Summary

The MUTCD has too much impact on our communities to make only the relatively minor revisions being proposed. The MUTCD limits local innovation and preempts responsiveness to safety hazards, prioritizes motor vehicles over all other forms of transportation, and does not address concerns I have about street and road design. In the United States, the transportation sector is responsible for more greenhouse gas (GHG) emissions than any other sector; an unacceptable number of people are killed or injured in motor vehicle crashes each year, including many who were not using a motor vehicle, and some who were on their own property; deaths and injuries from air pollution are disproportionately borne by BIPOC and low-income residents of urban cores, due to the long history of road design as a tool of racist oppression; and disabilities and poverty are a barrier to access to opportunity and services. The proposed revisions are mostly a step in the right direction, but they don't go far enough. While the executive summary touts infrastructure for transit, bicycles, and pedestrians, the actual content of the revisions still considers these modes to be fundamentally secondary concerns. The executive summary also highlights changes related to autonomous vehicles, which on close examination are more concerning than reassuring. The MUTCD does not address the broader impacts of the transportation system on society at all. The FHWA has an obligation to consider all of the factors that make the transportation system safe or unsafe when recommending physical infrastructure.

Introduction—why I am commenting

I am a multimodal transportation user. My primary form of transportation is a bicycle, which I've kept through several moves, from a mid-sized Midwestern city, to a historic college town, to a farmstead about 15 miles from the nearest town. If the weather is bad, or if I visit a new city, I prefer public transportation for the cost-effectiveness, the peace-of-mind of not being responsible for others' safety, and because it aligns with my social and environmental values. I do have a driver's license, and have operated subcompact cars, delivery vehicles, and a backhoe; I drive on urban streets, interstates, and rural farm roads.

I'm also in my twenties, and I'd like to be alive fifty years from now. A bicycle is a wonderful tool for maintaining the physical fitness and enthusiasm for life to make that happen, but all it takes is one mistake from anyone on the road to end it all. Many people would blame the bicycle for not being protective enough, but of the 37,000 people killed and 3 million injured annually on US roads, many are in cars. Single-vehicle crashes on a bicycle are much less deadly than in cars. So is it the human-sized victim or the multi-ton perpetrator that's really guilty?

The more time I spend on roads in new places, the more I realize that driving is an unfair burden. Operating heavy machinery is difficult, and even trained operators make mistakes, especially when they are pushed to work too long or the machinery is poorly maintained. The road system in the United States is built around every single person who wants to travel being able to operate heavy machinery. Every driver has to do so with minimal training, usually completed before the brain is finished developing; no supervision beyond traffic stops, which are

often racially targeted and result in punishment disproportionately scaled to the crime; with economic pressure to reach destinations quickly and without sufficient rest; and with full personal responsibility for prohibitively expensive vehicle maintenance.

To be clear, the solution is not to increase enforcement and even further reduce mobility, the impact of which would be greatly determined by social class. But any system that imagines the majority of mobility space being for cars and considers vehicle traffic flow when designing roads—and posts speed limits without designing the road for the speed instead of the other way around—will result in preventable deaths. Any system that truly views Americans as equal and free will start by imagining that no individual is personally financially responsible for the right to mobility and the responsibility to keep others safe.

The MUTCD did not create this cultural problem, but bad road design feeds back into it. The MUTCD has the power to change bad road design across the United states.

Basis for comments

I analyzed the summary of proposed changes to the MUTCD by keyword searching and reading several sentences around each mention of the following words:

- Bicycle
- Transit
- Pedestrian
- Autonomous/automatic/automated vehicle
- Equity*
- Race*
- Racism*
- Environmental racism*
- Environment*
- Carbon*
- Pollution*
- Emissions**
- Poverty*
- Justice*

Words marked with an asterisk do not appear in the summary of proposed changes at all, with the exception of “emissions” which does appear once in the context of signage for low-emissions vehicles.

Issues not considered

As I have expressed above, I am disappointed that the MUTCD does not take into account the broader impacts of mobility and transportation infrastructure.

Decades of bad highway design have unjustly decimated neighborhoods with high concentrations of BIPOC individuals or poverty. Bad roads destroy homes and businesses, expose people to unsafe levels of air pollution, and are tools of racist oppression. The proposed revisions to the MUTCD carry on this legacy of environmental racism by ignoring the impact of infrastructure on disenfranchised communities. A better MUTCD would start over and make sure that infrastructure is a tool to right ongoing wrongs, not make them worse.

Looking to the future, in the decade before the MUTCD is likely to be revised again, the climate crisis will become unstoppable unless we drastically reduce GHG emissions in the United States. In many states, the transportation sector is responsible for more GHG emissions than any other sector. We should be using every policy tool available to transition the transportation system away from fossil fuels, including designing our streets, roads, and public spaces to not just accommodate, but encourage low-carbon modes of transportation. Unfortunately, the proposed edits to the MUTCD do not even mention climate, emissions, or related terms. This is a missed opportunity to take climate into account when planning our transportation system.

