



National Committee on Uniform Traffic Control Devices

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Item No.: 25A-SIG-01

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

COMMITTEE / TASK FORCE: Signals Technical Committee
ITEM NUMBER: 25A-SIG-01
TOPIC: Removal of "Shall Be Permitted" and "Shall Not Be Permitted" Statements
ORIGIN OF REQUEST: Signals Technical Committee
AFFECTED SECTIONS OF MUTCD: 4A.06, 4E.01, 4F.01, 4F.03, 4F.04, 4F.08, 4F.11, 4F.15, 4F.19, 4F.20, 4G.03, 4H.04, 4I.02, 4Q.03

DEVELOPMENT HISTORY:

Approved by Signals TC: 01/09/2025
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:

The intent of this proposal is to remove all instances of the phrases "shall be permitted" and "shall not be permitted" from existing Part 4 language.

DISCUSSION:

There are over 25 instances of the phrases "shall be permitted" and "shall not be permitted" throughout different Sections of Part 4. This type of phrasing is almost exclusive to Part 4. This phrasing appears to identify required or prohibited practices, through the use of the Standard statement, "shall". However, in effect, they are all permissive practices but without the Option statement, "may".

This proposal includes changes to fourteen (14) sections throughout Part 4. The proposal removes all the phrases and changes the effected language into Option statements. This proposal will remove all instances of the two phrases.

35 **RECOMMENDED MUTCD CHANGES:**

36 The following present the proposed changes to the current MUTCD within the context of the
37 current MUTCD language. Proposed additions to the MUTCD are shown in blue underline and
38 proposed deletions from the MUTCD are shown in ~~red strikethrough~~. Changes previously
39 approved by NCUTCD Council (but not yet adopted by FHWA) are shown in green double
40 underline for additions and ~~green double strikethrough~~ for deletions. In some cases,
41 background comments may be provided with the MUTCD text. These comments are indicated
42 by bracketed white text in shaded green. Deletions made by a technical committee or task
43 force after initial distribution to sponsoring organizations are shown in ~~highlighted red~~
44 ~~strikethrough and Helvetica text~~. Additions made by a technical committee or task force after
45 initial distribution to sponsoring organizations are shown in underline blue and Helvetica text.

46
47 **PART 4**
48 **HIGHWAY TRAFFIC SIGNALS**

49
50 **CHAPTER 4A. GENERAL**

51
52 **Section 4A.06 Meanings of Pedestrian Signal Indications**

53 **Standard:**

54 01 **Pedestrian signal indications shall have the following meanings:**

- 55 **A. A flashing WALKING PERSON (symbolizing WALK) signal indication has no meaning**
56 **and shall not be used.**
- 57 **B. Pedestrians facing a steady WALKING PERSON (symbolizing WALK) signal indication**
58 **~~shall be~~ are permitted to start to cross the roadway in the direction of the signal indication,**
59 **possibly in conflict with turning vehicles. Pedestrians shall yield the right-of-way to**
60 **vehicles lawfully within the intersection at the time that the WALKING PERSON**
61 **(symbolizing WALK) signal indication is first shown.**
- 62 **C. Pedestrians facing a flashing UPRAISED HAND (symbolizing DONT WALK) signal**
63 **indication shall not start to cross the roadway in the direction of the signal indication. Any**
64 **pedestrian who has already started to cross the roadway on a steady WALKING PERSON**
65 **(symbolizing WALK) signal indication shall continue to proceed to the far side of the**
66 **traveled way of the street or highway, unless otherwise directed by a traffic control device**
67 **to proceed only to the median of a divided highway or only to some other island or**
68 **pedestrian refuge area (see Section 3C.12).**
- 69 **D. Pedestrians facing a steady UPRAISED HAND (symbolizing DONT WALK) signal**
70 **indication shall not enter the roadway in the direction of the signal indication.**

71 **CHAPTER 4E. TRAFFIC CONTROL SIGNAL INDICATIONS**

72
73 **Section 4E.03 Positions of Signal Indications Within a Signal Face – General**

74 **Support:**

75 01 Standardization of the number and arrangements of signal sections in vehicular traffic control signal
76 faces enables road users who are color vision deficient to identify the illuminated color by its position
77 relative to other signal sections.

78 **Standard:**

79 02 **Unless otherwise provided in this Manual for a particular application, each signal face at a**
80 **signalized location shall have three, four, or five signal sections. Unless otherwise provided in this**
81 **Manual for a particular application, if a vertical signal face includes a cluster (see Section 4E.04),**
82 **the signal face shall have at least three vertical positions.**

83 Option:

84 03 A single-section signal face ~~shall be permitted~~ may be used at a traffic control signal if it consists of
85 a continuously-displayed GREEN ARROW signal indication that is being used to indicate a continuous
86 movement.

87 Standard:

88 04 **The signal sections in a signal face shall be arranged in a vertical or horizontal straight line,**
89 **except as otherwise provided in Section 4E.04.**

90 05 **The arrangement of adjacent signal sections in a signal face shall follow the relative positions**
91 **listed in Sections 4E.04 or 4E.05, as applicable.**

92 06 **If a signal section that displays a CIRCULAR YELLOW signal indication is used, it shall be**
93 **located between the signal section that displays the red signal indication and all other signal**
94 **sections.**

95 07 **If a U-turn arrow signal section is used in a signal face for a U-turn to the left, its position in**
96 **the signal face shall be the same as stated in Sections 4E.04 and 4E.05 for a left-turn arrow signal**
97 **section of the same color. If a U-turn arrow signal section is used in a signal face for a U-turn to the**
98 **right, its position in the signal face shall be the same as stated in Sections 4E.04 and 4E.05 for a**
99 **right-turn arrow signal section of the same color.**

100 08 **A U-turn arrow signal indication pointing to the left shall not be used in a signal face that also**
101 **contains a left-turn arrow signal indication. A U-turn arrow signal indication pointing to the right**
102 **shall not be used in a signal face that also contains a right-turn arrow signal indication.**

103 **Option:**

104 09 Within a signal face, two identical CIRCULAR RED or RED ARROW signal indications may be
105 displayed immediately horizontally adjacent or immediately vertically adjacent to each other in a vertical
106 signal face (see Drawing A in Figure 4E-2) or immediately horizontally adjacent to each other in a
107 horizontal signal face (see Drawing B in Figure 4E-2) for emphasis.

108 10 Horizontally-arranged and vertically-arranged signal faces may be used on the same approach
109 provided they are separated to meet the lateral separation spacing required in Section 4D.07.

110 **Support:**

111 11 Figure 4E-2 illustrates some of the typical arrangements of signal sections in signal faces that do not
112 control separate turning movements. Figures 4F-1 through 4F-7 illustrate the typical arrangements of
113 signal sections in left-turn signal faces. Figures 4F-8 through 4F-14 illustrate the typical arrangements of
114 signal sections in right-turn signal faces.

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

117
118 Section 4F.01 Application of Steady and Flashing Signal Indications during Steady (Stop-
119 and-Go) Operation

120 Standard:

121 01 When a traffic control signal is being operated in a steady (stop-and-go) mode, at least one
122 indication in each signal face shall be displayed at any given time.

123 02 A signal face(s) that controls a particular vehicular movement during any interval of a cycle
124 shall control that same movement during all intervals of the cycle.

125 03 Steady and flashing signal indications shall be applied as follows:

126 A. A steady CIRCULAR RED signal indication:

- 127 1. Shall be displayed when it is intended to prohibit traffic, except pedestrians directed by
128 a pedestrian signal head, from entering the intersection or other controlled area.
129 Turning after stopping is permitted as stated in Item C.1 in Paragraph 1 of Section
130 4A.03.
- 131 2. Shall be displayed with the appropriate GREEN ARROW signal indications when it is
132 intended to permit traffic to make a specified turn or turns, and to prohibit traffic
133 from proceeding straight ahead through the intersection or other controlled area,
134 except in protected only mode operation (see Sections 4F.06 and 4F.13), or in
135 protected/permissive mode operation with separate turn signal faces (see Sections
136 4F.08 and 4F.15).

137 B. A steady CIRCULAR YELLOW signal indication:

- 138 1. Shall be displayed following a CIRCULAR GREEN or straight-through GREEN
139 ARROW signal indication in the same signal face.
- 140 2. Shall not be displayed in conjunction with the change from the CIRCULAR RED
141 signal indication to the CIRCULAR GREEN signal indication.
- 142 3. Shall be followed by a CIRCULAR RED signal indication except ~~that~~, when entering
143 preemption operation [as described in the Option in Paragraph 03a.](#), ~~the return to the~~
144 ~~previous CIRCULAR GREEN signal indication shall be permitted following a steady~~
145 ~~CIRCULAR YELLOW signal indication (see Section 4F.19).~~
- 146 4. Shall not be displayed to an approach from which drivers are turning left permissively
147 using a shared signal face or making a U-turn to the left permissively using a shared
148 signal face unless one of the following conditions exists:
- 149 (a) A steady CIRCULAR YELLOW signal indication is also simultaneously being
150 displayed to the opposing approach;
- 151 (b) An engineering study has determined that, because of unique intersection
152 conditions, the condition described in Item (a) cannot reasonably be implemented
153 without causing significant operational or safety problems and that the volume of
154 impacted left-turning or U-turning traffic is relatively low, and those left-turning
155 or U-turning drivers are advised that a steady CIRCULAR YELLOW signal
156 indication is not simultaneously being displayed to the opposing traffic if this
157 operation occurs continuously by the installation of a W25-1 sign (see Section
158 2C.44) with the legend ONCOMING TRAFFIC HAS EXTENDED GREEN; or
- 159 (c) Drivers are advised of the operation if it occurs only occasionally, such as during a
160 preemption sequence, by the installation of a W25-2 sign (see Section 2C.44) with
161 the legend ONCOMING TRAFFIC MAY HAVE EXTENDED GREEN.

162 C. A steady CIRCULAR GREEN signal indication shall be displayed only when it is intended
163 to permit traffic to proceed in any direction that is lawful and practical.

164 D. A steady RED ARROW signal indication shall be displayed when it is intended to prohibit
165 traffic, except pedestrians directed by a pedestrian signal head, from entering the

166 intersection or other controlled area to make the indicated turn. Except as described in
167 Item C.2 in Paragraph 1 of Section 4A.03, turning on a steady RED ARROW signal
168 indication shall ~~not be permitted~~ prohibited.

169 E. A flashing RED ARROW signal indication shall be displayed as part of a steady (stop-and-
170 go) mode of operation only when it is intended to permit traffic, after coming to a full stop,
171 to cautiously enter the intersection to make a turn in the direction indicated by the arrow
172 after yielding to pedestrians, if any, and/or to opposing traffic, if any.

173 F. A steady YELLOW ARROW signal indication:

174 1. Shall be displayed in the same direction as a GREEN ARROW signal indication
175 following a GREEN ARROW signal indication in the same signal face, unless:

176 (a) The GREEN ARROW signal indication and a CIRCULAR GREEN (or straight-
177 through GREEN ARROW) signal indication terminate simultaneously in the same
178 signal face, or

179 (b) The green arrow is a straight-through GREEN ARROW (see Item B.1 in this
180 Paragraph).

181 2. Shall be displayed in the same direction as a flashing YELLOW ARROW signal
182 indication or flashing RED ARROW signal indication following a flashing YELLOW
183 ARROW signal indication or flashing RED ARROW signal indication in the same
184 signal face, when the flashing arrow indication is displayed as part of a steady mode
185 operation, if the signal face will subsequently display a steady red signal indication.

