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 indicted 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.

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| --- | --- | --- | --- | --- |
| Proposed  Section Number(s) | Agree with concept and text as proposed | Agree with concept; suggested rewording of text in Comments | Disagree with concept | **Comments**  *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.* |
| 1A.00 |  |  | YES | NPA # 1; Pg. N/A Ln. N/A Formatting: disagree with capitalization of each specific traffic control device. This makes the document difficult to read. Mixed case text for each TCDs is preferred. |
| 1A.01 |  | YES |  | NPA # 3; Pg. 1 Ln. 11-16 Safety of road users should be the first priority objective of MUTCD. It is the primary reason behind the uniformity and consistency goals. Please move "Promote safety through the appropriate use of traffic control devices" to item A. Separate efficiency and move it to a new item E. The document is focused on its use by engineers. The first fundamental canon in the NSPE Code of Ethics for Engineers is: "Engineers, in the fulfillment of their professional duties, shall: 1. Hold paramount the safety, health, and welfare of the public." https://www.nspe.org/resources/ethics/code-ethics |
| 1A.02 |  | YES |  | NPA # 4; Pg. 1 Ln. 47-49 Add islands to text - "Infrastructure elements that restrict the road user’s travel paths or vehicle speeds, such as islands, curbs, speed bumps or humps, and other raised roadway surfaces, are not traffic control devices." |
| 1A.03 |  |  | YES | NPA # 5; Pg. 2 Ln. 3-16 Remove section 1A.03. Road Users are not TCDs. There are too many subjective interpretation and legal liability concerns in this section to be useful. From the docket, "FHWA proposes this revision because proper use of traffic control devices can be optimized by stating the expectations for road users responding to the traffic control devices." Please clarify this statement with an example of how TCDs are optimized in this manner. I think as an industry we need to acknowledge that humans are prone to be distracted and make mistakes, and traffic control devices exist because of that. |
| 1A.04 |  | YES |  | NPA # 6; Pg. 2 Ln. 28 Include “all” to sentence to emphasize inclusion of all type of road user: …efficiency (mobility) of all road users at that location, including those with disabilities; the effective utilization of agency resources; cost-effectiveness; and enforcement and education aspects of traffic control devices. |
| 1A.05 |  | YES |  | NPA # 7; Pg. 3, 4 Ln. 48, 38 Remove Line 49 Number 12 and line 45-46 Item 40 relating to Metric Conversion. |
| 1A.05 |  | YES |  | NPA # 7; Pg. 3 Ln. 49-50 Update NCHRP Web-Only Document 117B to Web-Only Document 150. http://www.trb.org/Publications/Blurbs/164696.aspx |
| 1A.05 |  | YES |  | NPA # 7; Pg. 4 Ln. 5 Update HCM to 6th Ed instead of 2010. |
| 1A.05 |  | YES |  | NPA # 7; Pg. 4 Ln. 21-22 Update Rail-Highway Crossing Handbook - Second Edition to Highway-Rail Crossing Handbook - Third Edition. https://safety.fhwa.dot.gov/hsip/xings/com\_roaduser/fhwasa18040/index.cfm |
| 1A.05 |  | YES |  | NPA # 7; Pg. 4 Ln. 31 Update Signal Timing Manual to NCHRP 872 - 2nd Ed. https://www.nap.edu/catalog/22097/signal-timing-manual-second-edition |
| 1A.05 |  | YES |  | NPA # 7; Pg. 4 Ln. 33-34 Replace ADAAG with 2010 ADA Standards for Accessible Design (DOJ) and USDOT ADA Design Standards 2010 in the list of references. |
| 1A.05 |  | YES |  | NPA # 7; Pg. 4 Ln. 37 Update ITE TE Handbook to 7th Ed https://ecommerce.ite.org/IMIS/ItemDetail?iProductCode=LP-691 |
| 1A.05 |  | YES |  | NPA # 7; Pg. 4 Ln. N/A Add PROWAG (Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right of Way) in the list of references |
| 1A.05 |  | YES |  | NPA # 7; Pg. 4 Ln. N/A Add NACTO Urban Street Design Guide in the list of references. |
| 1A.05 |  | YES |  | NPA # 7; Pg. 3 Ln. 33-34 Update AASHTO Green Book to 2018 7th Edition instead of 2011 Edition. https://store.transportation.org/item/collectiondetail/180 |
| 1A.05 |  | YES |  | NPA # 7; Pg. 4 Ln. N/A Add AASHTO Roadway Lighting Design Guide, 7th Edition, 2018 https://store.transportation.org/Item/PublicationDetail?ID=4133 |
| 1B.02 |  | YES |  | NPA # 10; Pg. 6-7 Ln. N/A Clarify that agencies can create policies, directives, specifications, standard drawings, or similar documents related to traffic control devices that have received Interim Approval. |
| 1B.03 |  |  | YES | NPA # 11; Pg. 7, 8 Ln. 46-49, 1-5 The support statement on prohibitions in the MUTCD does not include the word safety. Counterintuitive is subjective and should not be a reason for prohibition of an application of a TCD. Delete the support statement or revise to discuss safety - Other sections define the experimentation process. |
| 1B.06 - 1B.09 |  |  | YES | NPA # 13-15; Pg. 9-13 Ln. N/A Modify the requirements to make several key changes: allow roadway owners to add themselves to existing experiments, develop a short, practical guide to experimentation, develop a simple experimental data collection template, clarify the process for permitting a second stage of testing for new traffic control devices, and work to align NCHRP studies and UTC research to meet requests for experimentation requirements, rather than require cities to entirely self-fund this research. |
| 1C.02 |  |  | YES | NPA # 17; Pg. 19, 27 Ln. 27-28, 52 Please add a separate definition of Street that will differ from Highway - I think it is important to separate out standard, guidance, and option statements by varying 'roadway' characteristics. The highway definition does not include pedestrians even though that is currently referring to the entire right of way. Roadway and traveled way appear synonymous and confusing. Make the roadway definition more general to include things like streets, highways, freeways, and other classifications. Vehicular travel is not the only purpose of roadways - please add "and other purposes". Line up the revised definitions with that of definition 265 for traffic control devices and 273. Urban Street. |
| 1C.02 |  | YES |  | NPA # 17; Pg. 18 Ln. 8-21 Do not delete "design" from the Engineering Study or Engineering Judgment definitions - common engineering tasks like traffic signal design require engineering judgement. |
