National Committee on
Uniform Traffic Control Devices

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

COMMITTEE / TASK FORCE:	Edit Committee
ITEM NUMBER:	26B-EDT-01
TOPIC:	TCD Characteristics and Actions
ORIGIN OF REQUEST:	Co-Chairs for 12th Edition Visioning
AFFECTED SECTIONS OF MUTCD:	Locations throughout the MUTCD

DEVELOPMENT HISTORY:

Approved by Edit Committee: 06/24/2026
Concurrence from RWSTC: 01/08/2026
Concurrence from GMITC: 11/12/2025
Concurrence from Markings TC: 01/08/2026
Concurrence from Signals TC: 05/05/2026
Concurrence from TTC TC: 01/07/2026
Concurrence from RRLRT TC: 01/08/2026
Concurrence from Bicycle TC: 01/07/2026
Approved by NCUTCD Council: .....

This is a proposed change to the MUTCD that has been developed by a technical committee, joint committee, or joint task force of the NCUTCD. The NCUTCD is distributing this to its sponsoring organizations for review and comment. Sponsor comments will be considered in revising the proposal prior to NCUTCD Council consideration. This proposal does not represent a revision of the MUTCD and does not constitute official MUTCD standards, guidance, options, or support. If approved by the NCUTCD Council, the recommended changes 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 recommends that information for every traffic control device be organized and presented in the MUTCD in a similar manner, including Appearance, Meaning, Selection, Placement, Operation, Maintenance, and Removal. Definitions of “Application” and “Installation” are also proposed, and changes to MUTCD text are proposed to use the word “installation” consistently.

DISCUSSION:

Most of the content in the MUTCD falls into seven categories. Two of the categories are the traffic control device characteristics of Appearance and Meaning. The other five categories describe various actions (decisions) made by a traffic engineer. These are the decisions related to Selection, Placement, Operation, Maintenance, and Removal of traffic control devices.

There is no consistent order in the MUTCD in which information on these seven categories is presented for a particular device. Consequently, the MUTCD is much more difficult to use than if there was a consistent order.

A future major recommendation from the 12th Edition Visioning Co-Chairs will be that information for every traffic control device be organized and presented in the MUTCD in a given order and a similar manner. An MUTCD organized on this framework would be much easier to use.

To accomplish a future reorganization of content there is a need to carefully describe each of the seven categories so that when the time comes to "sort out" existing content, the classification can be done correctly and consistently. Action by the Council to approve this proposal will be a first and necessary step.

The existing definition of "Application" first appeared in the MUTCD in the 11th Edition. The definition is essentially the same as the meaning of "Selection" as recommended in this proposal. However, the way "Application" is most commonly used in the Manual refers to more than just device selection. The word "Application" commonly includes the actions of "Placement" and "Operation." A revised definition of "application" is proposed, to better coincide with the use of "Application" in the MUTCD.

To make the most effective use of National Committee volunteer time and resources, it is proposed that a two-step process be pursued. The first step would be Council approval of this proposed definition change. The second step would be to review each location in the 11th Edition where the word "application" is used, determine if "application" is still the appropriate word to use, and, if not, determine an appropriate replacement word. Council would then vote on appropriate substitute text.

Installation

The word "installation" is frequently used in the MUTCD (145 times in the 11th Edition). It is commonly used in three different contexts (or with three different meanings), as follows:

No.	*Meaning*	*Example*
1	The process of determining the proper position of a device	"Where a regulatory sign, other than a STOP sign, is placed on the left-hand side of a multi-lane roadway in addition to the ***installation*** of the same regulatory sign on the right-hand side or the roadway,…." (Sec. 2B.03)
2	An assembly of signs and supports	"For a post-mounted sign ***installation***, placing a duplicate sign in the same assembly facing the same direction of traffic shall not be permitted as a method of enhancing conspicuity." (Sec. 2A.11)
3	The act of installing a device	"The ***installation*** of ramp control signals should be preceded by an engineering study." (Sec. 4P.01)

The fact that "installation" is used with three distinctly different meanings can lead to confusion and possible misunderstanding of the MUTCD. A new definition of "installation" is proposed that would align with meaning 3 in the table above: "the physical activity of installing a traffic control device."

In addition to adding a definition, this proposal would modify MUTCD language to be compatible with the new definition, often using the following framework:

- When "installation" is used to describe the process of determining the proper position of a device, the word "placement" can be used to replace "installation."
- When "installation" is used to mean an assembly of signs and supports, the defined term "sign assembly" can be used to replace "installation." "Sign assembly" is defined as "a group of signs,

located on the same support(s), that supplement one another in conveying information to road users."

- When "installation" is used to mean a single sign on a support, the word "sign" and/or "sign support" can often be used to replace "installation."
- When "installation" is used to mean the act of installing a device, the word "installation" could continue to be used and be defined as shown in this proposal.

In many instances, "selection" or "placement" is used to substitute for "installation." "Selection" and "placement" are described in the proposed Table 1D-X.

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]. Deletions made by a technical committee, joint committee, or task force after initial distribution to sponsoring organizations are shown in ~~highlighted red strikethrough and sans-serif text~~. Additions made by a technical committee, joint committee, or task force after initial distribution to sponsoring organizations are shown in underline blue and sans-serif text.

[For brevity, this proposal shows only paragraphs with proposed changes. Because most of this proposal generally substitutes other words for "installation," paragraphs under revision do not interact with paragraphs not under revision.]

PART 1
GENERAL

CHAPTER 1A. GENERAL

Section 1A.01 Purpose and Scope of the MUTCD [24B-EDT-01, Jan 2025]

Support:

02 This purpose is achieved through the following objectives:

A. Promote safety, inclusion, and mobility for all users of ~~the~~ roads and bikeways ~~network~~; [25A-EDT-01, June 2026]

B. Promote efficiency through creating national uniformity in the meaning and appearance of traffic control devices;

C. Promote national consistency in the ~~use, installation,~~ selection, placement, and operation of traffic control devices; and

D. Provide basic principles for traffic engineers to use in making decisions regarding the ~~use, installation,~~ selection, placement, operation, maintenance, and removal of traffic control devices.

