of guidelines for handling pedestrian crossing needs; and to provide for the optimum level of safety and mobility for both pedestrians and motorists on city streets.

After conducting extensive research on 37 study sites by reviewing 14 years of collision history, analyzing traffic data (volume of traffic and pedestrian counts and …) and field observations, several different warrants and thresholds were introduced for midblock crossing in the new San Diego revised policy. These new warrants will help decision-makers and engineers in evaluating and determining the need for midblock crossing at uncontrolled locations and the treatments needed to assure safety of pedestrians.

Discussion & Purpose:

The purpose of this report is to provide a brief summary of the new City of San Diego midblock crossing policy, compare the existing City of Escondido policy with it and find the areas that can be improved using the new City San Diego crosswalk policy.

The new City of San Diego midblock crossing policy consists of "Basic Warrants", "Point Warrants" and "Crossing Treatments". Warrants and Treatments will be reviewed and compared with the current City of Escondido policy.

1. Basic Warrants

In both Cities' policies, all of the Basic Warrants must be met in order for an uncontrolled location to be considered for marked crosswalk.

1.1. Pedestrian Volume Warrant

- **San Diego**
  The pedestrian volumes must be equal to or greater than ten (10) pedestrians per hour during the peak pedestrian hour. Children and elders/disabled persons count as 1.5. A Pedestrian Attractor within 100ft of the proposed marked crosswalk can be considered for this warrant.
- **Escondido**
  Pedestrian Crossing Volume should be 10 or more per hour.

1.2. Approach Speed Warrant

- **San Diego**
  The 85th percentile approach speed must be equal to or lower than 40 MPH, unless a pedestrian hybrid beacon or a HAWK signal will be installed
- **Escondido**
  The 85th percentile approach speed must be equal to or lower than 45 MPH.

1.3. Nearest Controlled Crossing

- **San Diego**
  The proposed location must be farther than 250 feet from the nearest controlled pedestrian crossing
- **Escondido**
  The proposed location must be farther than 400 feet from the nearest controlled pedestrian crossing

1.4. Visibility Warrant

- **San Diego**
  The motorist must have an unrestricted view of all pedestrians equal or greater than the "Stopping Sight Distance" needed for the 85th percentile speed.
- **Escondido**
  The motorist must have an unrestricted view of all pedestrians equal or greater than 200ft. Grades, curves and other restrictions need special attention.

1.5. Illumination Warrant

- **San Diego and Escondido**
  The proposed location must have existing lighting.

1.6. Accessibility Warrant

- **San Diego**
  The proposed location must have existing accessibility to disabled pedestrians or have accessibility improvements programmed
- **Escondido**
  No specific requirements are included in the policy

In both policies, all Basic Warrants have to be met. If a location does not meet all the Basic Warrants, it will not be analyzed any further and will be automatically rejected. However, meeting all of the Basic Warrants does not justify a midblock crossing. The Points Warrants would still have to be met.

2. Points Warrants

In both policies, Point warrants are the number of points a location gets along with the Basic Warrants to qualify for a marked crosswalk. Different Point Warrants are provided below. Both policies require a minimum of 16 points to justify a midblock crossing.

2.1. Pedestrian Volume Warrant

- **San Diego**

T1.1a Pedestrian Volume Warrant		
Number of Pedestrians (Peak Hour)	**Points**	**Total Available Points**
10 – 25	4	10
26 – 50	8	
51+	10	
T1.1b Latent Pedestrian Demand Warrant (in lieu of Pedestrian Volume Warrant)		
Condition	**Points**	**Total Available Points**
(a) The proposed crosswalk is in a commercial, mixed land use, or high density residential area.	3	10
(b) A pedestrian or shared use path is interrupted by a restricted crossing.	3	
(c) A pedestrian attractor/generator is directly adjacent to the proposed crosswalk as defined in the explanatory notes below.	4	

- **Escondido**

No. of Pedestrians (Peak Hour)	Points	Total Available Points
11-30	2	10
31-60	4	
61-90	6	
91-100	8	
Over 100	10	

Both policies have a maximum of 10 points in this warrant, but San Diego gives higher points to lower pedestrian volumes compared to Escondido policy.