186 3. Shall not be displayed in conjunction with the change from a steady RED ARROW,
187 flashing RED ARROW, or flashing YELLOW ARROW signal indication to a GREEN
188 ARROW signal indication, except when entering preemption operation as provided in
189 Item F.5(a) of this Paragraph.

190 4. ~~Shall not be displayed when any conflicting vehicular movement has a green or yellow
191 signal indication (except for the situation regarding U-turns to the left provided in
192 Paragraph 4 of this Section) or any conflicting pedestrian movement has a WALKING
193 PERSON (symbolizing WALK) or flashing UPRAISED HAND (symbolizing DONT
194 WALK) signal indication, except that a steady left turn (or U-turn to the left)
195 YELLOW ARROW signal indication used to terminate a flashing left turn (or U-turn
196 to the left) YELLOW ARROW or a flashing left turn (or U-turn to the left) RED
197 ARROW signal indication in a signal face controlling a permissive left turn (or U-turn
198 to the left) movement as described in Sections 4F.04 and 4F.08 shall be permitted to be
199 displayed when a CIRCULAR YELLOW signal indication is displayed for the
200 opposing through movement. Shall not be displayed when any conflicting vehicular
201 movement has a green or yellow signal indication, except as described in the Option in
202 Paragraph 03b. It shall not be displayed when a conflicting pedestrian movement has
203 a WALKING PERSON or a flashing UPRAISED HAND signal indication.~~ Vehicles
204 departing in the same direction shall not be considered in conflict if, for each turn lane
205 with moving traffic, there is a separate departure lane, and pavement markings or
206 raised channelization clearly indicate which departure lane to use.

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

210 (a) A steady CIRCULAR YELLOW signal indication is also simultaneously being
211 displayed to the opposing approach;

212 (b) An engineering study has determined that, because of unique intersection
213 conditions, the condition described in Item (a) cannot reasonably be implemented
214 without causing significant operational or safety problems and that the volume of
215 impacted left-turning or U-turning traffic is relatively low, and those left-turning
216 or U-turning drivers are advised that a steady CIRCULAR YELLOW signal

- 217 indication is not simultaneously being displayed to the opposing traffic if this
 218 operation occurs continuously by the installation of a W25-1 sign (see Section
 219 2C.44) with the legend ONCOMING TRAFFIC HAS EXTENDED GREEN; or
 220 (c) Drivers are advised of the operation if it occurs only occasionally, such as during a
 221 preemption sequence, by the installation of a W25-2 sign (see Section 2C.44) with
 222 the legend ONCOMING TRAFFIC MAY HAVE EXTENDED GREEN.
- 223 6. Shall be terminated by a RED ARROW signal indication for the same direction or a
 224 CIRCULAR RED signal indication except as described in the Options in Paragraphs
 225 03c or 03d.÷
- 226 ~~(a) When entering preemption operation, the display of a GREEN ARROW signal~~
 227 ~~indication or a flashing arrow signal indication shall be permitted following a~~
 228 ~~steady YELLOW ARROW signal indication.~~
- 229 ~~(b) When the movement controlled by the arrow is to continue on a permissive mode~~
 230 ~~basis during an immediately following signal phase, the display of a CIRCULAR~~
 231 ~~GREEN signal indication or flashing YELLOW ARROW signal indication shall be~~
 232 ~~permitted following a steady YELLOW ARROW signal indication. To provide a~~
 233 ~~red clearance interval, it shall be permitted to display a steady left turn RED~~
 234 ~~ARROW signal indication immediately following the steady left turn YELLOW~~
 235 ~~ARROW signal indication.~~
- 236 G. A flashing YELLOW ARROW signal indication shall be displayed as part of a steady
 237 (stop-and-go) mode of operation only when it is intended to permit traffic to cautiously
 238 enter the intersection to make a turn in the direction indicated by the arrow after yielding
 239 to pedestrians, if any, and/or to opposing traffic, if any.
- 240 H. A steady GREEN ARROW signal indication:
- 241 1. Shall be displayed only to allow vehicular movements, in the direction indicated, that
 242 are not in conflict with other vehicles moving on a green or yellow signal indication
 243 (except for the situation regarding U-turns provided in Paragraph 4 of this Section and
 244 straight-through GREEN ARROWS provided in Paragraph 5 of this Section), even if
 245 the other vehicles are required to yield the right-of-way to the traffic moving on the
 246 GREEN ARROW signal indication, and are not in conflict with pedestrians crossing in
 247 compliance with a WALKING PERSON (symbolizing WALK) or flashing UPRAISED
 248 HAND (symbolizing DONT WALK) signal indication. Vehicles departing in the same
 249 direction shall not be considered in conflict if, for each turn lane with moving traffic,
 250 there is a separate departure lane, and pavement markings or raised channelization
 251 clearly indicate which departure lane to use.
- 252 2. Shall be displayed on a signal face that controls a left-turn movement when said
 253 movement is not in conflict with other vehicles moving on a green or yellow signal
 254 indication (except for the situation regarding U-turns provided in Paragraph 4 of this
 255 Section) and is not in conflict with pedestrians crossing in compliance with a
 256 WALKING PERSON (symbolizing WALK) or flashing UPRAISED HAND
 257 (symbolizing DONT WALK) signal indication. Vehicles departing in the same
 258 direction shall not be considered in conflict if, for each turn lane with moving traffic,
 259 there is a separate departure lane, and pavement markings or raised channelization
 260 clearly indicate which departure lane to use.
- 261 3. Shall not be required on the stem of a T-intersection or for turns from a one-way
 262 street.

263 Option:
 264 03a When entering preemption or priority operation the return of the previous CIRCULAR GREEN
 265 signal indication may follow a steady CIRCULAR YELLOW signal indication (see Sections 4F.18
 266 through 4F.20).

267 03b For a signal face controlling a permissive left-turn movement, a steady left-turn YELLOW ARROW
268 used to terminate a flashing left-turn YELLOW ARROW or flashing RED ARROW, as described in
269 Sections 4F.04 and 4F.08, may be displayed when a CIRCULAR YELLOW signal indication is displayed
270 for the opposing through movement. For a signal face controlling a permissive U-turn to the left
271 movement, a steady YELLOW ARROW used to terminate a flashing left-turn YELLOW ARROW or
272 flashing RED ARROW, as described in Sections 4F.04 and 4F.08, may be displayed when a CIRCULAR
273 YELLOW signal indication is displayed for the opposing through movement.

274 03c When entering preemption operation, the display of a GREEN ARROW signal indication or a
275 flashing arrow signal indication may follow a steady YELLOW ARROW signal indication.

276 03d When a movement is to continue on a permissive mode basis during the immediately following
277 signal phase, A CIRCULAR GREEN signal indication or a flashing YELLOW ARROW signal indication
278 may be displayed following a steady YELLOW ARROW signal indication.
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280 04 If U-turns are permitted from the approach and a right-turn GREEN ARROW signal indication is
281 simultaneously being displayed to road users making a right turn from the conflicting approach to the left,
282 road users making a U-turn may be advised of the operation by the installation of a U-TURN YIELD TO
283 RIGHT TURN (R10-16) sign (see Section 2B.59).

284 05 A steady straight-through green arrow signal indication may be used instead of a circular green
285 signal indication in a signal face to discourage wrong-way turns under the following conditions, even if
286 opposed by a simultaneous permissive left-turn movement:

- 287 A. On an approach intersecting a one-way street;
- 288 B. On an approach intersecting an interchange exit ramp;
- 289 C. On an approach with unique geometric design that prohibits turns; or
- 290 D. On an approach with pre-signals and the adjacent lanes are controlled separately (see Sections
291 8D.11 and 8D.12).

292 06 If not otherwise prohibited, steady red, yellow, and green turn arrow signal indications may be used
293 instead of steady circular red, yellow, and green signal indications in a signal face on an approach where
294 all traffic is required to turn or where the straight-through movement is not physically possible.

295 Support:

296 07 Section 4F.16 contains information regarding the signalization of approaches that have a combined
297 left-turn/right-turn lane and no through movement.

298 08 Section 4D.07 contains information regarding limitations on left-turn arrows, right-turn arrows, and
299 U-turn arrows in supplemental signal faces.

300 **Standard:**

301 09 **A straight-through RED ARROW signal indication or a straight-through YELLOW ARROW**
302 **signal indication shall not be displayed on any signal face, either alone or in combination with any**
303 **other signal indication.**

304 10 **The following combinations of signal indications shall not be simultaneously displayed on any**
305 **one signal face:**

- 306 **A. CIRCULAR YELLOW with CIRCULAR RED,**
- 307 **B. CIRCULAR GREEN with CIRCULAR RED, or**
- 308 **C. Straight-through GREEN ARROW with CIRCULAR RED.**

309 11 **Except as provided in Paragraph 13 of this Section, the above combinations shall not be**
310 **simultaneously displayed on an approach as a result of the combination of displays from multiple**
311 **signal faces unless the display is created by a signal face(s) devoted exclusively to the control of a**
312 **right-turn movement and:**

- 313 **A. The signal face(s) controlling the right-turn movement is visibility limited from the**
314 **adjacent through movement or positioned to minimize potential confusion to approaching**
315 **road users, or**

- 316 B. A RIGHT TURN SIGNAL (R10-10) sign (see Sections 4F.09, 4F.11, 4F.13, and 4F.15) is
317 mounted adjacent to the signal face(s) controlling the right-turn movement.
318 12 Except as provided in Paragraph 13 of this Section, the following combinations of signal
319 indications shall not be simultaneously displayed on any one signal face or as a result of the
320 combination of displays from multiple signal faces on an approach:
321 A. CIRCULAR GREEN with CIRCULAR YELLOW,
322 B. Straight-through GREEN ARROW with CIRCULAR YELLOW,
323 C. GREEN ARROW with YELLOW ARROW pointing in the same direction,
324 D. YELLOW ARROW with RED ARROW pointing in the same direction, or
325 E. GREEN ARROW with RED ARROW pointing in the same direction.

326 Option:

- 327 13 If a separate signal face is provided at a pre-signal (see Section 8D.11) or at a queue cutter signal
328 (see Section 8D.12) for a left-turn and/or right-turn lane that extends from the downstream signalized
329 intersection back to and across a grade crossing, the following combinations of signal indications ~~shall be~~
330 ~~permitted to~~ may be simultaneously displayed as a result of the combination of displays from multiple
331 signal faces at the pre-signal or queue cutter signal:
332 A. Straight-through GREEN ARROW with CIRCULAR RED,
333 B. Straight-through GREEN ARROW with CIRCULAR YELLOW, and
334 C. CIRCULAR YELLOW with CIRCULAR RED.

335 Standard:

- 336 14 Except as otherwise provided in Sections 4F.08, 4F.15, 4J.03, and 4N.03, the same signal
337 section shall not be used to display both a flashing yellow and a steady yellow indication during
338 steady mode operation. Except as otherwise provided in Sections 4F.04, 4F.08, 4F.11, and 4F.13, the
339 same signal section shall not be used to display both a flashing red and a steady red indication
340 during steady mode operation.

