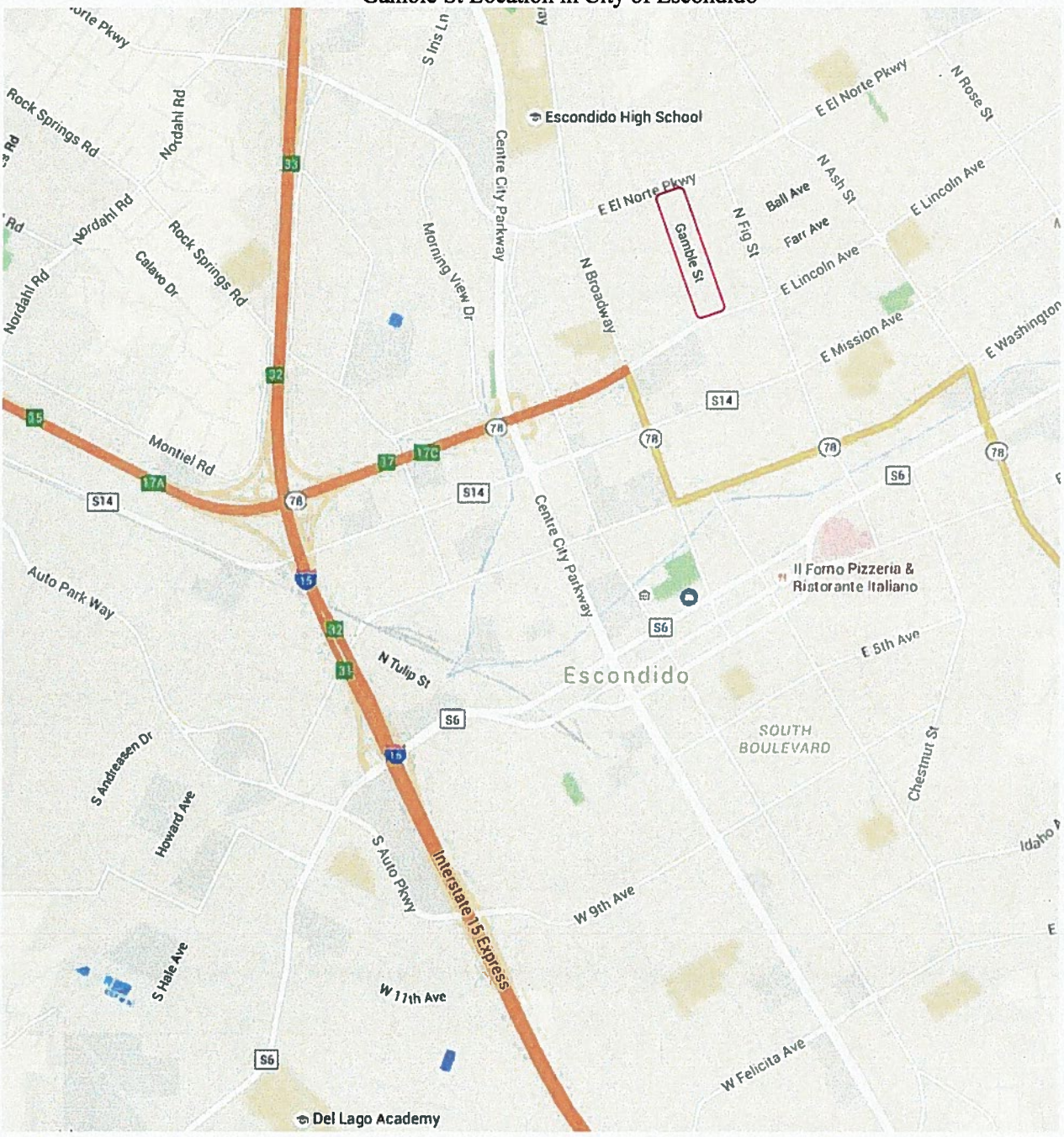
I.