2.2. General Condition Warrant

- **San Diego**

T1.2 General Condition Warrant		
Condition	**Points**	**Total Available Points**
(a) The nearest controlled crossing is greater than 300 feet from the proposed crosswalk.	3	18
(b) The proposed crosswalk will position pedestrians to be better seen by motorists.	3	
(c) The proposed crosswalk will establish a mid-block crossing between adjacent signalized intersections or it will connect an existing pedestrian path.	3	
(d) The proposed crosswalk is located within ¼ mile of pedestrian attractors/generators as defined in the explanatory notes below.	3	
(e) An existing bus stop is located within 100 feet of the proposed crosswalk.	3	
(f) Other factors.	3	

- **Escondido**

Condition	Points	Total Available Points
Will Clarify and define pedestrian routes across complex intersections	2	10
Will position pedestrians to be seen better by motorists	2	
Will channelize pedestrians into a significantly shorter path	2	
Will position pedestrians to expose him to fewer vehicles	2	
Engineering judgement, unusual conditions	2	

San Diego Policy provides a maximum of 18 points for this warrant while Escondido policy only provides a maximum of 10. Two conditions are similar between the two policies, but overall San Diego policy has more quantifiable measures and provides more points in similar cases.

2.3. Gap Time Warrant

- **San Diego**

T1.3 Gap Time Warrant		
Average Number of Vehicular Gaps per Five-Minute Period	**Points**	**Total Available Points**
0 – 0.99	0	10
1 – 1.99	1	
2 – 2.99	8	
3 – 3.99	10	
4 – 4.99	8	
5 – 5.99	1	
6 or over	0	

- **Escondido**

Average Number of Vehicular Gaps per Five-Minute Period	Points	Total Available Points
0-0.99	10	10
1-1.99	8	
2-2.99	6	
3-3.99	4	
4-4.99	2	
5 or over	0	

Both policies have a maximum of 10 points in this warrant. San Diego policy gives fewer points for streets with limited number of available gaps or with more available gaps. While Escondido policy is similar in providing a lower point for streets with more available gaps, it gives a high score to streets with limited or no available gap.

Both Points Warrant systems of San Diego and Escondido policies require a minimum of 16 points to justify a midblock crossing. However, since San Diego policy's Point Warrant system has a total of 38 points compared to Escondido's total of 30 points, it's easier to justify a midblock crossing using San Diego's policy. It should also be noted that on most Point Warrants, San Diego policy provides lower thresholds to warrant a crosswalk as compared to Escondido policy.

3. Treatments

If the 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. This is the section that current City of Escondido Crosswalk Policy does not address. The following treatment thresholds and categories are all from new City of San Diego crosswalk policy.

"*Marked crosswalks at streets that have less than 1,500 ADT can be installed with signs and markings alone. The following table provides thresholds for determining whether additional treatments are required prior to installing a marked crosswalk. The thresholds are based on vehicle volumes, vehicle speeds, and pedestrian crossing distance at the proposed location. Location types are divided into categories A, B, C and D, and are used to determine the appropriate treatment for the proposed marked crosswalk location.*"

Crossing treatment thresholds and description of each treatment is provided on the next page.

Table 2-3: Crossing Treatment Thresholds for Uncontrolled Marked Crosswalks if Warrants are Met

Crossing Distance[2]	Roadway ADT (vehicles per day)									
	< 1,500	1,501 – 5,000		5,001 – 12,000		12,001 – 15,000		> 15,000	
< 40'	A	B		B		C		C	D[1]
40' to 52'	A	B		C		C	D[1]	D	
> 52'	A	B	C[1]	C	D[1]	D		D	

1. For streets with more than one lane at an approach or posted speed limit 30 mph or greater.
2. Crossing distance can be measured to a pedestrian refuge island if one is present.