02a The scope of the MUTCD is limited to the meaning, design, application, ~~installation,~~ selection, placement, and operation of traffic control devices. The MUTCD is not a roadway design manual nor is it a comprehensive safety manual. It is not a policy or directive on the design or character of communities or the geometric design of roadways. The MUTCD also is not intended to prioritize any particular travel mode or to influence land use or access by any mode of travel. Such policies are determined by the responsible State and local authorities and road owners. [24B-EDT-01, Jan 2025 & 25A-EDT-01, June 2026]

CHAPTER 1C. DEFINITIONS, ACRONYMS, AND ABBREVIATIONS USED IN THIS MANUAL

Section 1C.02 Definitions of Words and Phrases Used in this Manual

Standard:

03 **The following words and phrases, when used in this Manual, shall have the following meanings:**

12. Application—~~in regard to a traffic control device, the act of deciding to use a device, generally or at a particular location for a particular condition.~~ the use of one or more traffic control devices at a specific location to regulate, warn, and/or guide road users to promote safety and mobility. Application of traffic control devices includes selection, placement, and – when a device has an operational aspect – establishing the operation of the device. An application can include multiple devices and more than one type of device (signs, markings, signals, other devices).

76. Engineering Judgment—the evaluation of available pertinent information including, but not limited to, the safety and operational efficiency of all road users, and the application of appropriate principles, provisions, and practices as contained in this Manual and other sources, for the purpose of deciding upon the design (see Section 1D.03), use, ~~installation~~ placement, or operation of a traffic control device. Engineering judgment shall be exercised by a professional engineer (see definition in this Section) with appropriate traffic engineering expertise, or by an individual working under the supervision of such an engineer, through the application of procedures and criteria established by the engineer. Documentation of engineering judgment is not required.

77. Engineering Study—the analysis and evaluation of available pertinent information including, but not limited to, the safety and operational efficiency of all road users, and the application of appropriate principles, provisions, and practices as contained in this Manual and other sources, for the purpose of deciding upon the design (see Section 1D.03), use, ~~installation~~ placement, or operation of a traffic control device. An engineering study shall be performed by a professional engineer (see definition in this Section) with appropriate traffic engineering expertise, or by an individual working under the supervision of such an engineer, through the application of procedures and criteria established by the engineer. An engineering study shall be documented in writing.

103. Highway Traffic Signal—[only relevant portion of definition shown:]

(3) Portable Traffic Control Signal—a temporary component of a traffic control signal on a mobile support with one or more signal faces that is designed so that it can be easily transported, deployed, or relocated as part of a temporary traffic control signal, or deployed during construction and maintenance as a temporary part of a permanent traffic control signal ~~installation~~.

XX. Installation---the physical activity of installing a traffic control device.

155. Overhead Sign—a sign that is placed such that a portion or the entirety of the sign or its support is directly above ~~the~~ a roadway or ~~shoulder~~ bikeway such that vehicles travel below it. Typical ~~installations~~ overhead sign use includes signs placed on cantilever arms that extend over the roadway ~~or shoulder~~, signs placed on sign support structures that span the entire width of the ~~pavement~~ roadway, signs placed on mast arms or span wires either independently or that also support traffic control signals, and signs placed on ~~highway~~ road bridges that cross over the roadway. [25A-EDT-01, June 2026]

290. Warrant—a warrant describes a threshold condition based upon average or normal conditions that, if found to be satisfied as part of an engineering study, shall result in analysis of other traffic conditions or factors to determine whether a traffic control device or other improvement is justified. Warrants are not a substitute for engineering judgment. The fact that a warrant for a particular traffic control device is met is not conclusive justification for the selection and installation of the device.

CHAPTER 1D. PROVISIONS APPLICABLE TO TRAFFIC CONTROL DEVICES IN GENERAL

Section 1D.01a Characteristics of Traffic Control Devices

Support:

01 The two primary characteristics of traffic control devices are Appearance and Meaning.

A. Appearance—The physical characteristics of a specific device as it appears to, or is detected by, the road user. These characteristics vary for different types of devices but might include color, shape, legend, acoustical and tactile features, and the relative position and layout of individual elements. Permanent or activated flashing, such as in flashing beacons and RRFBs, and LED enhancement of sign borders or legend are also appearance characteristics.

B. Meaning—The message the device is intended to convey and the expected road user response to the device.

Section 1D.01b Engineering Decisions and Field Implementation

Support:

01 As described in Table 1D-X, there are five major categories of decisions that an engineer could make for a traffic control device. The five major categories are:

A. Selection

B. Placement

C. Operation Decision

D. Monitoring Performance

E. Assessing the Continued Need for the Device

02 Four of these categories have an associated field implementation. This Manual includes content covering engineering decisions. With few exceptions, this Manual does not include content that specifies field implementation. Two such exceptions are, for traffic control signals, this Manual specifies steps for removal and, for pavement markings, this Manual specifies alternatives to removal that are unacceptable.

03 Selection, Placement and the Operation Decision are engineering decisions that are made before a traffic control device is first placed in service.

04 After a traffic control device is placed in service, there are two ongoing activities that are necessary – Monitoring Performance and Assessing the Continued Need for the Device.

Table 1D-X. Engineering Decisions and Field Implementation

[All content in this table is proposed to be added.]

Engineering Decision	Field Implementation
Selection	
Selection	
Selection—The process of making a decision to use or not use a specific device at a specific location and the manner and criteria by which such a decision is made given the specific circumstances at that location. This Manual contributes to the decision-making process by stating the conditions under which a device shall, shall not, should, should not, or may be used. Selection can involve one or more of the following: an engineering study; the use of engineering judgement; or the use of a warrant.	There is no field implementation associated with the Selection decision.
Placement	
Placement	Installation
Placement—The process of determining the proper position for a device and providing appropriate visibility for the device. Considerations related to placement vary for different types of devices but might include height, lateral distance (offset), longitudinal distance from a reference point, distance from other devices, suitable lane widths, appropriate taper length and length of longitudinal buffer area. Placement also includes addressing the visibility/detection of a device by also considering size (e.g., sign dimensions, pavement marking width, other pavement marking dimensions), conspicuity, and contrast with the environmental background.	Installation-- The physical activity of installing a traffic control device.
Operation	
Operation Decision	Operation Implementation
Operation Decision—The process of establishing how the appearance of a device changes over a relatively short period of time to impact the movement of traffic. Most traffic control devices are static and do not change appearance. However, some devices do change appearance to impact the movement of traffic (such as traffic control signals, changeable message signs, STOP/SLOW paddles, pedestrian hybrid beacons, RRFBs, railroad flashing light signals and gates, and lane-use control signals). Flashing of LEDs on a sign is not considered an Operation when it is used to draw attention to the device and not to impact the movement of traffic. For some devices, such as RRFBs and railroad flashing light signals, this Manual specifies the temporal change in appearance. For other devices, such as traffic signals, the temporal change in appearance is determined by the engineer. A change in appearance usually also changes the meaning of the device.	A device's operation pattern is implemented via setting, installing, or programming the pattern.
Maintenance	
Monitoring Performance	Maintenance
Monitoring Performance—The process of monitoring features of a device, such as its appearance, visibility, crashworthiness, operational features, acoustical features, and tactile features and determining the appropriate actions to take so that it will function in the intended manner throughout the life of the device and be replaced at the end of its useful life. For traffic control signals, reevaluating timing and phasing is part of monitoring performance.	Maintenance – Carrying out appropriate actions so that a device will function in the intended manner throughout the life of the device and be replaced at the end of its useful life. The word “maintenance” and the phrase “construction and maintenance” are also used in this Manual to refer to maintenance of the roadway or right-of-way. These uses of the word “maintenance” do not refer to maintenance of traffic control devices.
Removal	
Assessing the Continued Need for the Device	Removal
Selection for removal--The process of making a decision to discontinue use of a specific device at a specific location and the manner and criteria by which such a decision is made given the specific circumstances at that location.	Removal—The physical activity of taking a device out of service. For traffic control signals, this Manual specifies steps for removal. For pavement markings, this Manual specifies alternatives to removal that are unacceptable.

