

Mr. Jim Burch, ATSSA



U.S. Department
of Transportation
**Federal Highway
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

January 12, 2005

Refer to: HOTO-1

Mr. Allen L. Weber
Weber Associates, Inc.
2899 Agoura Road, No. 244
Westlake Village, CA 91361

Dear Mr. Weber:

Thank you for your November 15 letter, requesting an interpretation of Section 3B.17 of the Manual on Uniform Traffic Control Devices (MUTCD) regarding the use of warning signs in conjunction with pedestrian crossings at nonintersection locations. The two specific sentences you questioned in Section 3B.17 are both Guidance statements regarding marked crosswalks:

- “An engineering study should be performed before they are installed at locations away from highway traffic signals or STOP signs.”
- “Because nonintersection pedestrian crossings are generally unexpected by the road user, warning signs (see Section 2C.41) should be installed and adequate visibility should be provided by parking prohibitions.”

In your letter, you referred to an article published in the January 2004 issue of the *ITE Journal* entitled “Safety Analysis of Marked Versus Unmarked Crosswalks in 30 Cities,” by Charles V. Zegeer, P.E., et al. You stated that the studies cited in this article led the authors to recommend the use of “substantial crossing improvements to improve crossing safety for pedestrians, i.e., pedestrian signals” at most nonintersection crossing locations. You further stated your opinion that the warning signs recommended in Section 3B.17 to accompany marked crosswalks at nonintersection locations do not constitute “substantial crossing improvements.” Although you did not specifically state it, we infer from your letter that you are asking for an interpretation from this office of whether the warning signs referred to in Section 3B.17 constitute “substantial improvements” in the context of the referenced *ITE Journal* article.

Firstly, it is important to note that the article stated that marked crosswalks alone (without other substantial treatments) are not recommended at uncontrolled crossings on higher-speed three or four lane undivided roads with volumes over 12,000 vehicles per day or on four or more lane divided roads with volumes over 15,000 vehicles per day. It did not, as suggested in your letter, make that recommendation for lower volume, lower speed roads. Also, the article did not state



that pedestrian signals constitute the only recommended "substantial improvement." A direct quote of the article's conclusions and recommendations is as follows:

"In most cases, marked crosswalks are best used in combination with other treatments, such as curb extensions, raised crossing islands, traffic signals, roadway narrowing, enhanced overhead lighting, and traffic calming measures. Marked crosswalks should be thought of as one option in a progression of design treatments. Failure of one treatment is not a license to give up and do nothing. In all cases, the final design must accommodate the goal of getting pedestrians across the road safely."

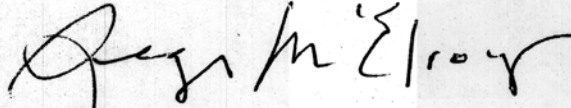
Secondly, it is necessary to recognize that the MUTCD is the national standard for traffic control devices but it does not govern roadway geometric design or streetlighting. As with most traffic control devices, the MUTCD does not prescribe specific "warrants" or conditions mandating the installation of a crosswalk. Instead, it recommends that the decision to install a crosswalk be based on an engineering study. Once a decision is made by a road authority to install a crosswalk at a given location, the MUTCD prescribes the color, pattern, etc., of the pavement markings used to delineate the crosswalk and it recommends certain other treatments to accompany marked crosswalks in certain situations.

Section 3B.17 recommends that nonintersection crosswalks should be accompanied by the warning signs described in Section 2C.41 and that adequate visibility should be provided by parking restrictions (which, of course, are conveyed to road users by regulatory signs as described in Chapter 2B). The converse of this recommendation is that the warning signs of Section 2C.41 are usually not needed at signalized or controlled crosswalks, because vehicle drivers typically expect pedestrian crossing activity to occur at these controlled locations. Section 2C.41 specifically recommends that these warning signs "should be used only at locations where the crossing activity is unexpected or at locations not readily apparent."

We agree that most professional traffic engineers would not consider warning signs alone as "substantial improvements" of the type recommended by Mr. Zegeer's article. However, we believe that the recommendation in Section 3B.17 that nonintersection crosswalks be accompanied by warning signs (and parking restriction signs as needed) is appropriate as the minimum treatment of traffic control devices for such locations. This minimum treatment may in fact provide for satisfactory and safe pedestrian crossing movements across many low volume, low speed, and/or narrow roadways. In conducting their engineering studies to determine what traffic controls and other improvements may be needed at any location, road authorities obviously need to take into account the standards and guidance contained in the MUTCD. However, they should also be aware of safety studies and research such as that described in Mr. Zegeer's article, just as they should be aware of other engineering documents describing and recommending conditions where various geometric treatments and streetlighting should be considered to improve the safety of pedestrian crossings.

Thank you for writing on this subject. If you have any questions, please call Mr. Scott W. Wainwright of our staff at 202-366-0857. Please note that we have assigned your request the following official interpretation number and title: "3-175 (I)—Section 3B.17 Warning Signs for Nonintersection Crosswalks." Please refer to this number in any future correspondence.

Sincerely yours,



Regina S. McElroy
Director, Office of Transportation
Operations

cc: Mr. Jim Baron, ATSSA

WEBER ASSOCIATES, INC.

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November 15, 2004

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Gentlepersons:

I request an interpretation of a statement in Section 3B.17 Crosswalk Markings. The statement reads, "Because nonintersection pedestrian crossings are generally unexpected by the road user, warning signs should be installed..."

This infers that if one installs standard warning signs as indicated in Section 2C.41, the higher risk associated with a midblock crosswalk will be mitigated!

The preceding paragraph indicates that when crosswalks are located away from a traffic signal or stop sign, an engineering study should be made. All well and good; isn't that where the need for and type of warning devices should be determined?

The use of signs in Section 2C.41 may be entirely inadequate for certain locations. As an extreme example, take a situation where one places a midblock crosswalk across a 50,000 per day traffic stream. Will the use of warning signs mitigate the danger? I think not! Yet one is lead to believe that in such a situation, the use of warning signs would do so.

As you may be aware, there are studies* which recommend the use of "substantial crossing improvements to improve crossing safety for pedestrians," i.e., pedestrian signals, in such a situation. Warning signs as indicated in Section 2C.41 do not, in my opinion, constitute "substantial crossing improvements."

Thanks for your consideration of this matter.

Sincerely,
WEBER ASSOCIATES, INC.


Allen L. Weber, P.E.

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*Safety Analysis of Marked Versus Unmarked Crosswalks in 30 Cities,
by Charles V. Zegeer, P.E., et al., ITE Journal, January 2004