MEMORANDUM
Subject: Key NACTO Asks for 11th Edition of the MUTCD
Date: April 28, 2023
NACTO Contacts: Jenny O'Connell (jenny@nacto.org), Alex Engel (alex@nacto.org), Matthew Roe (matthew@nacto.org)

In May 2021, NACTO joined thousands of others in submitting comments to the Federal Register in response to the draft 11th Edition of the Manual on Uniform Traffic Control Devices. As we anticipate FHWA's publication of the final rulemaking ahead of the May 15, 2023 deadline, we would like to elevate some of our core comments and how we hope to see them addressed in the 11th Edition. Below are 6 comments where we hope to see significant progress, and an overview of what we would consider to be a "success," "some progress," and "no progress" for each.

1. **Elevate the goal of eliminating serious injuries and deaths as a guiding principle of the Manual, ensuring a "safe systems" approach throughout the document.** The Manual unrealistically identifies target road users as pedestrians and bicyclists who always act "alertly and attentively", "reasonably and prudently", and "in a lawful manner" (Section 1A.03). This definition fails to recognize the inevitability of human error, as well as the enormous range of urban street users. Most children, for example, would not meet this standard. By including it, the Manual implies that engineers are only responsible for protecting road users who meet this specific impractical definition. Eliminating the language in Section 1A.03, redefining the Manual's primary goal, and recognizing the primacy of substantive safety even above uniformity are essential to ensure that every regulation in the MUTCD serves to improve safety and accessibility for people rather than reducing motor vehicle delay.
   Reference: Section 1A.03

   Success would be: A complete removal / deletion of Section 1A.03 from the draft update.

   Some progress would be: Revisions to Section 1A.03 from the draft update to eliminate language about target road users always acting "alertly and attentively", "reasonably and prudently", and "in a lawful manner". As written in the draft, Section 1A.03 places undue burden on humans acting reasonably, prudently, alertly, attentively, and lawfully, and implicitly absolves roadway engineers of protecting users who do not fit that subjective definition. This is not in line with a Safe System Approach.

   No progress would be: No change to section 1A.03 or doubling down on the idea of road users needing to be reasonable, lawful, and alert in some way.

2. **Remove guidance recommending the use of free-flow speeds, including the 85th percentile speed, in setting speed limits.** A substantial body of published research, most recently from The National Transportation Safety Board (NTSB) in 2017, shows

that using the 85th percentile approach to establish speed limits leads to increases in vehicular speed over time. As a result, a wide consortium of American safety and engineering organizations, including the National Committee on Uniform Traffic Control Devices (NCUTCD), the National Safety Council, NACTO, and the Vision Zero Network no longer endorse the MUTCD's recommended speed-limit-setting approach. While FHWA has downgraded the use of the 85th percentile approach from a requirement to a recommendation, even the persisting recommendation sends the message that local engineers may continue using this highway-based tool on most or all urban streets. Eliminating all guidance recommending use of free-flow speed in setting speed limits aligns with FHWA's intent to heed the most updated and relevant safety research and signals to state DOTs that this approach is no longer nationally endorsed.
Reference: Section 2B.21

Success would be:

- A complete removal / deletion of any reference to the 85th percentile speed of free-flowing motor vehicle traffic as the recommended tool to use in an engineering study (see: page 67, lines 10-11).
- OR: A clarification that 85th percentile speeds are only a *recommended* tool for highways and/or rural roads, but not for multimodal urban streets.

Some progress would be: A further downgrade of any reference to the 85th percentile speed of free-flowing motor vehicle traffic from a *recommended* tool (i.e., 'should') to an *optional* tool (i.e., 'may'). *Note: the draft was already an improvement on the previous version, which had required (i.e., 'must') use of the 85th percentile tool.*

No progress would be: A reversal to the previous version's *requirement* that the 85th percentile speed be used as the primary tool for setting speed limits.

