



# National Committee on Uniform Traffic Control Devices

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## ATTACHMENT NO. 16 Markings No. 1

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| <b>TECHNICAL COMMITTEE:</b>        | Markings  |
| <b>TOPIC:</b>                      | Colored Pavements (Yellow, White, Green, Red, and Purple)   |
| <b>TASK FORCE:</b>                 | Robert Dingess (Chair), Harry Campbell, Paul Carlson, Richard Deal, Tom Grant, Zoubir Ouadah and Jeff Tidaback  |
| <b>STATUS:</b>                     | Approved by MTC on January 9, 2014<br>Distributed as sponsor ballot in Spring 2014<br>Reviewed by Task Force on June 19, 2014<br>Approved by MTC on June 26, 2014<br>Approved by Council on June 28, 2014 |
| <b>ORIGIN OF REQUEST:</b>          | FHWA request dated September 7, 2011 that NCUTCD develop recommendations regarding red colored pavement for bus lanes.  |
| <b>AFFECTED PORTIONS OF MUTCD:</b> | Chapter 3G Colored Pavements  |

### Summary:

Agencies are increasingly using colored pavements to supplement traffic control devices and provide additional information to the motoring public. Many of the uses had been ad hoc while some were done under official experimentation requests. FHWA began addressing the issue on April 15, 2011 by releasing the following: MUTCD – Interim Approval for Optional Use of Green Colored Pavement for Bike Lanes (IA-14).

In September 2011, FHWA also requested that the Markings Technical Committee (MTC) provide recommendations to amend the MUTCD to permit the use of red colored bus lanes. Another separate FHWA request to the MTC suggested that language for the treatment of decorative artwork in crosswalks may be appropriate.

The MTC created a number of task forces to deal with the various issues of colored pavements. On January 11, 2013, the Council approved adding new language re: Aesthetic Treatments within Crosswalks. This created a new Section 3G.02. FHWA then issued Interpretation Letter 3(09)-24(I) – Application of Colored Pavement on August 15, 2013. As a result, the new Section 3G.02 needs to be modified already.

The colored bus lanes task force was also asked to expand its efforts to other colored pavements such as green (bicycle) and purple (toll). During the task force review, the use of yellow color surface materials to provide a safety treatment at rail crossings was also evaluated.

At the January 2014 meeting, the task force finalized their recommendations for additional language to Chapter 3G which includes the repeal of Section 3G.02 Aesthetic Treatments within Crosswalks approved in January 2013. New material has also been created for new Sections 3G.02 through 3G.08.

At the June 2014 meeting, Sponsor Comments were reviewed and additional changes were proposed for Chapter 3G. Based on Sponsor Comments and a discussion with the Bicycle Technical Committee, it was evident that there was no consensus regarding the use of green colored pavement for bicycle facilities. As a result, a decision was made to table the advancement of Section 3G.06. FHWA has already developed draft language regarding Section 3G.06. Sometime this Summer, the MTC and BTC will review it and provide informal comments to FHWA by September. The full NCUTCD will have an opportunity to review the material next year.

The NCUTCD Council agreed with the decision to table Section 3G and the remainder of the Chapter was approved with modifications as shown.

#### **Recommended Changes to the MUTCD:**

The proposed changes to Section 3G COLORED PAVEMENTS, are shown in the following pages. Additions are indicated by blue underline, ~~deletions~~ are indicated by red single strikethrough. Changes made after Sponsored Comments were received and approved by the NCUTCD Council are highlighted in [yellow].

A general note regarding action taken by the NCUTCD Council in Section 3G.06 is highlighted in [green].

Note: As part of the proposed rulemaking, FHWA anticipates re-organizing certain sections of Part III. It is proposed that Section 3G will become Section 3H in the next edition.

1 CHAPTER 3G. COLORED PAVEMENTS

2 Section 3G.01 General Standardization of Application

3 Support:

4 01 Colored pavements consist of differently colored road paving materials, such as  
5 colored asphalt or concrete, or paint or other marking materials applied to the surface of a  
6 road or island to simulate colored pavement.

7 02 If non-retroreflective colored pavement, including bricks and other types of patterned  
8 surfaces, is used as a purely aesthetic treatment and is not intended to communicate a  
9 regulatory, warning, or guidance message to road users, the colored pavement is not  
10 considered to be a traffic control device, even if it is located between the lines of a  
11 crosswalk.