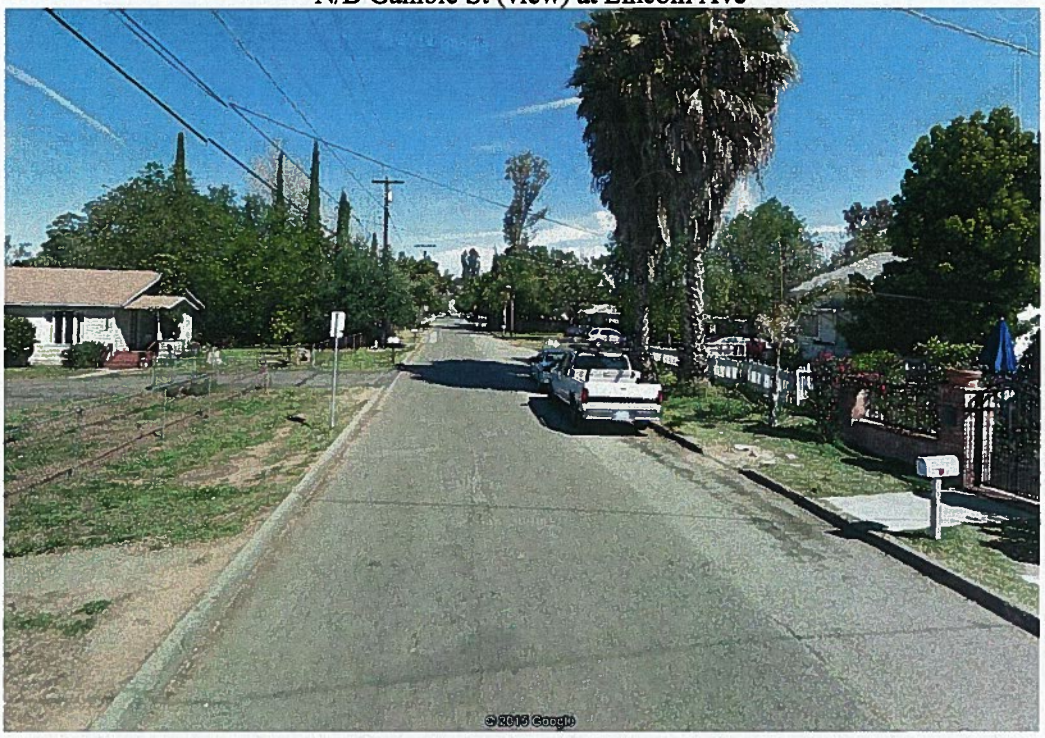
J.

PERECENTILE SPEEDS	10%	15%	50%	85%	90%
	20.0 mph	22.6 mph	30.0 mph	38.8 mph	41.0 mph

