

symbols, to provide jurisdictions with additional flexibility. The FHWA received three comments from the City of Tucson, Arizona, Caltrans, and the Association of Pedestrian and Bicycle Professionals in general agreement with changes to this section.

Additionally, the FHWA adds a new item to the STANDARD statement prohibiting the placement of bicycle lanes to the right of a right turn only lane. The FHWA received nineteen comments from the NCUTCD, State and local agencies, as well as from private citizens, in support of this new statement. One private citizen suggested that this statement be broadened to also restrict bike lanes from being positioned to the left of a left turn only lane. This goes beyond the scope of this rulemaking and would need to be addressed in a future rulemaking.

The FHWA also adds a new item to the STANDARD statement prohibiting the placement of bicycle lanes in the circular roadway of a roundabout intersection because such markings have been found to cause a false sense of security for bicyclists traveling through the roundabout with conflicting and turning traffic. This change is consistent with the state of the practice for roundabout intersection design and is consistent with changes to Section 3B.24 Markings for Roundabout Intersections. The FHWA received seventeen comments from the NCUTCD, State and local highway agencies, and private citizens in support of this change. The Oregon DOT agreed with the principle of discouraging the use of bicycle lanes in roundabouts, but suggested that the statement be a GUIDANCE, rather than a STANDARD, because it is difficult to foresee all possible circumstances. Given the strong support for the STANDARD statement, the FHWA adopts the language as a STANDARD.

The FHWA adds a new paragraph to the SUPPORT statement indicating that a bicyclist continuing straight through an intersection from the right of a right turn lane would be inconsistent with normal traffic behavior and would violate the expectation of right-turning motorists. The FHWA received one comment from the NCUTCD in support of this change.

The FHWA adds a new GUIDANCE statement to establish guidance for bicycle lane markings at locations where a right through lane becomes an exclusive right turn lane and at locations where there is a shared through and right turn lane next to a right turn only lane. Commenters were generally in agreement with this text; however, the Wisconsin DOT and a

private citizen suggested that the FHWA include a figure to illustrate the intent of the text. Such a figure would require discussion and comment, thus it is more appropriate for a future rulemaking. The Association of Pedestrian and Bicycle Professionals suggested that the GUIDANCE be changed to a STANDARD. The FHWA believes this should be addressed in a future rulemaking.

The FHWA also adds a GUIDANCE statement and a SUPPORT statement to provide guidance on not using posts or raised pavement markers to separate bicycle lanes from adjacent travel lanes because they can hinder maintenance of the bicycle lane and prevent proper vehicle merging. While a private citizen and a traffic engineering consultant supported the changes as proposed in the NPA, several commenters representing the NCUTCD, the Arizona DOT, the City of Downers Grove, Illinois, and the League of American Bicyclists, requested that "curbs or other physical barriers within the traveled way" be included as devices that should not be used to separate bicycle lanes from adjacent travel lanes. The SUPPORT item following this GUIDANCE addresses this issue in part. The additional text proposed by the commenters goes beyond the scope of this rulemaking. The FHWA received comments in agreement with the proposed SUPPORT statement, as well as requests for revising the language to reorder the text to prioritize the potential concerns regarding raised devices and bicycle lanes. The FHWA agrees and adopts the changes with minor revisions.

353. The FHWA removes Section 9C.05 Word Messages and Symbols Applied to the Pavement and Section 9C.06 Object Markers on Shared-Use Paths, in their entirety. The FHWA incorporates the information from these sections into Section 9C.03 Marking Patterns and Colors on Shared-Use Paths, as this more properly locates the information. The FHWA rennumbers the remainder of the sections accordingly.

354. The FHWA adds a new Section 9C.05 Bicycle Detector Symbol, containing an OPTION statement that defines a standard symbol for the marking of detector locations for traffic signals actuated by bicyclists. This symbol marking is shown in a new figure numbered and titled "Figure 9C-7 Example of Bicycle Detector Pavement Marking." The FHWA received sixteen comments from the NCUTCD, State and local DOTs and private citizens supporting the material in this new section. Three commenters from Caltrans and private citizens suggested

additional text be added regarding the optimum location for placement of detectors. The FHWA believes that detector placement is within the discretion of the agencies.

355. In Section 9C.06 Pavement Markings for Obstructions, the FHWA received one comment from the NCUTCD supporting the minor changes to this section and to Figure 9C-8. The FHWA also received two comments from private citizens who suggested that the entire text of this section and Figure 9C-8 be removed from the MUTCD because they believe it could be used by some jurisdictions to justify not fixing serious road defects. The FHWA disagrees and adopts this section and figure in the MUTCD; however, the FHWA revises the GUIDANCE as follows: "In roadway situations where it is not practical to eliminate a drain grate or other roadway obstruction that is inappropriate for bicycle travel" because it may not always be practical to fix the defect.

356. In Section 9D.02 Signal Operations for Bicycles, the FHWA revises the STANDARD statement to require that signal timing and actuation be reviewed and adjusted to consider the needs of bicyclists instead of simply requiring the consideration of bicyclists' needs when timing signals. Many commenters were in support of this change, and several requested that bicycle detectors be used on all roadways where bicycle travel is permitted. The FHWA doesn't believe it is necessary to require bicycle detectors be placed on all roadways where bicycle travel is permitted, but may address this issue in a future rulemaking.

Discussion of Adopted Amendments to Part 10—Traffic Controls for Highway-Light Rail Transit Grade Crossings

357. In Section 10A.01 Introduction, the FHWA adds a SUPPORT statement at the end of the section to reference Section 8A.01 Introduction for the definitions applicable to Part 10. There were no comments on this change and the FHWA adopts it.

358. In Section 10A.03 Uniform Provisions, the FHWA changes the STANDARD statement to indicate that no sign or signal shall be located in the center of an undivided highway, except in a "raised island". This change is necessary to be consistent with changes as discussed in Section 8A.03 Uniform Provisions.

Additionally, the FHWA adds a GUIDANCE statement at the end of the section to reinforce that where the distance between tracks exceeds 30 m (100 ft), additional signs or other appropriate traffic control devices