

May 14, 2021

**RE: Federal Register Notice: 2125-AF85, Document Number: 2020-26789
National Standards for Traffic Control Devices; the Manual on Uniform Traffic Control Devices
for Streets and Highways; Revision (USDOT/FHWA)**

From: Donald Kostelec – Boise, Idaho; don.kostelec@gmail.com

In my two decades of professional experience as a transportation planner and designer I have experienced the ways in which the use (and misuse) of MUTCD has hampered efforts to get cities, DOTs, highway agencies, and traffic engineers to apply safer traffic control devices for the safety of vulnerable road users—people who walk, people who bike, and people with disabilities.

When MUTCD was last updated in 2009 there were 4,092 pedestrians killed by motorists on roadways in the United States. By 2019 that figure increased 50% to 6,205. (Source: NHTSA)

You wouldn't know the United States experienced this unsettling increase in pedestrian deaths when looking at the proposed changes in MUTCD between 2009 and today's draft version. The document has made little progress in those 12 years ensuring conditions are safe for people who walk and encounter the traffic control devices intended to dictate how they interact with motorists, and vice versa.

MUTCD needs a serious re-write to incorporate safety, rather than motorist level of service, as the driving decision-making responsibility of those agencies and professionals who apply MUTCD in their daily actions.

MUTCD needs a serious re-write to address issues related to equity and encouraging engineers to use the judgment they are afforded rather than treating the standards and guidance in MUTCD as sacred doctrine to apply to every traffic situation on every street in the United States.

MUTCD needs serious re-write from the ground-up as the current draft version builds upon decades of addition and subtraction with no real continuity in its contents and no indication that its contents are predicated on science on safety, as we are often told.

My detailed comments are below.

1. Support for Other Submitted Comments and a Safe Systems Approach:

- Without repeating other well-qualified responses from ITE, NACTO, and Toole Design Group, I want to express my support for their comments and claims on what is needed to modernize MUTCD to prioritize a Safe Systems Approach and the safety of vulnerable road users.
- Specifically, more direct language should be contained in **Section 2B.1** to de-emphasize use of the 85th percentile to set speed limits on urban streets. While it is listed as "guidance," my history tells me the 85th percentile analysis for setting speed limits will still be interpreted as a "standard" by the engineers we work with in my consulting work. It is too often used as a reason to deny safer speed limits and design treatments for vulnerable road users, as well as motorists.

2. Flashing Yellow Arrows (Section 4A.04, primarily)

The section on Flashing Yellow Arrows needs standards and guidance for engineers to preempt the Flashing Yellow Arrow, protected-permissive phase with a fully-protected phase when pedestrians (or bicyclists using the sidewalks and crosswalks) actuate a push detector, most commonly a pedestrian push button. The death of Bob and Florence Goar in Boise, Idaho, in February 2019 illustrates why including such guidance is critical to safety.

Our local highway agency in Boise—the Ada County Highway District—deployed Flashing Yellow Arrows at dozens of intersections. In doing so, the agency purposely engineered conflict into the system by allowing both a “Walk” phase of a pedestrian signal to correspond with a protected-permissive Flashing Yellow Arrow for a left-turn driver. The Goars died when a motorist turning on the Flashing Yellow Arrow turned into their crosswalk before they had finished their movement. To the Highway District’s credit, they already had a preemption phase at this intersection for school crossing time. Had the Goars decided to walk a few minutes earlier that day, then they would still likely be alive.

- <https://www.idahostatesman.com/news/northwest/idaho/article227630394.html>

These video links show the issues when agencies do not apply a preemptive action in the programming of traffic signals.

