



# National Committee on Uniform Traffic Control Devices

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Item No.: 17B-TTC-01

## NCUTCD Proposal for Changes to the Manual on Uniform Traffic Control Devices

**TECHNICAL COMMITTEE:** Temporary Traffic Controls

**ITEM NUMBER:** 17B-TTC-01

**TOPIC:** Optional use of Double Headed Arrow to Indicate an Interior Lane Closure, Section 6F.61, Arrow Boards, and Modifications to Figure 6H-38, Interior Lane Closure on a Freeway (TA-38).

**ORIGIN OF REQUEST:** TTCTC Task Force: John Leonard (TTCTC Chair), David Church (Task Force Chair), Tim Cox, Tom Hicks, Dave Royer, Tim Stroth, Jim Bryden, Todd Lohman, Gene Edmonds, Fred Hanscom, Dave McKee, Gene Putman, Charles Adams, Jim Harkness, Matt Briggs

**AFFECTED SECTIONS OF MUTCD:** Chapter 6F. TEMPORARY TRAFFIC CONTROL ZONE DEVICES  
Section 6F.61, Arrow Boards  
Chapter 6H. TYPICAL APPLICATIONS  
Figure 6H-38, Interior Lane Closure on a Freeway (TA-38)

### DEVELOPMENT HISTORY:

- Approved by TTC Technical Committee for submittal to sponsors: 06/29/17
- Approved by Technical Committee following sponsor comments: 01/04/2018 READY FOR RESUBMITTAL TO SPONSORS
- Approved by TTC Technical Committee following sponsor comments: MM/DD/YYYY
- Approved by NCUTCD Council: XX/XX/201X

13 *This is a proposal for recommended changes to the MUTCD that has been developed by*  
14 *a technical committee of the NCUTCD. The NCUTCD is distributing it to its sponsoring*  
15 *organizations for review and comment. Sponsor comments will be considered in revising*  
16 *the proposal prior to NCUTCD Council consideration. This proposal does not represent a*  
17 *revision of the MUTCD and does not constitute official MUTCD standards, guidance, or*  
18 *options. If approved by the NCUTCD Council, the recommended changes will be*  
19 *submitted to FHWA for consideration for inclusion in a future MUTCD revision. The*  
20 *MUTCD can be revised only through the federal rulemaking process.*

## SUMMARY:

The Temporary Traffic Controls Technical Committee recommends a clarification to the use of the arrow board located at the point of diversion as shown in Figure 6H-38 of TA-38, Interior Lane Closure on a Freeway. This recommendation requires modifications to Figure 6H-38, Interior Lane Closure on a Freeway.

## DISCUSSION

As now presented in Section 6F.61, an arrow board can only be used to indicate a lane closure (Paragraph 26), and cannot be used to indicate a lane shift. However, TA-38 recommends the use of an arrow board in the double headed mode to indicate the split for an interior lane closure. This interior lane closure is not technically a lane closure, but is a shift of the existing lanes to provide an interior work space. The TTC concurs with Section 6F.61 that an arrow board can only be used to indicate a lane shift.

The TTC recommends modifications to the Notes for Figure 6H-38 - Typical Application 38 Interior Lane Closure on a Freeway - as well as to Figure 6H-38 in Section 6H. The TTC recommends removing language from the Notes for Figure 6H-38 – Typical Application 38 – regarding the use of an arrow board in the double headed mode to indicate a lane shift as shown in the attached. The TTC recommends that the current CENTER LANE CLOSED AHEAD (W9-3) sign be deleted and replaced with a modified W9-3a sign to indicate the expected motorist action with the travel lanes defined, and an optional W13-1 Advisory Speed plaque located below the new W9-3a series sign. The TTC also recommends the addition of a R4-9 Stay in Lane regulatory sign distance A after the W9-3a sign and prior to the lane shift. In addition, the TTC recommends the deletion of the arrow board in the double headed mode from the figure. These modifications are shown in the proposed Figure 6H-38.

## 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 **[highlighted light blue in brackets]**.

## Part 6. TEMPORARY TRAFFIC CONTROL

### Chapter 6F. TEMPORARY TRAFFIC CONTROL ZONE DEVICES

#### Section 6F.61 Arrow Boards

##### Standard:

**01 An arrow board shall be a sign with a matrix of elements capable of either flashing or sequential displays. This sign shall provide additional warning and directional information to assist in merging and controlling road users through or around a TTC zone.**

##### Guidance:

*02 An arrow board in the arrow or chevron mode should be used to advise approaching traffic of a lane closure along major multi-lane roadways in situations involving heavy traffic volumes, high speeds, and/or limited sight distances, or at other locations and under other conditions where road users are less likely to expect such lane closures.*

*03 If used, an arrow board should be used in combination with appropriate signs, channelizing devices, or other TTC devices.*

*04 An arrow board should be placed on the shoulder of the roadway or, if practical, farther from the traveled lane. It should be delineated with retroreflective TTC devices. When an arrow board is not being used, it should be removed; if not removed, it should be shielded; or if the previous two options are not feasible, it should be delineated with retroreflective TTC devices.*

##### Standard:

**05 Arrow boards shall meet the minimum size, legibility distance, number of elements, and other specifications shown in Figure 6F-6.**

##### Support:

06 Type A arrow boards are appropriate for use on low-speed urban streets. Type B arrow boards are appropriate for intermediate-speed facilities and for maintenance or mobile operations on high-speed roadways. Type C arrow boards are intended to be used on high-speed, high-volume motor vehicle traffic control projects. Type D arrow boards are intended for use on vehicles authorized by the State or local agency.