3. **Make it safer to cross the street by reforming signal and hybrid beacon warrants so that practitioners can install protected street crossings without requiring pedestrians to risk their lives.** The Manual's circular signal warrants call for either a high volume of people crossing the street without a protected crossing or waiting for multiple traffic injuries or deaths to occur in order to justify installing signals or beacons for pedestrians - while motor vehicle signals are routined installed simply on the basis of traffic projections from a new development (Chapter 4C, Section 4J.01, Sections 2B.06 to 2B.17). These warrant volumes are significantly higher than those in other industrialized countries with far lower traffic fatalities, including Canada. In some cases, the Manual's unreasonably restrictive warrants prevent practitioners from installing safe crossings, even when they can expect that a fatality or serious injury may occur. FHWA can begin to address the signal warrant double-standard by adding a simple non-motorized network warrant (Part 4), adopting basic guidelines about how far pedestrians can be expected to walk to get to a crosswalk (Section 3C.02), and following its own guidance and research buried in details of the STEP guide, about what kinds of streets aren't safe enough to cross without a signal. (Chapter 4C).

References: Chapter 4C, Section 4J.01, Sections 2B.06-2B.17, and Section 3C.02

Success would be: Address and begin to eliminate the signal warrant double-standard for motor vehicles and pedestrians by adding a simple non-motorized network warrant to Part 4, adopting basic guidelines about how far pedestrians can be expected to walk to get to a crosswalk in Section 3C.02, and following the STEP guide regarding what kinds of streets aren't safe enough to cross without a signal in Chapter 4C. *Note: we asked for a lot of change via a lot of comments, all of which seem reasonable and attainable. It's hard to pinpoint every change we'd like to see in a concise way, but you can look at the detailed comments for information.*

Some progress would be: Adhering to any of the comments requesting the elimination of the signal warrant double-standard for motor vehicles and pedestrians. NACTO provided many comments on this in Chapter 4C, Section 4J.01, Sections 2B.06-2B.17, and Section 3C.02.

No progress would be: No change to any signal warrants language, therefore continuing the process of requiring a high volume of unsafe crossings or a high volume of pedestrian serious injuries or deaths to warrant a pedestrian signal.

4. **Remove the Manual's new proposed chapter on Autonomous Vehicles.** The Manual's new chapter on Autonomous Vehicles (Part 5) places these vehicles at the top of a new modal hierarchy by absolving AV companies of the responsibility to build vehicles that keep all road users safe within the existing transportation network. Upgrading street markings to be compliant with the proposed MUTCD could cost taxpayers billions of dollars; if the markings are non-compliant and an AV-involved crash occurs, taxpayers will likely foot the bill for that as well. FHWA should remove this new AV Part of the MUTCD and consult with a diverse set of transportation practitioners, including those who build and maintain roadways in cities, on appropriate and valid requirements concerning AVs that might be incorporated into existing sections. AV development simply is not far enough along to warrant a separate section at this time.
Reference: Part 5

Success would be: Removal of the entire new Part 5 of the manual on AVs.

Some progress would be: Given that much of the text in Part 5 is also redundant with other sections, all redundant text should be moved to existing sections to improve ease of use for practitioners:

- 5B.01: Most information can be moved to Part 2.
- 5B.02: Any guidance restricting decorative crosswalks here should be eliminated, while relevant/viable information should be moved to Part 3.
- 5B.03: Move all viable information to Part 4, which deals with signals specifically.
- 5B.04: All guidance related to lane widths is inconsistent with other sections of the manual and should be removed; all guidance related to markings

maintenance should be removed; any remaining guidance not already covered elsewhere can be moved to Part 3 (markings).
- 5B.06: Delete.

No progress would be: The worst case scenario would be if Part 5 remains in the MUTCD unchanged. However, we would also consider a retained Part 5 that includes expanded information specifically on Automated Vehicle policies, needs, concerns, considerations, devices, and infrastructure to be an absolute minimum requirement and one that we wouldn't necessarily tout as 'progress' from the draft.

