

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>
General	YES	YES	N/A	First, the Michigan Department of Transportation (FHWA) wants to thank FHWA for publishing the long awaited NPA (FHWA Docket No. FHWA-2020-0001, RIN 2125-AF85) for the next edition of the MUTCD. This new edition is needed as there has not been a significant update for over a decade. MDOT encourages FHWA to expedite the publication of the final rule while trying to take into consideration the numerous comments that will be given from the NCUTCD, AASHTO and many other of our partners. While we understand there has been comments made to reframe and rewrite the MUTCD it is imperative to publish what is proposed in the NPA and then make regular and targeted revisions addressing those concerns.
General	NO	YES	N/A	Practicable - There are over 100 uses of the word 'practical' in this document and they should be reviewed to determine if they should be changed to 'practicable'.
1A.05	NO	YES	N/A	Publications with dates associated with them should have the phrase "or most current edition" added behind the publication date.
1C.02	NO	YES	N/A	-Definitions should include NCUTCD BTC recommendations for contra-flow bike lane, separated bike lane and buffered bike lane. -Definition 212 for shoulder should acknowledge its use by bicyclists with the inclusion of the text at the end, "including bicyclists".
1B.03	NO	NO	YES	Regarding Table 1B-1, Compliance of devices introduced or modified by the next edition of the MUTCD should be through "the systematic upgrading of substandard traffic control devices (and installation of new required traffic control devices) and not subject to an arbitrary compliance.
1D.05	NO	NO	YES	The NPA places an emphasis on the qualifications of persons responsible for using the MUTCD, including a new definition for "Professional Engineer" and additional emphasis on "Engineering Study" and "Engineering Judgment". While this emphasis is likely

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				not an issue for decisions regarding traffic control devices on roads under the jurisdiction of State transportation agencies, it is important to note that there are many jurisdictions where the statutory authority for regulating roadways is granted to the local or county governing body, especially with regard to intersection control, speed limit, weight restriction, parking, and other regulations. There are many decisions regarding traffic control devices, particularly those regulating highway operation, that fall under the statutory authority of elected boards and commissions. For that reason, proposed paragraphs 7, 8, and 9 should be deleted.
2A.01	NO	NO	YES	Line 6-7: It is not abundantly clear where Paragraph 4 of this Section is. References within this document need to be consistent and clear.
2A.01	NO	YES	N/A	Line 29: the sentence should begin with 'Permanent'. Line 35: remove 'States' because it is redundant with jurisdictions. Lines 31-33: 'These temporary signs or messages should be used sparingly and strategically located to be considered as a supported element of a larger educational campaign rather than a primary notification.' - should be moved to the end of the Guidance. Differing requirements should be removed from warning, directional.... etc last sentence and made to its own sentence
2A.04	NO	NO	YES	Page 44 - Line 15: The concept of a symbol legend is not well defined. Is it supposed to be a symbol with a legend or something else? Is it symbol in lieu of word message?
2A.04	NO	YES	NO	For the paragraph on page 45, lines 10-13 replace with Business Identification sign panels (see definition in Section 1A.13) shall not be displayed on signs except as specifically provided in this Manual. Quick-response (QR) codes, bar codes, or other graphics designed for optical scanning for the purpose of obtaining information shall not exist on Business Identification sign panels.
2A.04	NO	YES	N/A	Page 45 - Line 40 The statement does not provide guidance of a range of acceptable values for the angle of the sign toward the roadway. Can an angle such as no more than 10 degree?
2A.07	NO	NO	YES	Page 47 - Line 13: The added statement is redundant within itself.
2A.10	NO	NO	YES	Page 49 Line 40-41: The additional language is just filler and is not needed but it can stop at legend.
2A.12	NO	YES	N/A	Page 51 Lines 21-25 Are or should these be posted in order or significance?
2A.12	NO	YES	N/A	Page 51 Lines 27-34 Are or should these be posted in order or significance?
2A.12	NO	NO	YES	Page 51 Lines 42-45 Does the definition for a clear zone need to be here if it is written in Part 1? Can this just be a reference?
2A.20	NO	YES	N/A	Absent previous MUTCD restrictions on the use of approach-activated supplemental LED lights embedded in sign borders, there are a significant number of recent federal-aid projects where such technology has been tested and proven effective in application. Where engineering studies have determined approach-activated supplemental LED lights will help increase motorist awareness and compliance with stop signs at lower-volume intersections, and where there is concern for the impact of continual operation of flashing lights upon nearby residents, the option to allow for approach-activation of supplemental LED lights embedded in the sign border has been a significant factor in enabling these projects to move forward. Studies have shown improved motorist behavior in response to this technology, with community and road agency appreciation for the low environmental impact and lower operating costs of such installations. MDOT is concerned that the new language prohibiting actuation of supplemental LED border lighting on stop or yield signs will restrict future opportunities to invest in

