

Comments on Docket No. FHWA-2020-0001 National Standards for Traffic Control Devices; the *Manual on Uniform Traffic Control Devices for Streets and Highways*; Revision

Please use this form to provide comments on the Notice of Proposed Amendments for the MUTCD.

INSTRUCTIONS:

1. Add your name or organization name where indicated in the footer of this form.
2. Use Table 1 to provide your original comments.
3. Use Table 2 to indicate your agreement with a comment that another commenter has submitted to the docket.
4. Do not adjust formatting of the rows and columns; text will automatically wrap and expand the row height as you type.
5. To add rows to this form, use the "Insert Rows" function, or hover just outside the left edge of the row below which you would like to add a row and click the encircled "+" that appears.
6. If you choose to provide a letter to accompany this comment form, please **print the document as a PDF; please do not scan a hard copy**. This will assist FHWA with cataloging your comments.

TABLE 1. ORIGINAL COMMENTS ON PROPOSED CHANGES. Please indicate the applicable proposed Section numbers in the far-left column. In the next three columns, please indicate your agreement, disagreement, or whether the column is applicable to your response by placing a, "YES," "NO," or "N/A" in the appropriate column of the row. If you agree with a proposed change, then there is no need to fill out the additional columns beyond the first two. However, it can be helpful to explain why you agree with a proposed change based on your objective experience as a roadway operator and/or empirical data. If you disagree in part or in whole, then please provide additional information that FHWA may find helpful.

Proposed Section Number(s)	Agree with concept and text as proposed	Agree with concept; suggested rewording of text in Comments	Disagree with concept	Comments <i>Please include justification for your position based on objective experience and empirical data. If there is a specific statement with which you take exception, please provide the Page and Line numbers from the mark-up version of the proposed MUTCD text.</i>
Table 2E-5	N/A	N/A	NO	Overhead Arrow-Per-Lane Signs, Arrow Height, is shown at 66 inches which is exceeding the necessary arrow height necessary for drivers. The height of this arrow, designed per standards, is causing signs to be tall for existing structures and undue burden of cost in structurally designing signs of this height.
2L.02, p. 319 line 7	YES	YES	NO	"Section 2H.03" should read "Section 2H.04."
2L.02, p. 319 line 43	YES	YES	NO	"Section 6F.61" should read "Section 6L.05."
2L.09, p.324 line 13	YES	YES	NO	"Section 6F.60" should read "Section 6L.05."
3A.03, p. 336, line 26	YES	N/A	N/A	Agree with relocating the paragraph on black markings being used to enhance contrast from paragraph 8 to paragraph 2. Contrast markings are being used more often now for both human and machine vision, and it's beneficial to users to find this "may statement" earlier in this Color section.
3A.04, p. 337, line 29	YES	N/A	N/A	Agree with increasing normal width line from 4 inches to 6 inches for freeways, expressways, and ramps. Supported by NCHRP 20-102(6) "Evaluation of the Effects of Pavement Marking Characteristics in Detectability by Machine Vision".
3A.04, p. 337, lines 30-31	NO	NO	YES	Disagree with increasing normal width line from 4 inches to 6 inches for all other roadways with speed limits > 40 mph. Suggest requiring 6 inch edge lines only for all other roadways with speed limits > 50 mph. FHWA report (FHWA-HRT-12-048) shows reduction in several crash types with 6 inch wide edge lines for rural two-lane roads

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3B.07, p. 345, lines 20- 39, Figures 3B-8 and 3B-9	YES	N/A	N/A	Agree with changing the “normal width dotted white line extension through the taper area” at ramps from an Option to a Standard. Consistently placing a dotted line at these locations (which often isn’t done) will make it easier for AV technology to understand lane placement.
3B.25, p. 363, lines 23- 37	NO	YES	N/A	Agree with chevrons no longer being an Option, but think that they should be a Standard rather than Guidance. Article by VSI labs (Magney 2021) describes an example of AV technology mistaking the boundary line between a pavement material surface change as a pavement marking line and driving through a gore without chevrons and crashing. Chevrons would be an inexpensive means to prevent that accident and to effectively and consistently communicate a non-driving pavement surface.
4C.01, p.413 lines 12- 14	NO	YES	NO	Omitting the previous guidance puts the novice user at risk.
5A.02, p. 510 line 28	NO	N/A	YES	The features listed here are more solidly referred to as ADAS, not AV. A loose definition of AV could be applied to these, but that is a stretch.
5A.02, p. 510 line 28	NO	N/A	YES	“Adaptive headlights” are not really related to AV capabilities as human drivers don't currently "manually" adjust the direction headlights are pointing.
5A.03, p. 510 line 41	YES	N/A	NO	Suggest adding definitions for ODD, OEDR, DDT-FB, and MRC
5A.04, p.511 lines 40- 41	NO	N/A	YES	This is a very general statement, which is certainly NOT true for all DAS technologies.
5A.04, p.512 lines 13	YES	N/A	NO	"Sections 1A.12" should read "Sections 1D.12."
5B.01, p.513 lines 16-17	YES	N/A	NO	In order to comply with this requirement, it would take significant amount of time and financial resources to upgrade the existing DMSs that are using LEDs.
5B.03, p. 514 lines 8-9	YES	N/A	NO	In order to comply with this requirement, it would take significant amount of time and resources to upgrade the existing traffic signal heads that are using LEDs.
5B.04, p. 514 line 28	YES	N/A	NO	“Section 6F.78” should read “Section 6J.02.”

TABLE 2. AGREE WITH ANOTHER COMMENTER. If you agree with another commenter, please indicate the commenter with whom you agree with and note any additional information FHWA may find helpful or any exceptions.

Docket Comment Number and/or Commenter Name	Agree with commenter's comments as written	Agree with commenter; with exception(s)	Additional information helpful to FHWA, or exceptions to commenter's comments
(EXAMPLE) FHWA-2020-0001-59	YES	N/A	

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