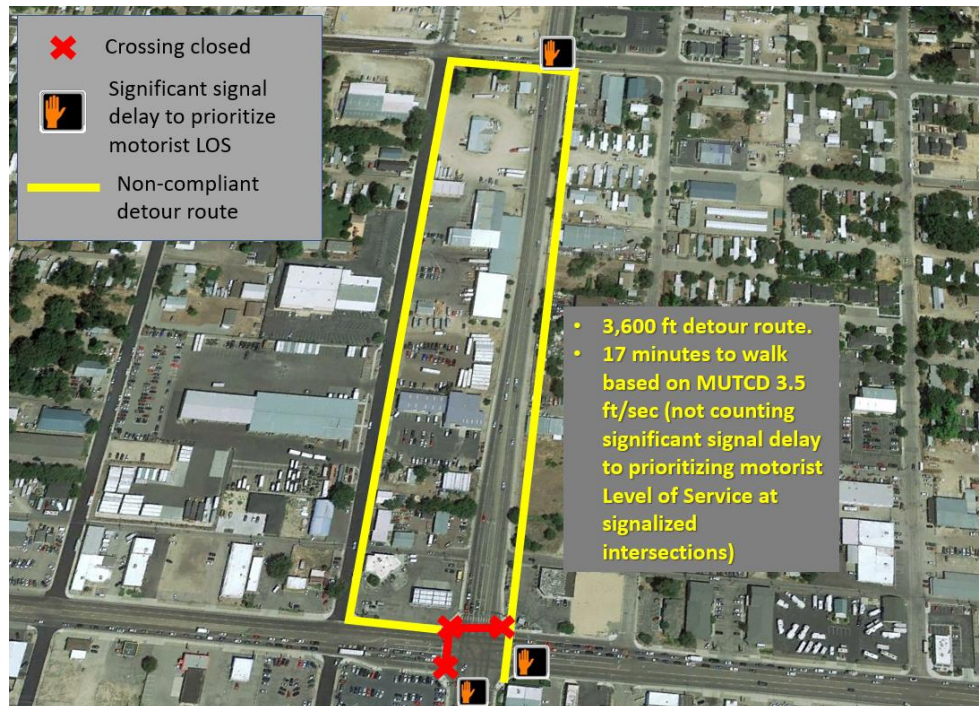
- Video 1, Boise Ave and Apple Street, Boise, ID – Boise School District Special Education Group Crossing at the Walk Signal while motorists have a FYA: https://youtu.be/7x_XY9UBz2M
- Video 2, US Highway 91, Pocatello, ID - <https://youtu.be/ylAmWh8FOUM>
- **Recommendation:** MUTCD include this preemption practice as guidance and one that is stated as a **standard** when marked and signalized pedestrian crossings are present in urban areas, a school zone (time specific programming), and other land uses with notable pedestrian and bicyclist trip generation or trip generating potential.

3. Temporary Traffic Controls (Chapter 6, primarily Section 6C)

- **Out of Direction Travel:** The sections on pedestrians and accessibility contain no standards or guidance on the maximum allowable out of direction travel for a pedestrian detour route. Below is an example of where our local highway agency in Boise, the Ada County Highway District, used MUTCD to provide a temporary pedestrian route after it closed one quadrant of a principal arterial intersection to pedestrian use.

This is the intersection of US Highway 20-26 and Curtis/Veterans Memorial Parkway in Garden City, Idaho. Because the detour route contained comparable facilities to the original route (in compliance with existing MUTCD), the highway district felt they had no other obligations and thus designated a pedestrian detour route of at least 17 minutes of out-of-direction travel for a pedestrian to cross one street. The schematic below shows what they were asking of pedestrians. Due to this onerous detour route, which ACHD felt was allowable due to MUTCD,

pedestrians ignored the signed route and chose to risk their own safety by walking in the travel lanes to use one of the two crosswalks that were now closed.



- **Recommendation:** MUTCD include a standard on maximum allowable out-of-direction travel for pedestrians in construction zones. Work with the NCUTCD and TRB Committees on Accessibility and Pedestrian Access to designate these maximum allowable times or distances.
- **Provision of Pedestrian Access Routes in urban areas that lack sidewalks:** This passage in Section 6C.03 is problematic in urban areas:
 - “When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the 44 existing pedestrian facility.”

The problem arises in how agencies who implement temporary traffic controls in urban settings do not feel they are required to provide pedestrian access through a construction zone if it lacked sidewalks pre-construction. While it is understandable that a project in a rural area with little or no pedestrian activity have such accommodations, having Section 6C apply only to places with existing sidewalks puts people with disabilities, as well as other pedestrians, in unsafe situations in places that have pedestrian activity but the road design has never been modernized to include sidewalks.