12 **Standard:**

13 03 ~~If colored pavement is used within the traveled way, on flush or raised islands, or~~  
14 ~~on shoulders~~ to regulate, warn, ~~or~~ guide or otherwise communicate with traffic or if  
15 ~~retroreflective colored pavement~~ retroreflectivity is used, the colored pavement ~~is~~  
16 shall be considered ~~to be~~ a traffic control device and shall be limited to the ~~following~~  
17 colors and applications: specified in this chapter.

18 ~~A. Yellow pavement color shall be used only for flush or raised median~~  
19 ~~islands separating traffic flows in opposite directions or for left hand~~  
20 ~~shoulders of roadways of divided highways or one-way streets or ramps.~~

21 ~~B. White pavement color shall be used for flush or raised channelizing~~  
22 ~~islands where traffic passes on both sides in the same general direction or~~  
23 ~~for right hand shoulders.~~

24 04 ~~Colored pavements shall not be used as a traffic control device, unless the device~~  
25 ~~is applicable at all times.~~

26 *Guidance:*

27 05 *Colored pavements used as traffic control devices should be used only where they*  
28 *contrast significantly with adjoining paved areas.*

29 06 *Colored pavement located between crosswalk lines should not use colors or patterns*  
30 *that degrade the contrast of white crosswalk lines, or that might be mistaken by road users*  
31 *as a traffic control application.*

32 **Standard:**

33 07 Patterns that constitute a purely aesthetic treatment for the interior portion of a  
34 crosswalk shall be devoid of advertising, ~~pietographs~~ and symbols (as defined in  
35 Section 1A.13) and shall not implement elements of retroreflectorization. Aesthetic  
36 treatments for the interior portions of crosswalks shall not be of a surface that can  
37 confuse vision-impaired pedestrians who rely on tactile treatments or cues for  
38 navigation.

39 *Support:*

40 08 The chromaticity coordinates that define the ranges of acceptable colors to be used in  
41 pavement marking applications are found in the Appendix to Subpart F of 23 CFR 655.

42 ~~Section 3G.02 Aesthetic Treatments within Crosswalks~~

43 *Support:*

44 ~~Aesthetic treatments within marked crosswalks are used at some locations.~~

45 *Option:*

46 ~~Aesthetic treatments may be used within the boundaries of the two transverse crosswalk lines~~  
47 ~~as defined in Section 3B.18.~~

48 **Standard:**

49 Aesthetic treatments located between the two transverse crosswalk lines shall meet the  
50 following requirements:

51 A. Aesthetic treatments shall not resemble or be considered a traffic control device  
52 and shall not change the meaning of the crosswalk.

53 B. Material used in the aesthetic treatments shall not be retroreflective.

54 C. Surface material of the aesthetic treatments shall be firm and stable.

55 D. Advertisements shall not be allowed within the crosswalk.

56 E. Aesthetic treatments within crosswalks shall not be placed on roadways unless  
57 specifically permitted or authorized by the public agency or official having  
58 jurisdiction.

59 Guidance:

60 Aesthetic treatments should not degrade the contrast of the white crosswalk lines.

61 To create contrast, a gap of at least one half of the width of the transverse white line should  
62 be present between the white line and the aesthetic treatment, such as unmarked pavement or a  
63 black contrast line.

64 Aesthetic treatments within crosswalks should only be allowed on roads with a speed limit of  
65 30 mph or less.

### 66 Section 3G.02 Limitations

67 Standard:

68 01 Colored pavement shall be limited to uses only where it supplements other  
69 markings as provided in this Manual.

70 Guidance:

71 02 If used, colored pavement should be applied to the defined full width of the lane area  
72 in which it is implemented and should be flanked by other pavement markings.

73 Support:

74 03 Blue is not a color for use in pavement applications. Blue is used as a background  
75 color in the international symbol of accessibility parking symbol (see Figure 3B-22) and it  
76 is also used to supplement lines that establish parking spaces reserved for use only by  
77 persons with disabilities. Longitudinal pavement markings, crosswalk markings,  
78 pavement marking symbols, and elongated route markers are not considered colored  
79 pavements.

80 Standard:

81 04 Colors other than those specified in this Chapter shall not be used for colored  
82 pavement as a traffic control device.

### 83 Section 3G.03 Materials

84 Guidance:

85 05 If marking materials applied to the roadway surface are used to simulate a colored  
86 pavement, consideration should be given to the selection of selecting pavement marking  
87 materials and colored lane surfaces that will minimize loss of traction for all road users;  
88 (see Paragraph 4 of Section 3A.04 of the 2009 MUTCD).

