National Committee on
Uniform Traffic Control Devices

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National Committee on Uniform Traffic Control Devices (NCUTCD)
Recommended Changes to Proposed Text for 11th Edition of the MUTCD
Docket Number: FHWA-2020-0001

Federal Register Item Number: 437 (see listing below)
NPA MUTCD Section Number: Chapter 4Q
Legend: Base text shown in proposal is the NPA "clean" proposed text.

- NCUTCD recommendation for text to be added in final rule.
- ~~NCUTCD recommendation for text to be deleted in final rule~~.
- NCUTCD recommendation for text to be moved/relocated in final rule.
- NPA text that was not previously approved by NCUTCD but is now approved.
- Explanatory note: [Note that explains purpose of recommended change.]

The following pages present NCUTCD recommendations for changes to the MUTCD NPA proposed text, tables, and figures for Chapter 4Q. Below is a short summary of the NCUTCD position for each section of this chapter. A more detailed summary is provided at the beginning of each section.

- NPA #NA, Section 4Q.01: NCUTCD agrees with NPA content.
- NPA #437, Section 4Q.02: NCUTCD agrees with NPA content.
- NPA #NA, Section 4Q.03: NCUTCD agrees with NPA content.

Section 4Q.01 Comments: NCUTCD agrees with 4Q.01 as presented in the NPA.

Section 4Q.01 Application of Traffic Control for Movable Bridges

Support:

Traffic signals for movable bridges are a special type of highway traffic signal installed at movable bridges to notify road users to stop because of a road closure rather than alternately controlling the flow of conflicting traffic movements. The signals are operated in coordination with the opening and closing of the movable bridge, and with the operation of movable bridge warning and resistance gates, or other devices and features used to warn, control, and stop traffic.

Movable bridge warning gates installed at movable bridges decrease the likelihood of vehicles and pedestrians passing the stop line and entering an area where potential hazards exist because of bridge operations.

A movable bridge resistance gate is sometimes used at movable bridges and located downstream of the movable bridge warning gate. A movable bridge resistance gate provides a physical deterrent to road users when placed in the appropriate position. The movable bridge resistance gates are considered a design feature and not a traffic control device; requirements for them are contained in AASHTO's "Standard Specifications for Movable Highway Bridges" (see Page i for AASHTO's address).

Standard:

Traffic control at movable bridges shall include both signals and gates, except in the following cases:

A. Neither is required if other traffic control devices or measures considered appropriate are used under either of the following conditions:

1. On low-volume roads (roads of less than 400 vehicles average daily traffic), or

2. At manually operated bridges if electric power is not available.

B. Only signals are required in urban areas if intersecting streets or driveways make gates ineffective.

C. Only movable bridge warning gates are required if a traffic control signal that is controlled as part of the bridge operations exists within 500 feet of the movable bridge resistance gates and no intervening traffic entrances exist.

Section 4Q.02 Comments: NCUTCD agrees with 4Q.02 as presented in the NPA.

Section 4Q.02 Design and Location of Movable Bridge Signals and Gates

Standard:

The signal faces and mountings of movable bridge signals shall comply with the provisions of Chapters 4D through 4G except as provided in this Section.

Signal faces with 12-inch diameter signal indications shall be used for all new movable bridge signals.

Option:

Existing signal faces with 8-inch diameter lenses may be retained for the remainder of their useful service life.

Standard:

Since movable bridge operations cover a variable range of time periods between openings, the signal faces shall be one of the following types:

A. Three-section signal faces with red, yellow, and green signal indications; or

B. Two one-section signal faces with red signal indications in a vertical array separated by a STOP HERE ON RED (R10-6) sign (see Section 2B.63).

Regardless of which signal type is selected, at least two signal faces shall be provided for each approach to the movable span and a stop line (see Section 3B.19) shall be installed to indicate the point behind which vehicles are required to stop.

Guidance:

If movable bridge operation is frequent, the use of three-section signal faces should be considered.

Insofar as practical, the height and lateral placement of signal faces should comply with the requirements for other traffic control signals in accordance with Chapter 4D. They should be located no more than 50 feet in advance of the movable bridge warning gate.

Option:

Movable bridge signals may be supplemented with audible warning devices to provide additional warning to drivers and pedestrians.

