

APPENDIX J

Crosswalk and Traffic Circle Warrants



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November 3, 2016

City of San Diego
Planning Department
1222 1st Ave MS 413
San Diego, CA 92101

Subject: Evaluation of requirements for uncontrolled pedestrian crossing on Comstock Street

Dear Melissa Garcia,

The purpose of this memo is to evaluate and identify the warrants for an uncontrolled pedestrian crossing located on Comstock Street between Linda Vista Road and Ulric Street in the City of San Diego. The warrants for an uncontrolled pedestrian crossing are outlined in the City of San Diego Council Policy 200-07. The policy highlights basic warrants which must be satisfied in order for an uncontrolled location to be considered for a marked crossing, in addition to point warrants for which a crossing location must have a set number of points to be considered for a marked crosswalk.

EXISTING CONDITIONS

The proposed crossing location is located on Comstock Street approximately 320 feet east of Linda Vista Road and approximately 320 feet west of Ulric Street (measured from the center line). The road is currently classified as a 3 lane collector per the 1998 Linda Vista Community Plan. The segment of Comstock Street at the proposed crossing currently has a posted speed of 25 mph and a prevailing 85th percentile speed of 30 mph according to an engineering and traffic survey conducted in 2004. Comstock Street currently has one lane of travel in each directions, a two-way left turn lane, and parking on both sides of the road amounting to a road width of 54 feet at the location of the proposed crossing location.

FIELD MEASUREMENTS AND OBSERVATIONS

The pedestrian volume and vehicular gaps were observed and measured on Comstock Street on Thursday, November 3, 2016 from 3:00 P.M. to 4:00 P.M.

BASIC WARRANTS

San Diego Council Policy 200-07 outlines 6 basic warrants that must be met in order for an uncontrolled crossing to be considered for a marked crosswalk. The basic warrants per the council policy are as follows;

2.1.1 Pedestrian Volume Warrant – Warrant met

- Requirement – 10 Pedestrians per hour during peak pedestrian hour or satisfied through latent pedestrian demand.
- Measured – **28 Pedestrians** per hour during peak pedestrian hour

6 (counted as 9)	Children under age 13, disabled, elderly over age 64
19	Other Pedestrians
Total	25 (counted as 28)

2.1.2 Approach Speed Warrant – Warrant met

- Requirement – 85th percentile speed must be equal to or lower than 40 mph
- Measured – 85th percentile speed of **30 mph**

2.1.3 Nearest Controlled Crossing – Warrant met

- Requirement – proposed crossing location must be at least 250 feet away from the nearest controlled pedestrian crossing
- Measured – proposed crossing location is **250 feet** from the controlled pedestrian crossing at Linda Vista Road.

2.1.4 Visibility Warrant – Warrant met

- Requirement – motorists must have an unrestricted view of all pedestrians in the crossing from a stopping sight distance outlines in council policy 200-07 (200 feet for 30 mph approach speed)
- Measured – the sight distance measured for the proposed crossing was **greater than 500 feet looking west and 300 feet looking east**. In order to achieve the minimum sight distance looking east and west from the proposed crossing; existing parking will be impacted.

2.1.5 Illumination Warrant – Warrant to be met with improvements

- Requirement – The proposed crossing location must have existing lighting
- Observed – No existing illumination, however, **illumination to be installed with improvements**

2.1.6 Accessibility Warrant – Warrant to be met with improvements

- Requirement – Proposed crossing location must have ADA accessibility
- Observed – No existing ADA accessibility, however, **ADA access to be installed with improvements**

POINT WARRANTS

San Diego Council Policy 200-07 outlines 4 categories of warrants, each allocating a certain amount of points to assign a proposed uncontrolled marked crosswalk. Sixteen (16) points are required from the point warrants (in addition to the basic warrants) in order for a proposed uncontrolled crossing to be considered. The point warrants per the council policy are as follows:

T1.1a Pedestrian Volume Warrant¹ – 8 assigned points

- Number of observed pedestrians (peak hour) = 28

T1.1b Latent Pedestrian Demand Warrant (not used)

T1.2 General Condition Warrant – 9 assigned points

- c. The proposed crosswalk will establish a mid-block crossing between adjacent signalized intersections.
- d. A pedestrian attractor/generator is located within ¼ mile to the proposed crosswalk.
- e. An existing bus stop is located within 100 feet of the proposed crosswalk.