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				low-cost safety solutions, particularly in locations where all affected parties concur with an engineering study that would permit conditional actuation. Proposed Corrective Language: Where used in STOP or YIELD signs, flashing LED units shall operate continuously, unless an engineering study determines that actuation of LED units along the edge of the signs is appropriate. Actuation of the LED units shall not be allowed.
2B.17	NO	NO	YES	Page 71, Lines 34-35 The statement provides for potential of subjective application of all-way stop control
2B.19	NO	YES	N/A	Page 73, lines 26-27, ..., parking should be prohibited in the area between the yield (stop) line or based on sight distance and the crosswalk.
2B.20	NO	NO	YES	-First standard language – strike the new text in line 10-11 that prohibits the use of the sign in multiple locations noted in A-C. Sign should NOT be limited to just one of the three locations listed as proposed text reads. This standard limit the visibility opportunity for the sign.
2B.27	YES	N/A	N/A	FIGURE 2B-4 – Support inclusion of lane control signs R3-8xa-R3-8xc
2B.28	NO	YES	N/A	FIGURE 2B-4 – recommend R3-7bP replace the word legend “bicycles” with a bicycle symbol as recommended by the NCUTCD BTC.
2B.30	YES	N/A	N/A	Support Option language addition in Lines 26-28
2B.46	NO	YES	N/A	Suggest including selective exclusion signs for ATV's and dirt motor bikes as recommended by the NCUTCD BTC
2B.60	NO	YES	N/A	Recommend inclusion of NCUTCD BTC recommended sign for R10-15 and R10-15a showing both pedestrian and bicycle on the sign.
2C.05	NO	YES	N/A	Page 122 Lines 21-53 This is a nice addition from the perspective of safety. Is this list prioritized in any fashion (CMF values)? This may also be displayed as a table with categories to suggest what to start with and what are additional signing to further enhance the user's safety.
2C.11	NO	NO	YES	Page 125 Line 45: 'High volumes of trucks' is ambiguous and needs further clarification. Trucks also does not represent the entire vehicle type range
2C.14	NO	YES	N/A	Page 129 Lines 9-13: This could be a table
2C.45	NO	YES	N/A	The header on this page should be: "MERGING AND NO PASSING SIGNS AND PLAQUES"
2C.54	YES	N/A	N/A	Support addition of IN STREET or IN ROAD plaque and the deletion of the Share the Road sign
2C.59	NO	YES	N/A	Page 148 - Confirmation could change to confirmatory
2C.66	YES	N/A	N/A	Support the replacement of the Share the Road plaque and replacing it with IN ROAD or IN STREET
2C.67	YES	N/A	N/A	Except Bicycles plaque addition is useful
2C.71	NO	YES	N/A	The support section needs to contain a reference to 2C.69 for the purpose of having the shoulder widths available
Figure 2C-6	NO	YES	N/A	Object markers should be added to the figure as they are mentioned in Sections 2C.18 and 2C.19 which references this figure.
Figure 2C-11	NO	YES	N/A	The W4 and W25 signs have text that are too small to read. Please enlarge these sign images for publication.
2D.29	NO	NO	YES	Page 169 Lines 20-22 This needs to be changed from a should to a May condition. The use of should in the modern publication provides an essential situation in which the using agency would need to provide justification why it was not done. This addition to the MUTCD contains the potential to require additional signing

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				supports (additional costs, maintenance) while also increasing sign clutter (visual obstruction) while also reduction sight distances to other objects around it.
Figure 2D-1	NO	YES	N/A	The volume of information that is represented throughout this figure should be represented over a series of pages
Figure 2D-14	NO	YES	N/A	On sheet 2 of 3 the north arrow could be smaller, and the diagram doesn't need to be smashed into the text.
Table 2D-2	NO	YES	N/A	There are multiple levels of 'A.' and 'B.' rather than having 'A., I. II. III. Or then 1., 2., 3.'. The use of a gray background with black lettering may also be difficult for some to read. Every other for green and white needs to be changed to green for the titles of the values under with the values having a white only background so that it is consistent. Ensure that the text sizes are large enough to read
Figure D-8	NO	NO	YES	This may cause driver information overload. There are 12 pieces of information in three lines of the sign. This is going to be too complex to utilize even from a distance. The location of the cardinal direction is also not consistent in the sign. The configuration, inconsistencies and number of information pieces make this unappealing. It may also become a sight obstruction because of the size.
2G.24	NO	NO	YES	We recommend that FHWA consider and incorporates the results of recent research under NCHRP 03-123 related to the implementation of the steady yellow angled down arrow indication which should inform the content of Section 2G.25 and Chapter 4T. As currently written, the MUTCD prescribes the use of a yellow X indication to inform the road user to move out of a lane in the context of an active traffic management (ATM) system. This is an outdated symbol that was established many years ago, based on the limitations of overhead signing technology at the time and the predominant use of ATM on arterial applications at the time. The NCHRP 03-123 project evaluated road user understanding of more recent freeway ATM applications and recommended preferred alternatives to the yellow). The steady yellow angled down arrow indication is a different message from the steady yellow X indication. The steady yellow angled down arrow indication provides direction to the road user that moving out of the lane to which the display applies is necessary. The steady yellow X indication should not be used at multiple locations in advance of the lane closure. Use of these lane control signals should differentiate between upstream advance warning, warning immediately upstream, and the beginning of the closure. The yellow angled arrow provides for upstream advance warning while the X indicates that movement out of the lane is immediately required, whether that X is a yellow X or a red X. Maintaining a sequence of increasingly restrictive displays will provide road users with consistent information between overhead sign locations. The use of steady X indications should be constrained to locations immediately proximate to and concurrent with the lane closure
2G.25	NO	NO	YES	The new Section 2G.25 fails to consider the common operation of ATM to warn drivers of slowed traffic ahead in open lanes. This end of queue warning application has been shown to reduce crashes where used. The use of a steady YELLOW X signal indication for this application is not appropriate because drivers do not leave to vacate the lane, they simply need to slow down. See comment for 2G.26.
2G.26	NO	NO	YES	The Guidance note in Section 2G.26 (Line 26) regarding application of variable speed limit signs at known congestion points does address this end of queue application. The MUTCD could be clearer that FHWA is recommending that end of queue warning be

