



Federal Highway Administration
US Department of Transportation
1200 New Jersey Ave. S.E.
Washington, DC 20590

Re: Need for holistic revision and examination of MUTCD Guidelines

Dear Acting Administrator Pollack and Secretary Buttigieg,

The Solomon Foundation provides technical assistance and seed funding for design and development of the parks and greenways network in Massachusetts. We comment here from the perspective of how the MUTCD impacts connections between on-road and off-road bicycle and pedestrian facilities and safe, elegant design of shared use paths, greenways, side paths, and other off road facilities.

At a high level, we encourage the NCUTC to approach revising the manual from the perspective of maximizing safety for all road and trail users, particularly vulnerable road users, rather than maximizing motor vehicle throughput and speed. The current MUTCD limits the ability to adopt Complete Streets and Vision Zero frameworks on our public ways to make them safer, more equitable public spaces.

Given the rapid evolution of best practices around Complete Streets and Vision Zero, including international developments that can and should be incorporated into US roadways if they are demonstrated to provide superior safety, we encourage the NCUTC to develop a way to update the MUTCD more frequently, or even continuously, to enable the adoption of new best-practices without needing exceptions.

The MUTCD is historically a *reactive* document, all the way back to its origins standardizing the octagonal stop sign. Interestingly, this draft *proactively* adds a new chapter on autonomous vehicles even when their presence on American roadways is rare and experimental and infrastructure requirements remain highly uncertain. It is unequitable and an egregious oversight that there is still no chapter dedicated to pedestrian infrastructure. People have been walking on the land that is now the United States for approximately 20,000 years and cycling here for over one hundred.

Finally, as a design document, we encourage that more attention be paid to the design of the document itself to improve the ease of readability and searchability.

Our specific suggestions for updates to improve safety and connectivity to trails for people walking, biking, and rolling follow:

Fig. 9B-1: Including R1-1 (stop sign) as a bicycle facility sign is confusing. A typical bike path is actually mixed-bike/ped use. Stop signs are not standard pedestrian signage. Furthermore, in some situations, it leads to a required stop on the higher-traffic bike path rather than the lower-volume cross street, where motor vehicles encounter a crosswalk that requires them to yield to crossing bike/ped traffic. This leads to an ambiguous right-of-way priority. The Burke Gilman Trail in Seattle



is a classic example of this, and the WA State Supreme Court has ruled that the stop sign is not legal bike path signage.

<https://wabikes.org/2010/11/15/stop-signs-the-kudzu-of-american-bike-paths/>

Section 9B-16: Update the standard from “should” to “shall”: “The Bicycles Use Shoulder Only sign ~~should~~ shall be limited to use on freeways and expressways” This sign doesn’t belong on non-limited-access roadways. Aside from limited-access highways, the “Use Shoulder Only” is inconsistent with many states’ laws and leads to confusion.

There are an awful lot of roadway example figures in Chapter 9 that show sharrows, which are not considered best-practice for on-road bicycle infrastructure (unless in very low speed, low motor vehicle volume locations).

[NACTO Design Guide](#)

To designate a continuous bicycle facility, green bike lane roadway markings should be continuous through intersections.

Include guidance for Dutch-style height-separated bike lanes (shallow curb), particularly as they relate to intersections. See the MassDOT Separated Bike Lane Planning & Design Guide

<https://www.mass.gov/doc/chapter-3-general-design-considerations/download> Section 3.2.4

Neither Chapter 8 nor 9 figures address roadway surface markings for bicycles crossings train tracks (particularly at angles other than 90 degrees). Figure W10-12 appears to be the only warning sign related to non-perpendicular track crossings. Ideally, the signage should indicate the angle of the crossing to allow a person on a bike to adjust their road position to cross perpendicular to the tracks to avoid getting caught and crashing. Signage about bicycle wheels getting caught in tracks is not included in the draft and ought to be to lessen risk of injury. Chapter 8 None of the examples of non-perpendicular track crossings show how separated bike lanes should be handled. Again, this is a major safety concern, as illustrated by the numerous crashes at the Burke Gilman “missing link” in Seattle.

None of the MUTCD signage related to bicycles shows a bicycle with a person riding it. It is important to allow signage with people on bicycles in order to humanize and destigmatize people bicycling. Similarly, pictures of people should allow for diversity beyond the adult male silhouette shown in e.g. W11-2.

Example of UK signage to illustrate variation in human silhouettes. (York, UK)



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Fig 9D-1. There is no sign for non-numbered bike routes that may have names (similar to M1-8a, with a name or logo but no number). See examples below.