Section 1D.03 Engineering Study and Engineering Judgment

Standard:

03 **This Manual describes the application of traffic control devices, but shall not be a legal requirement for their selection and installation.**

PART 2
SIGNS

CHAPTER 2A. GENERAL

Section 2A.05 Shapes

Guidance:

03 *Shapes that are exclusive to a particular sign (such as an octagon for STOP, a pennant for NO PASSING ZONE, or a circle for Railroad Advance) should not be obscured by another sign mounted on the back of the same assembly protruding or extending beyond the edge of the sign with the exclusive shape. The following methods should be considered in lieu of mounting a sign on the back of another sign that would obscure the exclusive shape of the sign:*

A. Install the signs on separate mountings to maintain the exclusive shape.
B. Increase the size of the sign with the exclusive shape so the sign installed on the back does not obscure its shape.
C. Increase the mounting height of the sign with the exclusive shape to allow the ~~installation~~ placement of a back-mounted sign below the bottom edge while still ensuring the minimum required mounting height for the lower sign.

Section 2A.07 Dimensions

Option:

03 For alleys with restrictive physical conditions and vehicle use that limits ~~installation~~ placement of the Minimum size sign (or the Conventional Road size sign if no Minimum size is shown), both the sign height and the sign width may be decreased by up to 6 inches.

Section 2A.11 Enhanced Conspicuity for Standard Signs

Standard:

06 **For a post-mounted sign ~~installation~~, ~~placing~~ placing a duplicate sign in the same assembly facing the same direction of traffic shall not be ~~permitted~~ used as a method of enhancing conspicuity.** [25B-GMI-01, Jan 2026]

Section 2A.13 Standardization of Location

Support:

01 Standardization of position cannot always be attained in practice. Examples of heights and lateral locations ~~of~~ for signs ~~for typical~~ ~~installation~~ are illustrated in Figure 2A-2, and examples of locations for some typical signs at intersections are illustrated in Figure 2A-3 and all four sheets in Figure 2A-4.

Guidance:

11 *With the increase in traffic volumes and the need to provide road users regulatory, warning, and guidance information, an order of priority for the selection and placement of signs ~~installation~~ should be established.*

Support:

12 An order of priority is especially critical where space is limited for sign ~~installation~~ placement and there is a demand for several different types of signs. Overloading road users with too much information is not desirable. Priority according to type of sign will depend on the specific situation and conditions of the site at which the signs are to be installed. For example, in the vicinity of an exit ramp, guide signs and warning signs for the exit ramp

might take precedence over regulatory signs that confirm rules of the road, such as a STATE LAW-NO HANDHELD PHONE USE BY DRIVER sign, or a mainline Speed Limit sign where there is no change in the speed zone.

Figure 2A-2. Examples of Heights and Lateral Locations ~~of~~ for Signs ~~Installations~~

[No changes to figure content, only the title.]

Section 2A.14 Overhead Signs ~~Installations~~

Support:

02 The operational requirements of the present highway system are such that overhead signs have value at many locations. The factors to be considered for the ~~installation~~ use of overhead sign displays are not definable in specific numerical terms. In some cases, overhead mounting of a sign might be required by other provisions of this Manual.

Section 2A.15 Mounting Height

Support:

02 It might be necessary to use larger minimum mounting heights than those prescribed in this Manual to ensure appropriate crash performance of ~~sign~~ signs and supports ~~installations~~ that are required to be crashworthy (see Section 1D.11).

Section 2A.18 Posts and Mountings

Standard:

06 **If mounted to the sign support, equipment for powering electronic components of a sign, including solar panels, shall be mounted so as not to compromise the crashworthy performance of the sign and supports ~~installation~~ (see Section 1D.11). Such equipment shall be mounted so as not to obscure the shape of the sign.**

Section 2A.20 Excessive Use of Signs

Support:

02 Sign clutter is the proliferation of signs ~~sign installations or assemblies~~ along the roadway or roadside, either separately or grouped, to such an extent that adequate spacing between ~~installations~~ signs necessary for orderly processing of the sign messages by the driver cannot be achieved. Sign clutter can reduce the effectiveness of one or more signs in a sequence of signs.

CHAPTER 2B. REGULATORY SIGNS, BARRICADES, AND GATES

Section 2B.03 Size of Regulatory Signs

Option:

06 Where a regulatory sign, other than a STOP sign, is placed on the left-hand side of a multi-lane roadway in addition to the ~~installation~~ placement of the same regulatory sign on the right-hand side ~~or~~ of the roadway, the minimum size shown in the Single Lane column in Table 2B-1 may be used for both the sign on the right-hand side and the sign on the left-hand side of the roadway.

Section 2B.07 Determining the Minor Road for Unsignalized Intersections

Guidance:

01 *The selection of the minor road to be controlled by YIELD or STOP signs should be based on one or more of the following criteria:*

A. A roadway intersecting a designated through or numbered highway,
B. A roadway with the lower functional classification,
C. A roadway with the lower traffic volume,

D. A roadway with the lower speed limit, and/or

E. A roadway that intersects with a roadway that has a higher priority for one or more modes of travel.

02 *When two roadways that have relatively equal volumes, speeds, and/or other characteristics intersect, the following factors should be considered in selecting the minor road for ~~installation of~~ YIELD or STOP ~~signs~~ control:*

Section 2B.10 Yield Control

Guidance:

02 *Yield control should be considered when engineering judgment indicates that all of the following conditions exist:*

A. Intersection sight distance is adequate on the approaches to be controlled by YIELD signs.

B. All approaches to the intersection are a single lane and there are no separate turn lanes.

C. One of the following crash-related criteria applies:

D. For changing from no intersection control to yield control, there have been two or more reported crashes in the previous 12 months that are susceptible to correction by the ~~installation~~ use of ~~a~~ YIELD ~~sign~~ control.

