4.10 ALBERT LEA CROSSWALK POLICY

PURPOSE: Pedestrian crosswalks are an integral part of our transportation infrastructure. To be effective and promote safety, marked crosswalks must be installed after careful consideration and review. The review shall be done with adherence to accepted guidelines and good engineering practice. This policy establishes the guidelines and considerations for the installation of marked crosswalks from the date of the adoption of this policy.

POLICY STATEMENT:

The City of Albert Lea may consider the installation of marked crosswalks where there is substantial conflict between vehicular and pedestrian movements as an enhancement for pedestrian crossings of roadways under the City's jurisdiction. Crosswalk installation shall be in accordance with State Law and the guidelines contained herein.

I. AUTHORITY:

This policy is based on administrative implementation of policy and Minnesota State Statute 169. The policy is administered under the direction of the Director of Public Works and applies to roadways under the City's jurisdiction.

II. BACKGROUND:

Minnesota State Statute defines that crosswalks exist at intersections, whether marked or unmarked, and provides for pedestrian and motorist responsibilities.

MN Statute 169.011 DEFINITIONS.
Subdivision 20. Crosswalk. "Crosswalk" means (1) that portion of a roadway ordinarily included with the prolongation or connection of the lateral lines of sidewalks at intersections; (2) any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings on the surface.

MN Statute 169.21 PEDESTRIAN.
Subdivision 2. Rights in absence of signal. (a) Where traffic-control signals are not in place or in operation, the driver of a vehicle shall stop to yield the right-of-way to a pedestrian crossing the roadway within a marked crosswalk or at an intersection with no marked crosswalk. The driver must remain stopped until the pedestrian has passed the lane in which the vehicle is stopped. No pedestrian shall suddenly leave a curb or other place of safety and walk or run into the path of a vehicle which is so close that it is

impossible for the driver to yield. This provision shall not apply under the conditions as otherwise provided in this subdivision.

III. EVALUATION PROCESS

A. Engineering Study

An engineering study should be performed to determine if criteria are met for a marked crosswalk and to determine the level of marking to be used. The level of detail required for an engineering study will vary with the location under consideration. The engineering study may include:

1. Speed and traffic volume data on streets being crossed
2. Pedestrian volume, age, and level of mobility
3. Location of pedestrian origin and destination point and crossing patterns
4. Designated school walking routes
5. Existing sidewalk network and sidewalk ramps
6. Sight distances and sight obstructions
7. Street characteristics including grades, curvature, radii, pavement widths, medians, and number of vehicle and bicycle lanes
8. Location of adjacent driveways
9. On-street parking
10. Street lighting
11. Location of drainage structures
12. Distance to nearest protected (traffic signal or stop sign controlled, or grade separated) or marked crossing
13. Traffic signal progression
14. Potential for rear end crashes
15. Pedestrian accidents

B. Guidelines

General guidelines to be satisfied when considering installation of marked crosswalks, includes the following:

1. The installation of marked crosswalks should be based on engineering study.

2. Marked crosswalks should connect to established sidewalks/trails at both ends.
3. ADA accessible ramps should be included at both ends of marked crosswalk installations unless there are engineering reasons they cannot be provided.
4. Adequate street lighting should be provided for the safety of pedestrians.
5. Street parking must be restricted adjacent to marked crosswalks to allow for adequate sight lines for both the motorists and the pedestrians. The length of the parking restriction shall be based on an engineering study (judgment).
6. The provisions of the Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD) shall be followed.

IV. INSTALLATION CRITERIA

1. Minimum Traffic Volume

Marked crosswalks should generally not be considered for roadways with less than 1,000 vehicles per day unless as part of a school walking route

2. Pedestrian Volumes

Consideration can be given to marking a crosswalk if there is a minimum of 20 pedestrian crossings during the pedestrian peak hour. A lower pedestrian traffic volume of 15 may be used if the proposed location is part of a school walking route or adjacent to an elderly facility.