An example I encountered in Boise, Idaho was when a construction zone was applied in a section of along a four-lane principal arterial. The sidewalks exist for only a portion of this route on the north side of Franklin Road, west of Curtis Road to Cole Roa. I asked a traffic engineer

from Ada County Highway District to ensure pedestrian access was maintained along the north side as I observed this notable worn pathway due to pedestrian usage. I was denied this request and MUTCD Section 6C.03 was cited as a reason for them not wanting to provide pedestrian access. You'll see in the image below that there is a well-worth path on the north side of Franklin in this section, which indicates notable pedestrian demand. The construction zone severed this link in the system. It is not the fault of pedestrians who use this corridor that the area was urbanized for motorist travel via widening but never modernized for pedestrian use by including sidewalks.



The North Carolina Department of Transportation has established guidance on how to consider making proper accommodations for pedestrians in construction zones, even when they lack sidewalks in a pre-construction state. It may be useful for MUTCD purposes. The training video below suggest that project engineers evaluate pedestrian activity before construction and use that to determine various levels of accommodation. This, in theory, if part of MUTCD would capture scenarios as noted above where there are well-worn pathways.

NCDOT Video on Pedestrians in Construction Zones:

- <https://www.youtube.com/watch?v=AOuYa5IW3dg>
- **Recommendation:** MUTCD include standards that clearly states a pedestrian detour route be maintained through a construction zone in urban areas and when pedestrian activity is evident, regardless of whether or not sidewalks or other pathways were in existence pre-construction. Provide further standards on methods to accommodate this through construction zones where pedestrian facilities are absent but activity is evident. Note this may occur in rural areas as well, based on surrounding land uses.

- **Accessible Pedestrian Signals (APS):** Standards and guidance need to be strengthened as it pertains to APS and what happens with active APS when a construction zone impacts a crossing.

We had an example with ACHD in Boise where the contractor erected a barricade across a curb ramp but at the bottom of the ramp. No change was made to the APS to tell a person who is blind or visually-impaired that, upon them pressing the button of the APS, that the crosswalk is closed and they are expected to use another crossing. When ACHD was pressed on this issue, they said they were under no obligation to change the programming of the APS to reflect the closure. Therefore, a person who is blind or visually-impaired would press the APS button then get the audible cue that “the walk sign is on to cross <street name>,” only to then be met by a barricade in their pathway once they attempted to leave the ramp and enter the street. After that abrupt experience, they were then left without audible cues of the appropriate detour route to take.

- **Recommendation:** Include standards and guidance in Section 6 for APS to be programmed to identify street closures and detour routes. Identify other factors for deactivating APS or pedestrian signal heads when these closures occur.
- **TTCs for Bicyclists:** Section 6 needs a section on specific temporary traffic controls for bicyclists, similar to what exists for pedestrians in Section 6C.

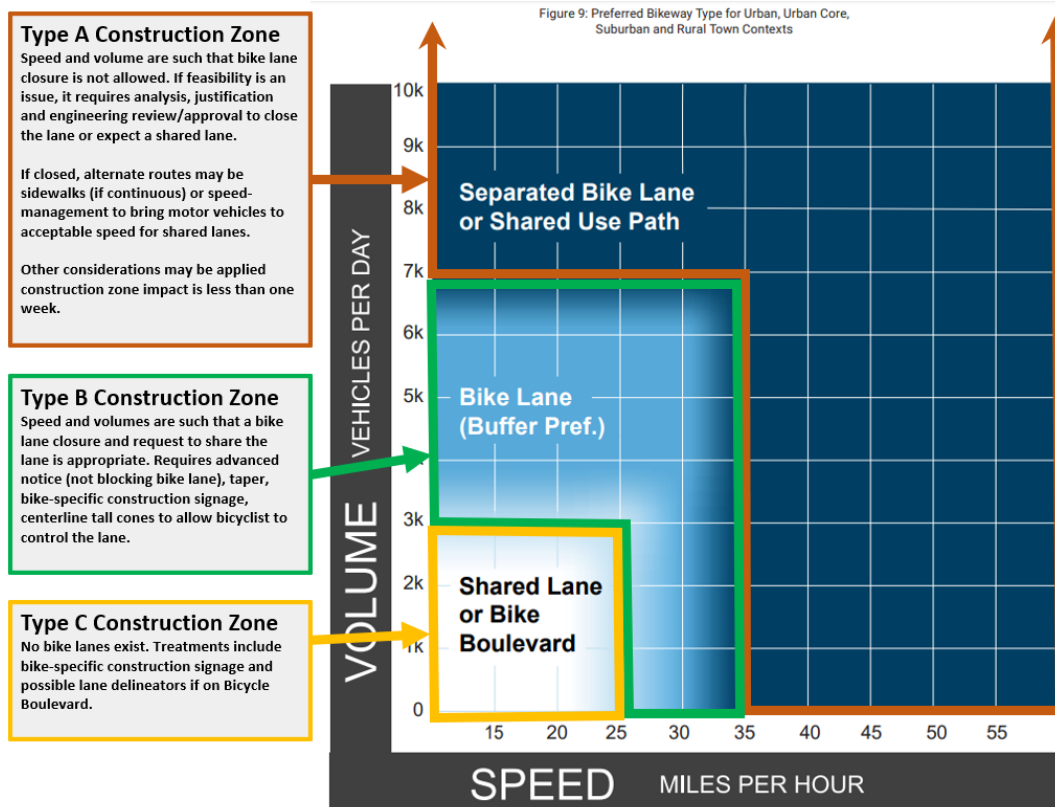
One of my common experiences in bicycling and leading efforts for bikeway planning and design is construction zones that force bicyclists who had a dedicated bike lane or a protected lane pre-construction to then share the lane with vehicles. This is often done without consideration to context of the street.