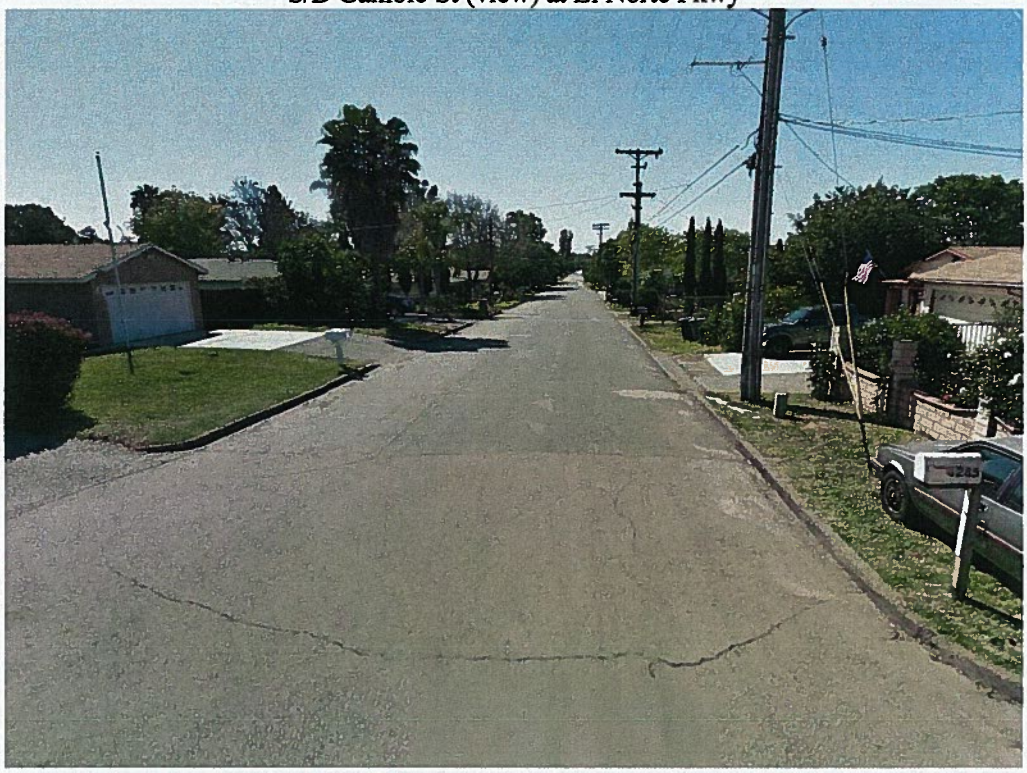
Gamble St Location in City of Escondido



N/B Gamble St (view) at Lincoln Ave



S/B Gamble St (view) at El Norte Pkwy



To keep the residential nature of unclassified streets and to help curbside parking, City of Escondido does not mark center-lines on residential streets. Gamble Street does not have any striping or pavement marking at its current condition.

After thorough evaluation of the street's geometry, cross section, land-uses and improvements several measures were selected from the City of Escondido Traffic Management Toolbox to be implemented on Gamble St. The selected measures are described below.

1. Mid-block Striping Chokers

Striping chokers are markings in the parking zone that narrow the travel-way width for vehicles on a roadway. They are applicable on streets with speeding and cut-through problems such as Gamble St. The chokers designed for Gamble St narrow the travel-way width down to approximately 20'. To clarify the path of travel for drivers, double yellow center-lines will be painted in the area for chokers.

Three locations were selected to implement striping chokers on Gamble St. Since parking would be prohibited in the area of these chokers, the locations were selected in areas that would have least impact on curbside parking. These location are shown on the enclosed figures.

2. Speed Radar Feedback Signs

As drivers approach these signs, they are detected by radar and their speed is displayed in flashing or static lights on the sign panel. These signs are intended for residential streets with moderate traffic volumes. These radars will increases driver awareness of speed and the speed limit and they can be turned off at a higher speed threshold in order to discourage deliberate speeding. Residents and other drivers driving at the speed limit or less don't trigger the sign.

Two speed radar feedback signs have been planned to be installed on Gamble St. One for N/B traffic on the northern half of the street and one facing S/B traffic on the southern half of the street. The locations for these radars were carefully selected to be located in areas where the striping chokers will have the least impact and therefore there is a higher chance of speeding. Next figures shows the locations for the proposed radars.

3. Speed Limit Signs and Pavement Legends

Speed limit signs will be added with the Speed Radar Feedback signs. To emphasize on the residential nature of the neighborhood and to alert the drivers who may not know the speed limit of the road, "25 MPH" pavement legends will be added to the street in proper locations.

Locations for these legends will be selected based on the geometry of the roadway, location of the cul-de-sacs and areas with speeding potential.