Section 2B.11 Minor Road Stop Control

Guidance:

01 *Stop control on the minor-road approach or approaches to an intersection should be considered when engineering judgment indicates that one or more of the following conditions exist:*

A. A restricted view exists that requires road users to stop in order to adequately observe conflicting traffic on the through street or highway.

B. Crash records indicate that:

1. For a four-leg intersection, there are three or more reported crashes in a 12-month period or six or more reported crashes in a 36-month period. The crashes should be susceptible to correction by the use ~~installation~~ of minor-road stop control.

2. For a three-leg intersection, there are three or more reported crashes in a 12-month period or five or more reported crashes in a 36-month period. The crashes should be susceptible to correction by the use ~~installation~~ of minor-road stop control.

C. The intersection is of a lower functional classification road with a higher functional classification road.

D. Conditions that previously supported the use ~~installation~~ of all-way stop control no longer exist.

Section 2B.12 All-Way Stop Control

Standard:

05 **The satisfaction of an all-way stop control warrant or warrants shall not in itself require the use ~~installation~~ of all-way stop control at an unsignalized intersection.**

Section 2B.13 All-Way Stop Control Warrant A: Crash Experience

Option:

01 All-way stop control may be installed at an intersection where an engineering study indicates that:

A. For a four-leg intersection, there are five or more reported crashes in a 12-month period or six or more reported crashes in a 36-month period that were of a type susceptible to correction by the use ~~installation~~ of all-way stop control.

B. For a three-leg intersection, there are four or more reported crashes in a 12-month period or five or more reported crashes in a 36-month period that were of a type susceptible to correction by the use ~~installation~~ of all-way stop control.

Section 2B.15 All-Way Stop Control Warrant C: Transition to Signal Control or Transition to Yield Control at a Circular Intersection

Option:

01 All-way stop control may be installed at locations where all-way stop control is an interim measure that can be installed to control traffic while arrangements are being made for the installation of a traffic control signal (see Chapter 4C) at the intersection or for the use ~~installation~~ of yield control at a circular intersection.

Section 2B.17 All-Way Stop Control Warrant E: Other Factors

Option:

01 All-way stop control may be installed at an intersection where an engineering study indicates that all-way stop control is needed due to other factors not addressed in the other all-way stop control warrants. Such other factors may include, but are not limited to, the following:

A. The need to control left-turn conflicts,
B. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where all-way stop control would improve traffic operational characteristics of the intersection, or
C. Where pedestrian and/or bicyclist movements support the selection ~~installation~~ of all-way stop control.

Section 2B.21 Speed Limit Sign (R2-1)

Support:

30 Advisory speed signs and plaques are discussed in Sections 2C.12 and 2C.59. Temporary traffic control zone speed signs are discussed in Part 6. The WORK ZONE (G20-5aP) plaque intended for ~~installation~~ mounting above a Speed Limit sign is discussed in Section 6G.08. School Speed Limit signs are discussed in Section 7B.05.

Section 2B.27 Intersection Lane Control Signs (R3-5 through R3-8)

Guidance:

06 *~~Use~~ The use of an overhead sign for one approach lane should not require the use ~~installation~~ of overhead signs for the other lanes of that approach.*

Section 2B.49 ONE WAY Signs (R6-1 and R6-2)

Option:

12 Where the central island of a roundabout has adequate space for ~~allows for the installation of~~ signs, ONE WAY signs may be used to direct traffic counter-clockwise around the central island (see Figures 2B-22 and 2B-23).

CHAPTER 2C. WARNING SIGNS AND OBJECT MARKERS

Section 2C.02 Design of Warning Signs

Support:

03 The use of a shape other than diamond-shaped is typical for overhead ~~installations~~ signs.

Section 2C.03 Size of Warning Signs and Plaques

Option:

05 If a diamond-shaped warning sign is placed on the left-hand side of a multi-lane roadway to supplement the ~~installation of the~~ same warning sign on the right-hand side of the roadway, the minimum size identified in the Single Lane column in Table 2C-1 may be used.

Section 2C.11 Truck Rollover Sign (W1-13)

Guidance:

02 *Where engineering judgment determines the need ~~for the installation of~~ for a Truck Rollover (W1-13) sign, it should be located downstream of the horizontal alignment warning sign in advance of the curve.*

Section 2C.13 Vehicle Speed Feedback Sign and Plaque (W13-20 and W13-20aP)

Standard:

03 **When used to supplement a horizontal alignment warning sign advisory speed, the Vehicle Speed Feedback (W13-20) sign shall be mounted on an independent ~~installation~~ support near the point of curvature of a horizontal curve (see Section 2C.06).**

Section 2C.59 Advisory Speed Plaque (W13-1P) and Confirmation Advisory Speed Plaque (W13-1aP)

Standard:

06 **The Advisory Speed plaque shall only be used to supplement an advance warning sign. The Advisory Speed plaque or the Confirmation Advisory Speed plaque shall not be installed ~~as~~ on a separate sign support ~~installation.~~**

08 **The Confirmation Advisory Speed plaque shall only be used to supplement a One-Direction Large Arrow (W1-6) sign (see Section 2C.10) or an Exit Gore (E5-1 series) (see Section 2E.26) sign and shall not be installed ~~as~~ on a separate sign support ~~installation~~.**

CHAPTER 2E. GUIDE SIGNS—FREEWAYS AND EXPRESSWAYS

Section 2E.02 Freeway and Expressway Signing Principles

Support:

01 The development of a signing system for freeways and expressways is approached on the premise that the signing is primarily for the benefit and direction of road users who are unfamiliar with the route or area. The signing furnishes road users with clear instructions for orderly progress to their destinations. ~~Sign installations~~ Signs are an integral part of the facility and, as such, are best planned concurrently with the development of highway location and geometric design. For optimal results, plans for signing are analyzed during the earliest stages of preliminary design, and details are correlated as final design is developed. The excessive signing found on many major highways usually is the result of using a multitude of signs that are too small and that are poorly designed and placed to accomplish the intended purpose.

02 Freeway and expressway signing is to be considered and developed as a planned system of ~~installations~~ signs and sign assemblies. An engineering study is sometimes necessary for proper solution of the problems of many individual locations, but, in addition, consideration of an entire route is necessary.

