

and SLOW paddles, and well as additional information regarding the arrangement of lights on the paddles.

The FHWA adds to the second STANDARD statement requirements for the performance of flashing lights that are used on the STOP/SLOW paddle. These flashing rate values are identical to the flashing rate used in other parts of the MUTCD. Five commenters representing the New York State Assembly, traffic control device manufacturers, and a private citizen suggest that "triple" flash modes be allowed; however, the FHWA disagrees because such high flash rates would appear more like a flicker than a flash and those rates would be close to the flash rates that may cause epileptic seizures.<sup>45</sup> The FHWA adopts the change, as proposed in the NPA.

234. In Section 6E.05 Flagger Stations, the FHWA revises the first STANDARD statement to indicate that flagger stations shall be located such that approaching road users will have sufficient distance to stop at an intended stopping point. The FHWA received one comment from the City of Tucson, Arizona, in support of this change, and two comments from the City of Charlotte, North Carolina, and a private citizen opposed to it. Those who opposed the change suggested that it should be changed to a GUIDANCE. The FHWA disagrees because it is important that flagger stations be located where approaching road users can safely stop, and adopts the change in this final rule.

To enhance worker safety, the FHWA adds a GUIDANCE statement following the first OPTION statement to indicate that flagger stations should be located so that an errant vehicle has space to stop without entering the work space. The FHWA received one comment from the Laborers' Health and Safety Fund of North America specifically in support of this new statement. In the NPA, the FHWA proposed that this statement appear after the first STANDARD statement; however, a commenter from the City of Charlotte, North Carolina, and a private citizen suggested moving it further back in the section to tie in better with the adjacent statements. The FHWA agrees and adopts this new GUIDANCE statement in this final rule.

In the NPA, the FHWA proposed changing the first SUPPORT statement to indicate that the Table 6E-1 provides information regarding the stopping sight distance as a function of speed. The FHWA received one comment from the Illinois DOT opposed to this change, stating that the use of Table 6E-1 is currently clear in the text and title of the table in the 2000 MUTCD. The FHWA disagrees because the revised SUPPORT statement matches the new title of the table, which provides the stopping sight distances for various speeds. The FHWA adopts the change; however, the FHWA incorporates the text into the following OPTION statement in this final rule.

The FHWA revises the first OPTION statement to indicate that the distances shown in Table 6E-1 may be used for the location of a flagger station. The FHWA received one comment from NIOSH in support of this change; however, two commenters from Caltrans and the City of Charlotte, North Carolina, and a private citizen opposed to it. The opposing commenters suggested that the FHWA retain the language from the 2000 MUTCD indicating that the distances may be increased for downgrades and other conditions that affect stopping distance. The FHWA agrees and modifies the OPTION statement to include this additional information in this final rule.

The FHWA changes the title of Table 6E-1 from "Distance of Flagger Stations in Advance of the Work Space" to "Stopping Sight Distance as a Function of Speed" and changes the distance values to be in agreement with AASHTO's "A Policy on Geometric Design of Highways and Streets."<sup>46</sup> The FHWA received three comments from the Laborers' Health and Safety Fund of North America, NIOSH, and the City of Tucson, Arizona, in support of this change, and adopts this change.

Additionally, the FHWA changes the GUIDANCE statement (in the 2000 MUTCD) to a STANDARD statement to indicate that, except in emergency situations, flagger stations shall be preceded by an advance warning sign or signs and that, except in emergency situations, flagger stations shall be

illuminated at night. The FHWA believes that anytime a flagger is active at night, illumination of the flagger station is important to make the flagger more visible to approaching road users. The FHWA received one comment from a private citizen suggesting that more detail be provided to specify the meaning of "illumination," and five comments from the Kansas and Wisconsin DOTs, the City of Charlotte, North Carolina, and a private citizen suggesting that this statement remain a GUIDANCE because during emergencies, where flagging is needed at night, portable lighting units are not always available. The FHWA agrees that lighting and/or advance warning signs are not always available for emergency situations, and revises the STANDARD statement to exclude emergency situations.

235. In Section 6F.01 Types of Devices, the FHWA adds a SUPPORT at the beginning of this chapter defining the acronym "TTC" as discussed above at the start of the Part 6 discussion. The FHWA also adds a new SUPPORT statement that includes a reference to the FHWA's policy<sup>47</sup> requiring that all roadside appurtenances on the National Highway System meet crashworthy performance criteria and referring to and repeating the definition of crashworthy as stated in Section 1A.13 Definitions of Words and Phrases in this Manual. The FHWA adds these statements to consolidate information, to emphasize FHWA policies regarding accessibility and crashworthiness, and to be consistent with crashworthiness provisions in Section 6F.03, 6F.58, 6F.53, 6F.66, and 6F.82.

The FHWA also relocates the final OPTION and SUPPORT statements from this section, and places them in Section 6F.02 General Characteristics of Signs, because this information regarding sign colors is more appropriate in that section. The FHWA makes this minor editorial change to move these statements for clarity and consolidation with other text regarding sign colors.

236. In Section 6F.02 General Characteristics of Signs, following the first STANDARD statement, the FHWA inserts OPTION and SUPPORT statements regarding the color of warning signs in temporary traffic control zones. These statements were in Section 6F.01 in the NPA and 2000 MUTCD, however the FHWA moves them to this section in this final rule where they are more appropriate.

<sup>45</sup> The website of the National Society for Epilepsy, a professional society in the United Kingdom that specializes in epilepsy, states that a flash rate of 5 to 30 hertz (flashes per second) can cause seizures in some people. This information is available at the following URL: <http://www.epilepsynse.org.uk/pages/info/leaflets/photo.cfm>. A variety of websites of U.S. organizations also refer to the problem of photosensitivity (triggering of seizures by flickering lights) among epileptic persons.

<sup>46</sup> "A Policy on Geometric Design of Highways and Streets," 4th Edition, 2001, in both hardcopy and CD-ROM, is available from the American Association of State Highway and Transportation Officials (AASHTO) by telephone (800) 231-3475, facsimile (800) 525-5562, mail AASHTO, P.O. Box 96716, Washington, DC 20090-6716, or at its Web site <http://www.transportation.org> and click on Bookstore. This document is a guide, based on established practices and supplemented by research, to provide guidance to the highway designer to provide for the needs of highway users while maintaining the integrity of the environment. It is incorporated by reference into the CFR at 23 CFR 625.4.

<sup>47</sup> Information on the FHWA policy is available at the following URL: [http://safety.fhwa.dot.gov/programs/roadside\\_hardware.htm](http://safety.fhwa.dot.gov/programs/roadside_hardware.htm)