Neighborhood Outreach

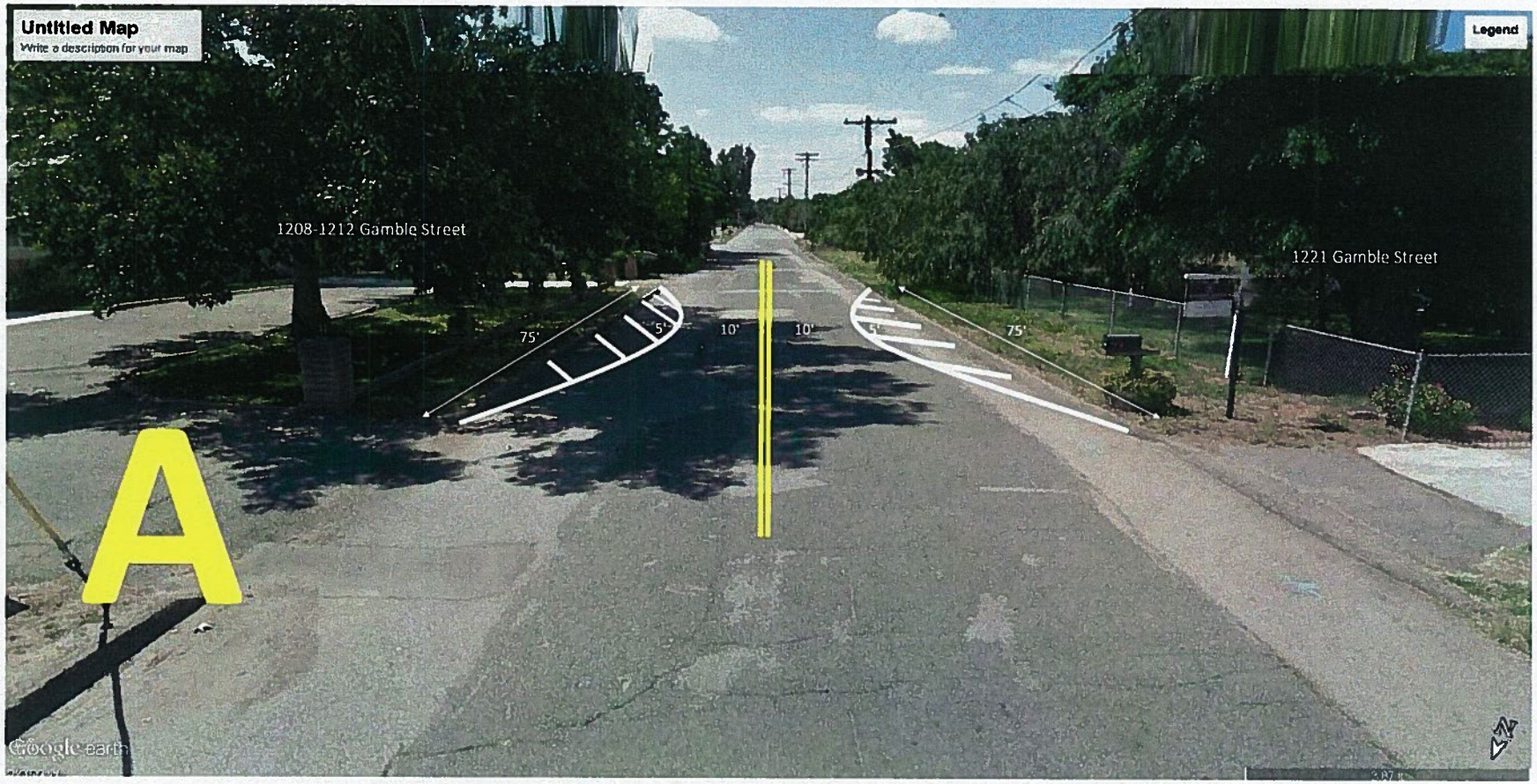
To assure neighborhood acceptance and to receive public feedback and input on the designed traffic calming plan, the designed measures and all the related exhibits were mailed to all owners and residents of properties on Gamble St and its cul-de-sacs. Staff received several good comments from residents regarding the plan and also requests for other measures to improve the flow of traffic on Gamble St.

Some residents commented that they would like to add speed tables to the plan. The estimated cost for a speed table is $5000. The street would need at least three speed tables and this exceeds the available budget. Also it should be noted that speed tables are class II traffic calming measures which should only be implemented after class I measures have been exhausted, per City of Escondido Traffic Management Policy.