Section 2E.10 Retroreflection or Illumination

Guidance:

04 *Overhead ~~sign~~ signs ~~installations~~ should be illuminated (see Section 2A.21) unless an engineering study shows that retroreflection alone will perform effectively. The type of illumination chosen should provide effective and reasonably uniform illumination of the sign face and message.*

[Revise the subchapter title incorporating Sections 2E.19 and 2E.20:]

~~INSTALLATION~~ LOCATION OF SIGN SUPPORTS

Section 2E.19 Overhead Signs ~~Sign Installations~~

Support:

01 Specifications for the design and construction of structural supports for signs have been standardized by the American Association of State Highway and Transportation Officials (AASHTO). Overcrossing structures can often serve for the support of overhead signs, and might in some cases be the only practical location that will provide adequate viewing distance. Use of these structures as sign supports will eliminate the need for additional sign supports along the roadside. Conditions that might warrant the installation of overhead signs are given in Section 2A.14 and throughout this Chapter. Vertical clearance of overhead signs is discussed in Section 2A.15.

Section 2E.40 Design of Overhead Arrow-per-Lane Guide Signs for Option Lanes

Standard:

04 **If an existing Exit Direction sign is being retained at an interchange as provided in Paragraph 3 of this Section, an Overhead Arrow-per-Lane guide sign shall not be used at the location of the Exit Direction sign at or in the vicinity of the theoretical gore. New ~~installations of~~ Exit Direction and Pull-Through signs shall not be permitted in conjunction with Overhead Arrow-per-Lane guide signs on new or reconstructed facilities.**

Section 2E.43 Number of Signs ~~at~~ on an Overhead ~~Installation~~ Sign Structure and Sign Spreading

Guidance:

01 *If overhead signs are warranted, as set forth in Section 2A.13, the number of signs at these locations should be limited to only those essential in communicating pertinent destination information to the road user. Exit Direction signs for a single exit and the Interchange Advance Guide signs should have only one sign with one or two destinations. Regulatory signs, such as speed limits, should not be used in conjunction with overhead guide signs ~~sign installations~~. Because road users have limited time to read and comprehend sign messages, there should not be more than three guide signs displayed at any one location either on the overhead structure or its support.*

Section 2E.55 Route Signs and Trailblazer Assemblies

Option:

06 The toll highway name or route sign may be included as a part of the guide sign ~~installations~~ assemblies on intersecting highways and approach roads to indicate the interchange with a toll section of an Interstate route. Where needed for the proper direction of traffic, a trailblazer for a toll highway that is part of the Interstate Highway System may be displayed with the Interstate Trailblazer Assembly.

CHAPTER 2G. PREFERENTIAL AND MANAGED LANE SIGNS

Section 2G.26 Variable Speed Limits for Active Traffic Management on Freeways and Expressways

Guidance:

04 *The location and positioning of variable Speed Limit signs should clearly associate the speed displayed to the lane or lanes intended to be regulated such that it would not present a conflict or confusion with other posted speed limits or advisory speeds for adjacent lanes, ramps, or roadways. Variable Speed Limit signs should not be located on overhead structures containing guide ~~sign~~ signs ~~installations~~ (see Section 2E.43).*

CHAPTER 2H. GENERAL INFORMATION SIGNS

Section 2H.13 Acknowledgment Signs and Plaques (I20 Series)

Standard:

06 **Acknowledgment signs and plaques shall have a white legend and border on a blue background. Acknowledgment signs shall be ~~independent~~ post-mounted independently ~~roadside installations only~~ and shall not be mounted overhead.**

CHAPTER 2J. SPECIFIC SERVICE SIGNS

Section 2J.02 Application

Option:

19 Separate ~~installations of~~ General Service signs (see Figure 2J-3 and Sections 2I.02 and 2I.03) may be used in conjunction with Specific Service signs for eligible types of services that are not represented by a Specific Service sign.

CHAPTER 2K. TOURIST-ORIENTED DIRECTIONAL SIGNS

Section 2K.07 State Policy

Guidance:

02 *The State policy should include:*

A. A definition of tourist-oriented business, service, and activity facilities.
B. Eligibility criteria for signs for facilities.
C. Provision for covering signs during off seasons for facilities operated on a seasonal basis.
D. Provisions for signs to facilities that are not located on the crossroad when such facilities are eligible for signs.
E. A definition of the immediate area in compliance with the provisions of Paragraph 2 of Section 2K.01.
F. Maximum distances to eligible facilities. The maximum distance should be 5 miles.
G. Provision for information centers (plazas) when the number of eligible sign applicants exceeds the maximum permissible number of sign ~~panel installations~~ panels on a sign assembly.

CHAPTER 2L. CHANGEABLE MESSAGE SIGNS

Section 2L.01 Description of Changeable Message Signs

Support:

04 CMS messaging can be subject to habituation, a phenomenon by which repeated exposure to a stimulus results in diminished response. CMS habituation can occur through repeated exposure to messages, especially those messages that might not be perceived as having relevance to the road user, resulting in diminished responsiveness of the road user to that message. Because messages can be changed or extinguished, the effectiveness of CMS is tied more to the messages displayed thereon, the frequency of displayed messages, and the relevance to the road user, rather than to the ~~installation~~ presence of the signs themselves.

Section 2L.08 Permanently-Located Changeable Message Signs

Support:

01 Careful consideration of CMS ~~installation~~ location is important to having a safe and effective message, taking into account several factors. CMS message length and complexity will vary and often include two-phase displays, all of which might require longer glance times by motorists than would be required for conventional sign messages.

CHAPTER 2M. RECREATIONAL AND CULTURAL INTEREST AREA SIGNS

Section 2M.10 Memorial or Dedication Signing

Standard:

07 **Where such memorial or dedication signs are installed on the highway mainline because the provisions of Paragraph 4 of this Section cannot be met, (1) memorial or dedication names shall not appear on directional guide signs, (2) memorial or dedication signs shall not interfere with the placement of any other traffic control devices, and (3) memorial or dedication signs shall not compromise the safety or efficiency of traffic flow. The memorial or dedication signing shall be limited to one sign at an appropriate location in each route direction, each as an independent post-mounted sign ~~installation~~.**

CHAPTER 2N. EMERGENCY MANAGEMENT SIGNS

Section 2N.09 Shelter Directional Signs (EM4-1 Series)

Standard:

02 **~~The installation of~~ Shelter Directional signs shall comply with established signing standards. Where used, the signs shall not be installed in competition with other necessary highway regulatory, guide, and warning signs.**

PART 3
MARKINGS

CHAPTER 3B. PAVEMENT AND CURB MARKINGS

Section 3B.18 Curb Markings for Parking Regulations

Guidance:

