

191. In Section 4E.06 Accessible Pedestrian Signals, there were several comments from the Minnesota DOT and representatives of the blind community regarding the proposed addition to the second paragraph of the fourth GUIDANCE statement on how sound pressure levels of the accessible walk signal tone should be measured. Based on those comments, the FHWA revises the statement to indicate that the sound pressure level should conform to the requirements of ISO 1996-1:1982 and ISO 1996-2:1987,³⁹ rather than explicitly stating the method to be used when measuring sound pressure levels.

192. The FHWA received several comments from NCUTCD, State and local DOTs, representatives of the blind community and private citizens regarding the proposal to add a new section numbered and titled "Section 4E.07 Countdown Pedestrian Signals" containing OPTION, STANDARD, and GUIDANCE statements on the design, use, and operation of countdown pedestrian signals. Countdown pedestrian signals have been shown by research and experimentation in a variety of cities, such as San Jose, California,⁴⁰ to be beneficial to pedestrians by providing additional information to help pedestrians judge the time remaining to cross the street. Uniformity in the design and operation of countdown pedestrian signals is needed to minimize pedestrian confusion. Many commenters, including the NCUTCD, the City of Tucson, Arizona, Lake County, Illinois, and the Association of Pedestrian and Bicycle Professionals were in agreement with adding the new section, and the NCUTCD had comments and suggestions regarding the specific wording. Based on the comments received, the FHWA clarifies the OPTION statement to indicate that the countdown display informs pedestrians of the number of seconds remaining in the pedestrian change interval (rather than the number of seconds remaining to cross the street, as proposed in the NPA). Additionally, the FHWA clarifies the second STANDARD statement to reflect that after the countdown displays zero, the display shall remain dark until

the beginning of the next countdown. The FHWA also clarifies the third STANDARD statement to indicate that countdown displays shall not be used during the walk interval nor during the yellow change interval of a concurrent vehicular phase.

The FHWA clarifies the first GUIDANCE statement to reflect the way that the countdown timing is controlled as compared to the timing of the flashing DON'T WALK interval. Most countdown devices manufactured today contain timers external to the signal controller and they "learn" how long the flashing DON'T WALK is and adjust themselves to time out so that the zero will be reached at the end of the flashing DON'T WALK. This creates a logistical problem for signalized midblock crosswalks or exclusive "scramble" pedestrian phases. The countdown timer of most existing devices will not be able to make the zero occur four seconds prior to the end of flashing DON'T WALK, which is timed by the controller. The solution for the midblock pedestrian signal situation is to set the flashing DON'T WALK interval to be 4 seconds less than the calculated required "pedestrian crossing time" and to also include a 4 second "red clearance" interval for the controller phase that times the pedestrian WALK—DON'T WALK. During the red clearance interval, a steady DON'T WALK is displayed to the crosswalk while vehicular traffic continues to have red signals. The pedestrian clearance time is thus the sum of the flashing DON'T WALK time plus the 4 second red clearance. This method will produce a display for the pedestrian that is identical to what he/she would see with a countdown at a crosswalk that has concurrent vehicular movements. Accordingly, the FHWA clarifies the GUIDANCE statement to read:

If used with a pedestrian signal head that does not have a concurrent vehicular phase, the pedestrian change interval (flashing UPRAISED HAND) should be set to be approximately four seconds less than the required pedestrian crossing time (see Section 4E.10) and an additional clearance interval (during which steady UPRAISED HAND is displayed) should be provided prior to the start of the conflicting vehicular phase. In this case, the countdown display of the number of remaining seconds should be displayed only during the display of the flashing UPRAISED HAND, should display zero at the time when the flashing UPRAISED HAND changes to steady UPRAISED HAND, and be dark during the additional clearance interval prior to the conflicting vehicular phase.

The FHWA adopts this new Section 4E.07 with changes and rennumbers the

remaining sections in Chapter 4E accordingly. To minimize any impact on State or local governments, the FHWA establishes phase-in target compliance dates of 10 years for the hardware and three years for the operational requirements (sequence of display, timing, etc.) for existing countdown pedestrian signals in good condition.

193. In Section 4E.08 Pedestrian Detectors, (numbered as Section 4E.07 in the 2000 MUTCD), the FHWA removes from the last STANDARD statement the sentence that instructional signs are not required if special purpose pushbuttons are used. The current design of special purpose pushbuttons does not require a sign to make users aware of their intended purpose. Additionally, the FHWA adds to the third GUIDANCE statement comparable text that the special purpose pushbuttons do not need an instructional sign. One commenter from the City of Tucson, Arizona, was in support of all proposed changes to the section.

The FHWA received several comments from the U.S. Access Board and from organizations representing the blind community regarding the proposal to add an OPTION statement at the end of the section to allow the use of special pedestrian detectors to provide additional crossing time for pedestrians with special needs. Those comments indicated that an extended pushbutton press is the preferred method of calling for extra pedestrian time. Based on the comments, the FHWA revises the wording to state, "At signalized locations with a demonstrated need and subject to equipment capabilities, pedestrians with special needs may be provided with additional crossing time by means of an extended pushbutton press."

194. In Section 4E.09 Accessible Pedestrian Signal Detectors, (numbered as Section 4E.08 in the 2000 MUTCD), the FHWA changes the SUPPORT statement to a STANDARD statement for consistency because other definitions in the MUTCD are standards. Additionally, the FHWA relocates the existing first STANDARD statement to become part of the new first STANDARD statement at the beginning of the section. There were no comments on these changes, and the FHWA adopts these changes.

The FHWA received several comments from organizations representing the blind community opposed to the proposal to retitle Figure 4E-2 from "Recommended Pushbutton Locations for Accessible Pedestrian Signals" to "Typical Locations for Accessible Pedestrian Signals," because these locations for accessible pedestrian

³⁹ These standards are available from the International Organization for Standardization web site at the following URL: <http://www.iso.ch/iso/en/CatalogueListPage.CatalogueList>.

⁴⁰ Pedestrian Countdown Signals: An Experimental Evaluation, Volume 1, by Jan L. Botha, Aleksander A. Zabyshy, and Jennifer E. Day—San Jose State University, Department of Civil and Environmental Engineering, and by Ron L. Northhouse, Jaime O. Rodriguez, and Tamara L. Nix—City of San Jose Department of Transportation, May, 2002. A copy is available on the docket.