Information regarding the October 8, 2015 Transportation and Community Safety Commission was provided to the residents to attend this TCSC meeting if interested.

Gamble Street
Traffic Calming
El Norte Pkwy
Peablossom Pl
North Choker (A)
Baroque Pl
Joey Pl
Center Choker (C)
Pear Tree Pl
Orion Pl
N Gamble
South Choker (E)
E Lincoln Ave

North Striping Choker (driving S/B view)



North Speed Radar Feedback Sign (driving N/B view)

Center Striping Choker (driving S/B view)

South Speed Radar Feedback Sign (driving S/B view)

South Striping Choker (driving N/B view)

The cost for implementing this traffic calming plan is approximately $20,000 which is equal to the amount left in the 2015/2016 TCSC traffic management budget.

Recommendation:

Approve Traffic Calming Plan for Gamble Street and authorize use of TCSC budget to fund this work.

Necessary Council Action: None

Respectfully submitted,

Prepared by:

Abraham Bandegan, TE, PTP
Associate Engineer/Traffic Division

Reviewed by:

Julie B. Procopio, PE
Assistant Director of Public Works

Approved by:

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

ESCONDIDO
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CITY OF ESCONDIDO

TRANSPORTATION and
COMMUNITY SAFETY COMMISSION

Commission Report of: October 8th, 2015 **Item No.: F2**

Location: Citywide

Initiated By: Staff

Request: Proposals to Update Current City of Escondido Crosswalk Policy

Background:

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. The purpose of this policy was to provide comprehensive pedestrian crossing guidelines and to provide for the optimum level of safety and mobility for both pedestrians and motorists. Different warrants and thresholds were introduced for uncontrolled crossing in the new policy to help decision-makers in evaluating the need for midblock crossing and crossing at uncontrolled locations and the treatments needed to assure safety of pedestrians.

A summary of Current City of Escondido Crosswalk policy and the new City of San Diego Crosswalk policy and a brief comparison between the policies were presented to Transportation and Community Safety Commission (TCSC) in July and staff received valuable input from TCSC on how to proceed with updating the current city policy and which areas of the policy to improve.

Discussion & Purpose:

Transportation Commission recommended staff to revise the policy based on the latest standards and national guidelines and expressed its concern that uncontrolled crosswalks can be unsafe and suggested the new policy be drafted in a way that would justify only the mid-block and uncontrolled crosswalks that are absolutely necessary.

The purpose of this report is to provide a summary of the proposed changes to the existing City of Escondido Crossing Policy. These changes will be incorporated in the new City of Escondido Crosswalk Policy that will be presented to TCSC in April 2016.

Revisions are being proposed for different warrants and guidelines of the current city policy. This report provides the current policy's language, the proposed revision to it and the reason for each revision.

The new City of San Diego Crosswalk policy consists of "Basic Warrants", "Point Warrants" and "Crossing Treatments". The first two Warrants are similar to City of Escondido Warrants but nothing similar to the "Treatments" chapter exists in the current city policy.

Revision proposals to the first two warrants will be discussed in this report and the new Treatment chapter for the new City of Escondido Crosswalk policy will be presented to TCSC in January. The final version of the new policy will be presented to the Commission in April 2016.

1. Proposals for Revisions in 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.

  Proposal: Require pedestrian crossing volume of 10 or more per hour. Pedestrian attractors will be addressed in the Points Warrant section.

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.

  Proposal: The 85th percentile approach speed must be equal to or lower than 40 MPH, unless a HAWK or a pedestrian signal will be installed.

1.3. Nearest Controlled Crossing

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

  Proposal: Considering the length of blocks in Escondido, staff recommends the proposed location must be farther than 400' from the nearest controlled crossing. However, if a special pedestrian attractor exists within 250 feet of the proposed location, the location can be evaluated for Points Warrants per City Engineer's discretion.

1.4. Visibility Warrant

- **San Diego**
  The motorist must have an unrestricted view of all pedestrians equal to 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 to or greater than 200ft. Grades, curves and other restrictions need special attention.

