

should be included regarding illumination levels for other than general activities. The FHWA agrees and includes information on illumination levels for general activities and for tasks requiring high levels of precision and extreme care.

277. In Section 6F.78 Warning Lights (numbered Section 6F.74 in the NPA), the FHWA adds Type D 360-degree warning lights, as appropriate, throughout the section to provide more flexibility in the use of lighting devices. The FHWA received one comment from ATSSA in support of these changes, and adopts these changes.

The FHWA also changes the first paragraph of the first STANDARD statement to a SUPPORT statement because it describes what warning lights are, rather than providing requirements on their use. The FHWA incorporates this minor editorial change in this final rule because the language of this statement is more appropriate as a SUPPORT, rather than a STANDARD.

278. In Section 6F.80 Temporary Traffic Control Signals (numbered Section 6F.76 in the NPA), to enhance consideration of pedestrian needs in temporary traffic control zones, the FHWA adds to the first GUIDANCE statement that, where pedestrian traffic is detoured to a temporary traffic control signal, agencies should use engineering judgment to determine if pedestrian signals or accessible pedestrian signals are needed. The FHWA received one comment from the NCUTCD opposed to this change, stating that the wording is repetitive because accessibility is already addressed elsewhere. The FHWA disagrees and includes this paragraph in this final rule.

Additionally, the FHWA proposed in the NPA to add a new STANDARD statement that indicates that the supports for temporary traffic control signals shall not encroach into a minimum required pedestrian pathway width of 1500 mm (60 in), to assure a clear pathway for all pedestrians, including disabled pedestrians. The FHWA received comments from the NCUTCD, the Cities of Tucson, Arizona, and Charlotte, North Carolina, and a private citizen opposed to this change. The NCUTCD stated that the wording is repetitive because accessibility is already addressed elsewhere. The Cities of Tucson, Arizona, and Charlotte, North Carolina, and the private citizen suggested that the text be reworded to apply only to those locations where pedestrians with disabilities are likely to be present. The FHWA agrees and revises this paragraph to state that the supports shall not encroach into the minimum width of a "pedestrian access

route" (1200 mm/48 in) or an "alternate circulation path" (900 mm/36 in) to be consistent with the various requirements elsewhere in Part 6.

The FHWA also adds to the second SUPPORT statement a new item "M. The nature of adjacent land uses (such as residential or commercial)" to the list of factors related to the design and application of temporary traffic control signals. The FHWA received one comment from a private citizen in support of this change, and adopts this change and re-letters the remaining items.

279. In Section 6F.81 Temporary Traffic Barriers (numbered Section 6F.77 in the NPA), the FHWA modifies the first SUPPORT statement to more clearly describe the four primary functions of temporary traffic barriers, by deleting the last two sentences related to the functions of temporary traffic barriers and adding a portion of text from Section 6G.11 Work Within the Traveled Way of Urban Streets. The FHWA received one comment from the City of Tucson, Arizona, in support of the changes to this section, and adopts these changes.

280. In Section 6F.82 Crash Cushions (numbered Section 6F.78 in the NPA), the FHWA adds to the STANDARD statement that damaged crash cushions shall be promptly repaired or replaced to maintain their crashworthiness. The FHWA received one comment from the City of Tucson, Arizona, in support of this change, and adopts this change.

Additionally, in the 2000 MUTCD a new requirement was established in this section that crash cushions in temporary traffic control zones shall be crashworthy. No special phase-in target compliance date was established at that time. Based on comments that agencies are encountering difficulties and economic impacts given the extensive testing of devices that has to occur in accordance with NCHRP Report 350<sup>55</sup> in order to determine and certify crashworthiness, the FHWA believes that a special phase-in target compliance date is required for the crashworthiness provision in this section. Therefore, in this final rule, the FHWA establishes a special phase-in target compliance date of January 17, 2005, for crash cushions in temporary traffic control zones to be crashworthy. The FHWA believes this target date of four years from the effective date of the 2000 MUTCD provides agencies with a

reasonable period in which to phase in the use of compliant crash cushions in temporary traffic control zones.

281. In Section 6F.84 Rumble Strips (numbered Section 6F.80 in the NPA), to clarify which applications are used for travel lanes and which ones are used on the shoulder, the FHWA adds to the SUPPORT statement a description of longitudinal rumble strips, and clarifies throughout the section which statements refer specifically to longitudinal rumble strips and which statements refer specifically to transverse rumble strips. The FHWA received one comment from the City of Tucson, Arizona, in support of these changes to this section, and adopts these changes.

Additionally, the FHWA adds a STANDARD statement following the SUPPORT statement that, if it is desirable to use a color other than the color of the pavement for a longitudinal rumble strip, the color of the rumble strip shall be the same as the longitudinal line the rumble strip supplements. If the color of a transverse rumble strip used within a travel lane is not the color of the pavement, the color of the rumble strip shall be white. These changes are needed to conform to general principles for colors of pavement markings. The FHWA received two comments from the NCUTCD and the Virginia DOT opposed to this new STANDARD statement suggesting that some jurisdictions have used other colors, such as yellow and orange. The FHWA believes that white has been the traditional color used for transverse rumble strips and adopts this statement in this final rule. The use of other colors would need further research and may be considered for future rulemaking.

The FHWA also adds to the GUIDANCE statement that transverse rumble strips should not be placed through pedestrian crossings or on bicycle routes; should not be placed on roadways used by bicyclists unless a minimum clear path of 1.2 m (4 ft) is provided at each edge of the roadway or on each paved shoulder; and that longitudinal rumble strips should not be placed on the shoulder of a roadway that is used by bicyclists unless a minimum clear path of 1.2 m (4 ft) is also provided on the shoulder. These changes will minimize interference caused by rumble strips to bicyclists using the roadway or shoulder. The FHWA received one comment from the Association of Pedestrian and Bicycle Professionals in support of these changes. The Wisconsin DOT opposed them, suggesting that additional text is needed to define the clear path at the

<sup>55</sup> NCHRP Report 350, "Recommended Procedures for the Safety Performance Evaluation on Highway Features," 1993, is available for downloading from the Transportation Research Board at the following URL: [http://gulliver.trb.org/publications/nchrp/nchrp\\_rpt\\_350-a.pdf](http://gulliver.trb.org/publications/nchrp/nchrp_rpt_350-a.pdf).