| 1C.02 |  | YES |  | NPA # 17; Pg. N/A Ln. N/A Add a definition of separated bicycle lane to the Manual: "A bicycle lane that is physically separated from motor vehicle traffic by vertical elements and a horizontal buffer. On-street motor vehicle parking or crashworthy delineators or other traffic control devices may serve as the vertical element." |
| 1C.02 |  | YES |  | NPA # 17; Pg. 26 Ln. 6-9 Revise the definition of a shoulder to explicitly mention that travel by bicycle or pedestrian may be allowed, as is common in many contexts. |
| 1C.02 |  |  | YES | NPA # 17; Pg. N/A Ln. N/A Add terms "pedestrian access route" and "pedestrian circulation path" and refer definitions to PROWAG. |
| 1C.02 |  | YES |  | NPA # 17; Pg. 27 Ln. 3-4 Definition 231. Add "Also referred to as signal phasing, or signal phase order" |
| 1C.02 |  | YES |  | NPA # 17; Pg. 27 Ln. 21-31 Definition 238. Remove "motor" - 85th percentile speed can be calculated for non-motorized vehicles such as bicycles as well. Add "or pedestrians" since 85th percentile speed can also be calculated for pedestrians. |
| 1C.02 |  |  | YES | NPA # 17; Pg. 28 Ln. 41-50 Definition 265 says channelization devices are traffic control devices, but the definition for Island and Splitter Island leave it unclear - are these traffic control devices? Please define channelization devices separately. 3B.13 seems to state that raised islands are considered channelization and would therefore be considered TCDs. 3I.01 states islands are not TCDs. |
| 1D.01 |  | YES |  | NPA # 19; Pg. 31 Ln. 23 Change "vehicle speed" to "road user safety" |
| 1D.01 |  | YES |  | NPA # 19; Pg. 31 Ln. 5 Remove "reasonable and prudent" - subjective and is not defined. |
| 2A.05 | YES |  |  | NPA # 32; Pg. 40 Ln. 9-23 Relocate Guidance lines 9-23 to section 2A.12. |
| 2A.06 |  | YES |  | NPA # 44; Pg. 40 Ln. 48 Common Uses of Sign Colors is shown as Table 2A-5 in attachments, but Table 2A-2 in text. Please correct. |
| 2A.10 |  |  | YES | NPA # 36; Pg. 43 Ln. 43-50 Omit the guidance of sign border dimensions and incorporate into the Standard Highway Signs publication. |
| 2A.12 |  | YES |  | NPA # 38; Pg. 45 Ln. 13-14 Lines 13 and 14. Change "85th Percentile" to "Design Speed". Change "posted speed" to "posted speed limit" - Add "speed distribution" to list of factors that should be considered. |
| 2A.14 |  |  | YES | NPA # 39; Pg. 47 Ln. 15-32 Allow flexibility on mounting heights where an ADA accessible path is maintained adjacent to the sign. The minimum mounting height of 7' should be in the accessible path or sidewalk through zone, not just anywhere above where sidewalk exists. For example, if there is a paved 4' concrete area adjacent to the curb between tree wells or other furniture zone items, that is considered sidewalk by MUTCD, but may not part of the accessible path and should allow signs mounted lower than 7'. Some signs like bicycle guide signs are more visible when mounted at heights less than 7'. Change standard to guidance, or build in information about ADA / PROWAG requirements for sign mounting height. |
| 2A.15 |  | YES |  | NPA # 40; Pg. 48 Ln. 46-47 Revise Figure 2A-2(C) to show the 1' minimum from the Option statement on lines 46-47. |
| 2B.03 |  | YES |  | NPA # 49; Pg. 56 Ln. 10-19 Text gives the option to use a smaller size sign for R10-11 and R10-17 signs, but Table 2B-1 has the same size for single lane and multi-lane approaches for the signs of interest. Revise Table 2B-1 with a smaller dimension sign for single lane approaches. |
| 2B.06 | YES |  |  | NPA # 52; Pg. 58 Ln. 30 Agree with text on line 30 |
| 2B.06 |  | YES |  | NPA # 52; Pg. 58 Ln. 41 Leave yield and stop control for speed control as a 'should' statement. Sometimes given site conditions and budget, environmental, other restrictions, stop and yield signs are the only method to achieve speed control and promote system safety. NCHRP Research Project 03-109 recommended to leave this as a should statement. |
| 2B.13 |  | YES |  | NPA # 59; Pg. 62 Ln. 23-24 Section 2B.13, Warrant A, option C addresses sight distance. Section 2B.14, Warrant B Is Sight Distance with basically the same language. Seems like 2B.13.C should be eliminated since it's duplicated in 2B.14 and appears to be mutually exclusive condition from 2B.13 Warrant A. |
| 2B.19 |  | YES |  | NPA # 65; Pg. 64, 65 Ln. 18-51, 1-6 Add an option for using a bicycle symbol, or a pedestrian and bicycle symbol on the R1-5 sign. These signs can be commonly used ahead of crossing locations that are predominately made by bicyclists, or by bicyclists and pedestrians, such as shared use paths. This reason is similar to the R1-6 and R1-9 signs, which are proposed to have a version with the bicycle and pedestrian symbol. |
| 2B.20 |  | YES |  | NPA # 66; Pg. 65 Ln. 18-36 Please follow NCUTCD Recommendation allowing gateway treatment which maximizes yielding / safety (based on MDOT / WMU research). Allow flexibility with site constraints to place the sign on the right edge line for two-way roads, and placing the signs at the stop bar or yield line if placing at the crosswalk is not feasible. Additionally, remove the proposed Standard requiring the W11-2 or W11-15 sign be used with the R1-6 sign; the gateway configuration of the R1-6 increased yielding most, and the warning signs will add unnecessary sign clutter.  https://ncutcd.org/wp-content/uploads/meetings/2017A/Attach-No.3-16B-RW-02-In-Street-Ped-Signs-Appvd-1-6-17.pdf   https://www.michigan.gov/mdot/0,4616,7-151-9622\_11045\_24249-520299--,00.html  Overall - the MUTCD should control the design of the sign and all placement should be guidance or option statements rather than standards. |
| 2B.21 |  | YES |  | NPA # 67; Pg. 67 Ln. 4-7 Implement recommendations from the final report of NCHRP 17-76, and add option statements for urban areas and states to use the safe systems approach and expert system rather than the engineering approach to setting speed limits. Follow NTSB recommendations and remove 85th percentile completely.  https://ncutcd.org/wp-content/uploads/meetings/2019A/AttachNo12.18B-RW-03.SpeedLimitProcdedures.Approved.pdf  https://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=4052 https://www.ntsb.gov/safety/safety-studies/Documents/SS1701.pdf |
| 2B.21 |  | YES |  | NPA # 67; Pg. 67 Ln. 4 Revise to "Federal, state, or local law". Some states delegate authority to local governments to set statutory speed limits. |