  Proposal: The motorist must have an unrestricted view of all pedestrians equal to or greater than the "Stopping Sight Distance" needed for the 85th percentile speed.

1.5. Illumination Warrant

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

  Proposal: No changes are proposed for this warrant.

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

  Proposal: The proposed location must have existing accessibility to disabled pedestrians or accessibility improvements shall be included as part of the project.

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. City of San Diego has a total of 38 points available while City of Escondido has 30 points. Both policies require a minimum of 16 points to justify an uncontrolled crossing. Per TCSC recommendation, staff did not increase the available 30 points in the Points Warrants.

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	

Proposal: Use the existing City of Escondido "Volume Warrant" table with the following addition. The actual latent demand will be counted where feasible. However, when not possible to observe and count the latent demand, the number of counted pedestrians will be increased by 30% in locations with latent demand potential based on engineer's judgement which could include the following locations.

- **Areas such as commercial areas and high density residential areas**
- **Where a pedestrian traffic generator exists within 600' of the proposed crosswalk**
- **Other locations with potential latent demand based on engineering judgement**

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	

Proposal: The Condition Warrant table is recommended to be revised as follows.

Condition	**Points**	**Total Available Points**
The nearest controlled pedestrian/bicycle crossing is greater than 600 feet from the proposed crosswalk	**3**	**12**
The proposed crosswalk will position pedestrians to be seen better by motorists (applicable to uncontrolled intersections only)	**2**	
An existing bus-stop is located within 100 feet of the proposed crosswalk	**2**	
The proposed crosswalk will establish a midblock crossing and channelize the flow where pedestrian crossing is spread over a long stretch of road	**2**	
Other safety related factors	**3**	

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	

Proposal: The Gap Time Warrant is recommended to be revised similar to the new City of San Diego Gap Time Warrant per following table to reflect the bell-shaped curve.

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

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 and is recommended to be added to the new policy. This section will be presented to Commission for comments and recommendations in January 2016.

Recommendation: Staff requests review and recommendation on the proposed changes to the current City of Escondido Crosswalk Policy

Necessary Council Action: None

Respectfully submitted,

Prepared by:

Abraham Bandegan, TE, 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

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CITY OF ESCONDIDO

TRANSPORTATION and
COMMUNITY SAFETY COMMISSION

Commission Report of: October 8th, 2015 **Item No.: F3**

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 11 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 survey 10, the recommended speed limit is changing (decrease by 5mph) based on the 85th-percentile speed of the new speed survey.

For speed surveys 4-8, 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.

Table 1 - Overview of Speed Surveys

Segment No.	Street Name	Segment		Previous Speed Survey	Posted Speed Limit (MPH)	85th Percentile (MPH)	Recommended Speed Limit (MPH)	Speed Limit to be posted, per Traffic Engineer
		From	To					
1	Fig Street	El Norte Pkwy	Lincoln Pkwy	07/25/07	35	37	35	35 (25 WCAP)
2	Fig Street	Lincoln Pkwy	Mission Ave	07/25/07	35	37	35	35
3	Fig Street	Mission Ave	Washington Avenue	07/26/07	35	37	35	35
4	Fig Street	Washington	Valley	07/31/07	30	**33**	35	**30****
5	Fig Street	Valley Pkwy	Grand	08/01/07	25	**30**	30	**25****
6	Quince Street	Mission	Valley	07/17/07, 08/06/07	35	**38**	40	**35****
7	Quince Street	Valley Pkwy	Ninth Ave	08/07/07	35	37	35	35
8	Quince Street	Ninth Ave	Thirteenth Ave	08/08/07	30	**33**	35	**30****
9	San Pasqual Road	Bear Valley	City Limits	08/13/07	50	48	50	50 (25 WCAP)
10	Broadway	North Avenue	Jesmond Dene	04/21/09	50	44	45	45↓
11	Broadway	Jesmond Dene	Rincon	12/04/07	45	48	50	45

* 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), or higher than average collision rate.**
↓ Indicates speed going down.

Necessary Council Action: None. (All recertification's).

Respectfully submitted,

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