3. Traffic Gaps

Consideration can be given to marking a crosswalk if there is less than one adequate crossing gap in traffic per minute during the peak hour. A crossing gap is measured as the time (in seconds) between vehicles crossing (regardless of direction of travel) the proposed crosswalk location. An adequate gap is determined by dividing the roadway width (in feet) by a walking rate of 3.5 feet per second (may be slower for a crossing location serving elderly pedestrians) and adding 3 seconds of perception/reaction time.

4. Crosswalk Spacing

Marked crosswalks should be spaced a minimum of 300 feet from a protected or marked crossing.

5. Mid-Block Crosswalks

The use of mid-block crosswalks is generally discouraged unless an engineering study determines a specific need for this type of crosswalk. Installation of new

mid-block crosswalks shall include provisions for adequate street lighting and supplemental signage as determined appropriate by an engineering study.

6. Crosswalk Control

The control for a marked crosswalk, including signing, pavement marking, traffic signals, flashing beacons, etc. shall be determined by engineering study and should conform to the MN MUTCD.

7. Traffic Signals

Marked crosswalks should be installed at signalized intersections in accordance with the traffic signal design.

8. **Central Business District**

Marked crosswalks should be considered in the Central Business District in areas of concentrated pedestrian activity.

9. Roundabouts

Marked crosswalks should be installed at roundabouts in accordance with the roundabout engineering design.

10. Street Type and Speed

Marked crosswalks may be considered at locations that are not protected by a Stop Sign or a Traffic Signal, subject to the table on the next page.

(cont'd)

Roadway Configuration[1,5]	Vehicle ADT ≤ 9,000				Vehicle ADT > 9,000 - 12,000				Vehicle ADT > 12,000 - 15,000				Vehicle ADT > 15,000			
	≤ 30 mph	35 mph	40 mph	≥ 45 mph	≤ 30 mph	35 mph	40 mph	≥ 45 mph	≤ 30 mph	35 mph	40 mph	≥ 45 mph	≤ 30 mph	35 mph	40 mph	≥ 45 mph
2 lanes (with or without a raised median)	A	A	B	D	A	A	B	D	A	A	C	D	A	B	C	D
3 lanes with raised median	A	A	C	D	A	B	C	D	A	C	C	D	B	C	C	D
3 lanes without raised median	A	B	C	D	A	B	C	D	B	B	C	D	B	C	C	D
Multilane (4 or more lanes) with raised median[2]	A	A	C	D	A	B	C	D	A	B	C	D	C	C	C	D
Multilane (4 or more lanes) without raised median[2]	A	C	C	D	B	C	C	D	C	C	C	D	C	C	C	D

Treatment Descriptions:

A. Consider marked crosswalk and signs

Guidance: Consider installing marked crosswalk with advance warning signs (W11-2); use S1-1 signs for school crossings. Consider in-roadway (R1-6) or overhead (R1-9b) signs.

B. Consider marked crosswalk with enhanced signs (R1-6 or R1-9b) and/or geometric improvements

Guidance: Consider installing treatment options from Type A treatments. Add curb extensions or median refuge islands.

C. Consider marked crosswalk with signs, geometric improvements, and pedestrian activated warning devices[4]

Guidance: Consider installing a raised median refuge island if one is not present. Consider installing marked crosswalk and appropriate crossing signs along with a pedestrian activated warning device (i.e., RRFB). Consider adding curb extensions if possible.

D. Do not install marked crosswalk.[3]

Guidance: Consider pedestrian hybrid beacon, pedestrian traffic signal, or grade separated crossing.

Specific Notes:

1. Advanced stop lines and signing (R1-5b or c) should be used whenever possible if a multiple threat crash issue is present. Overhead signing, RRFBs or other overhead treatments should be used to mitigate multiple threat crash risks.
2. Do not install a marked crosswalk where there are 3 or more through lanes per direction. Consider a pedestrian hybrid beacon, pedestrian traffic signal, or grade separated crossing.
3. Traffic calming measures should be considered to reduce speed.
4. If a median cannot be or is not currently installed go to Treatment Type D.
5. Minimum acceptable median width to provide a refuge is 6 feet.