341 *Guidance:*

- 342 15 *No movement that creates an unexpected crossing of pathways of moving vehicles or pedestrians*
343 *should be allowed during any green or yellow interval, except when all three of the following conditions*
344 *are met:*
345 A. *The movement involves only slight conflict, and*
346 B. *Serious traffic delays are substantially reduced by permitting the conflicting movement, and*
347 C. *Drivers and pedestrians subjected to the unexpected conflict are effectively warned thereof by a*
348 *sign.*

349 **Section 4F.03 Signal Indications for Permissive Only Mode Left-Turn Movements in a**
350 **Shared Signal Face**

351 **Standard:**

- 352 01 **If a shared signal face is provided for a permissive only mode left turn, it shall meet the**
353 **following requirements (see Figure 4F-1):**
354 A. **It shall be capable of displaying the following signal indications: steady CIRCULAR RED,**
355 **steady CIRCULAR YELLOW, and CIRCULAR GREEN. Only one of the three**
356 **indications shall be displayed at any given time.**
357 B. **During the permissive left-turn movement, a CIRCULAR GREEN signal indication shall**
358 **be displayed.**
359 C. **A permissive only shared signal face, regardless of where it is positioned and regardless of**
360 **how many adjacent through signal faces are provided, shall always simultaneously display**
361 **the same color of circular indication that the adjacent through signal face or faces display.**

362 D. If the permissive only mode is not the only left-turn mode used for the approach, the signal
 363 face shall be the same shared signal face that is used for the protected/permissive mode (see
 364 Section 4F.07) except that the left-turn GREEN ARROW and left-turn YELLOW
 365 ARROW signal indications shall not be displayed when operating in the permissive only
 366 mode.

367 **Section 4F.04 Signal Indications for Permissive Only Mode Left-Turn Movements in a**
 368 **Separate Signal Face**

369 **Standard:**

370 01 A separate left-turn signal face shall not be used for an approach that does not include a
 371 mandatory left-turn lane.

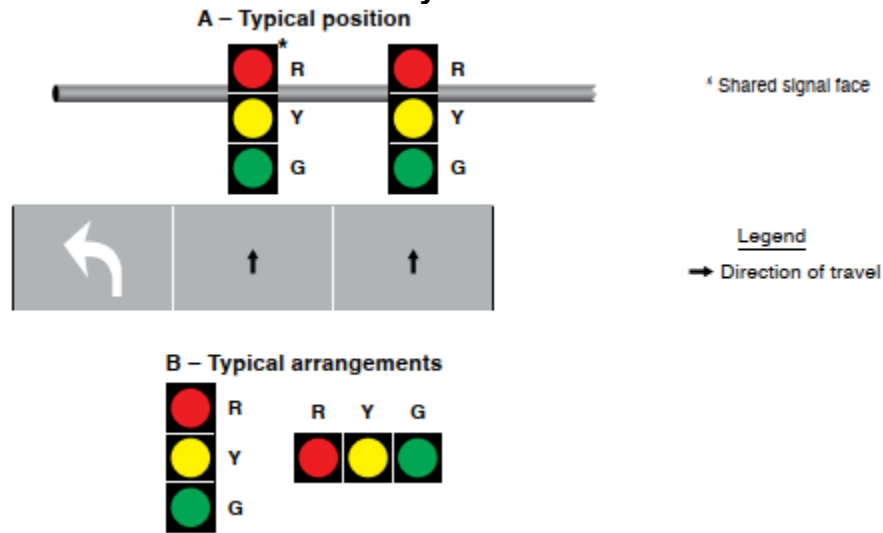
372 02 If a separate left-turn signal face is being operated in a permissive only left-turn mode, a
 373 CIRCULAR GREEN signal indication shall not be used in that face.

374 03 If a separate left-turn signal face is being operated in a permissive only left-turn mode and a
 375 flashing left-turn YELLOW ARROW signal indication is provided, it shall meet the following
 376 requirements (see Figure 4F-2):

377 A. It shall be capable of displaying the following signal indications: steady left-turn RED
 378 ARROW, steady left-turn YELLOW ARROW, and flashing left-turn YELLOW ARROW.
 379 Only one of the three indications shall be displayed at any given time.

380 B. During the permissive left-turn movement, a flashing left-turn YELLOW ARROW signal
 381 indication shall be displayed.

382 **Figure 4F-1. Typical Position and Arrangements of Shared Signal Faces for**
 383 **Permissive Only Mode Left Turns**

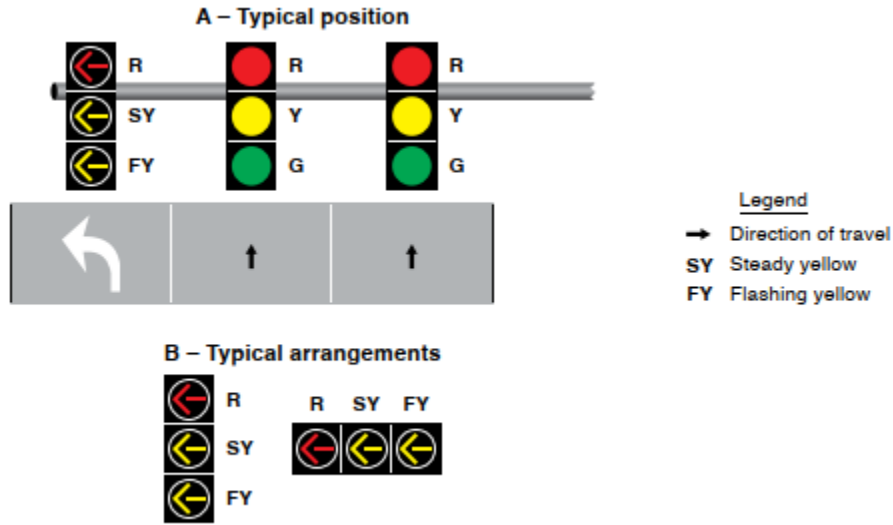


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Figure 4F-2. Typical Position and Arrangements of Separate Signal Faces with Flashing Yellow Arrow for Permissive Only Mode Left Turns



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C. A steady left-turn YELLOW ARROW signal indication shall be displayed following the flashing left-turn YELLOW ARROW signal indication.

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~~D. It shall be permitted to display a flashing left-turn YELLOW ARROW signal indication for a permissive left-turn movement while the signal faces for the adjacent through movement display steady CIRCULAR RED signal indications and the opposing left-turn signal faces display left-turn GREEN ARROW signal indications for a protected left-turn movement.~~

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~~E.~~ D. During steady mode (stop-and-go) operation, the signal section that displays the steady left-turn YELLOW ARROW signal indication during change intervals shall not be used to display the flashing left-turn YELLOW ARROW signal indication for permissive left turns unless a bimodal signal section capable of alternating between the display of a steady YELLOW ARROW and a flashing YELLOW ARROW signal indication is used to operate variable left-turn mode phasing.

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~~F.~~ E. During flashing mode operation (see Section 4G.01), the display of a flashing left-turn YELLOW ARROW signal indication shall be only from the signal section that displays a steady left-turn YELLOW ARROW signal indication during steady mode (stop-and-go) operation.

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~~G.~~ F. If the permissive only mode is not the only left-turn mode used for the approach, the signal face shall be the same separate left-turn signal face with a flashing YELLOW ARROW signal indication that is used for the protected/permissive mode (see Section 4F.08) except that the left-turn GREEN ARROW signal indication shall not be displayed when operating in the permissive only mode.

411 Option:

412 04a A flashing left-turn YELLOW ARROW signal indication may be displayed for a permissive left-turn
 413 movement while the signal faces for the adjacent through movement display steady CIRCULAR RED
 414 signal indications and the opposing left-turn signal faces display left-turn GREEN ARROW signal
 415 indications for a protected left-turn movement. [Text moved from standard above to a new option
 416 statement because of the use of the phrase "shall be permitted."]

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04 A separate left-turn signal face with a flashing left-turn RED ARROW signal indication during the permissive left-turn movement may be used for unusual geometric conditions, such as wide medians with

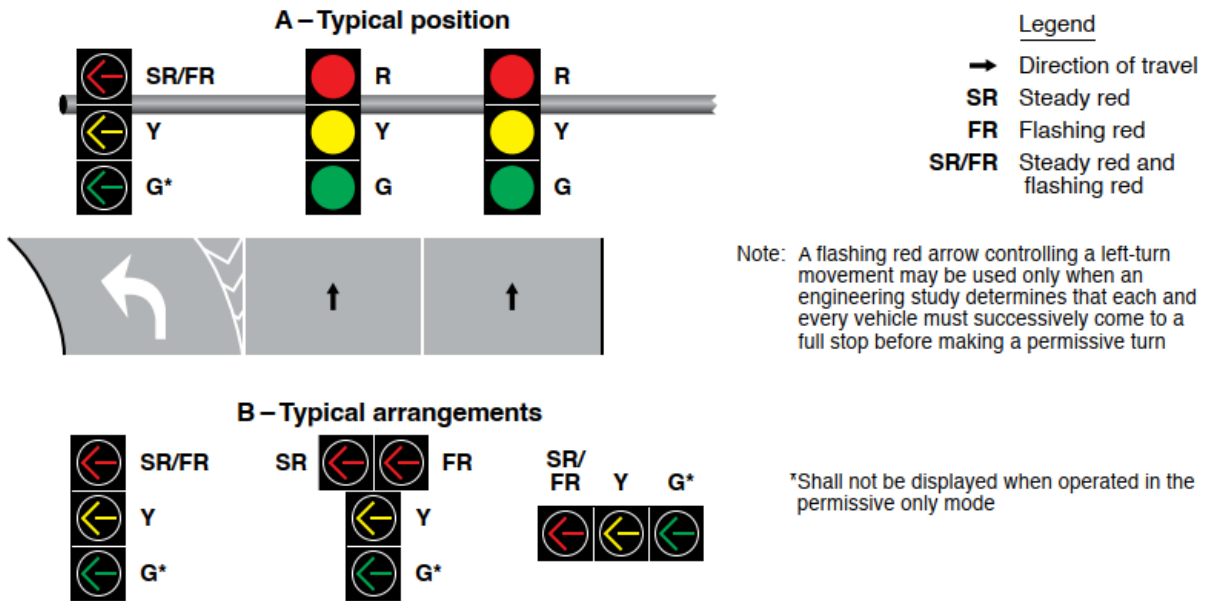
419 offset left-turn lanes, but only when an engineering study determines that each and every vehicle must
 420 successively come to a full stop before making a permissive left turn.

421 **Standard:**

422 05 **If a separate left-turn signal face is being operated in a permissive only left-turn mode and a**
 423 **flashing left-turn RED ARROW signal indication is provided, it shall meet the following**
 424 **requirements (see Figure 4F-3):**

- 425 A. **It shall be capable of displaying the following signal indications: steady or flashing left-**
 426 **turn RED ARROW, steady left-turn YELLOW ARROW, and left-turn GREEN ARROW.**
 427 **Only one of the three indications shall be displayed at any given time. The GREEN**
 428 **ARROW indication is required in order to provide a three-section signal face, but shall not**
 429 **be displayed during the permissive only mode.**

430 **Figure 4F-3. Typical Position and Arrangements of Separate Signal Faces with**
 431 **Flashing Red Arrow for Permissive Only Mode and Protected Permissive Mode**
 432 **Left Turns**



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- 434 B. **During the permissive left-turn movement, a flashing left-turn RED ARROW signal**
 435 **indication shall be displayed, thus indicating that each and every vehicle must successively**
 436 **come to a full stop before making a permissive left turn.**
- 437 C. **A steady left-turn YELLOW ARROW signal indication shall be displayed following the**
 438 **flashing left-turn RED ARROW signal indication.**
- 439 ~~D. It shall be permitted to display a flashing left-turn RED ARROW signal indication for a~~
 440 ~~permissive left-turn movement while the signal faces for the adjacent through movement~~
 441 ~~display steady CIRCULAR RED signal indications and the opposing left-turn signal faces~~
 442 ~~display left-turn GREEN ARROW signal indications for a protected left-turn movement.~~
- 443 E.D. **A supplementary sign shall not be required. If used, it shall be a LEFT TURN YIELD ON**
 444 **FLASHING RED ARROW AFTER STOP (R10-27) sign (see Section 2B.59).**

445 **Option:**

446 06a A flashing left-turn RED ARROW signal indication may be displayed for a permissive left-turn
 447 movement while the signal faces for the adjacent through movement display steady CIRCULAR RED
 448 signal indications and the opposing left-turn signal faces display left-turn GREEN ARROW signal

449 [indications for a protected left-turn movement.](#) [Text moved from standard above to a new option
450 [statement because of the use of the phrase “shall be permitted.”\]](#)

451 06 The requirements of Item A in Paragraph 5 of this Section may be met by a vertically-arranged
452 signal face with a horizontal cluster of two left-turn RED ARROW signal indications, the left-most of
453 which displays a steady indication and the right-most of which displays a flashing indication (see Figure
454 4F-3).