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				implemented through variable speed limits, not through lane-use control signal indications. Suggest mention of this application be made in Section 2G.25 with cross-reference to the variable speed limit guidance in Section 2G.26.
2H.07	NO	NO	YES	State Welcome Signs are not traffic control devices and should not be regulated through the MUTCD. Specific concerns with the proposed language in the NPA include the requirement to be post mounted as many state lines are rivers where there is no option for post-mounted signs. Also, the Option statement as to what may be included implies what cannot be included on these signs. Such limitations do not anticipate all the options that may be considered for such signing that would not compromise highway safety or operation.
2H.08	NO	NO	YES	This goes against previous guidance by FHWA, specifically a Federal Aid Policy Guide Dated Dec. 19, 1997, Transmittal 20 which in Appendix C under Sign Design, it states "An Interstate shield may be located on a green informational sign of a few words. For example: Future Interstate Corridor or Future I-00 Corridor. The Interstate shield may not include the word Interstate."
2H.09	NO	NO	YES	Too much information on the sign which violates number of lines of text on a sign. Remove the federal and state dollars information from the sign design.
2H.14	NO	YES	N/A	The Michigan Department of Transportation does not agree with the new standard language in lines 51-52 on page 259 through line 1 page 260 which requires General Service signs at individual interchanges when Alternative Fuels Corridor Identification signs are installed. This was previously guidance language in the December 2016 memorandum issued by FHWA to guide states in the implementation of signs for alternative fuels and MDOT recommends this language remain as guidance.
2I.15	NO	YES	N/A	<p>It is the Michigan Department of Transportation's preference is to use LOW instead of FULL to notify truck drivers when lots are nearing truck parking capacity.</p> <p>The different meanings of LOW and FULL may impact driver expectations. LOW suggests that parking may be limited, but that a few parking spaces could be available. FULL suggests that absolutely no parking spaces are available. This may encourage undesired parking choices (bypassing a lot or parking on ramps or shoulders) or challenge the credibility of the data when proven false (driver finds a parking space in a lot reported as FULL).</p> <p>Drivers need time to process parking availability information when deciding on parking in an upcoming parking area. Receiving this information approximately three to five miles upstream from the parking area is optimal. During peak truck parking periods, parking availability can change on a minute-by-minute basis, as trucks pull in and out of a parking area. When the descriptor FULL is used, the situation reported as FULL may be inaccurate. Reporting LOW is still an accurate descriptor when there are few or no spaces.</p> <p>Recommend replacing FULL with LOW or the legend CLD for a closed parking area.</p>
2I.15	NO	YES	N/A	It is the Michigan Department of Transportation's preference to continue to use an amber changeable legend on a black opaque background. From experience reported by the state DOTs, white letters are difficult to read at dusk, particularly in the westbound direction and dawn in the eastbound direction when the sunlight is