General Notes:

1. Adding crosswalks alone will not make crossings safer, result in more vehicles stopping for pedestrians, nor will they necessarily create a false sense of security.
2. Crosswalks have not been proven to create a false sense of security - research shows that pedestrians scan the road more at marked crosswalks.
3. Whether a crosswalk is marked or not, additional crossing enhancements should be considered. See the "Additional Treatment Considerations" section.
4. See MUTCD Section 3B.18 for additional guidance on using this table.
5. Lanes are total cross section.

V. STREET LIGHTING

Street lighting should be considered at all crosswalk locations, based on engineering study and City street lighting practice.

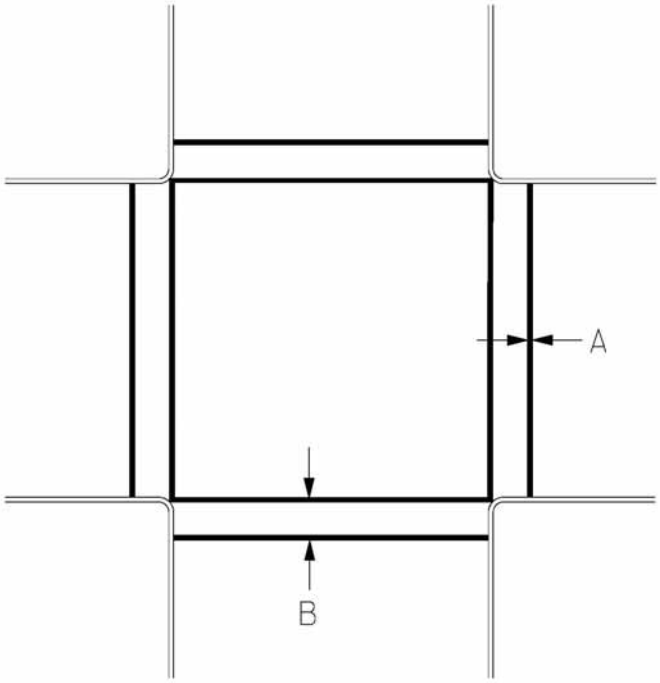
VI. TREATMENTS

1. Pavement Markings

Pavement markings shall be in accordance with the Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD).

a. Standard Crosswalks

Standard crosswalks shall be a minimum of 6 feet and may be the same width as the approach walkway if the walkway is wider than 6 feet. This marking should be considered for crosswalks at Stop Sign, Traffic Signal, and Roundabout controlled intersections and intersection crosswalks of two-lane roadways.



Standard
A = 6 - 12”
B* = 6’

*Dimension B shall be 6’ min., and may be the same width as the approach walkway.

Figure 1 –Standard Crosswalk Markings.

b. Special Emphasis Crosswalks

Special emphasis crosswalk markings consist of white 3 foot wide bars with a 3 foot space at 90 degrees to the crosswalk (Figure 2). This marking should be used at mid-block crosswalks and crossings of multi-lane roadways with speed limits equal to or greater than 35 mph.