Some routes with bike lanes may have volumes and speeds that allow temporary traffic controls to be applied where bicyclists are asked to share the lane. However, on high speed, high volume arterials where bike lanes are impacted, the expectation that bicyclists share a lane with motor vehicles is unsafe and misguided.

Adding standards and guidance to MUTCD on appropriate bicyclist accommodations would help considerably in designing safer construction zones for everyone. A similar set of standards and guidelines for bicyclists should be applied, similar to Section 6C for pedestrians.

Guidance may state that if conditions exist where full bike lane closure is the only option, then the construction zone must be engineered to self-enforce speeds that are safe for bicyclists of all ages and abilities to share the lane with motorists. Applying tubular markers to centerline striping to allow bicyclists to control this shared lane is advisable in some instance. This still may be impractical on some arterials and in school zones.

The 2018 FHWA Bikeway Selection Guide contains a matrix (Figure 9) that may be of benefit for inclusion in a bicyclist-specific temporary traffic controls sections of MUTCD. The illustration below is one concept for how this could be used to help guide how bicyclists are safely accommodated in construction zones.



4. Use of Selective Exclusion Sign, specifically Pedestrian Crossing Signs R9-3 (Section 2B.58)

There are numerous examples of misuse of R9-3 signs to force long-distance, out-of-direction travel by pedestrians when agencies who manage the roads are not inclined to install proper spacing for pedestrian signals. The video below shows pedestrians being required to walk several minutes out of their way to get to a crosswalk despite no similar access restriction applied to motorists and no effort by the highway agency in charge of the road to provide more frequent, safe crossings. There is no consideration of a pedestrian's delay or value of time in doing this.



- Video: <https://youtu.be/zWEIQdzYuaA>

Further, Section 2B.58 contains the following Support statement:

- One of the most frequent uses of the Pedestrian Crossing signs is at signalized intersections that have three crossings that can be used and one leg that cannot be crossed. Pedestrians

with low-vision capabilities might need additional features other than traffic control devices to communicate the prohibition of pedestrian crossing.

This is a vague statement that could benefit from additional language of when requiring pedestrians to cross three legs of an intersection in order to cross one leg is not desirable. It's an example of prioritizing motorist throughput rather than pedestrian safety and access. The application of this sign to require that fails to account for pedestrian delay and FHWA's research on pedestrian level of service indicates delays greater than 40 seconds lead to high rates of non-compliance.

- **Recommendation:** MUTCD include a standard on maximum allowable spacing for out-of-direction travel for pedestrians to access a controlled and/or signalized location, with guidance for conditions regarding limited exceptions.

This should be based on, at minimum, the AASHTO *Guide for the Planning, Design, and Operation of Pedestrian Facilities* that states:

- "Pedestrians must be able to cross streets and highways at regular intervals. Unlike motor vehicles, pedestrians cannot be expected to go a quarter mile or more out of their way to take advantage of a controlled intersection" (page 81).