| 2B.21 |  | YES |  | NPA # 67; Pg. 67 Ln. 31-34 Add to support statement other FHWA, ITE, NACTO pages with information on setting speed limits.  https://safety.fhwa.dot.gov/zerodeaths/zero\_deaths\_vision.cfm https://www.ite.org/technical-resources/topics/speed-management-for-safety/setting-speed-limits/ https://nacto.org/safespeeds/ |
| 2B.47 |  | YES |  | NPA # 84; Pg. 85 Ln. 4-5 Need to define "restricted roadway." All one-way roadways have a restriction on one direction of traffic. Does this apply to intersections of two-way and one-way streets in urban conditions? Figure 2B-15 shows only the R1-6 one-way signs. Expand guidance and option statement to cover this condition, as well as if overhead do not enter installations are allowed as the primary or supplemental DNE sign. |
| 2B.53 |  |  | YES | NPA # 93; Pg. 90-93 Ln. N/A There is an immense confusion (even among industry engineers, planners, and law enforcement, no less of the public) of the difference between Stopping, Standing, and Parking. One of the more compelling points of confusion appears to be with Standing, in particular.  This section needs a complete rewrite focused on Curbside Management: improving language and replacing textual signs with graphical signs. Research should take a look at pictographic signs such as this: https://newatlas.com/better-parking-signs-nikki-sylianteng/32970/ and should develop a symbol set for cars, trucks, loading, pickup/dropoff (PUDO), bikes/scooters, stopping restrictions, etc.  If not included in this update, this should be among the more immediate efforts in identifying what might be viable for an Interim Approval & inclusion in the next MUTCD update. |
| 2B.53 |  | YES |  | NPA # 93; Pg. 92 Ln. 21-23 Revise language to allow optional usage of the tow-away zone symbol in the legend of a parking sign design (implied via page 90 line 48). The City of Atlanta standard parking restriction sign includes the symbol in the main sign legend. https://www.google.com/maps/@33.7571714,-84.3876665,3a,15y,311.73h,88.32t/data=!3m6!1e1!3m4!1s87OowbFveHG0BSRHfJsGWQ!2e0!7i16384!8i8192 |
| 2B.54 |  | YES |  | NPA # 94; Pg. 91 Ln. 25-29 Change Meter Parking to Pay Parking. See NCUTCD similar recommendation. https://ncutcd.org/wp-content/uploads/meetings/2016B/Attach-No.1-6A-RW-01-Sec-2B.46-474849-Parking-Signs-Appvd-by-Council-6-10-16.pdf |
| 2B.55 |  |  | YES | NPA # 95; Pg. 92 Ln. N/A Provide placement guidance for parking signs where a parking-protected separated bike lane and buffer exists. While MUTCD is not a design guide, it would be good to have some uniformity in where parking signs are located. City of Atlanta does not have a lot of separated bike lanes with parking yet, but I imagine other states and cities may have examples where parking signs are installed in the buffer if the buffer has vertical delineator, curb, or exceeds a certain width. |
| 2B.60 |  |  | YES | NPA # 99; Pg. 96-97 Ln. N/A R10-12b - remove this sign and replace with R10-15b and R10-15c (or other naming conventions). There should be one main sign number with a number of design options - Turning Vehicles (Left/Right) (Yield to / Stop for) (pedestrians / bicycles / pedestrians and bicycles).  R10-15b - Please follow the recommendation from FHWA-HOP-06-074: "add signs along the lines of the New York City designs, with alternative versions featuring both pedestrian and bicycle symbols. Alternative designs using the words “Stop for” rather than “(yield symbol) To” should included, for use in States where that is the basic pedestrian right of way law. "  ATLDOT recommendation follows NCUTCD recommendations. https://mutcd.fhwa.dot.gov/reqdetails.asp?id=1487 https://ncutcd.org/wp-content/uploads/meetings/2019A/AttachNo13.18B-BIK-01.TurningVehiclesYieldR10-15.Approved.pdf  Georgia is a "Stop for Peds" State, we would like flexibility to use these signs for right or left turning movements, pedestrian, bicycle, or both conflicts, at any type of intersection where the sign would fulfill a need, command attention etc., not just signalized intersections. There will be large cost impacts to swap out current R10-15 modified signs to R10-12b in Atlanta and many other cities. City of Atlanta had 36 signs with a yield to bikes or yield to bikes and peds legend in existence in 2018 and dozens more are being implemented as we build out our bike network. We understand the need for consistency and request consistency in the sign design to be more similar to the R10-15 series since bicycle and pedestrians are more vulnerable road users. The R10-12a Left Turn Yield to FYA provides information about the signal head and how motor vehicles interact (with each other). The purpose of the R10-15b sign is combining a warning and regulatory message to improve safety of VRUs, as a distinctly different sign type from a text legend signal sign.  Michigan, Massachusetts and many others have modified versions of R10-15 in design guides already.  https://www.michigan.gov/documents/mdot/2018-06-28\_Sidepath\_Intersection\_and\_Crossing\_Treatment\_Guide\_FINAL\_with\_Appendices\_635121\_7.pdf https://www.mass.gov/lists/separated-bike-lane-planning-design-guide |
| 2B.60 |  | YES |  | NPA # 99; Pg. 96 Ln. 25-27 Change standard to guidance to allow flexibility for sight distance restricted locations where bicycles are not traveling in an 'unexpected location' but may not be visible. |
| 2B.60 |  | YES |  | NPA # 99; Pg. 96 Ln. 28-30 Change standard to guidance. To allow flexibility for old signal cabinet locations that do not have room for additional cabinet equipment to provide an exclusive bike signal phase. There will be huge cost impacts to upgrade signal cabinets because of right of way and ADA challenges with making signal cabinets larger. Permissive turn conflicts across a bike signal guidance should be allowed based on frequency of conflicts (combination of bike and turning traffic) and other safety considerations like lighting and sight distance. To avoid making the MUTCD a bike signal design guide, allow flexibility with separated bikeway design, especially at signals. Other traffic control devices (markings) or non-TCDs can provide information to people biking and driving about when there are conflicts or not with a bike signal phase. |
| 2B.60 |  | YES |  | NPA # 99; Pg. 97 Ln. 3-5 Add to the standard statement "The Turning Vehicles Stop for Pedestrians (R10-15a) sign shall only be used in jurisdictions where laws, ordinances or resolutions specifically require that a driver must stop for a pedestrian." the following - "or an engineering study or engineering judgment determine that the sign will enhance pedestrian safety, or in jurisdictions where laws, ordinances, or resolutions do not specifically apply to the location where the sign is considered for installation." |