Guidance:

A DRAW BRIDGE (W3-6) sign (see Section 2C.29) should be used in advance of movable bridge signals and gates to give warning to road users, except in urban conditions where such signing would not be practical.

Standard:

If physical conditions prevent a road user from having a continuous view of at least two signal indications for the distance specified in Table 4D-2, an auxiliary device (either a supplemental signal face or the mandatory DRAW BRIDGE (W3-6) sign to which has been added a warning beacon that is interconnected with the movable bridge controller unit) shall be provided in advance of movable bridge signals and gates.

Option:

The DRAW BRIDGE (W3-6) sign may be supplemented by a Warning Beacon (see Section 4S.03).

Support:

If two sets of gates (both a warning and a resistance gate) are used for a single direction, highway traffic signals are not required to accompany the resistance gate nearest the span opening.

Standard:

Movable bridge warning gates, if used, shall be at least standard railroad size, striped with 16-inch alternate vertical, fully reflectorized red and white stripes. Flashing red lights in accordance with the Standards for those on railroad gates (see Section 8D.03) shall be included on the gate arm and they shall only be operated if the gate is closed or in the process of being opened or closed.

Guidance:

In the horizontal position, the top of the gate should be approximately 4 feet above the pavement.

Movable bridge warning gates should be of lightweight construction. In its normal upright position, the gate arm should provide adequate lateral clearance.

Option:

The movable bridge resistance gates may be delineated, if practical, in a manner similar to the movable bridge warning gate.

Guidance:

Movable bridge warning gates, if used, should extend at least across the full width of the approach lanes if movable bridge resistance gates are used. On divided highways in which the roadways are separated by a barrier median, movable bridge warning gates, if used, should extend across all roadway lanes approaching the span openings.

If movable bridge resistance gates are not used on undivided highways, movable bridge warning gates, if used, should extend across the full width of the roadway.

Option:

A single full-width gate or two half-width gates may be used.

Support:

The locations of movable bridge signals and gates are determined by the location of the movable bridge resistance gate (if used) rather than by the location of the movable spans. The movable bridge resistance gates for high-speed highways are preferably located 50 feet or more from the span opening except for bascule and lift bridges, where they are often attached to, or are a part of, the structure.

Guidance:

Except where physical conditions make it impractical, movable bridge warning gates should be located 100 feet or more from the movable bridge resistance gates or, if movable bridge resistance gates are not used, 100 feet or more from the movable span.

On bridges or causeways that cross a long reach of water and that might be hit by large marine vessels, within the limits of practicality, traffic should not be halted on a section of the bridge or causeway that is subject to impact.

In cases where it is not practical to halt traffic on a span that is not subject to impact, traffic should be halted at least one span from the opening. If traffic is halted by signals and gates more than 330 feet from the movable bridge warning gates (or from the span opening if movable bridge warning gates are not used), a second set of gates should be installed approximately 100 feet from the gate or span opening.

If the movable bridge is close to a grade crossing and traffic might possibly be stopped on the crossing as a result of the bridge opening, a traffic control device should notify the road users to not stop on the railroad tracks.

Section 4Q.03 Comments: NCUTCD agrees with 4Q.03 as presented in the NPA.

Section 4Q.03 Operation of Movable Bridge Signals and Gates

Standard:

Traffic control devices at movable bridges shall be coordinated with the movable spans, so that the signals, gates, and movable spans are controlled by the bridge tender through an interlocked control.

If the three-section type of signal face is used, the green signal indication shall be displayed at all times between bridge openings, except that if the bridge is not expected to open during continuous periods in excess of 5 hours, a flashing yellow signal indication shall be permitted to be used. The signal shall display a steady red signal indication when traffic is required to stop. The duration of the yellow change interval between the display of the green and steady red signal indications, or flashing yellow and steady red signal indications, shall be determined using engineering practices (see Section 4F.17).

If the vertical array of red signal indications is the type of signal face selected, the red signal indications shall flash alternately only when traffic is required to stop.

Guidance:

The yellow change interval should have a minimum duration of 3 seconds and a maximum duration of 6 seconds. The longer intervals should be reserved for use on approaches with higher speeds.

Traffic control signals on adjacent streets and highways should be interconnected with the drawbridge control if indicated by engineering judgment. When such interconnection is provided, the traffic control signals at adjacent intersections should be preempted by the operation of the movable bridge in the manner described in Section 4F.19.