##### Standard:

**07 Type A, B, and C arrow boards shall have solid rectangular appearances. A Type D arrow board shall conform to the shape of the arrow.**

**08 All arrow boards shall be finished in non-reflective black. The arrow board shall be mounted on a vehicle, a trailer, or other suitable support.**

##### Guidance:

*09 The minimum mounting height, measured vertically from the bottom of the board to the roadway below it or to the elevation of the near edge of the roadway, of an arrow board should be 7 feet, except on vehicle-mounted arrow boards, which should be as high as practical.*

*10 A vehicle-mounted arrow board should be provided with remote controls.*

##### Standard:

**11 Arrow board elements shall be capable of at least a 50 percent dimming from full brilliance. The dimmed mode shall be used for nighttime operation of arrow boards.**

##### Guidance:

*12 Full brilliance should be used for daytime operation of arrow boards.*

##### Standard:

**13 The arrow board shall have suitable elements capable of the various operating modes. The color presented by the elements shall be yellow.**

*Guidance:*

*14 If an arrow board consisting of a bulb matrix is used, the elements should be recess-mounted or equipped with an upper hood of not less than 180 degrees.*

**Standard:**

**15 The minimum element on-time shall be 50 percent for the flashing mode, with equal intervals of 25 percent for each sequential phase. The flashing rate shall be not less than 25 or more than 40 flashes per minute.**

**16 An arrow board shall have the following three mode selections:**

- A. A Flashing Arrow, Sequential Arrow, or Sequential Chevron mode;**
- B. A flashing Double Arrow mode; and**
- C. A flashing Caution or Alternating Diamond mode.**

**17 An arrow board in the arrow or chevron mode shall be used only for stationary or moving lane closures on multi-lane roadways.**

**18 For shoulder work, blocking the shoulder, for roadside work near the shoulder, or for temporarily closing one lane on a two-lane, two-way roadway, an arrow board shall be used only in the caution mode.**

*Guidance:*

*19 For a stationary lane closure, the arrow board should be located on the shoulder at the beginning of the merging taper.*

*20 Where the shoulder is narrow, the arrow board should be located in the closed lane.*

**Standard:**

**21 When arrow boards are used to close multiple lanes, a separate arrow board shall be used for each closed lane.**

*Guidance:*

*22 When arrow boards are used to close multiple lanes, if the first arrow board is placed on the shoulder, the second arrow board should be placed in the first closed lane at the upstream end of the second merging taper (see Figure 6H-37). When the first arrow board is placed in the first closed lane, the second arrow board should be placed in the second closed lane at the downstream end of the second merging taper.*

*23 For mobile operations where a lane is closed, the arrow board should be located to provide adequate separation from the work operation to allow for appropriate reaction by approaching drivers.*

**Standard:**

**24 A vehicle displaying an arrow board shall be equipped with high-intensity rotating, flashing, oscillating, or strobe lights.**

**25 Arrow boards shall only be used to indicate a lane closure. Arrow boards shall not be used to indicate a lane shift.**

*Option:*

*26 A portable changeable message sign may be used to simulate an arrow board display.*

## Chapter 6H. TYPICAL APPLICATIONS

### Notes for Figure 6H-38—Typical Application 38

#### Interior Lane Closure on a Freeway

**Standard:**

1. An arrow board shall be used when a freeway lane is closed. When more than one freeway lane is closed, a separate arrow board shall be used for each closed lane.
2. If temporary traffic barriers are installed, they shall comply with the provisions and requirements in Section 6F.85.
3. The barrier shall not be placed along the shifting taper. The lane shall first be shifted using channelizing devices and pavement markings.
4. For long-term stationary work, existing conflicting pavement markings shall be removed and temporary markings shall be installed before traffic patterns are changed.

*Guidance:*

5. For a long-term closure, a barrier should be used to provide additional safety to the operation in the closed interior lane. A buffer space should be used at the upstream end of the closed interior lane.
6. The ~~first~~ arrow board displaying an arrow pointing to the right should be on the left-hand shoulder at the beginning of the taper. ~~The arrow board displaying a double arrow should be centered in the closed interior lane and placed at the downstream end of the shifting taper.~~
7. ~~If the two arrow boards create confusion, the 2L distance between the end of the merging taper and beginning of the shift taper should be extended so that road users can focus on one arrow board at a time.~~
8. ~~The placement of signs should not obstruct or obscure arrow boards.~~
9. For long-term use, the dashed lane lines should be made solid white in the two-lane section.
10. As an alternative to initially closing the left-hand lane, as shown in the typical application, the right-hand lane may be closed in advance of the interior lane closure with appropriate channelization and signs.
11. A short, single row of channelizing devices in advance of the vehicular traffic split to restrict vehicular traffic to their respective lanes may be added.
12. DO NOT PASS signs may be used.
13. If a paved shoulder having a minimum width of 10 feet and sufficient strength is available, the left-hand and center lanes may be closed and motor vehicle traffic carried around the work space on the right-hand lane and a right-hand shoulder.

*Guidance:*

14. When a shoulder lane is used that cannot adequately accommodate trucks, trucks should be directed to use the normal travel lanes.

Figure 6H-38. Interior Lane Closure on a Freeway (TA-38)