455 **Section 4F.08 Signal Indications for Protected/Permissive Mode Left-Turn Movements in a** 456 **Separate Signal Face**

457 **Standard:**

458 01 A separate left-turn signal face shall not be used for an approach that does not include a
459 mandatory left-turn lane.

460 02 If a separate left-turn signal face is being operated in a protected/permissive left-turn mode, a
461 CIRCULAR GREEN signal indication shall not be used in that face.

462 03 If a separate left-turn signal face is being operated in a protected/permissive left-turn mode
463 and a flashing left-turn yellow arrow signal indication is provided, it shall meet the following
464 requirements (see Figure 4F-7):

465 A. It shall be capable of displaying the following signal indications: steady left-turn RED
466 ARROW, steady left-turn YELLOW ARROW, flashing left-turn YELLOW ARROW, and
467 left-turn GREEN ARROW. Only one of the four indications shall be displayed at any
468 given time.

469 B. During the protected left-turn movement, a left-turn GREEN ARROW signal indication
470 shall be displayed.

471 C. A steady left-turn YELLOW ARROW signal indication shall be displayed following the
472 left-turn GREEN ARROW signal indication. ~~It shall be permitted to display a steady left-~~
473 ~~turn RED ARROW signal indication immediately following the steady left-turn YELLOW~~
474 ~~ARROW signal indication to provide a red-clearance interval.~~

475 D. During the permissive left-turn movement, a flashing left-turn YELLOW ARROW signal
476 indication shall be displayed.

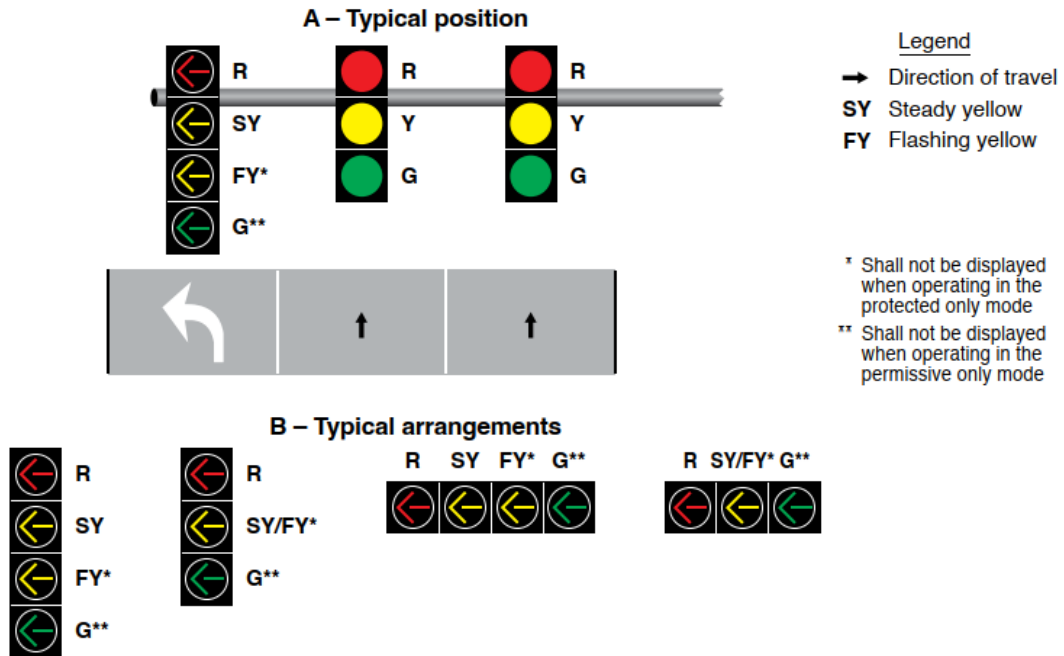
477 E. A steady left-turn YELLOW ARROW signal indication shall be displayed following the
478 flashing left-turn YELLOW ARROW signal indication if the permissive left-turn
479 movement is being terminated and the separate left-turn signal face will subsequently
480 display a steady left-turn RED ARROW indication.

481 ~~F. It shall be permitted to display a flashing left-turn YELLOW ARROW signal indication~~
482 ~~for a permissive left-turn movement while the signal faces for the adjacent through~~
483 ~~movement display steady CIRCULAR RED signal indications and the opposing left-turn~~
484 ~~signal faces display left-turn GREEN ARROW signal indications for a protected left-turn~~
485 ~~movement.~~

486 **G.F.** When a permissive left-turn movement is changing to a protected left-turn movement, a
487 left-turn GREEN ARROW signal indication shall be displayed immediately upon the
488 termination of the flashing left-turn YELLOW ARROW signal indication. A steady left-
489 turn YELLOW ARROW signal indication shall not be displayed between the display of
490 the flashing left-turn YELLOW ARROW signal indication and the display of the steady
491 left-turn GREEN ARROW signal indication.

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Figure 4F-7. Typical Position and Arrangements of Separate Signal Faces with Flashing Yellow Arrow for Protected/Permissive Mode and variable Mode Left Turns



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H. G. The display shall be either:

1. A four-section signal face with the steady left-turn YELLOW ARROW signal indication being displayed in a different section than the flashing left-turn YELLOW ARROW signal indication, or
2. A three-section signal face with the steady left-turn YELLOW ARROW signal indication and the flashing left-turn YELLOW ARROW signal indication being displayed in the same bimodal signal section.

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I. H. During steady mode (stop-and-go) operation where a four-section signal face is used, the signal section that displays the steady left-turn YELLOW ARROW signal indication during change intervals shall not be used to display the flashing left-turn YELLOW ARROW signal indication for permissive left turns.

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J. I. During flashing mode operation (see Chapter 4G) where a four-section signal face is used, the display of a flashing left-turn YELLOW ARROW signal indication shall be only from the signal section that displays a steady left-turn YELLOW ARROW signal indication during steady mode (stop-and-go) operation.

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511 Option:

512 04a A steady left-turn RED ARROW signal indication may be displayed immediately following the
 513 steady left-turn YELLOW ARROW signal indication to provide a red clearance interval. [Text moved
 514 from standard above to a new option statement because of the use of the phrase "shall be permitted."]

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515 04b A flashing left-turn YELLOW ARROW signal indication may be displayed for a permissive left-turn
 516 movement while the signal faces for the adjacent through movement display steady CIRCULAR RED
 517 signal indications and the opposing left-turn signal faces display left-turn GREEN ARROW signal
 518 indications for a protected left-turn movement. [Text moved from standard above to a new option
 519 statement because of the use of the phrase "shall be permitted."]

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04 A bimodal signal section (capable of displaying a GREEN ARROW for the protected left-turn movement and a flashing YELLOW ARROW for the permissive left-turn movement) along with a steady

522 left-turn YELLOW ARROW signal indication and a steady left-turn RED ARROW signal indication may
523 be used for a separate left-turn signal face and may be considered to be a four-section signal face that is
524 compliant with Item H.1 of Paragraph 3 of this Section.

525 05 A separate left-turn signal face with a flashing left-turn RED ARROW signal indication during the
526 permissive left-turn movement may be used for unusual geometric conditions, such as wide medians with
527 offset left-turn lanes, but only when an engineering study determines that each and every vehicle must
528 successively come to a full stop before making a permissive left turn.

529 Standard

530 06 If a separate left-turn signal face is being operated in a protected/permissive left-turn mode
531 and a flashing left-turn RED arrow signal indication is provided, it shall meet the following
532 requirements (see Figure 4F-3):

533 A. It shall be capable of displaying the following signal indications: steady or flashing left-
534 turn RED ARROW, steady left-turn YELLOW ARROW, and left-turn GREEN ARROW.
535 Only one of the three indications shall be displayed at any given time.

536 B. During the protected left-turn movement, a left-turn GREEN ARROW signal indication
537 shall be displayed.

538 C. A steady left-turn YELLOW ARROW signal indication shall be displayed following the
539 left-turn GREEN ARROW signal indication.

540 D. During the permissive left-turn movement, a flashing left-turn RED ARROW signal
541 indication shall be displayed.

542 E. A steady left-turn YELLOW ARROW signal indication shall be displayed following the
543 flashing left-turn RED ARROW signal indication if the permissive left-turn movement is
544 being terminated and the separate left-turn signal face will subsequently display a steady
545 left-turn RED ARROW indication.

546 F. When a permissive left-turn movement is changing to a protected left-turn movement, a
547 left-turn GREEN ARROW signal indication shall be displayed immediately upon the
548 termination of the flashing left-turn RED ARROW signal indication. A steady left-turn
549 YELLOW ARROW signal indication shall not be displayed between the display of the
550 flashing left-turn RED ARROW signal indication and the display of the steady left-turn
551 GREEN ARROW signal indication.

552 ~~G. It shall be permitted to display a flashing left-turn RED ARROW signal indication for a
553 permissive left-turn movement while the signal faces for the adjacent through movement
554 display steady CIRCULAR RED signal indications and the opposing left-turn signal faces
555 display left-turn GREEN ARROW signal indications for a protected left-turn movement.~~

556 ~~H.G.~~ A supplementary sign shall not be required. If used, it shall be a LEFT TURN YIELD ON
557 FLASHING RED ARROW AFTER STOP (R10-27) sign (see Section 2B.59).