89 Option:

90 06 Colored pavements may be retroreflective.

91 Guidance:

92 07 Installation of colored pavement to one lane or an area or portion of a multi-lane  
93 traveled way should not degrade skid resistance values between the colored pavement  
94 and general purpose lanes.

95 Section 3G.04 Yellow Colored Pavement

96 Standard Guidance:

97 08 Yellow colored pavement shall should be limited to:

98 A. Flush or raised median islands separating traffic flows in opposite directions.

99 B. Left-hand shoulders of divided highways, and

100 C. Left-hand shoulders of one-way streets or ramps.

101 D. Dynamic envelope at railroad at-grade crossings.

102 Option:

103 09 Yellow colored pavement may be installed for the entire length of the corridor roadway  
104 or for only a portion or portions of the corridor roadway.

105 Standard:

106 10 Yellow colored pavement shall not be incorporated into elements of the roadway  
107 that function as reversible lanes or two-way left turn lanes. Yellow colored pavement  
108 shall not be used on channelizing islands where traffic travels in the same general  
109 direction on either both sides.

110 Support:

111 11 Consideration should be given to ensure that yellow colored pavement aggregate  
112 material utilized within the dynamic envelope at railroad at-grade crossings retain high  
113 anti-skid properties.

114 Option:

115 Section 3G.05 White Colored Pavement

116 Guidance:

117 01 If used, white colored pavement should be limited to areas closed to not intended for  
118 use by motor vehicle traffic except those vehicles designated for emergency use.

119 White colored pavement should be limited to:

120 A. Flush or raised channelizing islands where traffic passes on both sides in the  
121 same general direction,

122 B. Right-hand shoulders.

123 C. Exit gore areas, and

124 D. Entrance gore areas.

125 Option:

126 02 When used for right-hand shoulders, white colored pavement may be installed for the  
127 entire length of the shoulder or for only a portion or portions of the shoulder.

128 Section 3G.06 Green Colored Pavement for Bicycle Facilities

129 Placeholder for New Text

130 Note: Motion was approved to table review of this section while conceptually supporting  
131 the FHWA Interim Approval 14 (April 2015). This section was largely borrowed from the  
132 FHWA Interim Approval. We look forward to reviewing the draft NPA language in July.

133 Support:

134 03 Green colored pavement is used to enhance the conspicuity of locations where  
135 bicyclists are expected to operate, and areas where bicyclists and other roadway traffic  
136 might have potentially conflicting weaving or crossing movements.

137 Option:

138 04 Green colored pavement may be used:

- 139 A. Within bicycle lanes as a supplement to the other pavement markings that are
- 140 required for the designation of a bicycle lane,
- 141 B. For the entire length of an established bicycle lane (see Section 9C.XX) or for
- 142 only a portion (or portions) of the bicycle lane,
- 143 C. Extensions of bicycle lanes through intersections,
- 144 D. Extensions of bicycle lanes through areas where motor vehicles enter an
- 145 exclusive turn lane in which motor vehicles must weave across bicycle traffic
- 146 in bicycle lanes,
- 147 E. To supplement the word, symbol, and arrow pavement markings in a bicycle
- 148 lane as a means of enhancing the conspicuity of these markings.

149 **Standard:**

150 **05 Green colored pavement shall be limited to:**

- 151 A. Bicycle lanes,
- 152 B. Extensions of bicycle lanes through intersections,
- 153 C. Extensions of bicycle lanes through areas where motor vehicles enter an
- 154 exclusive turn lane in which motor vehicles must weave across bicycle
- 155 traffic in bicycle lanes,
- 156 D. Counter-flow bicycle lanes,
- 157 E. Buffered bike lanes, and
- 158 F. Shared lane markings.

159 **06 Green colored pavement shall not be incorporated into:**

- 160 A. Shared Use Paths
- 161 B. Crosswalks (see Chapter 3C).

