

**RESCINDED
JANUARY 2024**
This Recommended
Change to the MUTCD
was rescinded by the
NCUTCD Council on
January 12, 2024.



National Committee on Uniform Traffic Control Devices

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**Attachment No. 7
Item No.: 19B-SIG-01**

NCUTCD Approved Changes to the Manual on Uniform Traffic Control Devices

TECHNICAL COMMITTEE:	Signals Technical Committee
ITEM NUMBER:	19B-SIG-01
TOPIC:	Use of Straight-Through GREEN ARROW
ORIGIN OF REQUEST:	Signals Technical Committee
AFFECTED SECTIONS OF MUTCD:	Section 4D.05 <u>4F.01</u> Application of Steady <u>and Flashing</u> Signal Indications <u>during Steady (Stop-and-Go) Operation</u>

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DEVELOPMENT HISTORY

- Approved by Technical Committee: 06/19/2019
- Approved by NCUTCD Council: 01/10/2020

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This is a proposal for recommended changes 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 by the FHWA through the federal rulemaking process.

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SUMMARY

Proposal is to allow for the use of a straight-through GREEN ARROW opposed by an approach with a CIRCULAR GREEN or a flashing YELLOW ARROW.

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DISCUSSION

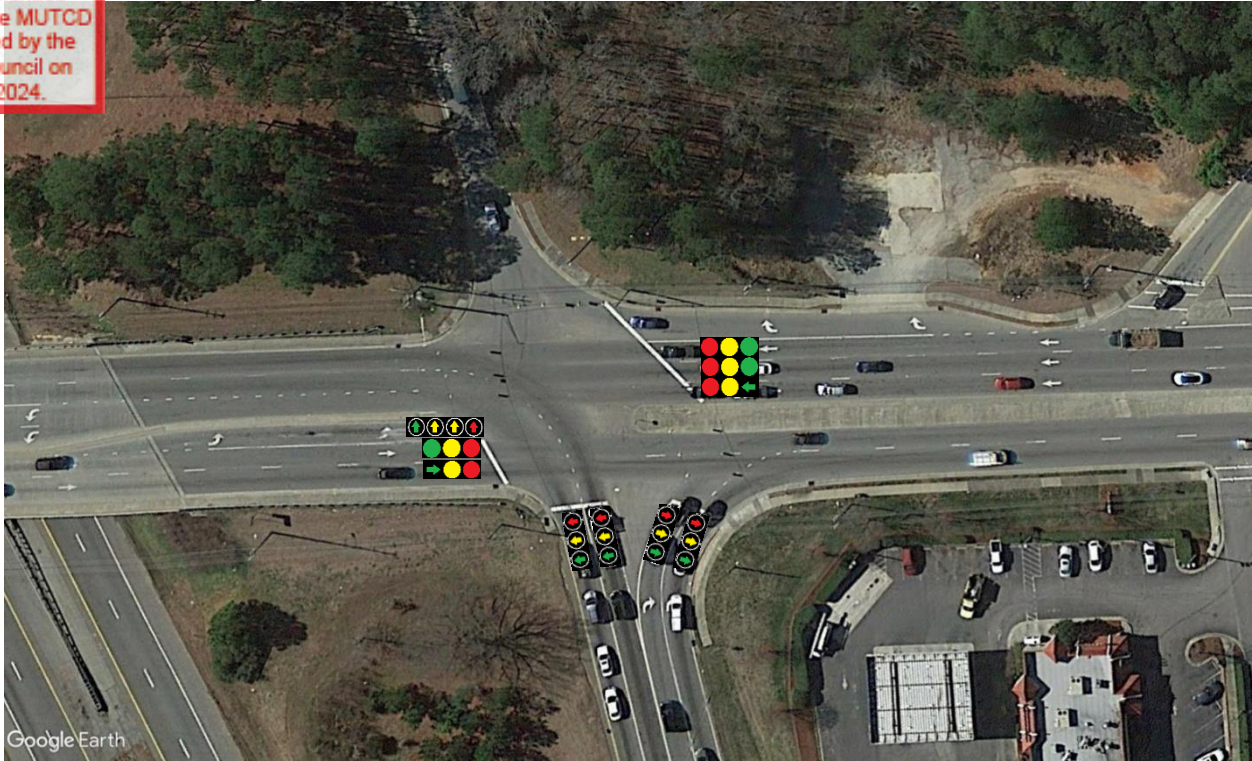
The use of a straight-through GREEN ARROW is currently allowed in the MUTCD in locations where there are no movements in conflict. However, in practice, this indication can be used to also indicate to a driver that no turn is allowed in this lane. This indication would be useful in locations where through vehicles cannot make a turn but are opposed by left turn vehicles facing a CIRCULAR GREEN or flashing YELLOW ARROW. This scenario can be seen at diamond interchanges and alternative intersection designs. Examples of the applications are shown below:

