



## National Committee on Uniform Traffic Control Devices

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The Signals Technical Committee distributed a technical committee recommendation to sponsors concerning pedestrian hybrid beacons following the January 2011 meeting. Sponsor comments were reviewed and discussed at the June 2011 meeting. Based on the sponsor comments, minor wording changes were made by the STC and presented to the National Committee Council at the June 23, 2011 meeting. The recommended changes to the MUTCD, as modified by the STC at the June meeting, were approved by the National Committee Council.

The recommended changes to the text of Section 4F.02 approved by the National Committee Council are shown below with existing MUTCD text to be deleted shown in ~~red strikethrough~~ and new text to be added shown in underline blue.)

### **Section 4F.02 Design of Pedestrian Hybrid Beacons**

#### **Standard:**

- 01 Except as otherwise provided in this Section, a pedestrian hybrid beacon shall meet the provisions of Chapters 4D and 4E.
- 02 A pedestrian hybrid beacon face shall consist of three signal sections, with a CIRCULAR YELLOW signal indication centered below two horizontally aligned CIRCULAR RED signal indications (see Figure 4F-3).
- 03 When an engineering study finds that installation of a pedestrian hybrid beacon is justified, then:
  - A. At least two pedestrian hybrid beacon faces shall be installed for each approach of the major street,
  - B. A stop line shall be installed for each approach to the crosswalk,
  - C. A pedestrian signal head conforming to the provisions set forth in Chapter 4E shall be installed at each end of the marked crosswalk, and
  - D. The pedestrian hybrid beacon shall be pedestrian actuated.
  - E. If a pedestrian hybrid beacon is installed at or immediately adjacent to an intersection with a side road, vehicular traffic on the side road shall be controlled by STOP signs.

#### *Guidance:*

- 04 *When an engineering study finds that installation of a pedestrian hybrid beacon is justified, then:*
  - ~~A. The pedestrian hybrid beacon should be installed at least 100 feet from side streets or driveways that are controlled by STOP or YIELD signs.~~
  - AB. Parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the marked crosswalk, or site accommodations should be made through curb extensions or other techniques to provide adequate sight distance,*
  - BC. The installation should include suitable standard signs and pavement markings, and*
  - CD. If installed within a signal system, the pedestrian hybrid beacon should be coordinated.*
- 05 *On approaches having posted or statutory speed limits or 85th-percentile speeds in excess of 35 mph and on approaches having traffic or operating conditions that would tend to obscure visibility of roadside hybrid beacon face locations, both of the minimum of two pedestrian hybrid beacon faces should be installed over the roadway.*

06 *On multi-lane approaches having a posted or statutory speed limits or 85th-percentile speeds of 35 mph or less, either a pedestrian hybrid beacon face should be installed on each side of the approach (if a median of sufficient width exists) or at least one of the pedestrian hybrid beacon faces should be installed over the roadway.*

07 *A pedestrian hybrid beacon should comply with the signal face location provisions described in Sections 4D.11 through 4D.16.*

**Standard:**

08 **A CROSSWALK STOP ON RED (symbolic circular red) (R10-23) sign (see Section 2B.53) shall be mounted adjacent to a pedestrian hybrid beacon face on each major street approach. If an overhead pedestrian hybrid beacon face is provided, the sign shall be mounted adjacent to the overhead signal face.**

**Option:**

09 A Pedestrian (W11-2) warning sign (see Section 2C.50) with an AHEAD (W16-9P) supplemental plaque may be placed in advance of a pedestrian hybrid beacon. A warning beacon may be installed to supplement the W11-2 sign.

**Guidance:**

10 *If a warning beacon supplements a W11-2 sign in advance of a pedestrian hybrid beacon, it should be programmed to flash only when the pedestrian hybrid beacon is not in the dark mode.*

**Standard:**

11 **If a warning beacon is installed to supplement the W11-2 sign, the design and location of the warning beacon shall comply with the provisions of Sections 4L.01 and 4L.03.**

For reference, the item as distributed to sponsors and including the reason for proposed changes is on the following pages. The changes made by the STC at the June meeting were the deletion of “or driveway” in two places in proposed new item E in paragraph 03 as shown:

**E. If a pedestrian hybrid beacon is installed at or immediately adjacent to an intersection with a side road ~~or driveway~~, vehicular traffic on the side road ~~or driveway~~ shall be controlled by STOP signs.**