| 2B.60 |  | YES | |  | | --- | |  | | NPA # 99; Pg. 96 Ln. 40-43 R10-23a - please use sign design as depicted in "4(09)-6I (I) - Use of an Alternative Pedestrian Hybrid Beacon Sign." If the subsequent pooled fund study found no difference in comprehension, there should be no need to use a different sign going forward. Many agencies including City of Atlanta have installed the R10-23a sign layout at PHBs based on the request for official interpretation and there will be cost impacts to go back and replace those signs that will be equally effective. The R10-23a in the draft MUTCD in Figure 2B-27 doesn't appear to have been studied for efficacy in the pooled fund study. A quote is below regarding the preferred sign design.   "alternative 3 seems to do the best job in conveying to drivers that they can proceed after stopping when the crosswalk is clear; all other sign alternatives seem to tell participants that they must stop on flashing red regardless of whether there is a pedestrian present or not"  Each sign had more than sufficient visibility / recognition distance. |
| 2B.61 |  | YES |  | NPA # 100; Pg. 97 Ln. 29 Please provide threshold for "unacceptable number of pedestrian conflicts" |
| 2B.61 |  | YES |  | NPA # 100; Pg. 97 Ln. 31 Change "accidents" to "crashes". |
| 2B.61 |  | YES |  | NPA # 100; Pg. 97 Ln. 26-34 Add other criteria for RTOR restrictions such as prescence of LPIs, separated bike lanes, bike boxes, two stage turn queue boxes. Some of these situations require RTOR restriction and should be a standard instead of guidance - reference other sections of document that apply from the incorporated 2009 Ed. Interim Approvals. |
| 2B.61 |  |  | YES | NPA # 100; Pg. 97 Ln. N/A Suggest do not swap the designation of R10-11 vs R10-11a. Keep R10-11 as the sign with the red circular signal symbol and R10-11a as the all word version. The swap would create an asset management, database, project design and maintenance work order problems and significant cost (manhours) for many agencies. https://www.federalregister.gov/d/2020-26789/p-298 - The City of Atlanta has approximately 200 signs that would be affected. |
| 2B.62 |  |  | YES | NPA # 101; Pg. 98 Ln. 10-12 This section appears to allow PHOTO ENFORCED signs for a variety of purposes, though with its location in the Traffic Signal Signs section it implies that this is only for signal-related enforcement. 2C.68 only discusses PHOTO ENFORCED as a warning sign.  What seems to be missing is allowing PHOTO ENFORCED with regulatory signs outside of signalized locations, such as for enforcing speed limits, vehicle occupancy, lane use controls, or dedicated use lanes (e.g. bus lanes). Please revise text for these other situations where photo enforcement can be used. The Option on lines 10-12 only mentions use at jurisdictional boundaries. |
| 2C.01 |  | YES |  | NPA # 111; Pg. 107 Ln. 1-6 Table 2C-1 - for single lane conventional roads, how was the minimum size determined? Most of these should be 24"x24" or 30"x30" minimum to reduce costs since the large majority of urban locations have a speed limit of 35 mph or less. Horizontal offset is also a concern with City of Atlanta's typical sections and 36" diamond signs mounted in the 2' grass strip to avoid blocking the sidewalk hang out into the traveled way. The standard statement on p 107 requires 36" inches for higher speed roadways. |
| 2C.13 |  |  | YES | NPA # 123; Pg. 113 Ln. 12-15 Recommend removing the prohibition on flashing sign legends on the Vehicle Speed Feedback sign. The flashing sign is used to get motorists' attention and typically is set to flash if the vehicle speed is 5-10 mph over the posted limit (may vary by jurisdiction). This supports Vision Zero, especially for speed feedback for a curve. Implementing this standard will be costly since the existing dynamic signs will have to be reprogrammed or replaced. Flashing was partially evaluated or summarized in the lit review of the FHWA study. https://www.fhwa.dot.gov/publications/research/safety/14020/14020.pdf |
| 2C.52 |  |  | YES | NPA # 148; Pg. 126 Ln. 35-40 https://www.federalregister.gov/d/2020-26789/p-386  Are these new W6-5 and W6-5a signs based on any research? The standard W6-3 sign seems to indicate operation fine (two way traffic). The new signs appear to be attempting to communicate the number of lanes in each direction, which is not really something to warn about separately from the fact that two-way traffic exists. Suggest removal of signs and Section 2C.52. |
| 2C.66 |  | YES |  | NPA # 152; Pg. 132 Ln. 36 Add peds to statement to match language in 2C.54 and other locations. "In situations where there is a need to warn drivers to watch for other slower forms of transportation traveling along the highway, such as pedestrians, bicycles, golf carts, horse-drawn vehicles, or farm machinery, an IN ROAD (W16-1P) or IN STREET (W16-1aP) plaque may be used." See FHWA Small Town and Rural Multimodal Networks (FHWA-HEP-17-024) which includes a walk lane application where pedestrians will be in roadway. https://www.fhwa.dot.gov/environment/bicycle\_pedestrian/publications/small\_towns/ |
| 2C.67 |  | YES |  | NPA # 153; Pg. 132-133 Ln. N/A Consider adding text to the EXCEPT BICYCLES plaque that suggests other micro mobility vehicles may be considered as like bicycles, depending on state and local law. May need to revise definition in 1C.02 as well to match. |
| 2D.08, 2D.45 |  | YES |  | NPA # 158, 172; Pg. N/A Ln. N/A Figure 2D-4 - correct the name of Standard Highway Signs publication. |
| 2D.08, 2D.45 |  |  |  | NPA # 158, 172; Pg. N/A Ln. N/A Provide guidance for an arrow type on D3-1 or D3-1a overhead street name signs (where road names change at an intersection) Type A arrows make the signs too long to mount between signal heads. Type B arrows are commonly used at the same capital letter height (1.0 x) rather than 1.5 times the upper case letter height. For example, many overhead D3-1 signs in the City of Atlanta use the Type B arrow with a 12" arrowhead width, and 12" capital letter for the street name legend. Also provide guidance that left arrows should be to the left of the text, and right arrows to the right. When a pictograph such as a City logo is included on a D3-1a sign, specify whether the pictograph should be at the far left of the sign (preferred), or the arrow should be to the far left (pictograph between the arrow and street name). Keeping the arrow directly adjacent to the street name text makes the most intuitive sense to me. An update to the SHS with more examples could clarify some of these details if inclusion in the MUTCD is deemed unnecessary to promote uniformity in overhead street name signs. |