Table 2-4: Crossing Treatments for Uncontrolled Marked Crosswalks if Warrants are Met

Category	Crossing Treatments
A	**The following is required:** • (W11-2) Pedestrian Warning Signage with the corresponding (W16-7P) arrow plaque
B	**At least one of the following is required:** • (R1-6) State Law – Yield to Pedestrian sign if median is present • Rectangular Rapid Flashing Beacons (RRFBs) • Raised crosswalk or other traffic calming treatments if the City of San Diego's Traffic Calming Guidelines are met
C	**At least two of the following are required:** • Radar Speed Feedback Signs • Striping changes such as narrower lanes, painted medians, road diets, or other speed reducing treatments. • RRFBs • Staggered crosswalks and pedestrian refuge island • Horizontal deflection traffic calming treatments[1] if the City of San Diego's Traffic Calming Guidelines are met
D	**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:** • Pedestrian Hybrid Beacon if the CA MUTCD warrants are met • Horizontal deflection traffic calming treatment[1] with RRFBs if the City of San Diego's Traffic Calming Guidelines are met

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

Based on the treatment categories and thresholds on the previous page, below are a couple of examples of using the new San Diego midblock crossing policy treatments at some City of Escondido midblock crosswalks:

1. Creek Trail midblock crossing at El Norte Pkwy upon completion of the bridge

The Average Daily Traffic at this location has been counted as 13400 veh/day. The crossing distance is 80' and because of the long crossing distance (>52), treatment "D" must be used. This location requires one of the following:

a) Pedestrian Hybrid Beacon (HAWK signal) or

b) Horizontal deflection (pedestrian refuge islands, pedestrian bulb-outs, median striping …) with Rectangular Rapid Flashing Beacon (RRFB).

Speed of traffic would not allow uncontrolled crossing at his location, so only option (a) would be applicable.

2. Creek Trail midblock crossing at Harding St

The Average Daily Traffic at this location has been counted as 5600 veh/day. The crossing distance is 64' and because of the long crossing distance (>52), and having more than one lane in the each direction, treatment "D" must be used. This treatment needs one of the following:

a) Either a Pedestrian Hybrid Beacon (HAWK signal) or

b) Horizontal deflection (pedestrian refuge islands, pedestrian bulb-outs, median striping …) with Rectangular Rapid Flashing Beacon (RRFB)

By implementing a road diet traffic calming measure and eliminating the multi-lane threat, treatment "C" provided below can be acceptable because of the low Average Daily Traffic (ADT).

3. Creek Trail midblock crossing at N Citrus Ave

The Average Daily Traffic at this location has been counted as 11200 veh/day. The crossing distance is 42', so treatment "C" should be used. This treatment needs two of the following:

a) Radar Speed Feedback Signs

b) Striping changes such as narrower lanes, painted medians, road diets, or other speed reducing treatments.

c) RRFBs

d) Staggered crosswalks and pedestrian refuge island

e) Horizontal deflection traffic calming treatments

Summary:

In both policies, Points Warrants have to be met for a location to be considered for a midblock crossing. However, meeting all the Basic Warrants by itself does not justify a midblock crossing. The location must meet Points Warrants also. In Basic Warrants, both policies are very similar and so very minor revisions to current City of Escondido policy could be considered. City of San Diego's policy can be used as a guideline considering the extensive research and study conducted for it. Evaluating "Latent Demand" or the potential increase in demand that would exist if conditions were better or different is an area of possible improvement in the future policy of Escondido.

In Point Warrants, San Diego policy provides lower thresholds and more points to many similar warrants compared to Escondido. In drafting the future policy, staff will review the Points Warrants of City of San Diego in detail and amend the existing City policy if needed. Revising the "Gap Analysis" to that developed by San Diego is an area of possible improvement in the future policy of Escondido.

Recommended Treatments for crosswalks is not currently included in City of Escondido Policy and will be recommended for inclusion in the future policy. Overall, Pedestrian Signals and Rectangular Rapid Flashing Beacons are widely proposed as acceptable treatments for a variety of midblock crossing scenarios where traffic volumes or widths of crossing are relatively high. Extra signage and raised crosswalks are also proposed for lower volumes and crossing widths. Other measures of City of Escondido Traffic Management Toolbox might be applicable as well. Proper treatments needed for different categories of midblock crossing will be recommended in the future City of Escondido Crosswalk Policy.

Recommendation: Staff requests recommendation from Transportation and Community Safety Commission on amending the current City of Escondido Crosswalk Policy

Necessary Council Action: None

Respectfully submitted,

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