Bicycles

I was overall impressed by the consideration of bicycle infrastructure in Section 9 of the proposed changes to the MUTCD. It struck me as an example of the thoughtfulness of this section that “Share the Road” signs are no longer recommended; the first time a driver screamed at me to get on the sidewalk while riding past a “Share the Road” sign, I was eight years old.

However, improvements to bike facilities where they exist are only a small part of making an accessible and practical bike network—bicycle street networks should be denser than motor vehicle street networks because motor vehicles are much better able to tolerate longer distances and more indirect routes. One small detail that struck me as particularly unhelpful and dangerous was the signage requirements for bike lanes ending—signs W9-5 “Lane Ends” and W9-5a “Bicycle Merging.” There is *no* circumstance in which a bicycle lane ending would not result in at least some cyclists merging into motor traffic. The “Lane Ends” sign creates behavior similar to “Share the Road,” in which it is not clear what the relative responsibilities of cyclists and motor vehicle drivers are to maintain safe conditions.

While the bicycle sections are clear improvements, I would like to see an MUTCD that considers cycling infrastructure equally to motor vehicles, not as a secondary mode to be accommodated.

Pedestrians

Like with bicycles, the treatment of pedestrian infrastructure is a clear step in the right direction. I especially appreciated accessibility standards, including clarifying and strengthening requirements for ADA compliance and improving the ways pedestrians of all ability levels interact with intersections.

However, the focus on signage, buttons, and marked crosswalks does beg the question: why is the burden on pedestrians to request a space to cross, not on vehicle drivers to maintain situational awareness? Everyone is a pedestrian at some point, and pressing a button to cross the street is an example of the totally disproportionate space, attention, and rights given to drivers over pedestrians.

While I commend FHWA's request for data on decorative pavement markings in section 3H.03, as better than outright rejection, the safety benefits are obvious to anyone who has actually used a decorative crosswalk: vehicles slow down. I would also suggest that if FHWA is able to study the "Comprehension and Legibility of Selected Symbol Signs Phase IV" (Traffic Control Devices Pooled Fund Study, 2017), then perhaps the FHWA would be able to study the comprehension and legibility of decorative pavement markings in-house.

Transit

When reading the transit sections, I thought I missed something. To my understanding, public transit is only mentioned in reference to the option for red pavement color (new Section 3H.07) and LRT at-grade crossing signage and safety (Part 8). While the Executive Summary only refers to red-painted lanes, it seems almost misleading to place any reference to transit in the Executive Summary when the actual content is so minimal.

Autonomous vehicles

As a forward-thinking document, it is important that the MUTCD considers the impact of autonomous vehicles (AVs). However, the actual content of the revisions on AVs makes it clear that these vehicles are not right for our streets and that no amount of infrastructure will make them safe. The proposed MUTCD standards for AVs place an unfair and impossible burden on local transportation departments to improve and maintain road markings and signage in pristine condition. The revisions clearly consider AVs to be more dangerous than human drivers, yet they would punish anybody who is not in an AV. For example, the requirement to mark the end of bike lanes and work zones implies that an AV would not be responsible for detecting bicyclists riding outside a bike lane when provided, or for detecting workers outside a protected work zone. If AVs are truly safe enough to deploy on our streets, they should be able to avoid collisions without the help of signage, and people not traveling inside AVs should continue to retain the same rights to use public space that they do now.

85th percentile speed rule

In Section 2B.21, FHWA solicits comments in regards to the "85th percentile speed rule." I do not have any original data, but I will share an anecdote. I was recently sitting in the passenger seat on an Illinois state highway signed at 55 mph, with a driver originally from Montana. The driver suggested that the road looked safe for 80 mph. The road had no shoulder, no physical lane barriers, no passing lane, and enough traffic to make a head-on collision plausible if any driver were to drift across the centerline at any point; it did have good visibility and minimal

curves, hence my friend's willingness to drive 80 in a 55 mph zone. To the point of the 85th percentile rule, it is absurd to enforce a speed limit that is 20% slower than the speed drivers actually travel, and something should be done to harmonize the speed limit and actual travel speed. That solution is never going to be raising the speed limit on a road with no shoulders. Rather, if the road has no shoulders, something else about the actual design of the road needs to communicate the safe travel speed. The speed limit sign should never disagree with the road conditions, which means the road conditions can't allow drivers to travel at an unsafe speed. I have no problem with a 200 mph speed limit if that speed limit is actually safe for *all* road users given the road conditions, but that situation is obviously unlikely.

Conclusion

The proposed new MUTCD is less bad than the old one, but for many reasons it does not do enough. Even within the scope of former MUTCDs, many segments suggest or require unsafe designs and need to be further revised; and the scope of former MUTCDs is not appropriate to address the problems caused by decades of inequitable, inefficient, ugly, and unhealthy transportation infrastructure design in the United States. The MUTCD should be radically reimagined as a way to promote a better mobility and transportation system, not a less bad one.