T1.3 Gap Time Warrant – 8 assigned points

- Average number of vehicular gaps per 5-minute period = 5.25

Total Points for proposed uncontrolled crossing = **25 points**

CONCLUSION

A review of basic and point warrants result in the proposed crosswalk on Comstock Street between Linda Vista Road and Ulric Street receiving 25 points, 9 more points than the requirement. The proposed crosswalk is warranted.

¹ Pedestrian Volume Warrant used in lieu of Latent Pedestrian Demand Warrant

July 25, 2016

City of San Diego
Planning Department
1222 1st Ave MS 413
San Diego, CA 92101

Subject: Evaluation of requirements for uncontrolled pedestrian crossing on Coolidge Street

Dear Melissa Garcia,

The purpose of this memo is to evaluate and identify the warrants for an uncontrolled pedestrian crossing located on Coolidge Street between Kramer Street / David Street and Howe Court in the City of San Diego. The warrants for an uncontrolled pedestrian crossing are outlined in the City of San Diego Council Policy 200-07. The policy highlights basic warrants which must be satisfied in order for an uncontrolled location to be considered for a marked crossing, in addition to point warrants for which a crossing location must have a set number of points to be considered for a marked crosswalk.

EXISTING CONDITIONS

The proposed crossing location is located on Coolidge Street approximately 250 feet south of Kramer Street / David Street and approximately 450 feet north of Howe Court (measured from the center line). The road is currently classified as a local street per the 1998 Linda Vista Community Plan. The segment of Coolidge Street at the proposed crossing currently has a posted speed of 25 mph. No traffic and engineering survey has been conducted on Coolidge Street therefore, for this study, a 25 mph design speed will be assumed. Coolidge Street currently has one lane of travel in each direction separated by a double yellow centerline, as well as parking on both sides of the road amounting to a road width of 37 feet at the location of the proposed crossing location.

FIELD MEASUREMENTS AND OBSERVATIONS

The pedestrian volume and vehicular gaps were observed and measured on Coolidge Street on Thursday, July 14, 2016 from 7:00 A.M. to 8:00 A.M.

BASIC WARRANTS

San Diego Council Policy 200-07 outlines 6 basic warrants that must be met in order for an uncontrolled crossing to be considered for a marked crosswalk. The basic warrants per the council policy are as follows;

2.1.1 Pedestrian Volume Warrant – Warrant met

- Requirement – 10 Pedestrians per hour during peak pedestrian hour
- Measured – **149 Pedestrians** per hour during peak pedestrian hour

47 (counted as 70)	Children under age 13, disabled, elderly over age 64
79	Other Pedestrians
Total	126 (counted as 149)

2.1.2 Approach Speed Warrant – Warrant met

- Requirement – 85th percentile speed must be equal to or lower than 40 mph
- Measured – assumed design speed of **25 mph**

2.1.3 Nearest Controlled Crossing – Warrant to be met with traffic circle improvements

- Requirement – proposed crossing location must be at least 250 feet away from the nearest controlled pedestrian crossing
- Measured – proposed crossing location is 210 feet from the controlled pedestrian crossing at Kramer Street / David Street, however, this warrant will be met with by replacing the existing all way stop at Kramer St / David St with a proposed traffic circle.

2.1.4 Visibility Warrant – Warrant met

- Requirement – motorists must have an unrestricted view of all pedestrians in the crossing from a stopping sight distance outlines in council policy 200-07 (150 feet for 25 mph approach speed)
- Measured – the sight distance measured for the proposed crossing was **greater than 500 feet looking north and 330 feet looking south**. This sight distance was measured from the edge of the parking lane to account for the proposed curb pop-outs at the proposed crossing. In order to achieve the minimum sight distance looking south from the proposed crossing; existing parking will be impacted.

2.1.5 Illumination Warrant – Warrant to be met with improvements

- Requirement – The proposed crossing location must have existing lighting
- Observed – No existing illumination, however, **illumination to be installed with improvements**

2.1.6 Accessibility Warrant – Warrant to be met with improvements

- Requirement – Proposed crossing location must have ADA accessibility

- Observed – No existing ADA accessibility, however, **ADA access to be installed with improvements**

POINT WARRANTS

San Diego Council Policy 200-07 outlines 4 categories of warrants, each allocating a certain amount of points to assign a proposed uncontrolled marked crosswalk. Sixteen (16) points are required from the point warrants (in addition to the basic warrants) in order for a proposed uncontrolled crossing to be considered. The point warrants per the council policy are as follows;

T1.1a Pedestrian Volume Warrant¹ – 10 assigned points

- Number of observed pedestrians (peak hour) = 149

T1.1b Latent Pedestrian Demand Warrant (not used)

T1.2 General Condition Warrant – 6 assigned points

- d. A pedestrian attractor/generator is located within ¼ mile to the proposed crosswalk.
- f. This location is considered a part of a Safe Route to school.

