

CITY OF SAN DIEGO, CALIFORNIA
COUNCIL POLICY

CURRENT

SUBJECT: MARKED CROSSWALK CRITERIA AT UNCONTROLLED LOCATIONS

POLICY NO.: 200-07

EFFECTIVE DATE: June 11, 2015

1.0 INTRODUCTION

1.1 Background

Marked crosswalks are an important tool that can enhance pedestrian safety with proper traffic controls on public streets. There have been many changes in technology and practice related to pedestrian safety since Council Policy 200-07 was adopted in 1990. This council policy incorporates those changes and supersedes that policy based on the 2015 City of San Diego Pedestrian Crosswalk Guidelines.

1.2 Purpose

The main function of marked crosswalks is to channelize pedestrians to desirable paths of travel across streets at intersections or mid-block locations. Crosswalks alone at uncontrolled locations do not guarantee the safety protection of pedestrians, therefore careful consideration of their location and warning devices is essential. This Council Policy provides standards for when to install crosswalks at uncontrolled locations, and for when they must be accompanied by other traffic control devices.

Council Policy 200-07 consists of:

- Basic Warrants
- Point Warrants
- Crossing treatments to supplement marked crosswalks
- Requirements for the removal of marked crosswalks

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1.3 Summary

Council Policy 200-07 provides the requirements uncontrolled pedestrian crossings must meet in order to be considered for a marked crosswalk, how a crosswalk must be marked, and the process of removal, if necessary.

If a location meets each of the Basic Warrants and scores a minimum of 16 points in the Point Warrants, it qualifies for a marked crosswalk. Point Warrants are indicated in Table 1. In addition, crossing treatments and/or warning devices must accompany the crosswalk. Table 2 identifies categories for crossing treatments that are needed based on thresholds of vehicle volumes and crossing distances. Table 3 lists the crossing treatments for each category.

For unusual conditions not identified in this policy, engineering judgment should be used to apply these guidelines or adjust them to fit individual field site conditions. These guidelines are not intended to be a substitute for engineering knowledge, experience or judgment.

In addition, any removal of a marked crosswalk must follow the procedure outlined in the California Vehicle Code.

2.0 POLICY

2.1 Basic Warrants

Each of the following warrants must be satisfied in order for an uncontrolled location to be considered for a marked crosswalk.

2.1.1. Pedestrian Volume Warrant

The pedestrian volumes must be equal to or greater than ten (10) pedestrians per hour during the peak pedestrian hour. Children under 13, elderly over 64 years and/or disabled persons count as 1.5 pedestrians. Alternatively, this warrant can be satisfied using Latent Pedestrian Demand if conditions (a), (b), or (c) under Table 1, T1.1b are met.

2.1.2. Approach Speed Warrant

The 85th percentile approach speed must be equal to or lower than 40 MPH. This warrant does not apply when a pedestrian hybrid beacon or a pedestrian traffic signal will be installed.

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2.1.3. Nearest Controlled Crossing

The proposed location must be farther than 250 feet from the nearest controlled pedestrian crossing (measured from the nearest edge of the proposed marked crosswalk to the closest edge of the controlled crossing).

2.1.4. Visibility Warrant

The motorist must have an unrestricted view of all pedestrians at the proposed location for a distance required by the following table (stopping sight distance is to be interpolated when 85th percentile speed is between 5 mph increments):

85th Percentile Speed (MPH)	Stopping Sight Distance (feet)
25	150
30	200
35	250
40	300

2.1.5. Illumination Warrant

The proposed location must have existing lighting.

2.1.6. Accessibility Warrant

The proposed location must have existing accessibility to disabled pedestrians or have accessibility improvements programmed.

2.2 Point Warrants

Point warrants are the number of points a location is required to meet (in with the Basic Warrants above) to qualify for a marked crosswalk. Sixteen points are required and can be achieved through pedestrian volumes or latent pedestrian demand, general conditions, and/or the average gaps in traffic. A summary of each Point Warrant and the allocation of points are presented in Table 1. A discussion of each Point Warrant variable follows the table.

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Table 1: Point Warrants

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	
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	

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Table 1: Point Warrants (continued)

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	
Total Available Points		38
<p>Table 1, Explanatory Notes:</p> <p><u>T1.1a Pedestrian Volume Warrant</u> The Pedestrian Volume Warrant assigns point values based on pedestrian crossing volumes at the proposed location. Children under 13, elderly over 64 years and/or disabled persons count as 1.5 pedestrians.</p> <p><u>T1.1b Latent Pedestrian Demand Warrant (in lieu of Pedestrian Volume Warrant)</u> The Latent Pedestrian Demand Warrant may be used in lieu of the Pedestrian Volume Warrant.</p> <p><u>T1.2 General Condition Warrant</u> The General Condition Warrant presents six (6) unique categories. A location can score either zero (0) or three (3) points for each unique category, making a total of 18 points possible. The general conditions include the following:</p> <ul style="list-style-type: none"> (a) <i>The nearest controlled crossing is greater than 300 feet from the proposed crosswalk.</i> The distance should be measured from the proposed location of the crosswalk to the nearest controlled intersection, i.e. stop sign, traffic signal, etc. (b) <i>The proposed crosswalk will position pedestrians to be better seen by motorists.</i> This condition should be considered at locations where one leg of the intersection provides better sight distance than the other legs or midblock location with better sight distance. (c) <i>The proposed crosswalk will establish a mid-block crossing between adjacent signalized intersections.</i> This warrant refers to a condition where there is a major pedestrian attractor/generator nearby, and an adequate crossing can be provided that could help channelize a heavy flow of mid-block pedestrians. 		