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20 Diamond Interchange



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Alternative Intersection



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RECOMMENDED MUTCD CHANGES

Following present the proposed changes to the current MUTCD within the context of the 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 [black font in brackets highlighted light blue].

PART 4. HIGHWAY TRAFFIC SIGNALS

CHAPTER 4F. STEADY (STOP-AND-GO) OPERATION OF TRAFFIC CONTROL SIGNALS [Pedestrian Hybrid Beacons relocated to Chapter 4K.] [all green text included was approved June 28, 2014 as part of 14A-STC-01 - Reorganization and Revisions to Part 4]

Section ~~4D.05~~ 4F.01 Application of Steady and Flashing Signal Indications during Steady (Stop-and-Go) Operation

Standard:

- 01 When a traffic control signal is being operated in a steady (stop-and-go) mode, at least one indication in each signal face shall be displayed at any given time.
- 02 A signal face(s) that controls a particular vehicular movement during any interval of a cycle shall control that same movement during all intervals of the cycle.
- 03 Steady and flashing signal indications shall be applied as follows:
 - A. A steady CIRCULAR RED signal indication:
 - 1. Shall be displayed when it is intended to prohibit traffic, except pedestrians directed by a pedestrian signal head, from entering the intersection or other controlled area. Turning after stopping is permitted as stated in Item C.1 in Paragraph 3 of Section ~~4D.04~~ 4A.03.
 - 2. Shall be displayed with the appropriate GREEN ARROW signal indications when it is intended to permit traffic to make a specified turn or turns, and to prohibit traffic from proceeding straight ahead through the intersection or other controlled area, except in protected only mode operation (see Sections ~~4D.19~~ 4F.05, 4F.06, 4F.12, and 4D.23 4F.13), or in protected/permissive mode operation with separate turn signal faces (see Sections ~~4D.20~~ 4F.08 and ~~4D.24~~ 4F.15).
 - B. A steady CIRCULAR YELLOW signal indication:
 - 1. Shall be displayed following a CIRCULAR GREEN or straight-through GREEN ARROW signal indication in the same signal face.
 - 2. Shall not be displayed in conjunction with the change from the CIRCULAR RED signal indication to the CIRCULAR GREEN signal indication.
 - 3. Shall be followed by a CIRCULAR RED signal indication except that, when entering preemption operation, the return to the previous CIRCULAR GREEN signal indication shall be permitted following a steady CIRCULAR YELLOW signal indication (see Sections ~~4D.27~~ 4F.18 through 4F.20).

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- 4. Shall not be displayed to 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:
 - (a) A steady CIRCULAR YELLOW signal indication is also simultaneously being displayed to the opposing approach;
 - (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 near the left-most signal head of a W25-1 sign (see Section 2C.48) 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 near the left-most signal head of a W25-2 sign (see Section 2C.48) with the legend ONCOMING TRAFFIC MAY HAVE EXTENDED GREEN.
- C. A steady CIRCULAR GREEN signal indication shall be displayed only when it is intended to permit traffic to proceed in any direction that is lawful and practical.
- D. A flashing YELLOW ARROW signal indication shall be displayed as part of a steady (stop-and-go) mode of operation only when it is intended to permit traffic to cautiously enter the intersection to make a turn in the direction indicated by the arrow after yielding to pedestrians, if any, and/or to opposing traffic, if any.
- E. A flashing RED ARROW signal indication shall be displayed as part of a steady (stop-and-go) mode of operation only when it is intended to permit traffic, after coming to a full stop, to cautiously enter the intersection to make a turn in the direction indicated by the arrow after yielding to pedestrians, if any, and/or to opposing traffic, if any.
- F. A steady RED ARROW signal indication shall be displayed when it is intended to prohibit traffic, except pedestrians directed by a pedestrian signal head, from entering the intersection or other controlled area to make the indicated turn. Except as described in Item C.2 in Paragraph 3 of Section ~~4D.04~~ 4A.03, turning on a steady RED ARROW signal indication shall not be permitted.
- G. A steady YELLOW ARROW signal indication:
 - 1. Shall be displayed in the same direction as a GREEN ARROW signal indication following a GREEN ARROW signal indication in the same signal face, unless:
 - (a) The GREEN ARROW signal indication and a CIRCULAR GREEN (or straight-through GREEN ARROW) signal indication terminate simultaneously in the same signal face, or
 - (b) The green arrow is a straight-through GREEN ARROW (see Item B.1).
 - 2. Shall be displayed in the same direction as a flashing YELLOW ARROW signal indication or flashing RED ARROW signal indication following a flashing YELLOW ARROW signal indication or flashing RED ARROW signal indication in the same signal face, when the flashing arrow indication is