T1.3 Gap Time Warrant – 1 assigned point

- Average number of vehicular gaps per 5-minute period = 5.08

Total Points for proposed uncontrolled crossing = **17 points**

CONCLUSION

A review of basic and point warrants result in the proposed crosswalk on Coolidge Street between Kramer Street and Howe Court receiving 17 points, 1 point more than the requirement. The proposed crosswalk is warranted. The proposed crossing is located specifically where pedestrians have been seen crossing. That is, the proposed crosswalk is located at the entrance gate leading to the school parking lot across the street. The proposed crosswalk cannot be moved further from the controlled intersection and remain effective at attracting pedestrians to it.

¹ Pedestrian Volume Warrant used in lieu of Latent Pedestrian Demand Warrant

July 25, 2016

City of San Diego
Planning Department
1222 1st Ave MS 413
San Diego, CA 92101

Subject: Evaluation of requirements for proposed traffic circle at the intersection of Coolidge Street, Kramer Street, and David Street.

Dear Melissa Garcia,

The purpose of this memo is to evaluate and identify the warrants for a traffic circle located at the intersection of Coolidge Street, Kramer Street and David Street in the City of San Diego. The warrants for a traffic circle are outlined in the City of San Diego Traffic Circle Evaluation from the Transportation Engineering Division. The document highlights screening criteria which must be satisfied in order for a traffic circle to be considered at an intersection.

EXISTING CONDITIONS

The intersection on Coolidge Street, Kramer Street and David Street currently operates as an all-way stop (4 legs). Coolidge Street has a road width of 37 feet and is the north/south leg of the intersection. Kramer Street has a road width of 36 feet and is the west leg of the intersection. David Street has a road width of 34 feet and is the east leg of the intersection. All roads have one travel lane in each direction with parking on both sides of the road.

SCREENING

The City of San Diego Traffic Circle Evaluation outlines a list of screening criteria, all of which must be satisfied in order for a traffic circle to be considered. The screening criteria is as follows;

1. None of the streets have more than one lane in each direction.
 - **Satisfied** – all streets have one lane of travel in each direction.
2. None of the streets are classified as a major street or higher in the Community Plan.
 - **Satisfied** – Coolidge Street, David Street and Kramer Street are classified as local streets per the 1998 Linda Vista Community Plan.

3. The distance between the intersection and the nearest stop sign or traffic signal is at least 600 feet.
 - **Satisfied** – The nearest stop sign or traffic signal from the intersection is the signalized intersection of Kramer Street and Linda Vista Road (900 feet).
4. All of the streets are crowned for side-gutter drainage.
 - **Satisfied** – All streets are crowned for drainage
5. The longitudinal grade of all streets is 5% or less at the location of the circle.
 - **Not Satisfied** – the approach on the west leg (Kramer Street) of the intersection has an existing 6% grade.
6. None of the streets have roadway profile or alignment features that limit the minimum safe sight stopping distance.
 - **Satisfied** – The sight distance motorists on each leg observing the intersection exceeds the minimum requirement of 150 feet.
7. All of the streets are posted 30 mph or less.
 - **Satisfied** – All streets approaching the intersection are posted 25 mph.
8. A speed profile study confirms a speeding problem exists or the circle is intended to replace an all-way stop.
 - **Satisfied** – The traffic circle is intended to replace an all-way stop.
9. None of the streets are transit routes.
 - **Satisfied** – No transit facilities are located on these streets.
10. Fire Department Approval
 - N/A – approval has not been requested

CONCLUSION

Following the screening criteria for a traffic circle, most of the screening requirements are met except the minimum grade requirement. An exception is requested, given that the existing grade is not excessive to where it would be a safety concern. A traffic circle is recommended at this location.

July 25, 2016

City of San Diego
Planning Department
1222 1st Ave MS 413
San Diego, CA 92101

Subject: Evaluation of requirements for uncontrolled pedestrian crossing on Ulric Street

Dear Melissa Garcia,

The purpose of this memo is to evaluate and identify the warrants for an uncontrolled pedestrian crossing located on Ulric Street at the intersection with Burroughs Street in the City of San Diego. The warrants for an uncontrolled pedestrian crossing are outlined in the City of San Diego Council Policy 200-07. The policy highlights basic warrants which must be satisfied in order for an uncontrolled location to be considered for a marked crossing, in addition to point warrants for which a crossing location must have a set number of points to be considered for a marked crosswalk.