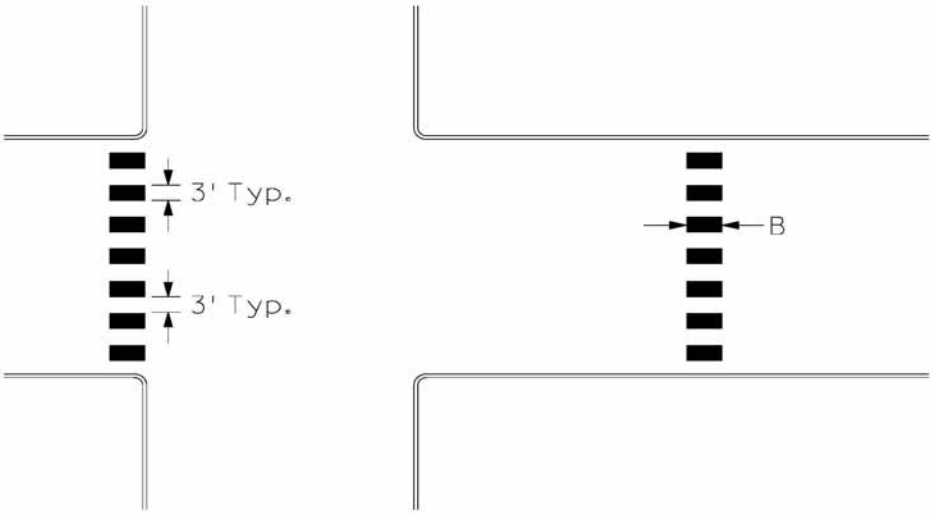


Figure 2 - Special Emphasis Crosswalk Markings

c. Decorative Crosswalks

The use of decorative materials by themselves does not designate a crosswalk. Crosswalks are legally designated at intersections and no markings are needed. At mid-block crossings, standard or special emphasis markings must be used for designation as a crosswalk.

d. Stop Lines

Stop lines should be considered on multi-lane roadways in advance of mid-block crosswalks and crosswalks at intersections not controlled by a Stop Sign.

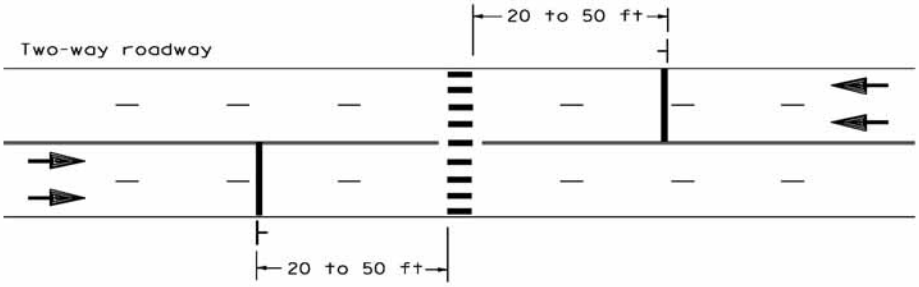


Figure 3 – Stop Line Markings

2. Traffic Signing

Traffic signing shall be in accordance with the MN MUTCD.

The W11-2 Crosswalk Sign shall be used at marked mid-block crosswalks, and other crosswalks as indicated by engineering study.

W11-2

The S1-1 School Crossing Sign should be used at marked school crosswalks.

S1-1

When a W11-2 Crosswalk Sign or a S1-1 School Crossing Sign are used, a W16-7p arrow sign shall also be used.

W16-7p

The W11-2 and S1-1 signs shall also be used as advance warning signs for crosswalks as established by the MN MUTCD

When a W11-2 or S1-1 sign is used as an advance warning sign, a W16-9p sign shall also be used.

W16-9p

The R1-X1 “Stop for Pedestrian in Crosswalk” sign should be used based on engineering study, in advance of high volume pedestrian and school crosswalks.

R1-X1

The R1-6a, 6b, or 6c sign may be used as a temporary enhancement for a new crossing where there are a high number of pedestrian crossings. The use shall be in accordance with the MN MUTCD.

R1-6b

Other signage and/or enhancements may be considered based on engineering study and updates to the MN MUTCD.

3. Traffic Signals

a. Traffic Signal

Traffic signals may be installed when warrants are met in accordance with the MN MUTCD.

b. Pedestrian Hybrid Beacon (HAWK)

Pedestrian Hybrid Beacons may be installed when warrants are met in accordance with the MN MUTCD.

c. Flashing Beacons

Flashing beacons may be used based on engineering study as an enhancement to a crossing. If used, consideration should be given to having them actuated, so that they are only operating when pedestrians are present.

d. Rectangular Rapid Flashing Beacon (RRFB)

RRFBs may be used based on engineering study as an enhancement to a crossing. When used, they shall be actuated, so that they are only operating when pedestrians are present.

4. Roadway Features

a. Curb Extensions

Curb extensions or bulb-outs may be used based on engineering study to shorten the length of the crosswalk and/or improve the sight distance of and for the pedestrian.

b. Medians

Medians may be used based on engineering study on streets with two-way traffic flow to allow for the pedestrian to cross one direction of traffic at a time and have a safe refuge in the roadway. The minimum median width for pedestrian refuge is 6 feet, but the design should be based on the pedestrian demand.