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				directly in drivers' eyes. The sunlight makes it difficult to see dynamic message signs with a white illuminated panel. The amber LEDs provide more contrast for the driver and are preferred in the Midwest region. Recommend amber being an option for legend color.
2I.15	NO	YES	N/A	<p>It is the Michigan Department of Transportation's preference to delete the sentence in lines 14 and 15 of guidance on page 302 regarding the 60-mile limit.</p> <p>Public rest areas are often spaced more than 60 miles apart. It is important to provide drivers information on parking availability at the next parking location because it allows them to make an informed decision on parking at that location, the subsequent parking area, or an alternative parking area, such as a private truck stop midway between the two. As an example, truck parking lots fill quickly in inclement weather and a truck driver could benefit from advance notice of limited availability at a parking lot more than 60 miles ahead. In this case, the driver may choose to park at a closer lot with available spaces even if he/she is not nearing his/her maximum hours of service.</p> <p>Many areas in the Midwest do not have three truck parking rest areas within 60 miles. This guidance may result in many signs with only two lots posted and very few with three lots posted. Input received through stakeholder outreach revealed that more information on upcoming lots and parking availability provides drivers with more decision points and is preferred.</p> <p>A parking availability sign for a parking lot more than 60 miles away is generally understood to be a current report of conditions. Truck drivers understand that availability of truck parking will change as they are driving their route. As a driver gets closer to a lot, the parking availability sign three to five miles upstream from the lot will inform them of that lot's parking availability.</p>
2J.01	NO	NO	YES	The Michigan Department of Transportation disagrees with the removal of criteria language pertaining to alternative fuels in the gas category and recommends the language remain as is. MDOT recommends renaming the GAS category to FUEL to provide greater flexibility.
2J.02	NO	NO	YES	Page 304, Lines 46-48 This support does not align with 2I.03 "General Service signs are generally not appropriate at major interchanges and in urban areas." Recommend striking this Option statement. Logo signs are best served in urban areas where there are several choices available for the traveling public.
2J.02	NO	NO	YES	The Michigan Department of Transportation disagrees with the new standard language in lines 27-28 page 272 which prohibits a business that does not offer gasoline but does offer alternative fuels from being signed using GAS specific service signs. MDOT recommends deleting this standard language and renaming the category to FUEL to facilitate greater flexibility.
2J.03	NO	NO	YES	The Michigan Department of Transportation disagrees with the new option language in lines 8-10 on page 274 which allows a supplemental message identifying alternative fuel availability is only allowable for businesses in the GAS category. MDOT recommends deleting this proposed language.
2L.02	NO	NO	YES	The Michigan Department of Transportation disagrees with the new guidance language which recommends that AMBER alter messages not contain descriptive information such as personal identification, vehicle identification or license plate information. CMS is where the

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				traveling public can conveniently access such info and provide timely tips to help locate the vehicle. MDOT recommends deleting this language. In addition, other alerts are used such as SILVER alerts in many states.
2L.02	NO	NO	YES	The Michigan Department of Transportation disagrees with the new standard language that traffic safety campaign messages shall not be displayed on a CMS unless part of an active, coordinated safety campaign that uses other media forms as the primary means of outreach. MDOT recommends deleting these lines of text. This should not prevent states from pushing safety campaigns at other parts of the year if there are specific emphasis areas, they are trying to address in wake of a crash increase.
2L.08	NO	NO	YES	This should not prevent states from pushing safety campaigns at other parts of the year if there are specific emphasis areas, they are trying to address in wake of a crash increase. In addition, MDOT disagrees with Guidance recommending against using statistical information, which would include the number of fatalities. This can be a very powerful safety message.
Table 2L-1	NO	YES	N/A	Title should be changed. - "Changeable Message Sign Spacing Between Characters, Words and Lines of Text"
Table 2L-2	NO	YES	N/A	Title should be changed. - "Changeable Message Sign Example of Units of Information"
3A.04	NO	YES	N/A	It is noted that the NCUTCD Approved revisions on 01-10-2020, NCUTCD 19B-MRK-02, were revised in this NPA to expand the number of roads required to have 6-inch width Markings. MDOT supports improvements in safety for human drivers and Driving Assist System technologies (Level 1 and 2 automation) in existing and new vehicles, by applying the new Standards to limited access highways and those roads posted at 55 MPH and greater, with greater than 6000 ADT. The difference between the NPA language and the NCUTCD language will be a significant cost to local agencies.
3A.04	NO	YES	N/A	For the "double line" definition should there be any clarification whether the lines need to be the same width, color, etc.? Or is it intended to apply to any parallel lines? Recommend Double line—two parallel lines, of the same color and width , separated by a discernible space.
3A.05	NO	YES	NO	Indicates "Two-way left-turn lane markings should not extend to intersections.". Should this be into intersections or through intersections?
3B.05	YES	N/A	N/A	Like that we are no longer trying to define what constitutes a "major" enough driveway to break the markings.
3B.05	NO	YES	N/A	Consider striking "or major driveways" from the standard language on page 350. The language under guidance addresses driveways and it appears that unless the driveway classifies as an intersection the lines should be continued, so this is slightly confusing.
3B.19	NO	NO	YES	Standard statement to require a sign to accommodate yield markings may be problematic where pedestrians are crossing a separated bike lane in urban areas. The requirement to install signs directed at bicyclists at a yield marking across a separated bike lane will contribute to sign clutter and could be confusing for motor vehicle drivers. Specific exception should be considered for separated bike lanes or Standard made and Option for this scenario.
3B.25	NO	NO	YES	Disagree with chevrons in gore areas being a "should" condition. Placement of these markings is hand work and will have high worker exposure. Is a wide (in our case 12") channelizing line on each side of the gore really not enough for CAVs to stay out? Could some other pattern placeable with trucks be considered instead?