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**TECHNICAL COMMITTEE:** Signals Technical Committee

**TOPIC:** Pedestrian Hybrid Beacon (HAWK)

**STATUS/DATE OF ACTION:** Send for Sponsor Comments

**Signals Approval:** 2011 (and previously 2007)

**Transmitted to Sponsors:** 2011

**Council Approval:** \_\_\_\_\_

**ORIGIN OF REQUEST:** STC, January 2011 Meeting

**AFFECTED SECTIONS OF MUTCD:** 4F.02

**SUMMARY:**

The Signals Technical Committee previously recommended that a pedestrian hybrid beacon be added to Part 4 of the MUTCD. This was submitted to sponsors for comments, approved by the National Committee Council, and forwarded to FHWA as a National Committee recommendation. This recommendation did not include any restrictions, either as a standard or as guidance, on where such devices could or should be installed on a roadway.

The Notice of Proposed Amendment (NPA) for the 2009 MUTCD included the pedestrian hybrid beacon (although the name was changed to pedestrian hybrid signal) using basically the language as submitted by the National Committee. When the Final Rule was issued, the name was again pedestrian hybrid beacon but the language included new guidance that *“the pedestrian hybrid beacon should be installed at least 100 feet from side streets or driveways that are controlled by STOP or YIELD signs”*. It indicated that this modification was made based on comments to the docket.

Although the National Committee and public had an opportunity to comment on the published NPA, there was no opportunity to comment on this significant change to the language included in the MUTCD Final Rule. The language included in the MUTCD is inconsistent with the experimentation that was performed for the use of this traffic control device and with the application as approved and recommended by the National Committee. The STC recommends a return to the language for pedestrian hybrid

40 beacons that was included in the NPA that permits installation at intersections or  
41 driveways where the side road or driveway traffic is controlled by STOP signs.

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### 43 **DISCUSSION**

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45 The proposed addition of the pedestrian hybrid beacon was approved in 2007 by the  
46 STC and National Committee and forwarded to FHWA. At the January 2011 meeting,  
47 the STC discussed what was included in the MUTCD Final Rule versus what the  
48 National Committee had recommended and what was included in the NPA. The STC  
49 voted to recommend a return to the design and application of these beacons as listed in  
50 the NPA thus removing the guidance statement against installation within 100 feet of an  
51 intersection or driveway. This proposed change is being sent for sponsor review and  
52 comment.

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54 The SC feels that the addition of guidance language that these beacons should be at  
55 least 100 feet from a side street or driveway (Section 4F.02) is a significant change from  
56 what was reviewed and approved by the National Committee and from what was  
57 proposed in the NPA. Following are several concerns about the final MUTCD language:

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59 • The result of the added guidance, if followed, is that these beacons could not be  
60 used at intersections or driveways. The NPA language did not include any  
61 limitations (either standard or guidance) on the locations for use. This change  
62 was not subject to public review and comment.

63 • The 100 foot offset listed in the guidance is not supported by research or  
64 experimentation with this device.

65 • Most sites used for experimentation when the pedestrian hybrid beacon was  
66 being tested were intersection or driveway locations. Therefore, the typical use  
67 of the device as tested, which ultimately proved to be successful, is  
68 recommended against in the 2009 MUTCD.

69 • A FHWA publication, Safety Effectiveness of the HAWK Pedestrian Crossing  
70 Treatment (<http://www.fhwa.dot.gov/publications/research/safety/10042/10042.pdf>)  
71 includes the results of an evaluation of the effectiveness of these devices at  
72 several locations. The conclusion indicates that intersections with pedestrian  
73 hybrid beacons experienced a 29% reduction in all vehicular crashes and a 69%  
74 reduction in pedestrian crashes. The study notes that “all 21 HAWKs included in  
75 this safety study were located either at a minor intersection (where the minor  
76 street was controlled by a STOP sign) or at a major driveway (where the  
77 driveway was controlled by a STOP sign).” The study was performed before the  
78 publication of the 2009 MUTCD and notes that the 2009 MUTCD includes a  
79 guidance statement recommending installation at least 100 feet from  
80 intersections or driveways.

81 • The guidance, if followed, causes increased mobility difficulties and discomfort  
82 for pedestrians with disabilities and forces all pedestrians to experience

83 increased inconvenience if they must divert away from their desired crossing  
84 location at an intersection or driveway to a different crossing point.