5. **Remove unnecessary restrictions on the use of green paint for bike lanes, red paint for bus lanes, and other colored paint for crosswalks.** Without any research basis, the proposed Manual prevents practitioners from using green paint to delineate select bike facilities (Section 3H.06), red paint in contextually appropriate ways and without an engineering study in transit lanes (Section 3H.07), and other colored paints to create artful crosswalks (Section 3H.03). The use of colored pavement in bus and bike lanes is an important and heavily utilized treatment to delineate space on the street, and improves visibility for cyclists and transit vehicles. In crosswalks, colorful paint can meaningfully contribute to creating a sense of place and community, and there is no evidence to prove that these designs create any adverse safety impacts.
References: Section 3H.03, Section 3H.06, Section 3H.07

Success would be:
- Section **3H.03**: A complete removal of all conjecture-based / subjective standards regarding artful / colored crosswalks (specifically, page 345, lines 9-39).
- Section **3H.06**: A revision that downgrades the *standards* for solid green paint to *options* for solid green paint; *plus* the inclusion of more facility types as potential candidates for green paint (i.e., shared lane markings, shared use paths, and protected bike lanes on an independent alignment); *plus* a revision that eliminates overly restrictive *standards* on the use of green paint between dotted white lines to an *option* that allows the consideration of green paint between dotted white lines.
- Section **3H.07**: Eased restrictions on the use of red paint for a broader set of facilities; this includes removing the requirement for an agency to conduct an engineering study prior to implementing red paint in a transit lane (page 347, lines 28-29), removing the restriction on using red paint in a transit lane where other motor vehicles might be expected to turn, load, or idle (page 347, lines 36-39), and removing the requirement to have red paint fill the entire lane when used (page 347, line 40)
- *Note: NACTO's stance is that guidance should align with research, and research shows no concerns with the use of paint as laid out in this section. Therefore, we would only really consider changes here to be a success if changes were made to 3H.03, 3H.06, and 3H.07, rather than just one or two.*

Some progress would be:

- Section **3H.03**: Eliminating the restriction that artful crosswalks can only be considered on roadways with speed limits of 30 mph or lower.
- Section **3H.06**: A change to *one or two of, but not all* of the following: a revision that downgrades the *standards* for green paint to *options* for green paint; or the inclusion of more facility types as potential candidates for green paint (i.e., shared lane markings, shared use paths, and protected bike lanes on an independent alignment); *or* a revision that eliminates overly restrictive *standards* on the use of green paint between dotted white lines to an *option* that allows the consideration of green paint between dotted white lines.
- Section **3H.07**: A change to *one or two of, but not all* of the following: removing the requirement for an agency to conduct an engineering study prior to implementing red paint in a transit lane (page 347, lines 28-29), removing the restriction on using red paint in a transit lane where other motor vehicles might be expected to turn, load, or idle (page 347, lines 36-39), and removing the requirement to have red paint fill the entire lane when used (page 347, line 40)

No progress would be:

- Section **3H.03**: No change.
- Section **3H.06**: No change, would retain unnecessarily and overly restrictive prohibitions on the use of green paint in arbitrary scenarios.
- Section **3H.07**: No change, would retain overly restrictive requirements for the use of red paint, despite years of study showing those requirements are not necessary.

6. **Eliminate geometric design restrictions for urban bikeways**. The MUTCD is not intended to be geometric design guidance, yet includes dozens of standards and recommendations about geometric design details. Many are remnants of a preference for vehicular-style cycling among a small percentage of riders and have been contradicted by safety and operational studies over the past several decades. These include restrictions on placing bike lanes to the right of a right turn lane, and unwarranted recommendations against using bike boxes. Rather than include duplicative, conflicting guidance, the MUTCD should encourage the designs called for by best practice guidance such as MassDOT's Separated Bike Lane Planning and Design Guide and NACTO's Urban Bikeway Design Guide. These best practice guidance documents have been developed with careful input from practitioners with experience and expertise in urban bikeway design, and should be treated as the standard for bikeway design in the US.

Success would be:

- Section **9E.02**: removal of the restrictions on bike lanes to the right of right turn lanes/left of left turn lanes.

- Section **9E.05**: removal of the restriction on the use of bike lanes in circular intersections. If specified that this prohibition does not apply to separated bike lanes, that would also count as success.
- Section **9E.12:** removal of the restrictions on where a bike box can be placed.

Some progress would be: downgrading the above restrictions from ‘shall not’ to ‘should not’ statements, or removing two of the three restrictions.

No progress would be: no change from the NPA, or additional restrictions.