National Committee on
Uniform Traffic Control Devices

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Item No.: 24B-MKG-02

NCUTCD RECOMMENDATION FOR CHANGES TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

COMMITTEE / TASK FORCE:	Markings Technical Committee
ITEM NUMBER:	24B-MKG-02
TOPIC:	Channelizing Devices (Tubular Markers, Vertical Panels, and Lane Separators) for used for Emphasis of Pavement Marking Patterns
ORIGIN OF REQUEST:	Channelizing Devices MCTF
AFFECTED SECTIONS OF MUTCD:	3I.01, 3I.02, 3I.03, 3I.04, 6K.03

DEVELOPMENT HISTORY:

Approved by Markings TC:	06/26/2024, 06/12/2025
Approved by TTC TC:	06/27/2024, 01/08/2025
Approved by NCUTCD Council:	06/13/2025

This is a recommended change to the MUTCD that has been approved by the NCUTCD Council. This proposal does not represent a revision of the MUTCD and does not constitute official MUTCD standards, guidance, or options. It will be submitted to FHWA for consideration for inclusion in a future MUTCD revision. The MUTCD can be revised only through the federal rulemaking process..

SUMMARY:
This proposal is to expand the applicable channelizing devices used for permanent conditions within the MUTCD. There is confusion and disagreement within agencies in regard to applicability of the channelizing devices when emphasizing other traffic control devices.

DISCUSSION:
In 2012 and 2019, the MTC submitted recommendations to NCUTCD expanding the channelizing devices used outside of temporary traffic control zones (TTCZ) and ensuring these devices are same color as the pavement markings they supplement. The first NCUTCD recommendation in 2012 added tubular markers as a short-term fix for Chapter 3H of the 2009 MUTCD. The plan was to add additional subsections within Chapter 3H for permanently mounted channelizer devices with emphasis on color, dimensions, placement and reflectivity. In 2019, new Sections 3H.03; Vertical Panels, 3H.04; Lane Separators, and 3H.05; Raised Islands used for Emphasis of Pavement Marking Patterns received comments from sponsors. Unfortunately, the proposal was tabled based on the comments and work on the 11th Edition.

This proposal updates the 2019 submission for the MUTCD 11th Edition, provides updates based on agency practices, and consistency between Chapters 3I and 6K. Additionally, there has been more use of tubular devices, vertical panels, and lane separators by agencies, and they have developed guidance for the devices.

As mentioned above, agencies like Florida DOT have developed guidance for use of lane separators (hardened centerlines within Florida). These devices are in the FDOT Design Manual Arterials and Collectors Chapter, Section 210.3.3, https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/roadway/fdm/2025/2025fdm210arterialscollectors.pdf?sfvrsn=d34bf8d3_1

Discussions were held during the 2012 and 2019 proposals to Chapter 3H on the meaning of "struck without causing damage to the impacting vehicle" that led to this statement being removed from those proposals. This proposal updates Section 6K.04 to remove the second sentence of Paragraph 01, which is similar. In addition, Section 6K.01 Paragraph 01 mandates devices be "crashworthy" which is a defined term and was used to develop Section 3I.01 Paragraph 04.

Further clarification was needed for channelizing devices being placed along a raised island or barrier that is used to separate two roadways carrying traffic in the same direction, such as managed lanes adjacent to general purpose lanes. In this situation, the channelizing device would end up being placed adjacent to both a white edge line on the left side as well as a yellow edge line on the right side that creates a conflict with the Paragraph 04 in Section 3I.01. An Option statement was added as Paragraph 07.

RECOMMENDED MUTCD CHANGES:

The following present the proposed changes to the current MUTCD within the context of the current MUTCD language. Proposed additions to the MUTCD are shown in blue underline and proposed deletions from the MUTCD are shown in ~~red strikethrough~~. Changes previously approved by NCUTCD Council (but not yet adopted by FHWA) are shown in green double underline for additions and ~~green double strikethrough~~ for deletions. In some cases, background comments may be provided with the MUTCD text. These comments are indicated by [bracketed white text in shaded green].

PART 3. MARKINGS

CHAPTER 3I. CHANNELIZING DEVICES USED FOR EMPHASIS OF PAVEMENT MARKING PATTERNS

Section 3I.01 Channelizing Devices

Option:

01 Channelizing devices (see Sections 6K.01 through 6K.07, Figure 6K-1, and Figure 3I-1) such as cones, tubular markers, vertical panels, lane separators, drums, and barricades may be used for general traffic control purposes such as adding emphasis to reversible lane delineation, channelizing lines, islands, pedestrian facilities, or bicycle facilities. Channelizing devices may also be used along a center line to preclude turns or along lane lines to preclude lane changing, as determined by engineering judgment.