01 *Except as provided in Paragraph 4 of this Section, since yellow and white curb markings are frequently used for curb delineation and visibility, parking regulations should be ~~established~~ communicated through signing ~~the installation of standard signs~~ (see Sections 2B.53 and 2B.54).*

CHAPTER 3C. CROSSWALK MARKINGS

Section 3C.02 Application of Crosswalk Markings

Guidance:

06 *The ~~installation~~ selection and placement of other traffic control devices and other measures designed to reduce traffic speeds, shorten crossing distances, enhance driver awareness of the crossing, and/or provide active warning of pedestrian presence, should be considered in addition to a new marked crosswalk and signs across an uncontrolled roadway where any of the following conditions exist:*

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

Section 3I.02 Tubular Markers

Standard:

01 **Except as provided in Paragraph 2 of this Section, ~~T~~tubular markers for permanent ~~installations~~ use shall be a minimum of 28 inches in height and shall be a minimum of 2 inches wide facing road users.** [24B-MKG-02, June 2025]

Support:

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

PART 4
HIGHWAY TRAFFIC SIGNALS

CHAPTER 4B. TRAFFIC CONTROL SIGNALS—GENERAL

Section 4B.04 Basis ~~of Installation~~ for the Use of Traffic Control Signals

Support:

01 A careful analysis of traffic operations, pedestrian and bicyclist needs, and other factors at a large number of signalized and unsignalized locations, coupled with engineering judgment, has provided a series of signal warrants, described in Chapter 4C, that define the minimum conditions under which ~~installing~~ the use of traffic control signals might be justified.

Section 4B.05 Basis of Removal of Traffic Control Signals

Guidance:

01 *Engineering judgment should be applied in the review of operating traffic control signals to determine whether the ~~type of installation and the~~ design, phasing, and timing program meet the current requirements of all forms of traffic.*

CHAPTER 4C. TRAFFIC CONTROL SIGNAL NEEDS STUDIES

Section 4C.01 Studies and Factors for Justifying Traffic Control Signals

Standard:

01 **Except for a temporary traffic control signal (see Section 4D.11) installed in a temporary traffic control zone, before a traffic control signal is installed at a particular location, an engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether ~~installation of~~ a traffic control signal is justified at that location.**

03 **The satisfaction of a traffic signal warrant or warrants shall not in itself require the ~~installation~~ use of a traffic control signal.**

Guidance:

05 *When considering the ~~installation~~ use of a traffic control signal, alternatives to traffic control signals, including those listed in Section 4B.03, should also be considered.*

Support:

20 The safe and efficient movement of all road users is the primary consideration in the engineering study to determine whether to ~~install~~ use a traffic control signal or to ~~install~~ use some other type of control or roadway configuration. ~~Installation~~ Use of a traffic control signal does not necessarily result in improved safety in every case. In some cases, the ~~installation~~ use of a traffic control signal at an inappropriate location could adversely impact safety for one or more types of road users. The purpose of the engineering study is to evaluate all of the factors that are relevant to a specific location. The satisfaction of a warrant (or warrants) is one of the relevant factors in the engineering study, but it is not intended to be the only factor or even the overriding consideration. Agencies can ~~install~~ use a traffic control signal at a location where no warrants are met, but only after conducting an engineering study that documents the rationale for deciding that the ~~installation~~ use of a traffic control signal is the best solution for improving the overall safety and/or operation at the location.

Section 4C.05 Warrant 4, Pedestrian Volume

Guidance:

07 *If this warrant is met and a traffic control signal is justified by an engineering study, then:*

A. *If it is installed at an intersection or major driveway location, the traffic control signal should also control the minor-street or driveway traffic, should be traffic-actuated, and should include pedestrian detection.*

B. If it is installed at a non-intersection crossing, the traffic control signal should be installed at least 100 feet from side streets or driveways that are controlled by STOP or YIELD signs, and should be pedestrian-actuated. If the traffic control signal is installed at a non-intersection crossing, at least one of the signal faces should be over the traveled way for each approach, parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the crosswalk or site accommodations should be made through curb extensions or other techniques to provide adequate sight distance, and the ~~installation~~ design should include suitable standard signs and pavement markings.

Section 4C.06 Warrant 5, School Crossing

Guidance:

06 *If this warrant is met and a traffic control signal is justified by an engineering study, then:*

A. If it is installed at an intersection or major driveway location, the traffic control signal should also control the minor-street or driveway traffic, should be traffic-actuated, and should include pedestrian detection.

B. If it is installed at a non-intersection crossing, the traffic control signal should be installed at least 100 feet from side streets or driveways that are controlled by STOP or YIELD signs, and should be pedestrian-actuated. If the traffic control signal is installed at a non-intersection crossing, at least one of the signal faces should be over the traveled way for each approach, parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the crosswalk or site accommodations should be made through curb extensions or other techniques to provide adequate sight distance, and the ~~installation~~ design should include suitable standard signs and pavement markings.

CHAPTER 4D. DESIGN FEATURES OF TRAFFIC CONTROL SIGNALS

Section 4D.02 Provisions for Pedestrians

Standard:

02 **Pedestrian signal heads shall be used in conjunction with vehicular traffic control signals under any of the following conditions, unless the pedestrian crossing is prohibited:**

If the basis for the use of a traffic signal ~~installation~~ was justified by an engineering study and meeting either Warrant 4, Pedestrian Volume or Warrant 5, School Crossing (see Chapter 4C);

Section 4D.03 Provisions for Bicyclists

Standard:

01 **At ~~installations~~ locations where visibility-limited signal faces are used, signal faces shall be adjusted so bicyclists for whom the indications are intended can see the signal indications. If the visibility-limited signal faces cannot be aimed to serve the bicyclist, then ~~separate~~ one or more additional signal faces ~~(see Chapter 4H)~~ shall be provided for the bicyclist.** [25A-BIK-06, Jan 2026]

Section 4D.05 Number of Signal Faces on an Approach

Guidance:

07 *If the posted or statutory speed limit or the 85th-percentile speed on an approach to a signalized location is 45 mph or higher, signal faces should be provided as follows ~~for all new or reconstructed signal installations~~ at all locations where traffic control signals are reconstructed or newly installed. (see Figure 4D-1):*

Section 4D.07 Lateral Positioning of Signal Faces

Guidance:

12 *~~For new or reconstructed signal installations~~ At all locations where traffic control signals are reconstructed or newly installed, on an approach with a mandatory turn lane(s) for a permissive left-turn (or U-turn to the left) movement, signal faces that display a CIRCULAR GREEN signal indication should not be post-mounted on the far-side median or mounted overhead above the mandatory turn lane(s) or the extension of the lane(s).*