558 Option:

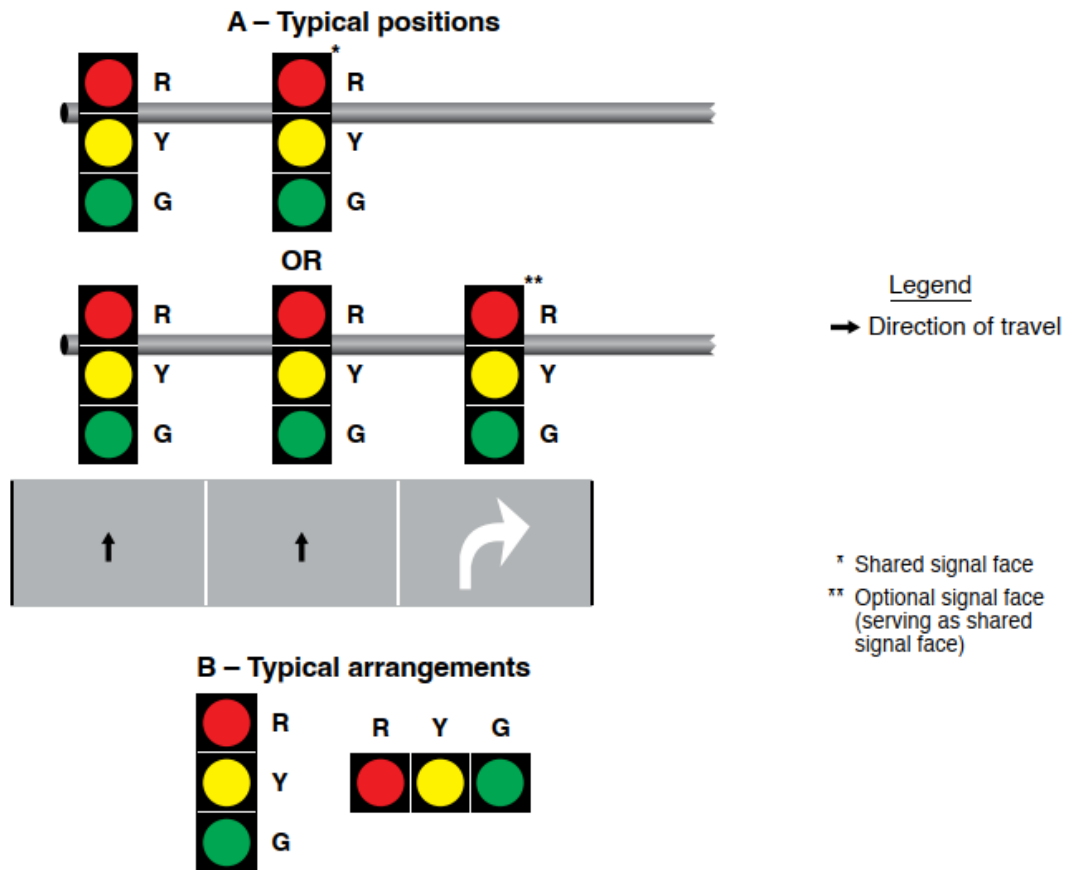
559 07a A flashing left-turn RED ARROW signal indication may be displayed for a permissive left-turn
560 movement while the signal faces for the adjacent through movement display steady CIRCULAR RED
561 signal indications and the opposing left-turn signal faces display left-turn GREEN ARROW signal
562 indications for a protected left-turn movement. [Text moved from standard above to a new option
563 statement because of the use of the phrase "shall be permitted."]

564 07 The requirements of Item A in Paragraph 6 of this Section may be met by a vertically-arranged
565 signal face with a horizontal cluster of two left-turn RED ARROW signal indications, the left-most of
566 which displays a steady indication and the right-most of which displays a flashing indication (see Figure
567 4F-3).

568 Section 4F.11 Signal Indications for Permissive Only Mode Right-Turn Movements in a 569 Separate Signal Face

570 **Standard:**
 571 01 A separate right-turn signal face shall not be used for an approach that does not include a
 572 mandatory right-turn lane.
 573 02 If a separate right-turn signal face is being operated in a permissive only right-turn mode, a
 574 CIRCULAR GREEN signal indication shall not be used in that face.
 575 03 If a separate right-turn signal face is being operated in a permissive only right-turn mode and
 576 a flashing right-turn yellow arrow signal indication is provided, it shall meet the following
 577 requirements (see Figure 4F-9):
 578 A. It shall be capable of displaying one of the following sets of signal indications:
 579 1. Steady right-turn RED ARROW, steady right-turn YELLOW ARROW, and flashing
 580 right-turn YELLOW ARROW. Only one of the three indications shall be displayed at
 581 any given time.
 582 2. Steady CIRCULAR RED, steady right-turn YELLOW ARROW, and flashing right-
 583 turn YELLOW ARROW. Only one of the three indications shall be displayed at any
 584 given time. If the CIRCULAR RED signal indication is sometimes displayed when the
 585 signal faces for the adjacent through lane(s) are not displaying a CIRCULAR RED
 586 signal indication, a RIGHT TURN SIGNAL (R10-10R) sign (see Section 2B.59) shall be
 587 used unless the CIRCULAR RED signal indication in the separate right-turn signal
 588 face is shielded, hooded, louvered, positioned, or designed such that it is not readily
 589 visible to drivers in the through lane(s).

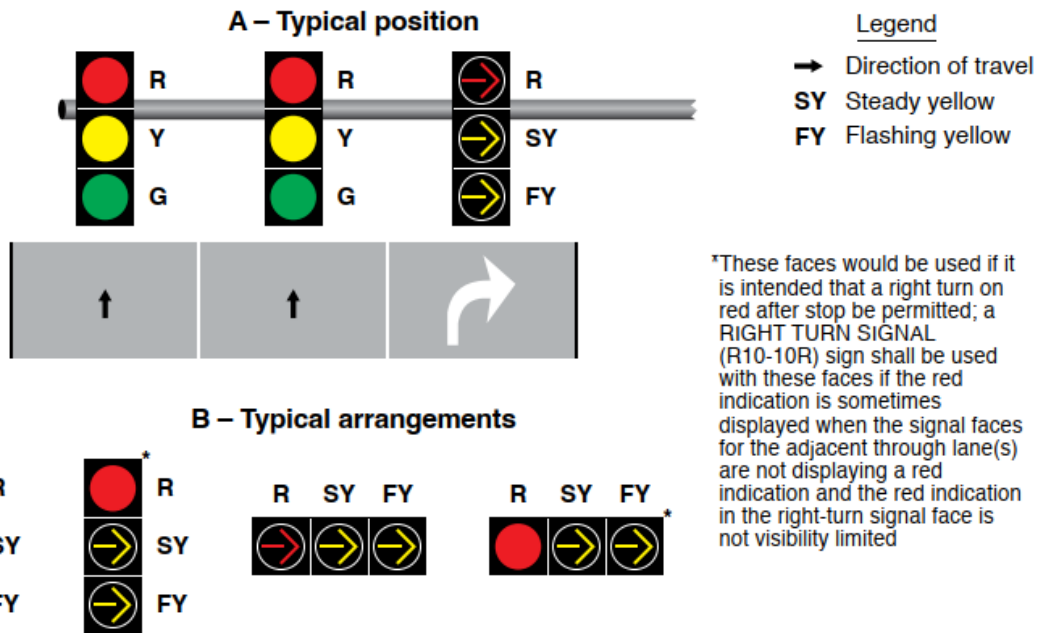
590 **Figure 4F-8. Typical Positions and Arrangements of Shared Signal Faces for**
 591 **Permissive Only Mode Right Turns**



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Figure 4F-9. Typical Position and Arrangements of Separate Signal Faces with Flashing Yellow Arrow for Permissive Only Mode Right Turns



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- B.** During the permissive right-turn movement, a flashing right-turn YELLOW ARROW signal indication shall be displayed.
- C.** A steady right-turn YELLOW ARROW signal indication shall be displayed following the flashing right-turn YELLOW ARROW signal indication.
- D.** When the separate right-turn signal face is providing a message to stop and remain stopped, a steady right-turn RED ARROW signal indication shall be displayed if it is intended that right turns on red not be permitted (except when a traffic control device is in place permitting a turn on a steady RED ARROW signal indication) or a steady CIRCULAR RED signal indication shall be displayed if it is intended that right turns on red be permitted.
- ~~**E.** It shall be permitted to display a flashing right-turn YELLOW ARROW signal indication for a permissive right-turn movement while the signal faces for the adjacent through movement display steady CIRCULAR RED signal indications.~~
- F.E.** During steady mode (stop-and-go) operation, the signal section that displays the steady right-turn YELLOW ARROW signal indication during change intervals shall not be used to display the flashing right-turn YELLOW ARROW signal indication for permissive right turns unless a bimodal signal section capable of alternating between the display of a steady YELLOW ARROW and a flashing YELLOW ARROW signal indication is used during variable right-turn mode operation.
- G.F.** During flashing mode operation (see Chapter 4G), the display of a flashing right-turn YELLOW ARROW signal indication shall be only from the signal section that displays a steady right-turn YELLOW ARROW signal indication during steady mode (stop-and-go) operation.
- H.G.** If the permissive only mode is not the only right-turn mode used for the approach, the signal face shall be the same separate right-turn signal face with a flashing YELLOW ARROW signal indication that is used for the protected/permissive mode (see Section 4F.15) except that the right-turn GREEN ARROW signal indication shall not be displayed when operating in the permissive only mode.

624 Option:
625 04a A flashing right-turn YELLOW ARROW signal indication may be displayed for a permissive right-
626 turn movement while the signal faces for the adjacent through movement display steady CIRCULAR
627 RED signal indications. [Text moved from standard above to a new option statement because of the use of
628 the phrase "shall be permitted."]

629 04 When an engineering study determines that each and every vehicle must successively come to a full
630 stop before making a permissive right turn, a separate right-turn signal face with a flashing right-turn
631 RED ARROW signal indication during the permissive right-turn movement may be used.

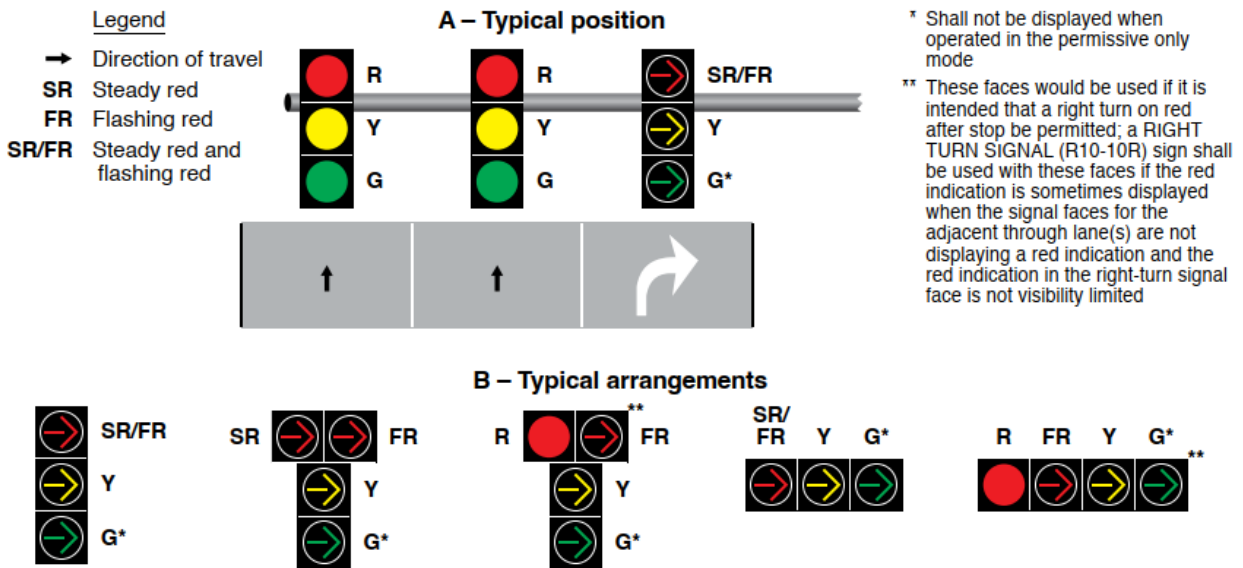
632 **Standard:**

633 05 If a separate right-turn signal face is being operated in a permissive only right-turn mode and
634 a flashing right-turn RED arrow signal indication is provided, it shall meet the following
635 requirements (see Figure 4F-10):

- 636 A. It shall be capable of displaying one of the following sets of signal indications:
- 637 1. Steady or flashing right-turn RED ARROW, steady right-turn YELLOW ARROW,
638 and right-turn GREEN ARROW. Only one of the three indications shall be displayed
639 at any given time. The GREEN ARROW indication is required in order to provide a
640 three-section signal face, but shall not be displayed during the permissive only mode.
 - 641 2. Steady CIRCULAR RED on the left and steady right-turn RED ARROW on the right
642 of the top position, steady right-turn YELLOW ARROW in the middle position, and
643 right-turn GREEN ARROW in the bottom position. Only one of the four indications
644 shall be displayed at any given time. The GREEN ARROW indication is required in
645 order to provide three vertical positions, but shall not be displayed during the
646 permissive only mode. If the CIRCULAR RED signal indication is sometimes displayed
647 when the signal faces for the adjacent through lane(s) are not displaying a CIRCULAR
648 RED signal indication, a RIGHT TURN SIGNAL (R10-10R) sign (see Section 2B.59)
649 shall be used unless the CIRCULAR RED signal indication in the separate right-turn
650 signal face is shielded, hooded, louvered, positioned, or designed such that it is not
651 readily visible to drivers in the through lane(s).
- 652 B. During the permissive right-turn movement, a flashing right-turn RED ARROW signal
653 indication shall be displayed, thus indicating that each and every vehicle must successively
654 come to a full stop before making a permissive right turn.
- 655 C. A steady right-turn YELLOW ARROW signal indication shall be displayed following the
656 flashing right-turn RED ARROW signal indication.
- 657 D. When the separate right-turn signal face is providing a message to stop and remain
658 stopped, a steady right-turn RED ARROW signal indication shall be displayed if it is
659 intended that right turns on red not be permitted (except when a traffic control device is in
660 place permitting a turn on a steady RED ARROW signal indication) or a steady
661 CIRCULAR RED signal indication shall be displayed if it is intended that right turns on
662 red be permitted.

