

65. The FHWA adds a new section numbered and titled, "Section 2C.14 HILL BLOCKS VIEW Sign (W7-6)." This section was numbered Section 2C.50 in the NPA. This section includes an OPTION statement on the use of the HILL BLOCKS VIEW sign in advance of the crest of a vertical curve to advise road users to reduce speed as they approach and traverse the hill as only limited sight distance is available. The FHWA adds this sign because it is in use, fulfills an important need, and has been found by older driver research¹⁶ to be well understood by road users. The FHWA received two comments from the City of Tucson, Arizona, and a traffic engineering consultant in support of this new section and the HILL BLOCKS VIEW sign, and seven comments from the NCUTCD, the Kansas, Minnesota, and Arizona DOTs, as well as Pierce County, Washington, and a private citizen questioning its effectiveness. Two commenters representing the Kansas DOT suggested that the side-road/cross-road warning signs, with the appropriate advisory speed, are more informative to the driver. Because this sign may be needed to warn of limited view over a hillcrest where side roads and cross roads are not present, the FHWA includes this section and the HILL BLOCKS VIEW sign in this final rule. Because this is an OPTION, some State and local DOTs may choose to use this sign, and others may not.

Additionally, the FHWA includes a GUIDANCE statement, indicating that when a HILL BLOCKS VIEW sign is used, an Advisory Speed plaque based on available stopping sight distance should accompany it. The FHWA includes the plaque because road users should be advised of the recommended speed for traversing the hillcrest.

66. In Section 2C.15 ROAD NARROWS Sign (W5-1) (numbered Section 2C.13 in the NPA), the FHWA included a proposal in NPA to renumber and retile the Narrow Bridge (W5-2a) sign as a new symbolic Road Narrows (W5-1a) sign. The FHWA proposed these changes because it felt that the road user's understanding of the symbol is not exclusively as "narrow bridge ahead," but rather as symbolic of any narrowing of the road, such as the presence of curb bulb-outs or chicanes. The FHWA received five comments

from the NCUTCD, the Arizona and Minnesota DOTs, Caltrans, and private citizens opposing this change, stating that the symbolic sign is unsuitable for the Road Narrows message due to its depiction of a relatively short distance of narrow roadway, which may not agree with all narrow roadway situations. The FHWA agrees and deletes the W5-1a sign (designated W5-2a in the 2000 MUTCD) and associated OPTION statement as proposed in the NPA, and adopts only the word message ROAD NARROWS (W5-1) sign in this final rule.

67. In Section 2C.16 NARROW BRIDGE Sign (W5-2) (numbered Section 2C.14 in the NPA), the FHWA removes the reference to the Narrow Bridge symbol (W5-2b in the NPA, W5-2a in the 2000 MUTCD) sign from the OPTION statement. This change was proposed in the NPA to reflect the proposed change of the Narrow Bridge symbol (W5-2b) sign to the Road Narrows symbol (W5-1a) sign. The FHWA received comments from the NCUTCD, the Ohio DOT, and the City of Tucson, Arizona, in support of this change, while the Florida DOT and Caltrans opposed it. The Florida DOT felt that replacing a symbol sign with a word message sign is an exception to the international movement toward a more symbolic sign vocabulary. Caltrans indicated that the symbolic graphic provides more information than the text sign because it indicates a temporary short constriction in the roadway with the road widening back to normal after the constriction. Based on comments (see discussion regarding Section 2C.15 ROAD NARROWS Sign (W5-1)), the FHWA deletes the symbol sign in this final rule, because its meaning is not clear. The FHWA establishes a phase-in target compliance date of 10 years from the effective date of this final rule for replacing existing Narrow Bridge symbol signs in good condition with the word message signs to minimize any impact on State or local governments.

68. In Section 2C.19 Divided Highway (Road) Ends Sign (W6-2) (numbered Section 2C.17 in the NPA), the FHWA modifies the GUIDANCE statement to clarify that a Divided Highway Ends (W6-2) symbol sign should be used in advance of the end of a section of physically divided highway (not an intersection or junction) as a warning of two-way traffic ahead. The reason for this change is that the warning sign should be placed in advance of, rather than at, the start of the divided highway section. The FHWA received two comments from the NCUTCD and the City of Tucson, Arizona, supporting this change and adopts this change.

69. In Section 2C.21 DEAD END/NO OUTLET Signs (W14-1, W14-1a, W14-2, W14-2a) (numbered Section 2C.19 in the NPA), the FHWA combines Section 2C.40 DEAD END/NO OUTLET Plaques as numbered in the NPA with this section because the FHWA redesignates these plaques as signs. The FHWA modifies the STANDARD statement to clarify that when the W14-1 or W14-2 sign is used, the sign shall be posted as near as practical to the entry point or at a sufficient advance distance to permit the road user to avoid the dead end or no outlet condition by turning off, if possible, at the nearest intersecting street. This change gives additional flexibility to jurisdictions when posting the sign at the exact entry point is not practical due to obstructions or other factors. The FHWA received one comment from the City of Tucson, Arizona, in support of this change, and incorporates this change.

The FHWA also received a comment from a traffic engineering consultant suggesting restoration of text from the 1988 MUTCD, that was removed in the 2000 MUTCD, restricting the use of the W14-1P and W14-2P plaques in lieu of the W14-1 and W14-2 signs where traffic can proceed straight through the intersection into the dead end street. The FHWA agrees that this is necessary to adequately warn road users and includes this text as a separate paragraph in the STANDARD statement in this final rule.

70. In Section 2C.22 Low Clearance Signs (W12-2 and W12-2) (numbered Section 2C.20 in the NPA), the FHWA clarifies the STANDARD statement by removing the words "or minimum structure height." This change clarifies the proper application of Low Clearance signs. The FHWA received two comments from the NCUTCD and the City of Tucson, Arizona, in support of this change, and incorporates the change.

Additionally, the FHWA clarifies the GUIDANCE statement by changing the phrase "legal limit" to "legal maximum vehicle height" to reflect more precisely the proper dimension. The FHWA received two comments from the NCUTCD and the City of Tucson, Arizona, in support of this change, and one from the Virginia DOT opposed to it. The Virginia DOT stated that the text in this section differs from the text in Section 8B.17 Low Ground Clearance Highway-Rail Grade Crossing Sign (W10-13) (numbered Section 8B.16 in the NPA), where there is no mention of using distance plaques, and suggests that the text in both sections should be the same, and that the GUIDANCE statement in this section be changed to

¹⁶Information about this research is summarized on pages 235 and 236 of the "Highway Design Handbook for Older Drivers and Pedestrians," Report number FHWA-RD-01-103, published by the FHWA Office of Safety Research and Development, 2001. It is available for purchase from The National Technical Information Service, Springfield, Virginia 22161, (703) 605-6000, and at the following URL: <http://www.ntis.gov>.