EXISTING CONDITIONS

The proposed crossing location is located on Ulric Street at the south side of the intersection with Burroughs Street. The road is currently classified as a 3 lane collector per the 1998 Linda Vista Community Plan. The segment of Ulric Street at the proposed crossing currently has a posted speed of 30 mph and a prevailing 85th percentile speed of 34 mph according to an engineering and traffic survey conducted in 2014. Ulric Street currently has one lane of travel in each direction, a two way left turn lane, buffered bike lanes in each direction and parking lanes on both sides of the road amounting to a road width of 64 feet at the location of the proposed crossing location.

FIELD MEASUREMENTS AND OBSERVATIONS

The pedestrian volume and vehicular gaps were observed and measured on Ulric Street on Thursday, July 14, 2016 from 3:00 P.M. to 4:00 P.M.

BASIC WARRANTS

San Diego Council Policy 200-07 outlines 6 basic warrants that must be met in order for an uncontrolled crossing to be considered for a marked crosswalk. The basic warrants per the council policy are as follows;

2.1.1 Pedestrian Volume Warrant – Warrant met

- Requirement – 10 Pedestrians per hour during peak pedestrian hour
- Measured – **54 Pedestrians** per hour during peak pedestrian hour

14 (counted as 21)	Children under age 13, disabled, elderly over age 64
33	Other Pedestrians
Total	47 (counted as 54)

2.1.2 Approach Speed Warrant – Warrant met

- Requirement – 85th percentile speed must be equal to or lower than 40 mph
- Measured – 85th percentile speed of **34 mph**

2.1.3 Nearest Controlled Crossing – Warrant met

- Requirement – proposed crossing location must be at least 250 feet away from the nearest controlled pedestrian crossing
- Measured – proposed crossing location is **390 feet** from the controlled pedestrian crossing at Comstock Street

2.1.4 Visibility Warrant – Warrant met

- Requirement – motorists must have an unrestricted view of all pedestrians in the crossing from a stopping sight distance outlines in council policy 200-07 (240 feet for 34 mph approach speed)
- Measured – the sight distance measured for the proposed crossing was **greater than 500 feet looking north and greater than 500 feet looking south**. This sight distance was measured from the edge of the parking lane to account for the proposed curb pop-outs at the proposed crossing.

2.1.5 Illumination Warrant – Warrant met

- Requirement – The proposed crossing location must have existing lighting
- Observed – Location has existing street lighting.

2.1.6 Accessibility Warrant – Warrant to be met with improvements

- Requirement – Proposed crossing location must have ADA accessibility
- Observed – No existing ADA accessibility, however, **ADA access to be installed with improvements**

POINT WARRANTS

San Diego Council Policy 200-07 outlines 4 categories of warrants, each allocating a certain amount of points to assign a proposed uncontrolled marked crosswalk. Sixteen (16) points are required from the point warrants (in addition to the basic warrants) in order for a proposed uncontrolled crossing to be considered. The point warrants per the council policy are as follows:

T1.1a Pedestrian Volume Warrant – 10 assigned points

- Number of observed pedestrians (peak hour) = 54

T1.1b Latent Pedestrian Demand Warrant (not used)

T1.2 General Condition Warrant – 6 assigned points

- a. The nearest controlled crossing is greater than 300 feet from the proposed crosswalk.
- d. A pedestrian attractor/generator is located within ¼ mile to the proposed crosswalk.

T1.3 Gap Time Warrant – 8 assigned points

- Average number of vehicular gaps per 5-minute period = 2.83

Total Points for proposed uncontrolled crossing = **24 points**

CONCLUSION

A review of basic and point warrants result in the proposed crosswalk on Ulric Street on the south side of the intersection with Burroughs Street receiving 24 points, 8 more points than the requirement. The proposed crosswalk is warranted.

July 25, 2016

City of San Diego
Planning Department
1222 1st Ave MS 413
San Diego, CA 92101

Subject: Evaluation of requirements for uncontrolled pedestrian crossing on Ulric Street

Dear Melissa Garcia,

The purpose of this memo is to evaluate and identify the warrants for an uncontrolled pedestrian crossing located on Ulric Street between Linda Vista Road and Dunlop Street in the City of San Diego. The warrants for an uncontrolled pedestrian crossing are outlined in the City of San Diego Council Policy 200-07. The policy highlights basic warrants which must be satisfied in order for an uncontrolled location to be considered for a marked crossing, in addition to point warrants for which a crossing location must have a set number of points to be considered for a marked crosswalk.