| 3A.03 |  | YES |  | NPA # 319; Pg. 300 Ln. 34 If the definition of markings includes colored pavements as stated in 3A.01, green should be one of the listed colors in 3A.03, as it is listed in 3H.06 for bike facilities. Appears to be an oversight. "Marking" needs to be defined in 1C.02 to clarify this. The meaning of green colored pavement "marking" needs to be defined by MUTCD. It has multiple meanings at various applications, similar to how various applications of white or yellow pavement markings have different meanings. Various meanings could be interpreted as “bicycles may be present here”, “only bicycles allowed here”, “conflict may exist with bicycles here”, or “bicycles are protected here”. The meanings will need to be defined by application such as lanes midblock, intersection locations, etc. |
| 3H.03 |  |  | YES | NPA # 367; Pg. 345 Ln. N/A "FHWA requests that commenters support their position by providing quantifiable and objective data"  City of Atlanta installed an aesthetic treatment in a crosswalk at the signalized intersection of Piedmont Ave and 10th St in summer 2017. Crashes at the intersection (3 years prior and 3 years after) have decreased from 26 per year to 23.5 per year. The number of pedestrian related-crashes was a total of 1.33 per year before the installation, and 1.00 per year after the installation. The speed limit on Piedmont Ave is 35 mph and 10th St is 30 mph. Of the distracted driver crashes, 80% resulted in rear end crashes from following too close. Each pedestrian crash report was reviewed and none mention a driver looking at the aesthetic crosswalk, being distracted by a crosswalk, etc. 4 of 6 total pedestrian crashes (including both before and after aesthetic crosswalk installation) resulted from a driver failing to yield to a pedestrian in a crosswalk with the right of way during a permissive left turn phase.  This data shows that the aesthetic crosswalk treatment is not causing an additional safety issue, and in fact may have made it safer. The City is exploring countermeasures to address the safety problems at the intersection such as adding traffic signal backplates, a northbound stop bar, changing signal phasing to protected only, and advance warning signs on Piedmont. |
| 3H.03 | YES |  |  | NPA # 367; Pg. 345 Ln. 4-8 Agree with text in lines 4-8 - aesthetic treatments are not a TCD. Remove all standards from Section 3H.03, MUTCD should not provide standards for items that are not TCDs. Examples include islands, asphalt, medians, landscaping, any many other items that are part of the roadway environment but are not TCDs. Allow engineering judgement to decide if they are applicable, and develop research on if using retroreflective pavement parking aesthetic treatments in crosswalks provide more or less conspicuity for drivers and pedestrians to identify the crosswalk. |
| 3H.03 |  |  | YES | NPA # 367; Pg. 345 Ln. 9-10 Right of way is not dedicated exclusively to highway-related functions. Streets serve many purposes. Highway-related functions is also not defined. Reword or remove. |
| 3H.03 |  |  | YES | NPA # 367; Pg. 345 Ln. 13-15 Please provide the study that shows aesthetic treatment degrades contrast. Contrast is not even the most important item - the ability of a road user to recognize the area as a crosswalk is and not cause a safety issue or crash is. |
| 3H.03 |  | YES |  | NPA # 367; Pg. 345 Ln. 16-17 Remove option statement - no evidence that higher speed roadways have a problem with aesthetic crosswalks. |
| 3H.03 |  | YES |  | NPA # 367; Pg. 345 Ln. 29-32 Whether or not an aesthetic crosswalk treatment encourages pedestrians to loiter may be subjective without research support, therefore I question making this part standard versus guidance. Aesthetic treatments may be suitable in some high pedestrian urban areas. |
| 3H.03 |  |  | YES | NPA # 367; Pg. 345 Ln. N/A Please provide the research or data that supports this statement below. I don't think disallowing something that is not a TCD should be based on an undocumented belief only.   "FHWA believes that this proposed section is necessary because it is important that these treatments not resemble or interfere with the uniform appearance of traffic control devices, which could confuse and distract road users. FHWA's longstanding position is that these treatments, which are intended to draw the attention of the road user, can distract from the task of operating a vehicle or crossing the roadway as a pedestrian" |
| 3J.07 |  | YES |  | NPA # 380; Pg. 352 Ln. 33 Change double to single. A single solid white line defines the edge of islands, shoulders, and the edge of vehicle lane lines, double white typically defines do not change lanes. Seems like a single line is more appropriate for a curb extension. Add an option statement to allow the double white when additional visibility is needed and additional space is available. |
| 3J.07 |  | YES |  | NPA # 380; Pg. 352 Ln. 31 Change "street" to "roadway" which better matches the definition in 1C.02. |
| 3J.07 |  | YES |  | NPA # 380; Pg. 353 Ln. 15 Figure 3J-6 - move detectable warning surfaces to the location where the pedestrian path intersects the roadway where they will potentially conflict with vehicles. See PROWAG R208.1. I believe this is why you have clarified that the curb extension area is not considered to be in the street/roadway. https://www.access-board.gov/prowag/chapter-r2-scoping-requirements/#r2081-where-required |
| 4A.03 |  |  | YES | NPA # 382; Pg. 355 Ln. 44-46 Pedestrians do not have to yield to vehicles facing a circular green in Georgia. This conflicts with OCGA § 40-6-21 which requires vehicles to stop for pedestrians. Change standard to support for the last sentence, or clarify language to guidance like "Pedestrians should not jump in front of a car that may have run a red light, not associated with the circular green signal indication that they are facing"  https://law.justia.com/codes/georgia/2010/title-40/chapter-6/article-2/40-6-21/ |