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3C.01	NO	YES	N/A	No guidance is provided on the standard "Crosswalk markings shall be provided at non-intersection locations." Who determines this? Add language "At non-intersection locations, that are established by the Agency, to be a crosswalk, crosswalk markings shall be provided."
3C.05	YES	N/A	N/A	Like calling for high-visibility crosswalks at uncontrolled intersections. Also clarifying that the markings should be parallel to traffic not perpendicular to pedestrian travel.
3D.06	NO	NO	YES	Why disallow marking the option lane on 2-lane approaches? Reinforcing what vehicles in that lane are allowed to do seems like a good thing. Also only marking one of the two lanes and only in certain circumstances seems confusing.
3D.06	NO	NO	YES	Is oval the correct word to use to symbolize the island. Sign Figure 2B-5 uses circles, not ovals.
3H.03	NO	NO	YES	What is the basis for the 30 mph limitation on aesthetic crosswalks? We have seen them on higher speed roadways, and they look good even at the higher speed, and they look good to the pedestrians regardless of the vehicle speed. Why restrict communities that may have a 35 mph main road?
4T	NO	NO	YES	We recommend that FHWA consider and incorporates the results of recent research under NCHRP 03-123 related to the implementation of the steady yellow angled down arrow indication which should inform the content of Section 2G.25 and Chapter 4T. As currently written, the MUTCD prescribes the use of a yellow X indication to inform the road user to move out of a lane in the context of an active traffic management (ATM) system. This is an outdated symbol that was established many years ago, based on the limitations of overhead signing technology at the time and the predominant use of ATM on arterial applications at the time. The NCHRP 03-123 project evaluated road user understanding of more recent freeway ATM applications and recommended preferred alternatives to the yellow X (see attached). The steady yellow angled down arrow indication is a different message from the steady yellow X indication. The steady yellow angled down arrow indication provides direction to the road user that moving out of the lane to which the display applies is necessary. The steady yellow X indication should not be used at multiple locations in advance of the lane closure. Use of these lane control signals should differentiate between upstream advance warning, warning immediately upstream, and the beginning of the closure. The yellow angled arrow provides for upstream advance warning while the X indicates that movement out of the lane is immediately required, whether that X is a yellow X or a red X. Maintaining a sequence of increasingly restrictive displays will provide road users with consistent information between overhead sign locations. The use of steady X indications should be constrained to locations immediately proximate to and concurrent with the lane closure
5B.01	NO	YES	N/A	Encourage editing the sentence "Signs with designs that are otherwise not provided for . . ." to discourage use of such signs to the greatest extent possible. last sentence in 5B.01 is worded awkwardly, ",,the camera to detect." Suggest editing last phrase in 5B.01 ". . . To allow for reliable machine vision comprehension." What is the source for a minimum requirement of 200 Hz refresh from the AV industry? Is the Dynamic Message Sign (DMS) vendor community able to supply widely a refresh rate of 200 Hz for LEDs?
5B.03	NO	YES	N/A	consistency across jurisdictional boundaries in signal design and indication arrangement may not be readily achievable. delete "along corridors" as this should apply to ALL signals.

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				<p>What is the source for a minimum requirement of 200 Hz refresh from the AV industry? Is the Traffic Signal vendor community able to supply widely a refresh rate of 200 Hz for LEDs.</p> <p>V2I may or may not be the best communication platform for signals & CAV</p>
5B.04	NO	YES	N/A	<p>END ROAD WORK signs are generally shown as typical or optional in Part 6 whereas they are recommended here. In this sense the recommendation for their use in Part 5 goes beyond Part 6 but budget impact would be negligible. Suggest rephrasing to "...should be considered..." for consistency with Part 6.</p> <p>Requirement for maintaining to providing temp markings in long term work zones is not new and will still be in Part 6. Requirement for obliteration of conflicting markings in long term work zones is in current Manual but is proposed as guidance in NPA. Statement on removal of conflicting markings should match level of mandate in Part 6 (Recommendation)</p> <p>Recommendation on 8" min width for channelizing devices needs clarification: is width at the base or at the narrowest part? This statement would affect the use of tubular markers and cones. Guidance statement on use of channelizing devices that are at least 8" wide should be a support statement to avoid inconsistency with Part 6.</p>
5B.05	NO	YES	N/A	<p>Are Railroads preparing to deploy V2i at active grade crossings to communicate arrival of trains? Recommendation for this does not appear to be in proposed Part 8 so is exclusively in Part 5. Inclusion of Guidance as the V2I use case being proposed has not been developed is questionable, much less tested. Is this intended for active crossings with adjacent traffic signals? Change wording to "may be used"</p>
5B.06	NO	YES	N/A	<p>Recommendation for physical separation of bike lanes from other vehicular traffic is not in the proposed Part 9. A good practice from a safety perspective although quite often it may not be achievable (e.g. limited cross section width). Statement should be deleted-better addressed outside of the MUTCD as it is a far more significant impact to the transportation infrastructure and needs broader discussion. "Physical barriers" is undefined and could confuse designers or lead to unintended consequences.</p>
7B.05	NO	NO	YES	<p>Recommend removing this section and related sign graphic as it is contrary to Guidance to avoid signing for rules of the road (Section 2A.01). Placing this language in the MUTCD, along with a graphic representation of the sign, will promote the use of this unnecessary sign. Should agencies elect to provide signing for this universal rule of the road, it should be the exception and therefore not appropriate for inclusion in the MUTCD.</p>
8A.08	NO	YES	N/A	<p>p. 685 lines 45-46: concern that treating parallel tracks within 100' as a single crossing would only be valid if both tracks were protected by interconnected active warning devices, with no roadway access between the affected tracks. Would submit that clarifying language should be added to specify that this "should" provision may need to be conditional upon both crossings being protected by interconnected active warning systems with no roadway access between the tracks. Proposed corrective language: "Where the distance between the tracks at adjacent grade crossings equipped with interconnected active warning devices, and measured along the highway between the inside rails, is 100 feet or</p>