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Figure 4F-10. Typical Position and Arrangements of Separate Signal Faces with Flashing Red Arrow for Permissive Only Mode and Protected/Permissive Mode Right Turns



Note: A flashing red arrow controlling a right-turn movement may be used only when an engineering study determines that each and every vehicle must successively come to a full stop before making a permissive turn

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~~**E. The display of a flashing right-turn RED ARROW signal indication for a permissive right-turn movement while the signal faces for the adjacent through movement display steady CIRCULAR RED signal indications and the opposing left-turn signal faces display left-turn GREEN ARROW signal indications for a protected left-turn movement shall be permitted.**~~

F.E. A supplementary sign shall not be required. If used, it shall be a RIGHT TURN YIELD ON FLASHING RED ARROW AFTER STOP (R10-27) sign (see Section 2B.59).

674 Option:

675 06a A flashing right-turn RED ARROW signal indication may be displayed for a permissive right-turn
676 movement while the signal faces for the adjacent through movement display steady CIRCULAR RED
677 signal indications and the opposing left-turn signal faces display left-turn GREEN ARROW signal
678 indications for a protected left-turn movement. [Text moved from standard above to a new option
679 statement because of the use of the phrase "shall be permitted."]

680 06 The requirements of Item A.1 in Paragraph 5 of this Section may be met by a vertically-arranged
681 signal face with a horizontal cluster of two right-turn RED ARROW signal indications, the left-most of
682 which displays a steady indication and the right-most of which displays a flashing indication (see Figure
683 4F-10).

684 **Section 4F.15 Signal Indications for Protected/Permissive Mode Right-Turn Movements in**
685 **a Separate Signal Face**

686 **Standard:**

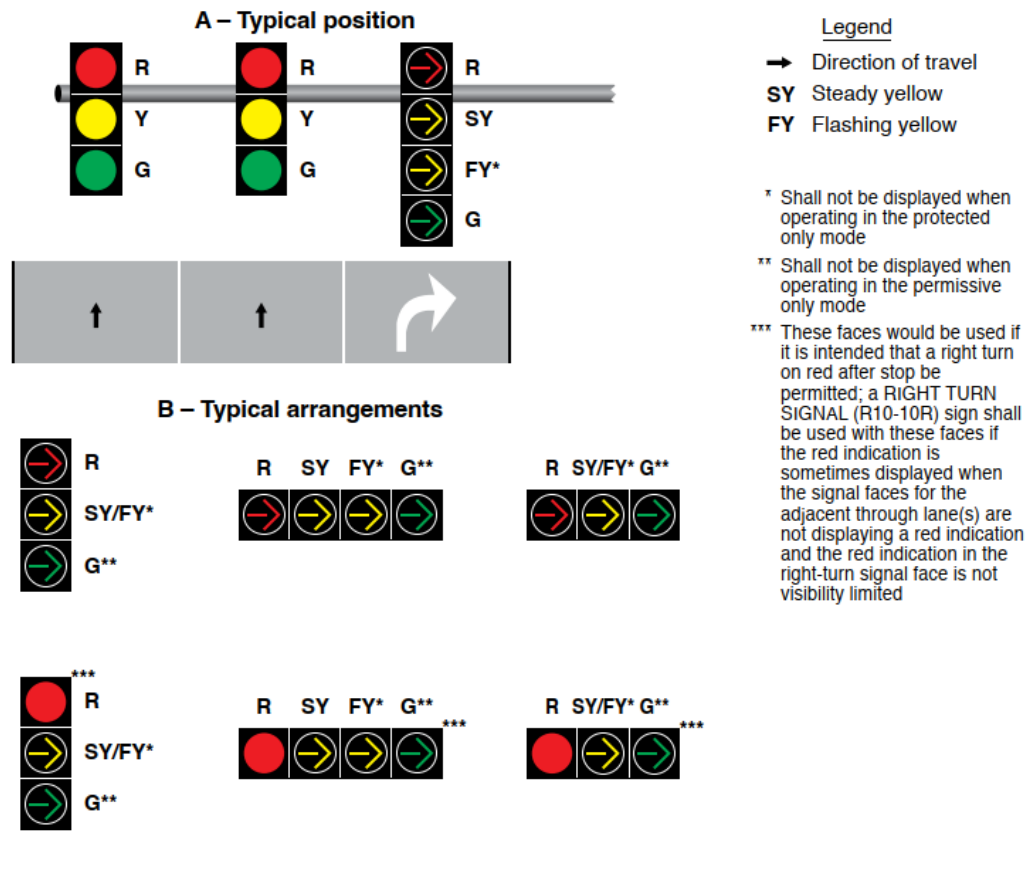
687 01 A separate right-turn signal face shall not be used for an approach that does not include a
688 mandatory right-turn lane.

689 02 If a separate right-turn signal face is being operated in a protected/permissive right-turn mode,
690 a CIRCULAR GREEN signal indication shall not be used in that face.

- 691 03 If a separate right-turn signal face is being operated in a protected/permissive right-turn mode
692 and a flashing right-turn yellow arrow signal indication is provided, it shall meet the following
693 requirements (see Figure 4F-14):
- 694 A. It shall be capable of displaying one of the following sets of signal indications:
 - 695 1. Steady right-turn RED ARROW, steady right-turn YELLOW ARROW, flashing
696 right-turn YELLOW ARROW, and right-turn GREEN ARROW. Only one of the four
697 indications shall be displayed at any given time.
 - 698 2. Steady CIRCULAR RED, steady right-turn YELLOW ARROW, flashing right-turn
699 YELLOW ARROW, and right-turn GREEN ARROW. Only one of the four
700 indications shall be displayed at any given time. If the CIRCULAR RED signal
701 indication is sometimes displayed when the signal faces for the adjacent through lane(s)
702 are not displaying a CIRCULAR RED signal indication, a RIGHT TURN SIGNAL
703 (R10-10R) sign (see Section 2B.59) shall be used unless the CIRCULAR RED signal
704 indication in the separate right-turn signal face is shielded, hooded, louvered,
705 positioned, or designed such that it is not readily visible to drivers in the through
706 lane(s).
 - 707 B. During the protected right-turn movement, a right-turn GREEN ARROW signal
708 indication shall be displayed.
 - 709 C. A steady right-turn YELLOW ARROW signal indication shall be displayed following the
710 right-turn GREEN ARROW signal indication. ~~It shall be permitted to display a steady
711 right-turn RED ARROW signal indication immediately following the steady right-turn
712 YELLOW ARROW signal indication to provide a red clearance interval.~~
 - 713 D. During the permissive right-turn movement, a flashing right-turn YELLOW ARROW
714 signal indication shall be displayed.

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Figure 4F-14. Typical Position and Arrangements of Separate Signal Faces with Flashing Yellow Arrow for Protected/Permissive Mode and Variable Mode Right Turns



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- E. A steady right-turn YELLOW ARROW signal indication shall be displayed following the flashing right-turn YELLOW ARROW signal indication if the permissive right-turn movement is being terminated and the separate right-turn signal face will subsequently display a steady red indication.
- F. When a permissive right-turn movement is changing to a protected right-turn movement:
 1. If a permissive left-turn movement from the opposing approach is being terminated simultaneously with the termination of the permissive right-turn movement, a steady right-turn YELLOW ARROW signal indication shall be displayed following the flashing right-turn YELLOW ARROW signal indication. ~~To provide a red clearance interval, it shall be permitted to display a steady right-turn RED ARROW signal indication immediately following the steady right-turn YELLOW ARROW signal indication.~~
 2. If a permissive left-turn movement from the opposing approach that is being terminated simultaneously with the termination of the permissive right-turn movement is not present, a right-turn GREEN ARROW signal indication shall be displayed immediately upon the termination of the flashing right-turn YELLOW ARROW signal indication. In this situation, a steady right-turn YELLOW ARROW signal indication shall not be displayed between the display of the flashing right-turn YELLOW ARROW signal indication and the display of the steady right-turn GREEN ARROW signal indication.

739 G. When the separate right-turn signal face is providing a message to stop and remain
740 stopped, a steady right-turn RED ARROW signal indication shall be displayed if it is
741 intended that right turns on red not be permitted (except when a traffic control device is in
742 place permitting a turn on a steady RED ARROW signal indication) or a steady
743 CIRCULAR RED signal indication shall be displayed if it is intended that right turns on
744 red be permitted.

745 ~~H. It shall be permitted to display a flashing right-turn YELLOW ARROW signal indication~~
746 ~~for a permissive right-turn movement while the signal faces for the adjacent through~~
747 ~~movement display steady CIRCULAR RED signal indications.~~

748 ~~I.H.~~ The display shall be either:

- 749 1. A four-section signal face with the steady right-turn YELLOW ARROW signal
750 indication being displayed in a different section than the flashing right-turn YELLOW
751 ARROW signal indication, or
- 752 2. A three-section signal face with the steady right-turn YELLOW ARROW signal
753 indication and the flashing right-turn YELLOW ARROW signal indication being
754 displayed in the same bimodal signal section.

755 ~~J.I.~~ During steady mode (stop-and-go) operation where a four-section signal face is used, the
756 signal section that displays the steady right-turn YELLOW ARROW signal indication
757 during change intervals shall not be used to display the flashing right-turn YELLOW
758 ARROW signal indication for permissive right turns.

759 ~~K.J.~~ During flashing mode operation (see Chapter 4G) where a four-section signal face is used,
760 the display of a flashing right-turn YELLOW ARROW signal indication shall be only
761 from the signal section that displays a steady right-turn YELLOW ARROW signal
762 indication during steady mode (stop-and-go) operation.

763 Option:

764 04a A steady right-turn RED ARROW signal indication may be displayed immediately following the
765 steady right-turn YELLOW ARROW signal indication to provide a red clearance interval. [Text moved
766 from standard above to a new option statement because of the use of the phrase "shall be permitted."]

767 04b To provide a red clearance interval, when a permissive right-turn movement is changing to a
768 protected right-turn movement and a permissive left-turn movement from the opposing approach is being
769 terminated simultaneously with the termination of the permissive right-turn movement, a steady right-turn
770 RED ARROW or CIRCULAR RED signal indication may be displayed immediately following the steady
771 right-turn YELLOW ARROW signal indication. [Text moved from standard above to a new option
772 statement because of the use of the phrase "shall be permitted."]