| 4A.05 |  |  | YES | NPA # 384; Pg. 358 Ln. 7-48 Change the meaning of GREEN BICYCLE to permit through and right turns after yielding if the bikeway is on the right side of the road. Left turns should require the lane use sign. This will match better with vehicular signal heads.  For left-side bikeways, the GREEN BICYCLE should permit through and left turns after yield. A right turn would need the lane use sign installed.  Remove the requirement of an R10-4X sign - unless there are non-default movements as noted above. (Left turns from a right-side bikeway, or right-turns from a left-side bikeway). Consider adding guidance statement that, where bicycle signals are used, intersection crossing markings should only be installed where the bicycle signal protects the movement. For example, don't install left turn skip striping from a right-side bikeway if the bike signal only permits through and right turns. Could include that statement in 4A.09. |
| 4A.07 |  | YES |  | NPA # N/A; Pg. 359 Ln. 16-33 Remove section. MUTCD is not a design guide and there are no standards in the section. |
| 4B.02 |  |  | YES | NPA # 386; Pg. 361 Ln. 18-20 Remove statement. Operation of coordinated progression set to the speed limit is common practice, legal, and improves safety. We agree that speeding should be addressed by a larger design, but in many urban corridors, costs for reconstructing can be prohibitive and signal operation helps command respect from the R2-1 speed limit signs. |
| 4C.05 |  | YES |  | NPA # 392; Pg. 367 Ln. 31-40 Add guidance that warrants may be satisfied by projected pedestrian crossing volumes if a signal were installed. Many locations pedestrians want to, but will not cross because it is unsafe to do so. Apply similar to Warrant 5 and PHB/RRFB warrants / guidelines for installation. |
| 4C.05 |  | YES |  | NPA # 392; Pg. 367 Ln. 28-30 Develop pedestrian delay threshold for warrants instead of volume combinations. Excessive delay is undefined. |
| 4C.05 |  | YES |  | NPA # 392; Pg. 368 Ln. 26-27 Develop a Figure for this Option. |
| 4D.02 |  | YES |  | NPA # 395; Pg. 374 Ln. 21-24 Upgrade guidance to standard. |
| 4E.01 |  | YES |  | NPA # 403; Pg. 381 Ln. 14-16 Clarify bi-modal signal protected permissive phasing flashing yellow arrow design and operation. See comments on 4E.04, 4F.04, 4F.08. Unclear if the bimodal green arrow / FYA bottom section is allowed or not. This statement seems to allow it, but conflicts with later statements requiring the flashing yellow to be within the middle section with solid yellow. |
| 4E.04 |  | YES |  | NPA # N/A; Pg. 383 Ln. 39-42 Agree that flashing yellow arrow indication for 3-section heads in protected/permissive operation should in the same section as with the green arrow indication, not with the steady yellow arrow. However, Figure 4F-7 and 4F-14 shows SY/FY instead of G/FY. Please revise the figure to G/FY on the bottom section. See GDOT Traffic Signal Design Guide Section 12.1 for a local example of conflicting guidance between text and figures, and NCHRP research on the subject. GDOT and City of Atlanta preference is to have the flashing yellow bi-modal with the solid green arrow. Early installations of the solid yellow / flashing yellow showed that drivers often fail to distinguish the change from flashing to solid yellow and led to more end of phase dangerous maneuvers. Since then, we have used the bottom section as flashing yellow arrow and solid green arrow with better observed driver performance during the end of phase. GDOT's SigOps (formerly RTOP) program may have documented observations. The bimodal flashing yellow / green arrow is common along state routes in the City of Atlanta due to overhead clearance needs preventing 4-section FYAs.  http://www.dot.ga.gov/PartnerSmart/DesignManuals/SignalDesignManual/Traffic%20Signal%20Design%20Guidelines-2016.pdf  https://www.nap.edu/catalog/22246/evaluation-of-the-flashing-yellow-arrow-fya-permissive-left-turn-in-shared-yellow-signal-sections |
| 4F.04 |  | YES |  | NPA # 407; Pg. 391 Ln. 27-29 Clarify bi-modal signal protected permissive phasing flashing yellow arrow design and operation. This statement should be moved to 4G. |
| 4F.08 |  | YES |  | NPA # 409; Pg. 394, 395 Ln. 37-39, 50-52, 1-2 Clarify bi-modal signal protected permissive phasing flashing yellow arrow design and operation. See 4E.04 39-42 which suggests the bi-modal section of a 3-section pm+pt head should be the bottom section (flashing yellow arrow and solid green arrow) rather than the middle section. 4F.04 27-29 is confusing and should be relocated or reworded. 4F.08 394 37-39 is the most clear but conflicts with previous statements in 4E.01 and 4E.04. Suggest allowing both as an option, as determined by engineering judgement. |
| 4H |  | YES |  | NPA # 417; Pg. 412-416 Ln. N/A See NACTO comments on 4H. ATLDOT endorses these comments. The only additional item for consideration is to add figures of typical intersection configurations and their bicycle signal head type and placement, similar to Figure 4D-1. |
| 4I.04 |  | YES |  | NPA # 422; Pg. 419 Ln. 2-5 Last sentence is unclear - what exactly is this prohibiting? Is it a safety issue? Please add a figure. |
| 4I.05 |  | YES |  | NPA # 423; Pg. 419 Ln. 49 F. is unclear - add stop bar and dimensions to Figure 4I-2. pushbutton should not be farther from the crosswalk than the pushbutton is to the stop line, or the crosswalk is to the stop line? Front/back of crosswalk / stop bar? |
| 4I.05 |  | YES |  | NPA # 423; Pg. 419 Ln. 36-51 Figure 4I-2 - refer to NACTO comments and ADA/PROWAG experts for pushbutton location. These guidance statements appear too restrictive. Add the back of curb line in the figure as well. Assuming the medium gray area is a gutter. Where did the 1' minimum from the ramp come from? That was not included in NCUTCD recommendations, nor was 1.5' from edge of travel lane - that was recommended as 1' from face of curb. https://ncutcd.org/wp-content/uploads/meetings/2020A/09.19B-SIG-03.PedPushbuttonLocation.pdf |
| 4I.05 |  | YES |  | NPA # 423; Pg. 420 Ln. 5-6 Figure 4I-3 - Add an island example where there is a channelized turn lane and potentially a cut-through ped access route. |
| 4I.05 |  | YES |  | NPA # 423; Pg. 420 Ln. 24-25 Reference to 2B.62 should change to 2B.59 |