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				less, and there is no roadway access between the adjacent grade crossings, the grade crossings should be treated as one individual grade crossing."
8A.13	NO	NO	YES	p. 687 Section 8A.13 (all): concern that the concept of including busway into this Chapter is flawed. LRT and Busway traffic are typically low-moderate speed vehicles of limited length and enhanced braking capabilities mostly designed for semi-exclusive alignments within the roadway and flowing with traffic and obeying traffic signals. Discussion within this section implies that busways have their own "grade crossings" of driveways and roads and may have nothing in common with actual railroad grade crossings in terms of assessing approach sight distances, stopping capabilities, and the actual prediction systems used to manage functionality of warning devices. Terminology and inclusion here is confusing and troublesome.... Furthermore, LRT and Busway are regulated by FTA, which is another argument that these modes should be separated from Chapter 8 which mainly governs railroad-highway interactions. They may still wish to incorporate language from Chapter 8, but the modes may be better served if these were kept separate....
8A.14	NO	YES	N/A	Recommend changing to an option. Currently Michigan DOT has a railroad flag person at all gated railroad crossings where traffic is directed over the crossings in opposing direction than normal and typically also a highway flagger. If the railroad deems that additional safety measures are required (gate removed) costs could be included in project costs. This could become an additional cost not associated with the project and having to find a way to fund this work. If there is already a railroad flag personnel notifying a highway flagger would removing a gate be necessary? Also, typically if the crossing is not gated MDOT will not require a railroad flagger.
8B.03	NO	YES	N/A	<p>Shoulder dimensions at non-curbed grade crossings are problematic, especially as it is often unclear what level of "surfaced shoulder" may be in place or maintained. I submit a corrective measure to either change this to read "paved shoulder" and omit "surfaced" - OR - change the "shall" to "should."</p> <ul style="list-style-type: none"> p. 691 lines 11-12: there is significant confusion and disagreement between practitioners about the definition/scope of maintenance that affects what can be considered a "surfaced shoulder." Where a road agency chooses to have an 8' paved shoulder plus a 3' "surfaced" shoulder, this "shall" requirement could place a crossbuck sign 15' away from the edge of traveled way. There are also a significant number of local roadways where no shoulder or curb is present and drainage ditches may not allow for 6' setback and unique installations may be necessary. I would recommend eliminating the inclusion of a "surfaced" shoulder and/or changing this from a "shall" to a "should" so that common sense can be used to keep the crossbuck sign more appropriately oriented to the traveled way. This would be in compliance with the general directive of Paragraph 14: Guidance, where the existing language uses the "should" conditions for Crossbuck setback. Proposed corrective language to address questionable shoulder dimensions: "... where there is no curb, a lateral offset to the closest part of the Crossbuck sign of at least 6 feet from the edge of the traveled way, and at least 2 feet from the edge of a paved or surfaced shoulder should be provided."