773 04c A flashing right-turn YELLOW ARROW signal indication may be displayed for a permissive right-
774 turn movement while the signal faces for the adjacent through movement display steady CIRCULAR
775 RED signal indications. [Text moved from standard above to a new option statement because of the use of
776 the phrase "shall be permitted."]

777 04 A bimodal signal section (capable of displaying a GREEN ARROW for the protected right-turn
778 movement and a flashing YELLOW ARROW for the permissive right-turn movement) along with a
779 steady right-turn YELLOW ARROW signal indication and a steady right-turn RED ARROW signal
780 indication may be used for a separate right-turn signal face and may be considered to be a four-section
781 signal face that is compliant with Item I.1 of Paragraph 3 of this Section.

782 05 When an engineering study determines that each and every vehicle must successively come to a full
783 stop before making a permissive right turn, a separate signal face that has a flashing right-turn RED
784 ARROW signal indication during the permissive right-turn movement may be used.

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788 **Standard:**

789 06 If a separate right-turn signal face is being operated in a protected/permissive right-turn mode
790 and a flashing right-turn RED arrow signal indication is provided, it shall meet the following
791 requirements (see Figure 4F-10):

- 792 A. It shall be capable of displaying one of the following sets of signal indications:
- 793 1. Steady or flashing right-turn RED ARROW, steady right-turn YELLOW ARROW,
794 and right-turn GREEN ARROW. Only one of the three indications shall be displayed
795 at any given time.
 - 796 2. Steady CIRCULAR RED on the left and steady or flashing right-turn RED ARROW
797 on the right of the top position, steady right-turn YELLOW ARROW in the middle
798 position, and right-turn GREEN ARROW in the bottom position. Only one of the four
799 indications shall be displayed at any given time. If the CIRCULAR RED signal
800 indication is sometimes displayed when the signal faces for the adjacent through lane(s)
801 are not displaying a CIRCULAR RED signal indication, a RIGHT TURN SIGNAL
802 (R10-10R) sign (see Section 2B.59) shall be used unless the CIRCULAR RED signal
803 indication in the separate right-turn signal face is shielded, hooded, louvered,
804 positioned, or designed such that it is not readily visible to drivers in the through
805 lane(s).
- 806 B. During the protected right-turn movement, a right-turn GREEN ARROW signal
807 indication shall be displayed.
- 808 C. A steady right-turn YELLOW ARROW signal indication shall be displayed following the
809 right-turn GREEN ARROW signal indication.
- 810 D. During the permissive right-turn movement, the separate right-turn signal face shall
811 display a flashing right-turn RED ARROW signal indication.
- 812 E. A steady right-turn YELLOW ARROW signal indication shall be displayed following the
813 flashing right-turn RED ARROW signal indication if the permissive right-turn movement
814 is being terminated and the separate right-turn signal face will subsequently display a
815 steady red indication.
- 816 F. When a permissive right-turn movement is changing to a protected right-turn movement, a
817 right-turn GREEN ARROW signal indication shall be displayed immediately upon the
818 termination of the flashing right-turn RED ARROW signal indication. A steady right-turn
819 YELLOW ARROW signal indication shall not be displayed between the display of the
820 flashing right-turn RED ARROW signal indication and the display of the steady right-turn
821 GREEN ARROW signal indication.
- 822 G. When the separate right-turn signal face is providing a message to stop and remain
823 stopped, a steady right-turn RED ARROW signal indication shall be displayed if it is
824 intended that right turns on red not be permitted (except when a traffic control device is in
825 place permitting a turn on a steady RED ARROW signal indication) or a steady
826 CIRCULAR RED signal indication shall be displayed if it is intended that right turns on
827 red be permitted.
- 828 ~~H. It shall be permitted to display a flashing right-turn RED ARROW signal indication for a
829 permissive right-turn movement while the signal faces for the adjacent through movement
830 display steady CIRCULAR RED signal indications and the opposing left-turn signal faces
831 display left-turn GREEN ARROW signal indications for a protected left-turn movement.~~
- 832 **I-H.** A supplementary sign shall not be required. If used, it shall be a RIGHT TURN
833 YIELD ON FLASHING RED ARROW AFTER STOP (R10-27) sign (see Section 2B.59).

834 Option:

835 [07a A flashing right-turn RED ARROW signal indication may be displayed for a permissive right-turn](#)
836 [movement while the signal faces for the adjacent through movement display steady CIRCULAR RED](#)
837 [signal indications and the opposing left-turn signal faces display left-turn GREEN ARROW signal](#)

838 [indications for a protected left-turn movement.](#) [Text moved from standard above to a new option
839 [statement because of the use of the phrase “shall be permitted.”\]](#)

840 07 The requirements of Item A.1 in Paragraph 6 of this Section may be met by a vertically-arranged
841 signal face with a horizontal cluster of two right-turn RED ARROW signal indications, the left-most of
842 which displays a steady indication and the right-most of which displays a flashing indication (see Figure
843 4F-10).

844 **Section 4F.19 Preemption Control of Traffic Control Signals**

845 Support:

846 01 Preemption control (see definition in Section 1C.02) is typically given to trains, boats, emergency
847 vehicles, and light rail transit.

848 02 Examples of preemption control include the following:

- 849 A. The prompt displaying of green signal indications at signalized locations ahead of fire vehicles,
850 law enforcement vehicles, ambulances, and other official emergency vehicles;
- 851 B. A special sequence of signal phases and timing to expedite and/or provide additional clearance
852 time for vehicles to clear the tracks prior to the arrival of rail traffic; and
- 853 C. A special sequence of signal phases to display a steady red indication to prohibit turning
854 movements toward the tracks during the approach or passage of rail traffic.

855 **Standard:**

856 03 **During the transition into preemption control, the yellow change interval, and any red**
857 **clearance interval that follows, shall not be shortened or omitted.**

858 Option:

859 04 During the transition into preemption control:

- 860 A. Any pedestrian walk interval and/or pedestrian change interval may be shortened or omitted.
- 861 B. The red clearance interval, if any, may be omitted so that the return to the previous green signal
862 indication follows a steady yellow signal indication in the same signal face.

863 **Standard:**

864 05 **During preemption control and during the transition out of preemption control:**

- 865 **A. Any yellow change interval, and any red clearance interval that follows, shall not be**
866 **shortened or omitted.**
- 867 **B. A signal indication sequence from a steady yellow signal indication to a green signal**
868 **indication shall ~~not be permitted~~ prohibited.**

869 Option:

870 06 A distinctive indication may be provided at the intersection to inform law enforcement personnel
871 who are escorting traffic (such as a parade or funeral procession) that the traffic control signal has
872 changed to a red indication not because of normal cycling, but because it has been preempted by rail
873 traffic approaching an adjacent grade crossing or by boat traffic approaching an adjacent movable bridge.

874 07 A distinctive indication may be provided at the intersection to show that an emergency vehicle has
875 been given control of the traffic control signal (see Section 11-106 of the "Uniform Vehicle Code"). In
876 order to assist in the understanding of the control of the traffic control signal, a common distinctive
877 indication may be used where drivers from different agencies travel through the same intersection when
878 responding to emergencies.

879 *Guidance:*

880 08 *Except for traffic control signals interconnected with light rail transit systems, traffic control signals*
881 *with railroad preemption or coordinated with flashing-light signal systems should be provided with a*
882 *back-up power supply.*

883 09 *If a traffic control signal or hybrid beacon is installed near or within a grade crossing or if a grade*
884 *crossing with active traffic control devices is within or near a signalized highway intersection, Chapter*
885 *8D should be consulted.*

886 Support:

887 10 Section 8D.09 contains additional information regarding preemption for grade crossings. Section
888 8D.10 contains information regarding prohibiting movements toward the grade crossing during
889 preemption. Sections 8D.11 and 8D.12 contain additional information regarding pre-signals and queue
890 cutter signals, respectively, for grade crossings.

891 **Section 4F.20 Priority Control of Traffic Control Signals**

892 Support:

893 01 Priority control (see definition in Section 1C.02) is typically given to certain non-emergency vehicles
894 such as light-rail transit vehicles operating in a mixed-use alignment and buses.

895 02 Examples of priority control include the following:

- 896 A. The displaying of early or extended green signal indications at an intersection to assist public
897 transit vehicles improve operations, and
898 B. Special phasing to assist public transit vehicles in entering the travel stream ahead of other
899 waiting traffic.

900 **Standard:**

901 03 **During priority control and during the transition into or out of priority control:**

- 902 A. ~~The shortening or omission of a~~ **A**ny yellow change interval, and ~~of~~ any red clearance
903 interval that follows, shall not be ~~permitted~~ **shortened or omitted.**
- 904 B. ~~The shortening of a~~ **A**ny pedestrian walk interval **shall not be shortened** below that time
905 described in Section 4I.06 ~~shall not be permitted.~~
- 906 C. ~~The omission of a~~ **A** pedestrian walk interval and its associated change interval shall not be
907 ~~permitted~~ **omitted** unless the associated vehicular phase is also omitted or the pedestrian
908 phase is exclusive.
- 909 D. ~~The shortening or omission of a~~ **A**ny pedestrian change interval shall not be
910 ~~permitted~~ **shortened or omitted.**
- 911 E. ~~A signal indication sequence from a steady yellow signal indication to a green signal~~
912 ~~indication shall not be permitted.~~ **A steady yellow indication shall not be followed by a**
913 **green indication.**

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

915

916 Section 4G.03 Flashing Operation – Signal Indications During Flashing Mode

917 *Guidance:*

918 01 *When a traffic control signal is operated in the flashing mode, a flashing yellow signal indication*
919 *should be used for the major street and a flashing red signal indication should be used for the other*
920 *approaches unless flashing red signal indications are used on all approaches.*

921 **Standard:**

922 02 **When a traffic control signal is operated in the flashing mode, all of the green signal**
923 **indications at the signalized location shall be dark (non-illuminated) and shall not be displayed in**
924 **either a steady or flashing manner, except for single-section GREEN ARROW signal indications as**
925 **provided in Paragraph 6 of this Section.**

926 03 **Flashing yellow signal indications shall be used on more than one approach to a signalized**
927 **location only if those approaches do not conflict with each other.**

928 04 **Except as provided in Paragraph 5 of this Section, when a traffic control signal is operated in**
929 **the flashing mode, one and only one signal indication in every signal face at the signalized location**
930 **shall be flashed.**

931 *Option:*

932 05 *If a signal face has two identical CIRCULAR RED or RED ARROW signal indications (see Section*
933 *4E.04), both of those identical signal indications may be flashed simultaneously.*

934 **Standard:**

935 05 **No steady indications, other than a single-section signal face consisting of a continuously-**
936 **displayed GREEN ARROW signal indication that is used alone to indicate a continuous movement**
937 **in the steady (stop-and-go) mode, shall be displayed at the signalized location during the flashing**
938 **mode. A single-section GREEN ARROW signal indication shall remain continuously displayed**
939 **when the traffic control signal is operated in the flashing mode.**

940 06 **If a signal face includes both circular and arrow signal indications of the color that is to be**
941 **flashed, only the circular signal indication shall be flashed.**

942 07 **Except as shown in the Option in Paragraph 08a, all** ~~signal faces that are flashed on an~~
943 ~~approach shall flash the same color, of either yellow or red, except that separate turn signal faces~~
944 ~~(see Sections 4F.04, 4F.06, 4F.08, 4F.11, 4F.13, and 4F.15) shall be permitted to flash a RED~~
945 ~~ARROW signal indication when the adjacent through movement signal indications are flashed~~
946 ~~yellow. Shared signal faces (see Sections 4F.03, 4F.05, 4F.07, 4F.10, 4F.12, and 4F.14) for turn~~
947 ~~movements shall not be permitted to flash a CIRCULAR RED signal indication when the adjacent~~
948 ~~through movement signal indications are flashed yellow.~~

949 Option:

950 08a Separate turn signal faces (see Sections 4F.02 and 4F.09) may flash a RED ARROW signal
951 indication when the signal indications for the adjacent through movement are flashed with a CIRCULAR
952 YELLOW signal indication.

