

16. In Section 2A.12 Dimensions, the FHWA adds a second paragraph to the SUPPORT statement describing and clarifying the different sizes of signs, as detailed in the "Standard Highway Signs" book. While the City of Tucson, Arizona, supported the change, there were two comments from the NCUTCD and the Illinois DOT opposed to this new paragraph. The NCUTCD stated that this new paragraph introduced redundancy because this information is included in Sections 2B.03 Size of Regulatory Signs and 2C.04 Size of Warning Signs, and the Illinois DOT suggested that this paragraph was unnecessary. The FHWA agrees that this information needs to be included in only one place in the Manual, and adopts the text in this section and deletes this information from Sections 2B.03 and 2C.04. The FHWA revises the last sentence of this paragraph to clarify that intermediate sized signs are designed to be used on other highway types.

17. In Section 2A.14 Word Messages, the FHWA modifies the first GUIDANCE statement to clarify that the specific ratio of 25 mm (1 in) of letter height per 12 m (40 ft) of legibility distance should be a minimum. The FHWA received one comment from the NCUTCD supporting this change and adopts this change.

Additionally, the FHWA adds a new SUPPORT statement after the first paragraph of GUIDANCE to provide additional information that some research on sign legibility of older drivers⁶ indicates that a ratio of 25 mm (1 in) of letter height per 10 m (33 ft) of legibility distance could be beneficial for addressing the needs of older drivers. Three commenters from the NCUTCD, ATSSA, and the sign manufacturing industry supported this new SUPPORT statement, and the City of Tucson, Arizona, and a traffic engineering consultant opposed it. Both opposing commenters expressed concern that this additional language would add confusion as to what ratio should be used in designing signs. The FHWA disagrees with the opposing commenters because SUPPORT statements are purely informational and have no legal basis for a mandatory or recommended practice.

⁶Information about this research is summarized on pages 185 and 186 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. Internet Web site address at <http://www.ntis.gov>.

The FHWA adds a new GUIDANCE heading for guidance on abbreviations after the new SUPPORT statement.

18. In Section 2A.15 Sign Borders, the FHWA modifies the STANDARD statement to require that the corners of all sign borders, except for STOP signs, shall be rounded. The FHWA received several comments from ATSSA and representatives of the blind community regarding this change. The commenters misunderstood this statement both in the NPA and in the 2000 MUTCD, thinking that it pertained to the corners of the sign itself, rather than the sign border, which is included within the sign. As noted in the next paragraph, the sign itself does not always have to have rounded corners, but the border (typically black on white) does. The NPA merely replaced the phrase "corners of the sign" with "corners of all sign borders" to provide consistency with the section title, Sign Borders. The FHWA adopts the change, as proposed in the NPA, in this final rule.

The NPA also included a proposal to modify the GUIDANCE statement to clarify that, where practical, the corners of the sign should be rounded to fit the border, except for STOP signs. The FHWA received several comments from ATSSA and representatives of the blind community supporting the rounding of sign corners. The FHWA received one comment from a traffic engineering consultant opposing the statement, suggesting that the phrase "where practical" was too vague. The FHWA agrees and revises this statement to include a reference Section 2E.15 Sign Borders for specific exemptions regarding the rounding of corners of sign.

19. In Section 2A.16 Standardization of Location, the FHWA relocates Figures 2A-3, 2A-4, 2A-5, and 2A-6 to Section 2B.37 ONE WAY Signs (R6-1, R6-2) and removes Figure 2A-7 (figure numbering cited here reflects 2000 MUTCD). These relocated figures are more appropriate in Chapter 2B Regulatory Signs. The FHWA revises the first SUPPORT statement to reflect these changes. There were no comments regarding this change, and the FHWA adopts this change.

The FHWA received several comments from Caltrans, the Ohio DOT, the City of Tucson, Arizona, and a traffic engineering consultant regarding Figures 2A-1 and 2A-2 in the NPA. In response to the comments regarding the use of the words "typical" and "examples", the FHWA changes the figure titles to: "Figure 2A-1 Examples of Heights and Lateral Locations of Signs for Typical Installations" and "Figure 2A-2 Examples of Locations for

Some Typical Signs at Intersections." The FHWA also incorporates editorial comments and notes to the figures in this final rule.

The FHWA also revises the second paragraph of the first GUIDANCE statement to state the exceptions to placing signs on separate posts in list form rather than narrative form, and to clarify that certain groupings of regulatory signs are also excepted from the recommended mounting on separate posts. These minor editorial clarifications respond to a comment from a traffic engineering consultant and reflect common practice.

20. In Section 2A.17 Overhead Sign Installations, the FHWA modifies the GUIDANCE statement to clarify that overhead guide signs should be used on freeways as well as expressways, under certain conditions. The FHWA received two comments from ATSSA and the City of Tucson, Arizona, in support of this change and adopts this change.

The FHWA received one comment from a traffic engineering consultant suggesting that the last paragraph of the OPTION statement pertaining to the placement of signs on bridges of freeways and expressways in order to enhance safety and economy is duplicative and unnecessary. The FHWA agrees with the comment and makes this minor and editorial revision to remove this text from this final rule.

21. In Section 2A.18 Mounting Height, the FHWA relocates the first OPTION and SUPPORT statements so that they appear before the last paragraph of the first STANDARD statement. This change improves the clarity of the section. The FHWA received one comment from the City of Tucson, Arizona, supporting this change, and adopts this change. The FHWA received one comment from a private citizen suggesting that in-street crosswalk signs are typically mounted much lower than the heights included in the first STANDARD statement, and that if they are to be excluded from these criteria, appropriate language should be included in the final rule. The FHWA agrees that additional language is needed and adds a new SUPPORT statement at the beginning of the Section that indicates that the provisions of this section apply unless specifically stated otherwise for a particular sign elsewhere in the MUTCD.

Additionally, the FHWA adds a paragraph to the last OPTION statement indicating that if the vertical clearance of other structures is less than 4.9 m (16 ft), the vertical clearance to overhead sign structures or supports may be as low as 0.3 m (1 ft) higher than the