Support:

02 Although they are not considered to be traffic control devices, raised islands (see Chapter 3J) are also sometimes used to channelize traffic.

03 Channelizing devices are sometimes used to provide additional emphasis or improve lane discipline in advance of an unsignalized crosswalk (see Figure 3I-2). [Moved from Section 3I.02 paragraph 4 and reworded.]

Standard:

04 Channelizing devices shall be crashworthy (See definition in Sections 1C.02 and 1D.11).

05 Except for color, the design of channelizing devices, including but not limited to retroreflectivity, minimum dimensions, and mounting height, shall comply with the provisions of Chapter 6K.

06 Except as provided in Paragraphs 7 and 8, the color of channelizing devices used outside of temporary traffic control zones shall be the same color as the pavement marking that they supplement, or for which they are substituted, in accordance with Section 3A.03.

Option:

07 The color of channelizing devices used to emphasize a raised island or barrier separating two roadways carrying traffic in the same direction may be white.

08 The color of channelizing devices used to emphasize pavement marking patterns outside of temporary traffic control zones may be orange provided that the application of the orange-colored channelizing device is not permanent.

Support:

09 Emergency incidents and planned special events are the most common temporary traffic control zones that would justify orange channelizing devices to emphasize standard pavement marking colors. These events do not necessitate police officers or other authorized personnel to obtain and deploy channelizing devices that match the color of the existing pavement marking.

Standard:

10 For nighttime use, channelizing devices shall be retroreflective (as described in Part 6) or internally illuminated. On channelizing devices used outside of temporary traffic control zones, retroreflective sheeting or bands shall be white if the devices separate traffic flows in the same direction and shall be yellow if the devices separate traffic flows in the opposite direction or are placed along the left-hand edge line of a one-way roadway or ramp.

Section 3I.02 Tubular Markers

Standard:

01 **Except as provided in Paragraph 2 of this Section, tubular markers for permanent installation shall be a minimum of 28 inches in height and shall be a minimum of 2 inches wide facing road users.**

Option:

02 Tubular marker height may be reduced to accommodate sight distance as determined by engineering judgment.

Guidance:

03 *Tubular markers should be affixed to the pavement or other surface either directly or by means of an attachment system that is affixed to the pavement or other surface.* ~~*Tubular markers should be normally spaced no greater than N as cited in Section 3B.14.*~~

~~Option:~~

~~03 Other spacing may be used based on engineering judgment.~~

~~Support:~~

~~04 Tubular markers are sometimes used to provide additional emphasis or improve lane discipline in advance of an unsignalized crosswalk (see Figure 3I-01).~~ [Moved to Section 3I.01 paragraph 3 and reworded]

~~*Guidance:*~~

04 Tubular markers should be placed based on engineering judgment.

05 When tubular markers are used to supplement a R1-6 series sign (see Section 2B.20) that is either on the center line, lane line, or median island, they should not be used on the same pavement marking line where the R1-6 series sign is installed.

Support:

06 Section 6K.04 contains information for temporary installations of tubular markers.

Section 3I.03 Vertical Panels

Standard:

01 **Vertical panels shall be a minimum of 36 inches in height and shall be a minimum of 8 inches wide facing road users. Vertical panels shall have retroreflective material that is 8 to 12 inches in width and at least 24 inches in height.**

Guidance:

02 Vertical panels should be affixed to the pavement or other surface either directly or by means of an attachment system that is affixed to the pavement or other surface. Vertical panels should be spaced no greater than 40 feet apart.

Option:

03 Other spacing may be used based on engineering judgment.

Support:

04 Section 6K.05 contains information for temporary installations of vertical panels.

Section 3I.04 Lane Separators

Standard:

01 **Lane separators shall consist of a longitudinal base component with a maximum height of 4 inches and a maximum width of 12 inches. The longitudinal base shall have sloping sides in order to facilitate crossover by emergency vehicles.**

Guidance:

02 One or more types of channelizing devices, such as tubular markers or vertical panels mounted on flexible supports, should be affixed to the longitudinal base. Lane separators should include retroreflective material if other channelizing devices are not affixed to the longitudinal base.