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displayed as part of a steady mode operation, if the signal face will subsequently display a steady red signal indication.

3. Shall not be displayed in conjunction with the change from a steady RED ARROW, flashing RED ARROW, or flashing YELLOW ARROW signal indication to a GREEN ARROW signal indication, except when entering preemption operation as provided in Item 5(a).
4. Shall not be displayed when any conflicting vehicular movement has a green or yellow signal indication (except for the situation regarding U-turns to the left provided in Paragraph 4) or any conflicting pedestrian movement has a WALKING PERSON (symbolizing WALK) or flashing UPRAISED HAND (symbolizing DONT WALK) signal indication, except that a steady left-turn (or U-turn to the left) YELLOW ARROW signal indication used to terminate a flashing left-turn (or U-turn to the left) YELLOW ARROW or a flashing left-turn (or U-turn to the left) RED ARROW signal indication in a signal face controlling a permissive left-turn (or U-turn to the left) movement as described in Sections ~~4D.18~~ 4F.04 and ~~4D.20~~ 4F.08 shall be permitted to be displayed when a CIRCULAR YELLOW signal indication is displayed for the opposing through movement. Vehicles departing in the same direction shall not be considered in conflict if, for each turn lane with moving traffic, there is a separate departing departure lane, and pavement markings or raised channelization clearly indicate which departure lane to use.
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:
 - (a) A steady CIRCULAR YELLOW signal indication is also simultaneously being displayed to the opposing approach;
 - (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 near the left-most signal head of a W25-1 sign (see Section 2C.48) 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 near the left-most signal head of a W25-2 sign (see Section 2C.48) with the legend ONCOMING TRAFFIC MAY HAVE EXTENDED GREEN.
6. Shall be terminated by a RED ARROW signal indication for the same direction or a CIRCULAR RED signal indication except:
 - (a) When entering preemption operation, the display of a GREEN ARROW signal indication or a flashing arrow signal indication shall be permitted following a steady YELLOW ARROW signal indication.
 - (b) When the movement controlled by the arrow is to continue on a permissive mode basis during an immediately following signal phase, the display of a

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CIRCULAR GREEN signal indication or flashing YELLOW ARROW signal indication shall be permitted following a steady YELLOW ARROW signal indication.

A steady GREEN ARROW signal indication:

1. Shall be displayed only to allow vehicular movements, in the direction indicated, that are not in conflict with other vehicles moving on a green or yellow signal indication (except for the situations regarding U-turns provided in Paragraph 4 and straight-thru GREEN ARROWS provided in Paragraph 5), even if the other vehicles are required to yield the right-of-way to the traffic moving on the GREEN ARROW signal indication, and are not in conflict with pedestrians crossing in compliance with a WALKING PERSON (symbolizing WALK) or flashing UPRaised HAND (symbolizing DONT WALK) signal indication. Vehicles departing in the same direction shall not be considered in conflict if, for each turn lane with moving traffic, there is a separate ~~departing~~ departure lane, and pavement markings or raised channelization clearly indicate which departure lane to use.
2. Shall be displayed on a signal face that controls a left-turn movement when said movement is not in conflict with other vehicles moving on a green or yellow signal indication (except for the situation regarding U-turns provided in Paragraph 4) and is not in conflict with pedestrians crossing in compliance with a WALKING PERSON (symbolizing WALK) or flashing UPRaised HAND (symbolizing DONT WALK) signal indication. Vehicles departing in the same direction shall not be considered in conflict if, for each turn lane with moving traffic, there is a separate ~~departing~~ departure lane, and pavement markings or raised channelization clearly indicate which departure lane to use.
3. Shall not be required on the stem of a T-intersection or for turns from a one-way street.

