11.9 Unsignalized Midblock Crosswalks

Background

The installation of marked crosswalks has mixed reviews. While it is desirable to give guidance to pedestrians as to the safest locations to cross highways, studies have shown that pedestrian crash rates are sometimes higher in marked crosswalks than at other locations, perhaps because the markings give pedestrians a false sense of security.[2] [3]

§3542 of the Vehicle Code (relating to right-of-way of pedestrians in crosswalks), requires motorists to yield the right-of-way to pedestrians within any marked crosswalk, but this does not always happen.

The 2009 *MUTCD* Section 3B.18 indicates that an engineering and traffic study should be performed before crosswalks are installed at location away from highway traffic signals or STOP signs.

In a recent survey, a majority of state traffic engineers indicated that midblock crosswalks are highly discouraged in their state and are rarely installed. Currently, only a few states have any warrants or guidance for midblock crosswalks. Therefore, the purpose of this policy is to establish the direction for future unsignalized midblock crosswalks on State highways, but it is not necessary to reevaluate existing midblock crosswalks. Although the application of this policy on local roadways may be desirable, the Department currently has no authority to force municipalities to comply with this policy.

Department approval is required prior to the installation of any midblock crosswalk on a State highway; however, the installation and maintenance of the pavement markings and signs for crosswalks is the responsibility of the local authorities in accordance with §212.5(b)(1)(v)(T) of Publication 212 (relating to the installation of pavement markings for midblock crosswalks).

Minimum Requirements for New Midblock Installations

1. Speed Limit. The posted speed limit is 35 mph or less.

2. Other Marked Crosswalks. The nearest marked crosswalk on the same roadway is over 300 feet from the proposed crossing.

3. Number of Pedestrian Crossings. To qualify for midblock crosswalks, the minimum number of pedestrians crossing the street within 150 feet of the proposed crossing during an average day should be 80 or more during any 1 hour, or 40 or more during each of any 4 hours. However, if there is a high concentration of children, elderly or disabled pedestrians crossing the roadway in the vicinity of the proposed crossing, then these pedestrian volume warrants may be reduced 50 percent.

4. Traffic Volume. The maximum traffic volume on the roadway is 10,000 ADT, except on two-lane roadways the maximum traffic volume may be 15,000 ADT. If a raised median or pedestrian refuge island exists where pedestrians are protected from vehicular traffic, the maximum traffic volume applies to each segment of the pedestrian crossing, but no more than three travel lane may be crossed without a raised median or pedestrian refuge island. In order to consider a refuge island, the minimum width of the refuge island is 4 feet from face-of-curb to face-of-curb, but the preferred minimum width is 6 feet. Islands should have a cut through ramp to accommodate wheelchair users.

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[2] Herms, B. F., "Pedestrian Crosswalk Study: Accidents in Painted and Unpainted Crosswalks" (HRR 406). Highway Research Board, Washington, D.C., 1972.

[3] "City of Long Beach Crosswalk and Pedestrian Safety Study Final Report." Prepared by Willdan and Associates, Industry California, February 1986.

5. Parking Restrictions. To improve visibility, parking is not permitted within 75 feet of the crosswalk, unless a 6- to 8-foot curb extension (sometimes referred to as bulb outs, bump outs, neck downs, sidewalk expansions, etc.) is in place to improve pedestrian visibility. If angle parking is present, any curb extension should place the curb at the inside edge of the parking lane. Curb extensions not only improve visibility between motorists and the pedestrians, but they also reduce the length of the crosswalk and the pedestrian exposure. However, curb extensions may impede drainage, street cleaning and winter maintenance operations, and create a formidable object.

6. Sight Distance. The available sight distance between an approaching driver and a person anywhere within the proposed crosswalk must satisfy the following minimum values, where both the eye and the object (i.e., the pedestrian) are assumed to be 3.5 feet above the roadway:

Speed Limit (mph)	Minimum Sight Distance for a Corresponding Grade (feet)		
	-6%	level	6%
25	215	200	184
30	271	250	229
35	333	305	278

TE-113 (7-09)

MID-BLOCK CROSSWALK ENGINEERING AND TRAFFIC STUDY

PLEASE TYPE OR PRINT ALL INFORMATION IN BLUE OR BLACK INK

pennsylvania
DEPARTMENT OF TRANSPORTATION
www.dot.state.pa.us

A - LOCATION INFORMATION

COUNTY	MUNICIPALITY
STREET NAME	TOWNSHIP ROAD #
SR#	SEGMENT

B - REFERENCE INFORMATION

REFERENCE	SECTION(S)
Chapter 212	212.5(b)(1)(v)(T)
MUTCD	3B.17
PUB 46	Chapter 11.9
Vehicle Code Title 75 P.a. C.S.	§ 3542
TC-8600	Sheet 4 of 8