03 Lane Separators should be affixed to the pavement or other surface either directly or by means of an attachment system that is affixed to the pavement or other surface.

Support:

04 Lane separators are also known as channelizing curb, hardened centerlines, traffic separator, or similar.

05 Section 6K.11 contains information for installations of temporary lane separators.

Figure 3I-1. Examples of Channelizing Devices

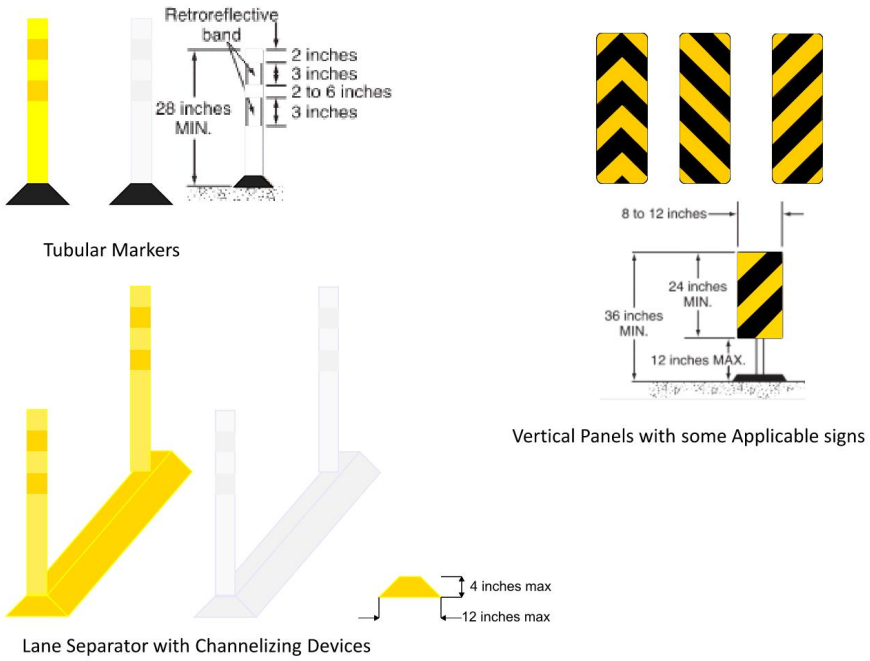

Figure 3I-~~1~~ 2 Examples of Tubular Markers Supplementing Pavement Markings in Advance of an Unsignalized Crosswalk (Sheet 1 of 2)