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				In addition, the current "Standard" for Crossbuck minimum lateral offset is in conflict with the current "Guidance." The Standard (lines 11-12 on p. 691) says "...shall be at least 2' from edge of paved or surfaced shoulder," while the Guidance (lines 19-20 on p. 691) says "should be 6 feet from the edge of the shoulder." The current language is unclear and contradictory, and this is a great opportunity to get this clarified and corrected.
8C.06	NO	YES	N/A	Update title of section to 8C.06 Dynamic Envelope Markings and Do Not Block Intersection Markings to minimize any confusion. Revise related figures (8C-4) to show there are two distinct type of markings. This section makes it sound there are the same.
8C.06	NO	YES	N/A	Isn't the area within the dynamic envelope railroad right of way? Cross hatching should be outside of the envelope otherwise we need permission from the railroad to place such markings.
8D.01	NO	YES	N/A	Same as p. 691 lines 11-12. Eliminate "surfaced" and/or change from "shall" to "should."
8E.01	NO	YES	N/A	Line 23 – reference to pathway users at the end of the sentence should be changed to "sidewalk users" as the sentence is talking about sidewalks.
8E.04	NO	YES	N/A	Section 8E.04 only addresses stop signs, however Figure 8E-4 which this section references permits use of yield signs in lieu of a stop sign. However, there is no mention of replacing the stop bar with a yield bar. If yielding is going to be permitted, then a yield bar should be used instead of a stop bar. Text and Figure 8E-4 should reflect this.
8E.08	NO	YES	N/A	Delete Support statement lines 29-30, language not necessary and relevant to this section.
Figure 8E-8	NO	YES	N/A	Need to show example with yield bar or a note added to the figure since yield signs are optional. Include a note about retroreflective markings need on the fence/gate needed with a reference to appropriate section.
9A.01	NO	NO	YES	Delete lines 18-21 as the statement applies to all road users and not just people on bicycles.
9A.02	YES	N/A	N/A	
9A.03	NO	YES	N/A	Guidance statement on line 42, suggest clarifying statement that vertical flexible delineators (channelizing devices) are not the same as raised pavement markers. Guidance statement on line 3 on page 742 should add the word "bicyclists" at the end of the newly added statement.
9B.01	NO	YES	N/A	Suggest expanding the prohibition of the use of stop or yield signs to include all signalized intersections when the pedestrian and bicycle movement is controlled by a pedestrian signal. The use of Stop or yield signs in conjunction with a pedestrian signal causes confusion due to conflicting messages when the Ped signal is a white walk yet there is a stop or yield sign.
9B.02	NO	YES	N/A	Line 36, recommend down grading Guidance statement to permit engineering JUDGEMENT instead of an engineering study.
9B.03	YES	N/A	N/A	
9B.04	NO	YES	N/A	Section title and Standard text do not reference the R3-17bP sign, yet the sign is present in Figure 9B-1
9B.04	NO	NO	YES	Line 10 on page 745 recommends using the M4-14 and M4-6 signs. These are green and white guide signs and not regulatory signs as suggested by the text in line 10.
9B.08	NO	YES	N/A	Suggest including selective exclusion signs for ATV's and dirt motor bikes as recommended by the NCUTCD BTC

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9B.11	NO	YES	N/A	Lines 6-7 on page 747 recommend the inclusion of the NCUTCD recommended sign for R10-15 / R10-12b that combines pedestrians and bicyclists onto one sign.
9B.12	NO	YES	N/A	Suggest changing Standard text in lines 19-21 Guidance. Requiring the R9-6 sign contributes sign clutter especially in busy urban environments. It is unnecessary to require the sign in all contexts, sometimes a yield marking is sufficient.
9B.14	NO	YES	N/A	NPA preamble 595 suggest the legend on the R4-11 is being changed from "May" to "Allowed" however text in line 40 does not reflect this change.
9B.14	NO	YES	N/A	Sign reference incorrect in Figure 9B-1, currently reads R9-20 and it should read R4-11
9B.14	NO	YES	N/A	Sign legend in Figure 9B-1 does not reflect the change as noted in NPA preamble 595 to reflect "allowed" vs "may".
9B.15	NO	NO	YES	Recommend using NCUTCD recommended language as presented proposal 18B-BIK-02
9B.15	NO	NO	YES	Strongly disagree with Guidance statement in lines 20-21 as this statement is contrary to some state laws and should be eliminated. Safe passing is required for all vehicles passing in the same direction regardless of whether or not there is a shoulder or a bike lane. Recommend using the NCUTCD proposed language.
9B.16	YES	N/A	N/A	
9B.17	NO	YES	N/A	Use of this sign should be broadened to allow for its use on more than just freeways and expressway. There are locations where roads open to bicyclists' transition to freeways or expressways, and the use of this sign would be helpful to inform bicyclists they must leave the free access roadway prior to transitioning to limited access. This can be achieved by replacing the words "Freeway or expressway in lines 34-35 with "roadway" and a little more subsequent wordsmithing of the Standard.
9B.18	NO	YES	N/A	-Support statement Lines 6-7 confusing and unclear, needs editing. Perhaps the word "provided" in line 6 needs to be "considered". -Standard statement line 13 should be softened to say "turns are prohibited" verse "ALL turns..." There could be turn prohibition on two legs of an intersection but not all 4 and the turn box would still be useful. -Standard statement C lines 14-16 seem unnecessary as there are no thresholds as to what could make something impractical, how many lanes, what speed, what volume) seem arbitrary and use of the devices should be left up to engineering judgement with parameters left up to the designer based on context and state law.
9B.19	NO	YES	N/A	-R9-24, 25, 26, 27 are not listed in Figure 9B-1. Additionally, Figures 9B-7 and RB-7-2 do not have sign labeled.
9B.20	YES	N/A	N/A	
9B.21	YES	N/A	N/A	
9B.22	YES	N/A	N/A	
9B.23	YES	N/A	N/A	
9C-4	NO	YES	N/A	-Section 9C.07 reference in line 34 of the support statement is incorrect. Section reference should read 9C.06 -Delete the word "unconventional" in the Support statement line 35. Not clear what unconventional bicycle facilities are.
9C.05	YES	N/A	N/A	
9C.06	NO	YES	N/A	-Line 55-57 remove words "should be used at isolated locations and" to allow for greater engineering judgement on when and where to use the sign. There may be instances where more routine, but not broad systematic use of the sign is warranted. -Allow use of the sign at freeway exit ramp crosses of side paths, especially when only right turns are permitted, and intersection is