Minuteman Commuter Bikeway, Lexington, MA



The UK equivalent: The Orbital Route in York, UK



[<http://yorkshireridings.blogspot.com/p/york-orbital.html>]

M5-1P through M6-7p It would be helpful to have a greater variety of arrow angles available for routing guidance, particularly in complex urban environments where paths may branch off at unusual angles. One specific example is that there is no “switch-back,” U-turn, or >90 degree turn sign included in the set.

Figure 9D-4(D) The state route that crosses state lines at the bottom of the figure is indicated to require, “Must be different route numbers.” It does not make sense for the route to be required to change numbers when crossing the state line. It makes it harder to plan and follow routes.

Figure 9D-6 It is clutter to require separate brown and green guide signs on bikeways. Allow greater flexibility for more compact bike/ped wayfinding signage to meet community needs.

Community wayfinding standards should be allowed to be applied to bicycle wayfinding. Examples include:

- Community wayfinding, if applied to bike wayfinding, needs to allow for signing to primary destinations or paths within highway ROW, but it currently does not.
- The MUTCD update says you can use colors other than brown and green for shared-use path destination signs, but not in the road ROW or where a SUP crosses a street or highway. This is very restrictive given most signs are placed near road crossings, and in MA we have a lot of side paths that are in the road ROW. This also restricts use of other colors for neighborhood greenways and bike lanes that fill gaps in-between shared-use path segments. Community wayfinding application would really help here.



- The update does allow identification markers to be added into destination sign assemblies, but it's not clear where they're allowed to be used. It seems they only apply to shared-use paths, and this is, again, an issue for all the trails where we have some gap that's filled by a neighborhood greenway or on-road segment.
- Symbols are limited on destination guide signs for shared-use paths to allowable modes only. This cuts out our ability to include service symbols within the destination signs themselves rather than in separate plates and adds to clutter.

Figure 9E-12. Allow roadway to be painted (e.g. green) for bike boxes at intersections.

Figure 9E-17. In addition to the paint, reflective elements are important for night-time safety. These could be on the obstacle and in the roadway.

Chapter 7 on pedestrian treatments around schools should address bike routes to schools similarly. Add kids-on-bike signage. National Safe Routes to Schools programs equally address walking and bicycling.

S1-1 Improve the images representing children. Compare to the UK standard:



Chapter 6 figures show bicycle lane closure, and detour on road or temporary path, but has no illustration of creation of temporary bike lane. This again illustrates the prioritization of preserving the number of motor vehicle lanes during road work over providing safe infrastructure for vulnerable road users. Figure 6P-28 shows the equivalent temporary walkway.

Section 6N.04's guidance on work affecting bike/ped facilities is generally good, but the standard only discusses pedestrian facilities, "Where pedestrian routes are closed, alternate pedestrian routes shall be provided." Provide the same standard for bicycle facilities: **"Where bicycle routes are closed, alternate bicycle routes shall be provided."**



“Bikes in Tunnel” or “Bikes on Bridge” flashing signs that are common along the Oregon coast are not currently included in the MUTCD. Please include them.

https://www.cannonbeachgazette.com/news/arch-cape-tunnel-lighting-project-begins/article_eec2e1b2-31a1-11ea-a5f3-ffc248658eb4.html

<https://bikeportland.org/2014/03/07/odots-first-ever-bicycle-warning-beacons-start-flashing-next-week-102600>

In the discussion of Destination Signs at Circular Intersections (p. 157), I encourage you to express a preference for “destination signs” (D1-5 and D1-5a) over D1-(1-3). The destination signs illustrating where each exit from the roundabout goes allow a road user to plan their exit in advance so that they can focus on navigating the roundabout rather than looking at guide signs while in orbit around the roundabout. This is particularly helpful when the roundabout supports 5 or more roadways, rather than the 4 roadways converging at right angles illustrated in Fig. 2D-13 (See illustration of 5-exit roundabout below)





There are no figures illustrating bicycle lanes or separated paths through a roundabout in Chapter 3 or 9. Please include them (e.g. Fig 3D-1-8). See Section 5.4.3 of the [MassDOT Roundabout Design Guide](#).

Figure 3H-1 Allow other color and treatments for crosswalks keeping in mind visual impairments.

Section 3H.07 and Figure 3H-5. Add that shared bus-bike lanes marked with red paint may be allowed.

Overall, our feedback can be summarized by the following two images:



[left: Edinburgh, Scotland; right: Westow, UK]

Thanks for your consideration.

Sincerely,

Allison Burson

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