CHAPTER 4F. STEADY (STOP-AND-GO) OPERATION OF TRAFFIC CONTROL SIGNALS

Section 4F.01 Application of Steady and Flashing Signal Indications during Steady (Stop-and-Go) Operation

Standard:

03 **Steady and flashing signal indications shall be applied as follows:**

B. A steady CIRCULAR YELLOW signal indication:

4. Shall not be displayed to an approach from which drivers are turning left permissively using a shared signal face or making a U-turn to the left permissively using a shared signal face unless one of the following conditions exists:

(b) An engineering study has determined that, because of unique intersection conditions, the condition described in Item (a) cannot reasonably be implemented without causing significant operational or safety problems and that the volume of impacted left-turning or U-turning traffic is relatively low, and those left-turning or U-turning drivers are advised that a steady CIRCULAR YELLOW signal indication is not simultaneously being displayed to the opposing traffic if this operation occurs continuously by the ~~installation~~ use of a W25-1 sign (see Section 2C.44) with the legend ONCOMING TRAFFIC HAS EXTENDED GREEN; or (c) Drivers are advised of the operation if it occurs only occasionally, such as during a preemption sequence, by the installation use of a W25-2 sign (see Section 2C.44) with the legend ONCOMING TRAFFIC MAY HAVE EXTENDED GREEN.

F. A steady YELLOW ARROW signal indication:

5. Shall not be displayed to terminate a flashing arrow signal indication on an approach from which drivers are turning left permissively or making a U-turn to the left permissively unless one of the following conditions exists:

(b) An engineering study has determined that, because of unique intersection conditions, the condition described in Item (a) cannot reasonably be implemented without causing significant operational or safety problems and that the volume of impacted left-turning or U-turning traffic is relatively low, and those left-turning or U-turning drivers are advised that a steady CIRCULAR YELLOW signal indication is not simultaneously being displayed to the opposing traffic if this operation occurs continuously by the ~~installation~~ use of a W25-1 sign (see Section 2C.44) with the legend ONCOMING TRAFFIC HAS EXTENDED GREEN; or

(c) Drivers are advised of the operation if it occurs only occasionally, such as during a preemption sequence, by the ~~installation~~ use of a W25-2 sign (see Section 2C.44) with the legend ONCOMING TRAFFIC MAY HAVE EXTENDED GREEN.

Option:

04 If U-turns are permitted from the approach and a right-turn GREEN ARROW signal indication is simultaneously being displayed to road users making a right turn from the conflicting approach to the left, road users making a U-turn may be advised of the operation by the ~~installation~~ use of a U-TURN YIELD TO RIGHT TURN (R10-16) sign (see Section 2B.59).

CHAPTER 4H. BICYCLE SIGNALS

Section 4H.01 Use of Bicycle Signal Faces

Support:

03 Chapter 4C contains information on warrants for the ~~installation~~ use of a new traffic control signal.

CHAPTER 4I. PEDESTRIAN CONTROL FEATURES

Figure 4I-3. Typical Push Button Locations

[No changes to figure content, only note 2:]

2. These drawings are intended to describe the typical locations for pedestrian push buttons ~~button installations~~.

CHAPTER 4J. PEDESTRIAN HYBRID BEACONS

Section 4J.01 Application of Pedestrian Hybrid Beacons

Option:

02 A pedestrian hybrid beacon may be considered ~~for installation~~ to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C), or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal.

Figure 4J-1. Guidelines for the ~~Installation~~ Use of Pedestrian Hybrid Beacons on Low-Speed Roadways

[No changes to figure content, only the title.]

Figure 4J-2. Guidelines for the ~~Installation~~ Use of Pedestrian Hybrid Beacons on High-Speed Roadways

[No changes to figure content, only the title.]

Section 4J.02 Design of Pedestrian Hybrid Beacons

Standard:

03 **When an engineering study finds that ~~installation of~~ a pedestrian hybrid beacon is justified, then:**

- **A. At least two pedestrian hybrid beacon faces shall be installed for each approach of the major street;**
- **B. A stop line shall be installed for each approach to the crosswalk;**
- **C. A pedestrian signal head complying with the provisions set forth in Chapter 4I shall be installed at each end of the marked crosswalk;**
- **D. The pedestrian hybrid beacon shall be pedestrian actuated; and**
- **E. If the pedestrian hybrid beacon is installed at or immediately adjacent to an intersection with a minor street, a STOP sign shall be installed for each minor-street approach.**

Guidance:

04 *When an engineering study finds that ~~installation of~~ a pedestrian hybrid beacon is justified, then:*

- *A. Parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the marked crosswalk, or site accommodations should be made through curb extensions or other techniques to provide adequate sight distance; and*
- *B. If installed within a signal system, the pedestrian hybrid beacon should be coordinated.*

CHAPTER 4R. HIGHWAY TRAFFIC SIGNALS AT TOLL PLAZAS

Section 4R.01 Traffic Signals at Toll Plazas

Guidance:

02 *Traffic control signals or devices that closely resemble traffic control signals that use red or green circular indications should not be used for new or reconstructed ~~installations~~ facilities at toll plazas to indicate the success or failure of electronic toll payments or to alternately direct drivers making cash toll payments to stop and then proceed.*

PART 6
TEMPORARY TRAFFIC CONTROL

CHAPTER 6F. TEMPORARY TRAFFIC CONTROL ZONE SIGNS – GENERAL

Figure 6F-1. Examples of Heights and Lateral Locations for TTC ~~of~~ Signs ~~— Typical Installations~~

[No changes to figure content, only the title.]

CHAPTER 6M. OTHER TTC ZONE DESIGN FEATURES AND SAFETY DEVICES

Section 6M.02 Positive Protection and Temporary Traffic Barriers

Option:

10 Steady-burn warning lights (see Section 6L.07) may be mounted on temporary traffic barriers ~~barrier installations~~.

Section 6M.05 Crash Cushions

Support:

03 Stationary crash cushions are used ~~in the same manner as permanent highway installations~~ to protect drivers from the exposed ends of barriers, fixed objects, and other obstacles.

Section 6M.06 Rumble Strips

Option:

05 Intervals between transverse rumble strips may be reduced as the distance to the approached conditions is diminished in order to convey an impression that a closure speed is too fast and/or that an action is imminent. A RUMBLE STRIPS (W8-XX) sign ~~warning drivers of the onset of rumble strips~~ may be ~~placed~~ used to warn drivers in advance of any transverse rumble strip ~~installation~~ (see Section 6H.31a). [24B-TTC-06, Jan 2025]

PART 7
TRAFFIC CONTROL FOR SCHOOL AREAS

CHAPTER 7A. GENERAL

Section 7A.01 Introduction

Support:

01 Part 7 sets forth basic principles and prescribes standards for ~~the design, application, installation, and maintenance of~~ all traffic control devices (including signs, signals, and markings) and other controls (including adult crossing guards) for the special pedestrian conditions in school areas.