162 **07 Green colored pavement shall not be used without the longitudinal line(s)**

163 **required by Paragraph 2 of Section 9C.04; or instead of the bicycle symbol or**

164 **pavement word marking illustrated in Figure 9C-3 and required by Item C in**

165 **Paragraph 6 of Section 3D.01;**

166 **Option:**

167 **08 If a pair of dotted longitudinal lines is used to extend a bicycle lane across an**

168 **intersection, driveway (see Section 9X.XX) or a ramp, green colored pavement may be**

169 **installed between these lines as a supplement to the dotted longitudinal lines.**

170 **09 The green colored pavement may be installed for the entire length of the bicycle lane**

171 **extension or for only a portion (or portions) of the bicycle lane extension. (Fig. Dev.)**

172 **Standard:**

173 **10 Green colored pavement shall not be used instead of dotted lines used to extend a**

174 **bicycle lane across an intersection, driveway, or ramp. The pattern of the green**

175 **colored pavement shall be in a manner that matches the pattern of the dotted lines,**

176 **thus filling in only the areas that are directly between a pair of dotted line segments.**

177 **Option:**

178 **11 If a pair of dotted longitudinal lines is used to extend a bicycle lane across the**

179 **beginning of a turn bay where drivers who desire to turn must cross the bicycle lane**

180 **when moving out of the through lane in order to turn (see Figures 9X-1, 9X-4, and 9X-**

181 **5), green colored pavement may be installed between these dotted longitudinal lines as**

182 **a supplement to the dotted longitudinal lines.**

183 **12 The green colored pavement may be installed for the entire length of the bicycle lane**

184 **extension or for only a portion (or portions) of the bicycle lane extension.**

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**Standard:**

~~13. Green colored pavement shall not be used instead of dotted lines used to extend a bicycle lane across the beginning of a turn bay. The pattern of the green colored pavement shall be in a manner that matches the pattern of the dotted lines, thus filling in only the areas that are directly between a pair of dotted line segments.~~

~~Guidance:~~

~~14. Appropriate regulatory (see Chapter 9B) or guide signing (see Chapter 9B) should be installed to provide related information to the presence of the colored pavement.~~

**Section 3G.07 Red Colored Pavement for Public Transit Systems**

**Option Support:**

01 Red colored pavement may be ~~is used~~ to enhance the conspicuity of locations, station stops or travel lanes in the roadway exclusively reserved for vehicles of public transit systems or multi-modal facilities where public transit is the primary mode. These public transit vehicles include buses, taxis, streetcars, trolleys, light-rail trains, and rapid transit fleets.

**Option:**

02 Red colored pavement may be used where engineering judgment determines that one or more of the following conditions are expected to result in its application:

A. Increased travel speeds will be expected by the public transport vehicle after an exclusive lane or facility is provided.

B. Reduced overall service time through the corridor will be expected by the public transport vehicle.

C. The implementation of the red colored pavement to an existing general purpose lane in the traveled way will not adversely affect the traffic flow in the remaining general purpose lanes.

D. Decreased rates of illegal parking or occupation of the transit or multi-mode lane or facility will be expected.

**Standard:**

03 If used, red colored pavement shall be applied only in lanes, areas, or locations where general-purpose traffic is generally prohibited to use, queue, wait, idle, or otherwise occupy the lane area or location where red colored pavement is used.

04 Regulatory signs (see Section 2B.XX) shall be used to establish the allowable use of the lane, area, or location. Regulatory signs shall also be used when it is determined that other vehicles will be allowed to enter the lane to turn or bypass queues.

**Guidance:**

05 Red colored pavement should be retroreflective to distinguish it from non-retroreflective aesthetic treatments. Red colored pavement should not be used on public transit facilities separated from the roadway or on facilities on an exclusive alignment.

**Standard:**

06 If colored pavement is used on travel lanes or facilities that allow bicycle use in addition to public transit vehicles, then the color shall be red. Such facilities shall not incorporate elements of green colored pavement.

**Guidance:**

229 07 Travel lanes used by public transit vehicles and other modes should not use red  
230 colored pavement.

231 Section 3G.08 Purple Colored Pavement for Electronic Toll Collection (ETC)  
232 Account-Only Preferential Lanes

233 Standard:

234 06 Purple colored pavement shall be limited to lanes that approach toll plazas where  
235 the lane is restricted to use only with a registered ETC account.

236 07 If used, purple colored pavement shall be flanked by white longitudinal lines that  
237 establish the toll lane. Purple solid longitudinal markings (see Section 3E.01) shall  
238 not be used to supplement the white longitudinal lines when purple colored pavement  
239 is used.

240 08 Where Open Road Tolling (ORT) lanes that are restricted for use only by  
241 vehicles with registered ETC accounts bypass a mainline toll plaza on a separate  
242 alignment, purple colored pavement shall not be used for these ORT lanes or ORT  
243 approaches.