| 4J.01 |  | YES |  | NPA # 425; Pg. 424 Ln. 1-45 Add a crash warrant for PHBs. 1 pedestrian injury or death, or 3 near misses in the previous 3 years.  Add a roadway network warrant that allows installation of PHB when the engineering study shows that one or more of the conditions exist: - Unmet pedestrian crossing demand is projected to meet Warrant 1. - Distance to adjacent safe crossings exceeds 250 feet - Planned or existing trails, walkways, or bikeways crossing the roadway that would be unsafe without a PHB, and - The context of the connecting street network to the major street – for example, where a minor street meets the major street, this may be a legal street crossing for pedestrians and FHWA guidance with engineering judgment may tell us that it is unsafe with anything short of a PHB. In these cases, not installing the PHB is creating an unsafe condition and restricting permeability for pedestrians. |
| 4J.01 | YES |  |  | NPA # 425; Pg. 424 Ln. 18-22 Agree with statement, but the warrants are based on volumes only. Add warrants for these other factors. |
| 4J.02 |  |  | YES | NPA # 426; Pg. 425 Ln. 47 Allow for bicycle signals to use PHB. You can design and program a traffic signal controller to detect bicycles separately from peds, and have separate phase activation where bicycle green or yellow would not be displayed with flashing red for vehicles. Or, if there is enough sight distance, bicycle yellow during flashing red would not be an issue. Leave this up to engineering judgement and study of the design factors. https://nacto.org/publication/urban-bikeway-design-guide/bicycle-signals/hybrid-beacon-for-bike-route-crossing-of-major-street/ https://nacto.org/wp-content/uploads/2010/08/Detail\_HAWK\_sequence\_timing.png |
| 4L.02 | YES |  |  | NPA # 432; Pg. 435 Ln. N/A Add a figure showing a typical application at a mid-block location, and one with a median. |
| 4S.03 |  | YES |  | NPA # 436; Pg. 449 Ln. 23-25 Add reference to Section 2A.20 which allows flashing LEDs to increase sign conspicuity. Also note that the warning beacon CAN be used to flash only when a regulation is in effect or condition is present. |
| 6N.04 |  | YES |  | NPA # 510; Pg. 534 Ln. 30-34 Suggest revising to clarify that people biking should not be directed to share travel lanes with motorists when motorist speeds are greater than or equal to 35 mph. Add specific reference to protected bikeway and all ages and abilities facilities. |
| 6P.01 |  | YES |  | NPA # 516; Pg. 576 Ln. N/A Figure 6P-28 - Add M4-9b sign to Figure 6P-28 for the sidewalk diversion into the street |
| 6P.01 |  | YES |  | NPA # 516; Pg. 596 Ln. N/A Figure 6P-47 - Change BICYCLES MAY USE FULL LANE or Bicycle Warning signs to guidance instead of option, for cyclist safety on a road detour where the cyclists may not be accustomed to riding with traffic, and vehicles may not anticipate cyclists on the road for that section |
| 6P.01 |  | YES |  | NPA # 516; Pg. 597 Ln. N/A Figure 6P-48 - Change BICYCLES MAY USE FULL LANE or Bicycle Warning signs to guidance instead of option, for cyclist safety on a road detour where the cyclists may not be accustomed to riding with traffic, and vehicles may not anticipate cyclists on the road for that section |
| 6P.01 | ` | YES |  | NPA # 516; Pg. 599 Ln. N/A Figure 6P-50 - Change BICYCLES MAY USE FULL LANE or Bicycle Warning signs to guidance instead of option, for cyclist safety on a road detour where the cyclists may not be accustomed to riding with traffic, and vehicles may not anticipate cyclists on the road for that section |
| 6P.01 |  |  | YES | NPA # 516; Pg. N/A Ln. N/A Add a typical application and figure involving a 2-way cycle track. |
| 9A.01 |  | YES |  | NPA # 582; Pg. 660 Ln. 12-15 This is a very general statement, I don't see the value in including it. Suggest one of three options, 1. Remove the negative support statement. 2. Provide a positive support statement such as "properly designed bicycle facilities with traffic control devices can produce effective and productive results" 3. Add similar language in a support statement in Part 1 about the use, misuse, of traffic control devices for improperly designed roadways and highways can produce ineffective or counterproductive results. |
| 9A.02 |  |  | YES | NPA # 584; Pg. 660 Ln. 25-28 Remove statement. Please provide research about this public acceptance problem. Is this based on research and does it provide any value to the purpose of the MUTCD? Traffic control devices are not a competition for popularity. This is the only location in the MUTCD where public acceptance is mentioned. |
| 9A.02 |  |  | YES | NPA # 584; Pg. 661 Ln. 7 Table 9A-1 - Change minimum stop sign size on roadways to 12x12" or 18x18" with some guidance statements in the text. Sometimes 2-way cycle tracks will end at a low-volume, unsignalized intersection, and a stop sign needs to be posted in the buffer area between the cycle track and the vehicular travel lane. Achieving offset for smaller signs is much easier and bicyclists recognize small stop signs whether on a trail or roadway. Add a guidance statement stating that the smaller stop sign should apply only to the bicycles, and if a vehicle approach is also at the intersection, a larger stop sign should be installed for the vehicle approach. May also be able to clarify that 2-way cycle tracks are included in the separated bikeway category. |
| 9A.03 |  | YES |  | NPA # 585; Pg. 661 Ln. 41-43 We have RPMs installed on our shared use path centerline where there is extremely high ped volume that limits bike speed. Dogs on long leashes are a bigger bicyclist concern for losing balance and falling than RPMs. RPMs may be inappropriate in some conditions like bike superhighways, but they do have useful applications and should not be discouraged as a blanket statement. Revise statement to focus on discouraging RPMs in certain situations like where bikes are at high speed and cannot avoid the RPMs. |
| 9C.06 |  | YES |  | NPA # 607; Pg. 671 Ln. N/A Figure 9C-1 - Revise the design of the sign to a bicycle symbol and bidirectional arrow with "LOOK" text, basically adding the bike symbol to R15-10 and changing to a yellow warning sign. Symbols are more universal and intuitive. |
| 9C.06 |  | YES |  | NPA # 607; Pg. 671 Ln. N/A Allow use of the W16-21P signs in other situations, like side-street approaches to signalized intersections in conjunction with a Bicycle Warning W11-1 sign in advance of a two-way cycle track on the main street, before a driver would notice a No right on red sign at the signal. The 'shall only use this plaque with stop sign' standard is not flexible enough. |