953 **Standard:**

954 08 ~~The appropriate RED ARROW or YELLOW ARROW signal indication shall be flashed when~~
955 ~~a signal face consists entirely of arrow indications. A signal face that consists entirely of arrow~~
956 ~~indications and that provides a protected only turn movement during the steady (stop-and-go)~~
957 ~~mode or that provides a flashing yellow arrow or flashing red arrow signal indication for a~~
958 ~~permissive turn movement during the steady (stop-and-go) mode shall be permitted to flash the~~
959 ~~YELLOW ARROW signal indication during the flashing mode if the adjacent through movement~~
960 ~~signal indications are flashed yellow and if it is intended that a permissive turn movement not~~

961 ~~requiring a full stop by each turning vehicle be provided during the flashing mode.~~ During flashing
962 operation the signal indications controlling turn movements shall be flashed red where the adjacent
963 through movement is flashed with a CIRCULAR RED signal indication.

964 Option:

965 09a During flashing operation the signal faces for protected only mode turns may be flashed red if the
966 adjacent through movement is flashed with a CIRCULAR YELLOW signal indication.

967 09b During flashing operation where the through movement is flashed with a CIRCULAR YELLOW
968 signal indication, separate signal faces for turn movements may be flashed with a yellow indication.

969

970 CHAPTER 4H. BICYCLE SIGNALS

971

972 Section 4H.04 Application of Bicycle Symbol Signal Indications during Steady (Stop-and- 973 Go) Operation

974 **Standard:**

975 01 Steady bicycle symbol signal indications shall be applied as follows:

976 A. A steady RED BICYCLE signal indication shall be displayed when it is intended to
977 prohibit bicyclists in a designated bicycle lane or from a separate facility such as a shared-
978 use path from entering the intersection or other controlled area, except to make a turn
979 after stopping and yielding to other conflicting movements. ~~Turning after stopping shall be~~
980 ~~permitted as stated in Item C in Paragraph 1 of Section 4A.05.~~

981 B. A steady YELLOW BICYCLE signal indication shall be displayed following a GREEN
982 BICYCLE signal indication in the same bicycle signal face. A YELLOW BICYCLE signal
983 indication shall not be displayed in conjunction with the change from the RED BICYCLE
984 signal indication to a GREEN BICYCLE signal indication. The YELLOW BICYCLE
985 signal indication shall be followed by a RED BICYCLE signal indication.

986 C. A steady GREEN BICYCLE signal indication shall be displayed only when it is intended to
987 permit bicyclists in a designated bicycle lane or from a separate facility such as a shared-
988 use path to enter the intersection as discussed in Section 4A.05.

989 Option:

990 01a Bicycle traffic may turn after stopping at an intersection or other controlled area and yielding to
991 other conflicting movements as described in Item C.1 in Paragraph 1 of Section 4A.04.

992

993 CHAPTER 4I. PEDESTRIAN CONTROL FEATURES

994

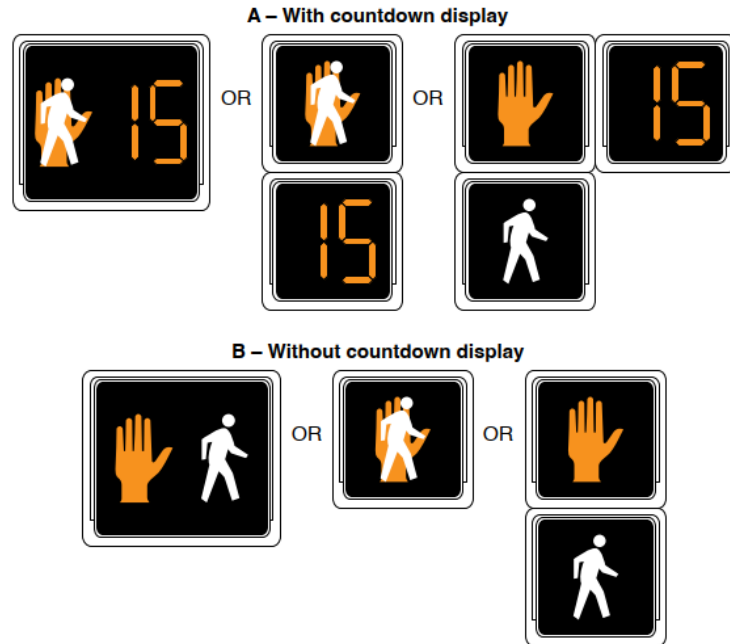
995 Section 4I.02 Design, and Illumination of Pedestrian Signal Head Indications

996 **Standard:**

997 01 All new pedestrian signal head indications shall be displayed within a rectangular background
998 and shall consist of symbolized messages (see Figure 4I-1), ~~except that existing pedestrian signal~~
999 ~~head indications with lettered or outline style symbol messages shall be permitted to be retained for~~
1000 ~~the remainder of their useful service life.~~ The symbol designs that are set forth in the "Standard
1001 Highway Signs" publication (see Section 1A.05) shall be used. Each pedestrian signal head
1002 indication shall be independently displayed and emit a single color.

1003

Figure 4I-1. Typical Pedestrian Signal Indications



1005

1006 02 If a two-section pedestrian signal head is used, the UPRAISED HAND (symbolizing DONT
 1007 WALK) signal section shall be mounted directly above the WALKING PERSON (symbolizing
 1008 WALK) signal section. If a one-section pedestrian signal head is used, the symbols shall be either
 1009 overlaid upon each other or arranged side-by-side with the UPRAISED HAND symbol to the left of
 1010 the WALKING PERSON symbol, and a light source that can display each symbol independently
 1011 shall be used.

1012 03 The WALKING PERSON (symbolizing WALK) signal indication shall be white, with all
 1013 except the symbol obscured by an opaque material for signal optical units that use incandescent
 1014 lamps within optical assemblies that include lenses. The UPRAISED HAND (symbolizing DONT
 1015 WALK) signal indication shall be Portland orange, with all except the symbol obscured by an
 1016 opaque material for signal optical units that use incandescent lamps within optical assemblies that
 1017 include lenses.

1018 04 Except as provided in Paragraph 5 of this Section, the requirements of Chapter 3 of the
 1019 publication entitled "Equipment and Materials Standards of the Institute of Transportation
 1020 Engineers," 2008, ITE, that pertain to the aspects of the pedestrian signal head design that affect
 1021 the display of the signal indications shall be met for signal optical units that use incandescent lamps
 1022 within optical assemblies that include lenses. Except as provided in Paragraph 5 of this Section, the
 1023 requirements of the publication entitled "Pedestrian Traffic Control Signal Indicators – Light
 1024 Emitting Diode (LED) Signal Modules," 2011, ITE, that pertain to the aspects of the signal head
 1025 design that affect the display of the signal indications shall be met for light-emitting diode (LED)
 1026 pedestrian signal head modules.

1027 Option:
 1028 05a Existing pedestrian signal head indications with lettered or outlined style symbol messages may be
 1029 retained for the remainder of their useful service life.

1030 *Guidance:*
 1031 05 *The intensity and distribution of light from each illuminated pedestrian signal lens or LED*
 1032 *pedestrian signal head module should comply with the publications specified in Paragraph 4 of this*
 1033 *Section, as appropriate.*

1034 06 *When not illuminated, the WALKING PERSON (symbolizing WALK) and UPRAISED HAND*
1035 *(symbolizing DONT WALK) symbols should not be visible to pedestrians at the far end of the crosswalk*
1036 *that the pedestrian signal head indications control.*

1037 **Standard:**

1038 07 **For pedestrian signal head indications, the symbols shall be at least 6 inches high.**
1039 08 **The light source of a flashing UPRAISED HAND (symbolizing DONT WALK) signal**
1040 **indication shall be flashed continuously at a rate of not less than 50 or more than 60 times per**
1041 **minute. The displayed period of each flash shall be a minimum of ½ and a maximum of ⅔ of the**
1042 **total flash cycle.**

1043 *Guidance:*

1044 09 *Pedestrian signal head indications should be conspicuous and recognizable to pedestrians at all*
1045 *distances from the beginning of the controlled crosswalk to a point 10 feet from the end of the controlled*
1046 *crosswalk during both day and night.*

1047 10 *For crosswalks where the pedestrian enters the crosswalk more than 100 feet from the pedestrian*
1048 *signal head indications, the symbols should be at least 9 inches high.*

1049 11 *If the pedestrian signal indication is so bright that it causes excessive glare in nighttime conditions,*
1050 *some form of automatic dimming should be used to reduce the brilliance of the signal indication.*

1051 **Option:**

1052 12 **An animated eyes symbol may be added to a pedestrian signal head in order to prompt pedestrians to**
1053 **look for vehicles in the intersection during the time that the WALKING PERSON (symbolizing WALK)**
1054 **signal indication is displayed.**

1055 **Standard:**

1056 13 **If used, the animated eyes symbol shall consist of an outline of a pair of white steadily**
1057 **illuminated eyes with white eyeballs that scan from side to side at a rate of approximately once per**
1058 **second. The animated eyes symbol shall be at least 12 inches wide with each eye having a width of**
1059 **at least 5 inches and a height of at least 2.5 inches. The animated eyes symbol shall be illuminated at**
1060 **the start of the walk interval and shall terminate at the end of the walk interval.**

1061
1062 **CHAPTER 4Q. TRAFFIC CONTROL FOR MOVABLE BRIDGES**
1063

1064 **Section 4Q.03 Operation of Movable Bridge Signals and Gates**

1065 **Standard:**

1066 01 **Traffic control devices at movable bridges shall be coordinated with the movable spans, so that**
1067 **the signals, gates, and movable spans are controlled by the bridge tender through an interlocked**
1068 **control.**

1069 02 **If the three-section type of signal face is used, the green signal indication shall be displayed at**
1070 **all times between bridge openings, ~~except that if the bridge is not expected to open during~~**
1071 **~~continuous periods in excess of 5 hours, a flashing yellow signal indication shall be permitted to be~~**
1072 **~~used.~~ The signal shall display a steady red signal indication when traffic is required to stop. The**
1073 **duration of the yellow change interval between the display of the green and steady red signal**
1074 **indications, or flashing yellow and steady red signal indications, shall be determined using**
1075 **engineering practices (see Section 4F.17).**

1076 Option:

1077 02a A flashing YELLOW indication may be displayed if the bridge is not expected to be opened during a
1078 continuous period in excess of 5 hours.

1079

1080 **Standard:**
1081 **03 If the vertical array of red signal indications is the type of signal face selected, the red signal**
1082 **indications shall flash alternately only when traffic is required to stop.**

1083 *Guidance:*
1084 *04 Traffic control signals on adjacent streets and highways should be interconnected with the movable*
1085 *bridge control if indicated by engineering judgment. When such interconnection is provided, the traffic*
1086 *control signals at adjacent intersections should be preempted by the operation of the movable bridge in*
1087 *the manner described in Section 4F.19.*