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Table 1: Point Warrants (continued)

- (d) *The proposed crosswalk is located within ¼ mile of a pedestrian attractor/generator as defined below:*
- International Border Crossing
 - Major Multi-Modal Transit Centers
 - Transit Stops
 - Elementary/Middle/High Schools
 - Universities and Colleges
 - Neighborhood Civic Facilities (Libraries, Post Office & Religious Facilities)
 - Neighborhood and Community Retail
 - Pedestrian Intensive Beaches
 - Parks & Recreation (excludes non-useable open space)
 - Mixed Land Uses (housing near employment and/or commercial)
- (e) *A bus stop is located within 100 feet of the proposed location.*
This warrant applies if there is a bus stop within 100 feet of the proposed crosswalk.
- (f) *Other factors.*
Other factors allow for extenuating circumstances not covered in the proposed warrants. These are to be evaluated using engineering judgment.

T1.3 Gap Time Warrant

Gap time is the time needed for a pedestrian to cross the travelled lanes of a roadway at an average walking speed without the need for a driver to yield. The number of usable gaps (or gaps that exceed the minimum time needed to cross) are counted during the peak vehicular hour and averaged per five-minute period.

2.3 Crossing Treatments

2.3.1 Crossing Treatment Thresholds

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. Marked crosswalks at streets that have less than 1,500 ADT can be installed with signs and markings alone. Table 2 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.

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Table 2: 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

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.

2.3.2 Crossing Treatments

Table 3 presents treatment requirements for the categories shown in Table 2. As new devices or treatments are proven, they may be considered in lieu of these treatments, with the City Engineer’s approval.

Table 3: Crossing Treatments for Uncontrolled Marked Crosswalks if Warrants are Met

Category	Crossing Treatments
A	<p>The following is required:</p> <ul style="list-style-type: none"> (W11-2) Pedestrian Warning Signage with the corresponding (W16-7P) arrow plaque as shown in CA MUTCD Section 2C.50
B	<p>At least one of the following is required:</p> <ul style="list-style-type: none"> (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	<p>At least two of the following are required:</p> <ul style="list-style-type: none"> 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 treatments¹ if the City of San Diego’s Traffic Calming Guidelines are met
D	<p>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:</p> <ul style="list-style-type: none"> Pedestrian Hybrid Beacon if the CA MUTCD warrants are met Horizontal deflection traffic calming treatment¹ 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 pop-outs.

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2.4 Stop Controlled Crosswalks

At stop controlled intersection approaches, stop signs are the major factor controlling both the motorist's and pedestrian's behavior, rather than crosswalk markings. The warrants reflected in this policy do not apply at stop controlled intersection approaches. At such approaches stop bars are intended to define pedestrian paths. A marked crosswalk may be installed at a stop controlled intersection on a case by case basis if a clear benefit to pedestrians is demonstrated. Examples of such demonstrated benefits are:

- An all-way stop controlled intersection where at least one street is a one-way street with more than one lane, and marking the far side crossing will highlight pedestrian crossing (all approaches that pedestrians are allowed to cross should be marked in this case).
- An all-way stop controlled intersection where pedestrians are restricted on one or more legs and marking the alternate crossing routes will highlight where pedestrians are allowed to cross.

2.5 Removal of Crosswalks

It shall be the Policy of the City of San Diego to follow the California Vehicle Code requirements when a crosswalk is considered for removal.

The California Vehicle Code, Section 21950.5, states the following:

- (a) An existing marked crosswalk may not be removed unless notice and opportunity to be heard is provided to the public not less than 30 days prior to the scheduled date of removal. In addition to any other public notice requirements, the notice of proposed removal shall be posted at the crosswalk identified for removal.
- (b) The notice required by subdivision (a) shall include, but is not limited to, notification to the public of both of the following:
 - (1) That the public may provide input relating to the scheduled removal.
 - (2) The form and method of providing the input authorized by paragraph (1).

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3.0 HISTORY:

“Installation of Parking Facility Guide Signs”

Adopted by Resolution R-171103 - 05/31/1962

Repealed by Resolution R-212199 - 12/12/1974

“Comprehensive Pedestrian Crossing Policy”

Adopted by Resolution R-275560 - 04/23/1990

“Marked Crosswalk Criteria at Uncontrolled Locations”

Amended by Resolution R-309772 - 06/11/2015