| 9D.01 |  | YES | |  | | --- | |  | | NPA # 611; Pg. 673 Ln. 38-40 Agree with text, please add an example of this option to Figure 9D-1. City of Atlanta uses D3-1c in this manner. See Streets Atlanta Design Guide p 7-20.  https://www.atlantaga.gov/home/showpublisheddocument?id=48107 |
| 9E.01 |  | YES |  | NPA # 623; Pg. 684 Ln. 2 Missing a space after "Section" |
| 9E.01 |  |  | YES | NPA # 623; Pg. 684 Ln. 11 Figure 9E-1 - Restore allowable use of the 2009 MUTCD Figure 9C-3(B) "helmeted bicyclist" symbol. This has been the standard in the State of Georgia and City of Atlanta for many years, and removing it from the new MUTCD will cost hundreds of thousands of dollars to replace them with the other symbol. No research or information is included in the NPA about why the helmeted bicyclist symbol should be removed.  http://mydocs.dot.ga.gov/info/gdotpubs/ConstructionStandardsAndDetails/T16\_T16.pdf |
| 9E.02 |  | YES |  | NPA # 624; Pg. 685 Ln. 44-46 Remove support statement. "bend-in" designs do not improve bicycle visibility for turning vehicles due the roof column blocking sight in a classic right hook conflict. Research has shown bend-in has more severe potential conflicts due to the speed of turning vehicles and a lower comfort score than "bend-out" or "protected intersection" designs. See NITC-RR-987 and NACTO Don't Give Up at the Intersection p 13. Add a bend-out / protected intersection design example to Figure 9E-7.  https://ppms.trec.pdx.edu/media/project\_files/NITC-RR-987-Contextual\_Guidance\_at\_Intersections\_for\_Protected\_Bicycle\_Lanes.pdf  https://nacto.org/wp-content/uploads/2019/05/NACTO\_Dont-Give-Up-at-the-Intersection.pdf |
| 9E.02 |  |  | YES | NPA # 624; Pg. 685 Ln. 23-31 Either strike this language or change to "may". Regarding statement that the longitudinal line defining a bicycle lane "should" be dotted on approaches to intersections:  This added language does not match national best practice on bikeway design from NACTO or the upcoming AASHTO revision of the bicycle guidance. Cities should be allowed to continue using appropriate engineering judgement in the design our their bikeways. |
| 9E.03 |  | YES |  | NPA # 625; Pg. 686 Ln. 24-25 Remove language "and to recognize potentially unexpected conflict points."  Crossing a driveway or through an intersection is not generally a "potentially unexpected conflict point" |
| 9E.03 |  |  | YES | NPA # 625; Pg. 686 Ln. 35-36 The double chevron marking is effective at demonstrating directionality and can improve driver looking behavior at intersections, particularly with 2-way bike facilities. Other options can add to the cost considerably (bike symbols) or are not as legible. Either:  - remove language to continue allowing engineering judgement; or  - change from Standard to Guidance language. |
| 9E.03 |  |  | YES | NPA # 625; Pg. 686 Ln. 38-39 Remove driveways from standard. That should be an option. Standard conflicts with Option Statement in 9E.04 page 687 line 10. |
| 9E.03 |  |  | YES | NPA # 625; Pg. 687 Ln. 1-5 Unnecessary standard. Increases maintenance cost and complexity of marking. Provide support/research or move to guidance. |
| 9E.06 |  | YES |  | NPA # 628; Pg. 687 Ln. 41 Change standard to guidance or option. Typically a single solid white line means crossing discouraged, not prohibited. Make consistent with 3B.06. |
| 9E.07 |  |  | YES | NPA # 629; Pg. 689 Ln. 32-35 The decision about whether signal phase separation for a two-way separated bike lane is required at a signalized intersection should be based on the context and engineering judgment. Additionally, from an operational standpoint, a two-way separated bicycle lane is not different from a sidepath, which does not require any signal phase separation. Lastly, this discussion should not occur in Part 9, but rather be moved to Section 4H where similar discussion regarding one-way separated bicycle lane signalization is discussed. |
| 9E.08 |  |  | YES | NPA # 630; Pg. 690 Ln. 37-38 Counter Flow Bike Lanes - remove standard statement - existing applications in other cities work fine. Provide guidance that counter-flow bicycle lanes may be used between a general purpose lane and an on-street parallel parking lane for motor vehicles if the double yellow is dashed and the traffic volume is below 8,000 AADT, or as determined by engineering study / judgement. |
| 9E.09 |  |  | YES | NPA # 631; Pg. 691 Ln. 40-41 Change standard to allow green colored pavement in conjunction with sharrows. City of Atlanta has a few installations. https://www.google.com/maps/@33.7517693,-84.3858499,3a,37.9y,133.29h,69.48t/data=!3m6!1e1!3m4!1sWgkyTjhygzI0wxdvKmiaJg!2e0!7i16384!8i8192!5m1!1e3 Have you come to any conclusion from numerous existing experiments for green-back sharrows? They seem to work fine to bring extra awareness in Atlanta. https://www.fhwa.dot.gov/environment/bicycle\_pedestrian/guidance/mutcd/gcp\_slm.cfm https://mutcd.fhwa.dot.gov/orsearch.asp |
| 9E.15 |  |  | YES | NPA # 637; Pg. 695 Ln. 25-35 Mention that additional symbol markings "9C-16, 9C-16A or 9C-16B may be placed on the pavement indicating the optimum position for a bicyclist to actuate the signal," as recommended by the NCUTCD Bicycle Technical Committee. (https://ncutcd.org/wp-content/uploads/meetings/2019A/AttachNo17.18B-BIK-06.BikeDetectorMarking.Approved.pdf). Research by Boudart (2015) shows that the "9C-7B" marking more clearly indicates where the cyclist should position themselves to be detected. (https://nelsonnygaard.com/publication/ite-improving-bicycle-detection-pavement-marking-symbols-to-increase-comprehension-at-traffic-signals/) A completed FHWA Experiment from Columbia, MO also shows overwhelming support for this symbol compared to the existing 9C-7 marking. (https://www.como.gov/publicworks/wp-content/uploads/sites/28/2017/12/Final-Report-FHWA-909-66E-Bicycle-Detection-Columbia-MO-RTE-09-20-2017.pdf) |
| 9E.17 |  | YES |  | NPA # 638; Pg. N/A Ln. 14, 22-23 Change guidance to Option. Many more channelizing devices exist than tubular markers, not all of which are considered traffic control devices. Add information that refers to NACTO Urban Bikeway Design Guide or others for raised items placed in the buffer of separated bike lanes. For lines 22-23, change guidance from one foot offset, to one foot offset or centered in the buffer, as determined by engineering judgment and situational context. |

**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 |
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