CHAPTER 7B. SIGNS

Section 7B.01 Design of School Signs

Support:

07 Sections 2A.13 and 2A.14 contain provisions regarding the ~~installation, placement, and~~ location of signs.

PART 8

TRAFFIC CONTROL FOR RAILROAD AND LIGHT RAIL TRANSIT GRADE CROSSINGS

CHAPTER 8B. SIGNS

Figure 8B-2. Crossbuck Assembly with a YIELD or STOP Sign on the Crossbuck Sign Support

[No changes to figure content, only note 2:]

2. Mounting height shall be at least 4 feet for ~~installations of~~ YIELD or STOP signs on existing Crossbuck sign supports.

Section 8B.04 Crossbuck Assemblies with YIELD or STOP Signs at Passive Grade Crossings

Standard:

21 **At all grade crossings where YIELD or STOP signs are installed, Yield Ahead (W3-2) or Stop Ahead (W3-1) signs shall also be installed if the criteria ~~for their installation~~ in Section 2C.35 is met.**

Section 8B.05 Use of STOP (R1-1) or YIELD (R1-2) Signs without Crossbuck Signs at Highway-LRT Grade Crossings

Standard:

02 **For all highway-LRT grade crossings where only STOP (R1-1) or YIELD (R1-2) signs are installed, the placement shall comply with the requirements of Section 2B.18. Stop Ahead (W3-1) or Yield Ahead (W3-2) Advance Warning signs shall also be installed if the criteria ~~for their installation given~~ in Section 2C.35 is met.**

Section 8B.06 Grade Crossing Advance Warning Signs (W10-1 through W10-4)

Standard:

03 **If a YIELD or STOP sign is present at a passive grade crossing, a Yield Ahead (W3-2) or Stop Ahead (W3-1) Advance Warning sign shall also be installed if the criteria ~~for their installation given~~ in Section 2C.35 is met. If a Yield Ahead or Stop Ahead sign is installed on the approach to the crossing, the W10-1 sign shall be installed upstream from the Yield Ahead or Stop Ahead sign. The Yield Ahead or Stop Ahead sign shall be located in accordance with Table 2C-3. The minimum distance between the signs shall be in accordance with Section 2C.04 and Table 2C-3.**

CHAPTER 8D. FLASHING-LIGHT SIGNALS, AUTOMATIC GATES, AND TRAFFIC CONTROL SIGNALS

Section 8D.03 Automatic Gates

Guidance:

13 *In the design of individual ~~installations~~ Grade Crossing Warning Systems, consideration should be given to timing the operation of the gate arm to accommodate large and/or slow-moving motor vehicles.*

Section 8D.05 Exit Gate and Four-Quadrant Gate Systems

Option:

22 An Exit Gate system ~~installations~~ may include median islands between opposing lanes on an approach to a grade crossing.

Section 8D.08 Use of Traffic Control Signals at Grade Crossings

Standard:

04 **The appropriate provisions of Part 4 relating to traffic control signal design~~, installation,~~ and operation shall be applicable where traffic control signals are used instead of flashing-light signals to control road users at grade crossings.**

Section 8D.10 Movements Prohibited During Preemption

Guidance:

01 *At a signalized intersection that is located within 100 feet of a grade crossing and the intersection traffic control signals are preempted by the approach of rail traffic, all existing permissive-only turning movements toward the grade crossing should be prohibited, steady red arrow signal indications should be shown to all existing protected/permissive and protected-only turning movements toward the grade crossing, and red signal indications should be shown to the straight-through movement toward the grade crossing during the signal preemption sequences. The prohibition of a permissive-only turning movement toward the grade crossing during preemption should be accomplished through the ~~installation~~ use of a blank-out turn prohibition (R3-1a or R3-2a) sign (see Figure 8B-1).*

Section 8D.14 Traffic Control Signals at or Near Highway-LRT Grade Crossings

Standard:

02 **The provisions of Part 4 and Sections 8D.08 through 8D.12 relating to traffic control signal design~~,~~ ~~installation,~~ and operation, including interconnection with nearby automatic gates or flashing-light signals, shall be applicable as appropriate where traffic control signals are used at highway-LRT grade crossings.**

Option:

09 Typical circumstances for using traffic control signals might include:

A. Geometric conditions preclude the ~~installation~~ use of highway-LRT grade crossing warning devices,
B. LRT vehicles share the same roadway with road users, or
C. Traffic control signals already exist.

PART 9

TRAFFIC CONTROL FOR BICYCLE FACILITIES

CHAPTER 9A. GENERAL

Section 9A.02 Standardization of Application for Signing

Support:

01 ~~The installation of nonstandard~~ Non-standard signing on bikeways or ~~modifying~~ modification of standard signing in a manner inconsistent with Chapter 2A of this Manual to draw special attention, educate users or the community, or brand a bicycle facility can contribute to problems with public acceptance and enforcement.

CHAPTER 9B. REGULATORY SIGNS

Section 9B.09 No Parking Bike Lane Signs (R7-9 and R7-9a)

Standard:

01 **If ~~the installation of~~ signs are ~~is~~ necessary to restrict parking, standing, or stopping in a bicycle lane, appropriate signs as described in Sections 2B.53 through 2B.55, or the No Parking Bike Lane (R7-9 or R7-9a) signs (see Figure 9B-1) shall be installed.**

CHAPTER 9E. MARKINGS

Section 9E.17 Raised Devices

Support:

03 In accordance with Chapter 3I, channelizing devices may be used to emphasize a pavement marking pattern that establishes a bicycle lane or other bicycle facility provided that the ~~installation of~~ channelizing devices ~~does~~ do not prevent motor vehicles from turning when the turn requires the motor vehicle to merge with the bicycle lane or facility as required by law or ordinance.

CHAPTER 9F. SIGNALS

Section 9F.01 Application

Support:

01 Part 4 contains information regarding signal warrants and other requirements relating to traffic control signals ~~signal installations~~.

Section 9F.03 Signal Operations for Bicycles

Standard:

01 **At ~~installations~~ locations where visibility-limited signal faces are used, signal faces shall be adjusted so bicyclists for whom the indications are intended can see the signal indications. If the visibility-limited signal faces cannot be aimed to serve the bicyclist, then ~~separate~~ one or more additional signal faces shall be provided for the bicyclist (see Section 4D.03).** [25A-BIK-06, Jan 2026]