85 The STC feels that the use of pedestrian hybrid beacons at intersections or driveways  
86 has been adequately evaluated and operational problems associated with being  
87 installed at such locations have not been experienced. Therefore, the STC  
88 recommends that the National Committee recommend to FHWA that the guidance for  
89 installing a pedestrian hybrid beacon at least 100 feet from an intersection or driveway  
90 be deleted and that related text regarding installation at an intersection or driveway be  
91 added.

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### 93 **RECOMMENDED CHANGES TO THE MUTCD (Section 4F.02)**

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95 **Note: Existing MUTCD text to be deleted is shown in ~~red strikethrough~~. New text**  
96 **to be added is shown in underline blue.**

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#### 98 **Section 4F.02 Design of Pedestrian Hybrid Beacons**

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##### Standard:

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101 Chapters 4D and 4E.
- 102 02 A pedestrian hybrid beacon face shall consist of three signal sections, with a CIRCULAR YELLOW  
103 signal indication centered below two horizontally aligned CIRCULAR RED signal indications (see  
104 Figure 4F-3).
- 105 03 When an engineering study finds that installation of a pedestrian hybrid beacon is justified, then:  
106 A. At least two pedestrian hybrid beacon faces shall be installed for each approach of the major street,  
107 B. A stop line shall be installed for each approach to the crosswalk,  
108 C. A pedestrian signal head conforming to the provisions set forth in Chapter 4E shall be installed at  
109 each end of the marked crosswalk, and  
110 D. The pedestrian hybrid beacon shall be pedestrian actuated.  
111 E. If a pedestrian hybrid beacon is installed at or immediately adjacent to an intersection with a side  
112 road or driveway, vehicular traffic on the side road or driveway shall be controlled by STOP signs.

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##### 114 *Guidance:*

- 115 04 *When an engineering study finds that installation of a pedestrian hybrid beacon is justified, then:*  
116 ~~A. The pedestrian hybrid beacon should be installed at least 100 feet from side streets or driveways that are~~  
117 ~~controlled by STOP or YIELD signs;~~  
118 ~~AB.~~ *Parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least*  
119 *20 feet beyond the marked crosswalk, or site accommodations should be made through curb extensions*  
120 *or other techniques to provide adequate sight distance,*  
121 ~~BC.~~ *The installation should include suitable standard signs and pavement markings, and*  
122 ~~CD.~~ *If installed within a signal system, the pedestrian hybrid beacon should be coordinated.*
- 123 05 *On approaches having posted or statutory speed limits or 85th-percentile speeds in excess of 35 mph and on*  
124 *approaches having traffic or operating conditions that would tend to obscure visibility of roadside hybrid beacon*  
125 *face locations, both of the minimum of two pedestrian hybrid beacon faces should be installed over the roadway.*
- 126 06 *On multi-lane approaches having a posted or statutory speed limits or 85th-percentile speeds of 35 mph or*  
127 *less, either a pedestrian hybrid beacon face should be installed on each side of the approach (if a median of*  
128 *sufficient width exists) or at least one of the pedestrian hybrid beacon faces should be installed over the*  
129 *roadway.*
- 130 07 *A pedestrian hybrid beacon should comply with the signal face location provisions described in Sections*  
131 *4D.11 through 4D.16.*

132

##### Standard:

133 08 **A CROSSWALK STOP ON RED (symbolic circular red) (R10-23) sign (see Section 2B.53) shall be**  
134 **mounted adjacent to a pedestrian hybrid beacon face on each major street approach. If an overhead**  
135 **pedestrian hybrid beacon face is provided, the sign shall be mounted adjacent to the overhead signal**  
136 **face.**

137 Option:

138 09 A Pedestrian (W11-2) warning sign (see Section 2C.50) with an AHEAD (W16-9P) supplemental plaque  
139 may be placed in advance of a pedestrian hybrid beacon. A warning beacon may be installed to supplement  
140 the W11-2 sign.

141 *Guidance:*

142 10 *If a warning beacon supplements a W11-2 sign in advance of a pedestrian hybrid beacon, it should be*  
143 *programmed to flash only when the pedestrian hybrid beacon is not in the dark mode.*

144 **Standard:**

145 11 **If a warning beacon is installed to supplement the W11-2 sign, the design and location of the warning**  
146 **beacon shall comply with the provisions of Sections 4L.01 and 4L.03.**

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150 VOTE: Unanimous "FOR" with 1 abstention