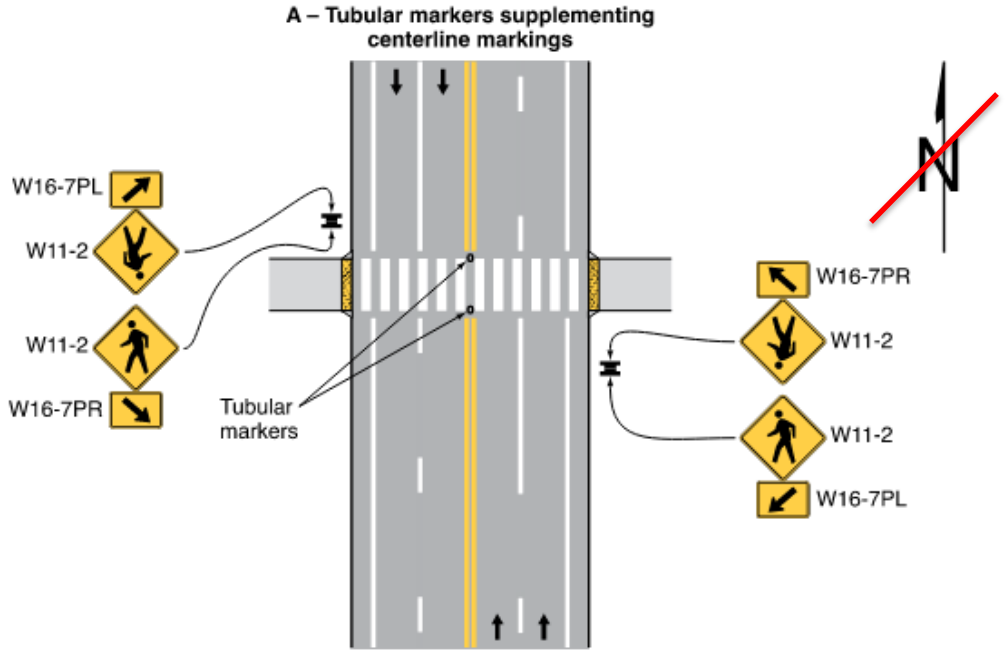

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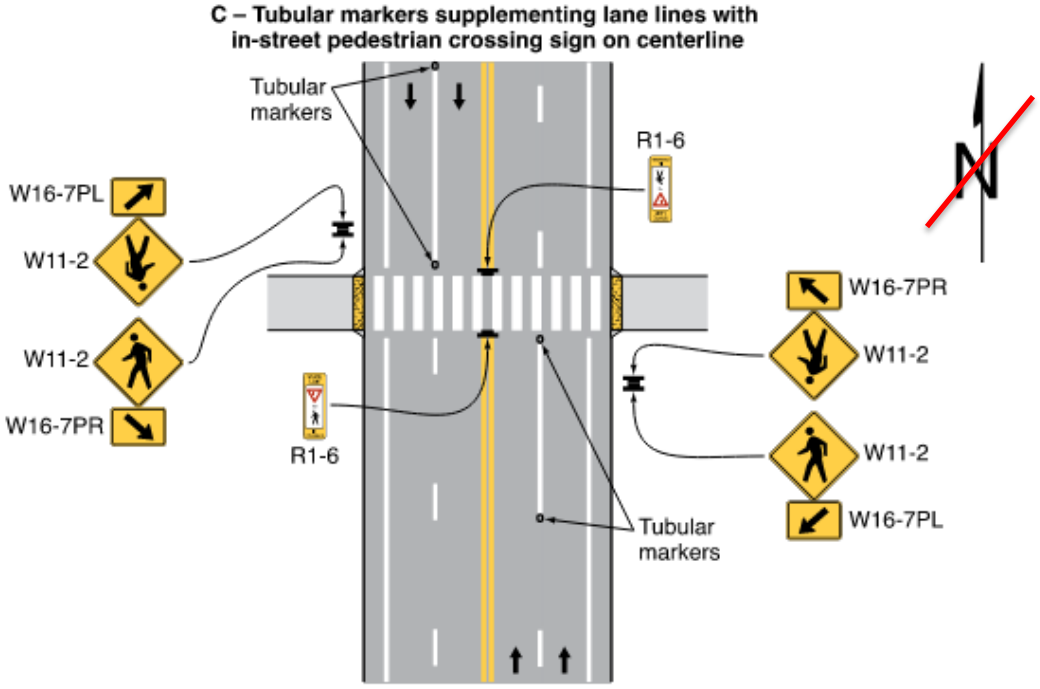
Figure 3I-~~1~~ 2 Examples of Tubular Markers Supplementing Pavement Markings in Advance of an Unsignalized Crosswalk (Sheet 2 of 2)



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PART 6. MARKINGS

CHAPTER 6K. TTC ZONE CHANNELIZING DEVICES

Section 6K.04 Tubular Markers

Standard:

01 **Tubular markers (see Figure 6K-1) shall be predominantly orange for TTC zone applications and shall be not less than 18 inches high and 2 inches wide facing road users. ~~They shall be made of a material that can be struck without causing damage to the impacting vehicle.~~**

02 **Tubular markers shall be a minimum of 28 inches in height when they are used on freeways and other high-speed highways, on all highways during nighttime, or whenever more conspicuous guidance is needed.**

03 **For nighttime use, tubular markers shall be retroreflectorized. Retroreflectorization of tubular markers that have a height of less than 42 inches shall be provided by two 3-inch wide white bands placed a maximum of 2 inches from the top with a maximum of 6 inches between the bands. Retroreflectorization of tubular markers that have a height of 42 inches or more shall be provided by four 4- to 6-inch wide alternating orange and white stripes with the top stripe being orange.**

Guidance:

04 Tubular markers have less visible area than other devices and should be used only where space restrictions do not allow for the use of other more visible devices.

05 Tubular markers should be stabilized by affixing them to the pavement, by using weighted bases, or weights such as sandbag rings that can be dropped over the tubular markers and onto the base to provide added stability. Ballast should be kept to the minimum amount needed.

Option:

06 Tubular markers may be used effectively to divide opposing lanes of road users, divide vehicular traffic lanes when two or more lanes of moving vehicular traffic are kept open in the same direction, and to delineate the edge of a pavement drop off where space limitations do not allow the use of larger devices.

Standard:

07 **A tubular marker shall be attached to the pavement to display the minimum 2-inch width to the approaching road users.**