EXISTING CONDITIONS

The proposed crossing location is located on Ulric Street approximately 250 feet east of Linda Vista Road and approximately 320 feet west of Dunlop Street (measured from the center line). The road is currently classified as a 3 lane collector per the 1998 Linda Vista Community Plan. The segment of Ulric Street at the proposed crossing currently has a posted speed of 30 mph and a prevailing 85th percentile speed of 34 mph according to an engineering and traffic survey conducted in 2014. Ulric Street currently has one lane of travel in each direction, a two way left turn lane, buffered bike lanes in each direction and a parking lane on the north side of the road amounting to a road width of 64 feet at the location of the proposed crossing location.

FIELD MEASUREMENTS AND OBSERVATIONS

The pedestrian volume and vehicular gaps were observed and measured on Ulric Street on Wednesday, July 13, 2016 from 3:00 P.M. to 4:00 P.M.

BASIC WARRANTS

San Diego Council Policy 200-07 outlines 6 basic warrants that must be met in order for an uncontrolled crossing to be considered for a marked crosswalk. The basic warrants per the council policy are as follows;

2.1.1 Pedestrian Volume Warrant – Warrant met

- Requirement – 10 Pedestrians per hour during peak pedestrian hour
- Measured – **32 Pedestrians** per hour during peak pedestrian hour

5 (counted as 7)	Children under age 13, disabled, elderly over age 64
25	Other Pedestrians
Total	30 (counted as 32)

2.1.2 Approach Speed Warrant – Warrant met

- Requirement – 85th percentile speed must be equal to or lower than 40 mph
- Measured – 85th percentile speed of **34 mph**

2.1.3 Nearest Controlled Crossing – Warrant not met

- Requirement – proposed crossing location must be at least 250 feet away from the nearest controlled pedestrian crossing
- Measured – proposed crossing location is 200 feet from the controlled pedestrian crossing at Linda Vista Road

2.1.4 Visibility Warrant – Warrant met

- Requirement – motorists must have an unrestricted view of all pedestrians in the crossing from a stopping sight distance outlines in council policy 200-07 (240 feet for 34 mph approach speed)
- Measured – the sight distance measured for the proposed crossing was **260 feet looking east and greater than 500 feet looking west**

2.1.5 Illumination Warrant – Warrant to be met with improvements

- Requirement – The proposed crossing location must have existing lighting
- Observed – No existing illumination, however, **illumination to be installed with improvements**

2.1.6 Accessibility Warrant – Warrant to be met with improvements

- Requirement – Proposed crossing location must have ADA accessibility
- Observed – No existing ADA accessibility, however, **ADA access to be installed with improvements**

POINT WARRANTS

San Diego Council Policy 200-07 outlines 4 categories of warrants, each allocating a certain amount of points to assign a proposed uncontrolled marked crosswalk. Sixteen (16) points are

required from the point warrants (in addition to the basic warrants) in order for a proposed uncontrolled crossing to be considered. The point warrants per the council policy are as follows:

T1.1a Pedestrian Volume Warrant – 8 assigned points

- Number of observed pedestrians (peak hour) = 32

T1.1b Latent Pedestrian Demand Warrant (not used)

T1.2 General Condition Warrant – 6 assigned points

d. A pedestrian attractor/generator is located within ¼ mile to the proposed crosswalk.

f. The alley to the west of the proposed crosswalk is used as a pedestrian path to connect the residential neighborhood to the northeast to the commercial uses in the vicinity of the proposed crosswalk. Jaywalking is extremely prevalent in this area due to the pseudo-pedestrian path connection that the alleyway provides. Multiple pedestrian injuries and fatalities have been reported as a result of vehicle-pedestrian accidents (a fatality in 2012, and injuries in 2006 and 2008).¹ The pseudo-connection and injuries and fatality are considered other factors that warrant the addition of the crosswalk at this location.

T1.3 Gap Time Warrant – 1 assigned point

- Average number of vehicular gaps per 5-minute period = 1.25

Total Points for proposed uncontrolled crossing = **15 points**

CONCLUSION

The crosswalk is not met for either the basic warrants or the point-value warrants, and therefore will be removed from the plan.

¹ TIMS Data, accessed 7/22/2016 from <http://tims.berkeley.edu/>