C - STUDY ELEMENTS

FROM PUB 212 APPENDIX:

- ☐ Crash Analysis (1)
- ☐ Geometric Review (8)
- ☐ Pedestrian Volumes (12)
- ☐ Sight Distance (16)
- ☐ Speed Data (17)
- ☐ Traffic Volumes (20)
- ☐ Other: _____

D - ATTACHMENTS LISTING

Check those that apply and attach to this form in the order listed below:

- ☐ 1. 10-Day Response Letter
- ☐ 2. Letter or Memo Requesting Study
- ☐ 3. Location Map
- ☐ 4. Straight Line Diagram
- ☐ 5. Photographs
- ☐ 6. Field View Drawing or Condition Diagram
- ☐ 7. Crash Extract
- ☐ 8. Crash Rate
- ☐ 9. Collision Diagram Plot
- ☐ 10. Speed Study
- ☐ 11. Warrant Analysis
- ☐ 12. Multi-Way Stop or Truck Restriction Worksheet
- ☐ 13. Traffic/Pedestrian Volumes
- ☐ 14. STAMPP Identification Data
- ☐ 15. Speed Limit
- ☐ 16. Traffic Signal Permit Plan
- ☐ 17. Other _____

E - SITE OBSERVATION CHECKLIST

Operational Checklist:

1. Do obstructions block a driver's view of pedestrians or approaching vehicles? ☐ YES ☐ NO ☐ N/A
2. Do drivers respond correctly to signals, signs, or other traffic control devices? ☐ YES ☐ NO ☐ N/A
3. Is there evidence of crashes *(skid marks, property damage, tree/bush damage, broken glass/vehicle parts, etc.)*? ☐ YES ☐ NO ☐ N/A
4. Are there violations of parking or other traffic regulations? ☐ YES ☐ NO ☐ N/A
5. Do drivers appear confused about routes, street names, or other guidance information? ☐ YES ☐ NO ☐ N/A
6. Have you observed the location during peak hours for volume, crashes, and traffic operations? ☐ YES ☐ NO ☐ N/A
7. Are there traffic flow deficiencies or traffic conflict patterns associated with turning movements? ☐ YES ☐ NO ☐ N/A
8. Are there significant delays and/or congestion? ☐ YES ☐ NO ☐ N/A
9. Are there vehicle/pedestrians conflicts? ☐ YES ☐ NO ☐ N/A
10. Are there other traffic flow deficiencies or traffic conflict patterns? ☐ YES ☐ NO ☐ N/A

Physical Checklist:

1. Can sight obstructions be removed or lessened? ☐ YES ☐ NO ☐ N/A
2. Do the street alignments or widths adequately accommodate the type of traffic using the roadway? ☐ YES ☐ NO ☐ N/A
3. Are curb radii adequate for turning vehicles? ☐ YES ☐ NO ☐ N/A
4. Are pedestrian crosswalks properly located? ☐ YES ☐ NO ☐ N/A
5. Are signs adequate as to usefulness, message, size, conformity, and placement? ☐ YES ☐ NO ☐ N/A
6. Are traffic signals adequate as to placement, visibility, glare, conformity, number of signal heads, and timing? ☐ YES ☐ NO ☐ N/A
7. Are pavement markings adequate as to their conformance to standards and location? ☐ YES ☐ NO ☐ N/A
8. Is channelization (islands or pavement markings) adequate for reducing conflict areas, separating traffic flows, and defining movements? ☐ YES ☐ NO ☐ N/A
9. Does the existing legal parking layout affect sight distance for through or turning vehicles? ☐ YES ☐ NO ☐ N/A
10. Is the pavement condition free of potholes, washboard, slick surface, etc.? ☐ YES ☐ NO ☐ N/A

F - SITE DATA

DATE DATA COLLECTED	PERSON CONDUCTING STUDY	TITLE

1. What is the posted speed limit? _____ MPH
2. What is the total width of the roadway? _____ feet
3. What is the number of travel lanes at the proposed crosswalk? _____
4. Are sidewalks present? ☐ YES ☐ NO
5. Is parking permitted in the area of the proposed crosswalk? ☐ YES ☐ NO
   What distance is the parking area from the proposed crosswalk? _____ feet
6. Is angle parking present? ☐ YES ☐ NO
7. Is curbing present? ☐ YES ☐ NO
   If yes, does curbing include a curb extension? ☐ YES ☐ NO
8. Is the distance to the nearest marked crosswalk greater than 300 feet? ☐ YES ☐ NO
9. What is the exact location of the proposed crosswalk (be as specific as possible)? _____
   _____
10. Is the traffic volume on the roadway 10,000 ADT or less? ☐ YES ☐ NO
    If no, is the two-lane traffic volume 15,000 ADT or less? ☐ YES ☐ NO