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 near the left-turn signal face of a U-TURN YIELD TO RIGHT TURN (R10-16) sign (see Section 2B.53).

05 ~~If not otherwise prohibited, to discourage wrong way turns, a~~ A steady straight-through GREEN ARROW signal indication may be used instead of a CIRCULAR GREEN signal indication in a signal face, to discourage wrong way turns under the following conditions, even if opposed by a simultaneous permissive left-turn movement:

A. on an approach intersecting a one-way street; ~~to discourage wrong way turns.~~

B. on an approach intersecting an interchange exit ramp; or

C. on an approach with unique geometric design that prohibits turns.

06 If not otherwise prohibited, steady red, yellow, and green turn arrow signal indications may be used instead of steady circular red, yellow, and green signal indications in a signal face on an approach where all traffic is required to turn or where the straight-through movement is not physically possible.

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216 Support:
Section ~~4D.25~~ 4F.16 contains information regarding the signalization of approaches that have
a ~~through~~ combined left-turn/right-turn lane and no through movement.

Standard:

- 220 08 **If supplemental signal faces are used, the following limitations shall apply:**
- 221 **A. Left-turn arrows and U-turn arrows to the left shall not be used in near-right signal**
- 222 **faces.**
- 223 **B. Right-turn arrows and U-turn arrows to the right shall not be used in far-left signal**
- 224 **faces. A far-side median-mounted signal face shall be considered a far-left signal for**
- 225 **this application.**
- 226 09 **A straight-through RED ARROW signal indication or a straight-through YELLOW**
- 227 **ARROW signal indication shall not be displayed on any signal face, either alone or in**
- 228 **combination with any other signal indication.**
- 229 10 **The following combinations of signal indications shall not be simultaneously displayed**
- 230 **on any one signal face:**
- 231 **A. CIRCULAR RED with CIRCULAR YELLOW;**
- 232 **B. CIRCULAR GREEN with CIRCULAR RED; or**
- 233 **C. Straight-through GREEN ARROW with CIRCULAR RED;**
- 234 11 **Additionally, the above combinations shall not be simultaneously displayed on an**
- 235 **approach as a result of the combination of displays from multiple signal faces unless the**
- 236 **display is created by a signal face(s) devoted exclusively to the control of a right-turning**
- 237 **movement and:**
- 238 **A. The signal face(s) controlling the right-turning movement is visibility-limited from**
- 239 **the adjacent through movement or positioned to minimize potential confusion to**
- 240 **approaching road users, or**
- 241 **B. A RIGHT TURN SIGNAL (R10-10) sign (see Sections ~~4D.21 through 4D.24~~ 4F.11,**
- 242 **4F.13, and 4F.15) is mounted adjacent to the signal face(s) controlling the right-**
- 243 **turning movement.**
- 244 12 **The following combinations of signal indications shall not be simultaneously displayed**
- 245 **on any one signal face or as a result of the combination of displays from multiple signal**
- 246 **faces on an approach:**
- 247 **A. CIRCULAR GREEN with CIRCULAR YELLOW;**
- 248 **B. Straight-through GREEN ARROW with CIRCULAR YELLOW;**
- 249 **C. GREEN ARROW with YELLOW ARROW pointing in the same direction;**
- 250 **D. RED ARROW with YELLOW ARROW pointing in the same direction; or**
- 251 **E. GREEN ARROW with RED ARROW pointing in the same direction.**
- 252 13 ~~Except as otherwise provided in Sections 4F.03 and 4G.04, the same signal section shall~~
- 253 ~~not be used to display both a flashing yellow and a steady yellow indication during steady~~
- 254 ~~mode operation.~~ **Except as otherwise provided in Sections ~~4D.18~~ 4F.04, ~~4D.20~~ 4F.08, ~~4D.22~~**
- 255 **4D.11, and ~~4D.24~~ 4D.15, the same signal section shall not be used to display both a flashing**
- 256 **red and a steady red indication during steady mode operation.**

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Guidance:
movement that creates an unexpected crossing of pathways of moving vehicles or
pedestrians should be allowed during any green or yellow interval, except when all three of the
following conditions are met:

- 261 A. *The movement involves only slight conflict, and*
- 262 B. *Serious traffic delays are substantially reduced by permitting the conflicting movement, and*
- 263 C. *Drivers and pedestrians subjected to the unexpected conflict are effectively warned thereof by a*
- 264 *sign.*