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				not signalized. Exiting highway traffic in these situations generally look left for traffic, when there is a white walk signal a bicyclists or pedestrian approaching the right may be in danger of a collision. There have been several such crashes, some fatal. - Allowing the double arrow symbol on the sign, similar to the R15-8"
9C.07	NO	YES	N/A	Option statement line 8 references old R4-11 sign. NPA proposed the language be changed from "May" to "Allowed" reference should be updated.
9C.08	NO	YES	N/A	-NPA preamble 609 suggest the R16-1P Share the Road plaque is being removed from the MUTCD, however the sign still appears in Figure 9C-1
9D.01	NO	YES	N/A	-The following text in the support statement lines 6-7 is unnecessary and should be deleted "deemphasize their messages to motor vehicle traffic when the direction(s) displayed" change "provides" to "provide" . -An example of a Bicycle Destination sign with an oversized bicycle symbol as discussed in the Option statement lines 5-6 on page 756 would be useful in the figure.
9D.02	NO	YES	N/A	-Several signs missing from Figure 9D-1 including D11-1d, e, f, and g.
9D.03	YES	N/A	N/A	
9D.04	NO	YES	N/A	Support statement lines 36-37 list the possible locations where signs would be used. I would suggest this list include reassurance sign assemblies based on engineering judgement. Reassurance sign assemblies are useful for long stretches without turn, but where intersections are present to give bicyclists reassurance that they have not missed a turn.
9D.05	YES	N/A	N/A	
9D.06	NO	YES	N/A	Signs M1-8b and M1-8c do not appear in Figure 9D-1. Examples would be helpful
9D.07	YES	N/A	N/A	
9D.08	YES	N/A	N/A	
9D.09	YES	N/A	N/A	
9D.10	YES	N/A	N/A	
9D.11	YES	N/A	N/A	
9D.12		X		Support statement line 22 references Chapter 9G but no such chapter was posted for review and comment.
9D.13	YES	N/A	N/A	
9E.01	NO	YES	N/A	Disagree with the Standard statement line 35 page 767. Our state law does not define the shoulder as part of the travel way, and as such a shoulder can be marked as a bike lane. Line 35 should be removed or changed to guidance to account for and acknowledge differences in state law.
9E.02	NO	YES	N/A	-Guidance statement on Page 769 line 24 there is an extra "is" that should be deleted.
9E.03	YES	N/A	N/A	
9E.04	YES	N/A	N/A	
9E.05	NO	NO	YES	A roundabout is a specific type of circular intersection. Prohibiting a bike lane in a roundabout is reasonable, however broadening this out to ALL circular intersections is too broad and inhibits possible future applications and engineering judgement.
9E.06	YES	N/A	N/A	
9E.07	NO	YES	N/A	-Support statement line 25 change "vertical separation" to "horizontal separation". -Page 773, line 33 mention of a 2' wide buffer shall use chevrons or diagonal markings, however; on line 16 on page 772 the Standard

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				statement suggests buffers 3' or wider shall use chevrons or one directional diagonal markings.
9E.09	NO	YES	N/A	-Page 776 line 1 the text referring to the R4-11 says "May" when the NPA suggest changing this word to "Allowed"
9E.10	YES	N/A	N/A	
9E.11	YES	N/A	N/A	
9E.12	YES	N/A	N/A	
9E.13	YES	N/A	N/A	
9E.14	YES	N/A	N/A	
9E.15	YES	N/A	N/A	
9E.16	YES	N/A	N/A	
9E.17	NO	YES	N/A	-Page 780 Standard statement lines 19-22 – disagree with the prohibition of green retroreflective elements on channelizing devices. White only channelizing devices can often be very difficult to see when there is heavy snow, or the background is snow covered and lighting conditions make visibility difficult. Having a contrasting color to the white will improve visibility of the channelizing devices. Standard statement should be reconsidered or changed to guidance.
Appendix A (1)	YES	YES	N/A	The Michigan Department of Transportation endorses the use of Clearview as an option for guide signs and addressing it in the body of the MUTCD rather than in Appendix A (1) where it can be easily overlooked.

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
NATCO	NO		The Michigan Department of Transportation supports a full reexamination of the structure, process, and content of the MUTCD, but not at the expense of delaying a new edition. With the rapid evolution of transportation technologies and services, the current process of creating wholly new editions every 10 years is insufficient. We must also ensure it is meeting the needs of all users of the transportation system in an equitable and consistent manner. This is a significant undertaking that should not be rushed; however, it does not need to wait until a new Manual is published to begin. We stand ready to work with USDOT in this endeavor immediately.