Additional engineering justification for MUTCD to include standards, with guidance on limited exceptions, on maximum allowable spacing, is provided in ITE's *Design Walkable Urban Thoroughfares: A Context Sensitive Approach* (2010; funded by FHWA and endorsed for use by FHWA in this 2013 memorandum: [Link.](#)). It states:

- "Pedestrians must be able to cross streets at regular intervals. Unlike motor vehicles, pedestrians should not be expected to go more than 300 to 400 feet out of their way to take advantage of a controlled intersection" (page 193).

7. Pedestrian Signals Head (Section 4I.01) and Pedestrian Detectors/Push Buttons (4I.05)

- **Pedestrian Signal Heads:** These devices should be a standard requirement for signalized intersections in urban areas unless pedestrian movement is prohibited. Additionally, these signal heads should be recommended in rural areas where signal timing would not allow a pedestrian adequate time to cross during a phase for a parallel vehicular traffic movement. Georgia DOT has examples of including pedestrian signal heads in rural areas to account for land uses and likely pedestrian needs to cross highways. An example is shown in the image below at the intersection of Georgia Highways 365 and 384 near Cornelia, Georgia.



- **Inaccessible push buttons:** It is clear in FHWA rulings that agencies must construct ADA-compliant curb ramps after streets undergo major alterations. Missing from this is the related need to ensure that pedestrian push buttons are made compliant when either a major alteration occurs and/or when a curb ramp is replaced and makes a previously-accessible button inaccessible, or an agency fails to remedy an already-inaccessible push button.
 - Video: Inaccessible push button remaining after curb ramp replacement: <https://youtu.be/IXPm85V1EoM>
 - Image: US Highway 70 in Asheville, NC. Curb ramp rebuilt by NCDOT but pedestrian push button remains out of reach by a person using a wheelchair and undetectable by a person who is blind or visually-impaired.



- **Recommendation:** MUTCD make it a **standard** that pedestrian push buttons are made accessible when major alterations to the adjacent roadway occur and when curb ramp installation or replacement occurs at a location that also contains a pedestrian push button.

8. Speed Limit Sign and Speed Limit Setting (Section 2B.21)

The fact that the justification for use of the 85th percentile to set speed limits is included in a section about signs is very confusing. A new section on setting speed limits, with a reference to it in Section 2B.21 would be more usable for practitioners.

- I support the findings of the NTSB report *Reducing Speeding-Related Crashes Involving Passenger Vehicles* (2017) on speed and the lack of modern, justifiable science behind the use of the 85th percentile, especially on streets that are not interstate highways or of similar design.
- MUTCD needs more specific language on setting speed limits for the safety of all users and updated research on the validity of the 85th percentile for various road types—interstate highways down to local, residential streets.

Factors in setting speed limits: The following language is also troubling as it pertains to speed limits in relation to pedestrians and bicyclists (emphasis added):

- **Reported crash experience** for at least a 12-month period.
- Road context (such as Roadside roadside development and environment (number of driveways, land use); functional classification; parking practices; **pedestrian activity**; **bicycle activity**).

The emphasized language reveals a bias in how MUTCD is implemented. Including only reported crashes ignores how state crash reporting laws do not allow for reporting of things like a bicyclist's dooring crash or a bicyclist crash where there was a single bicycle crash, not involving another moving, motorized vehicle.

Of more concern is "pedestrian activity" and "bicycle activity." As a practitioner, I have heard too many times that "no one bikes there" as a reason to deny bike lanes or safer traffic engineering for bicyclists. By having MUTCD only state that activity is an allowable consideration, it ignores how the engineering of roads suppresses active transportation demand¹.

This ties back to the original point on reported crashes, since a corridor with a design that suppresses bicycling and walking activity may appear to have a safe speed limit for those modes due to lack of crashes brought about by suppression of activity as a result of the speeds.

Bike Lanes and Speed Limits: The images on the next page show four different roadway segments in Ada County, Idaho, that contain bike lanes. These bike lanes are identical in width, as are the five-lane roadway cross sections. However, these routes have four different speed expectations with three of them (45 mph, 40 mph and 35 mph) based on use of the 85th percentile rule. Is a bicyclist supposed to think they are just as safe using bike lane next to moving traffic in the 45 mph segment as they are in the 35 mph segment? Are parents supposed to feel more comfortable letting their children bike to school in these bike lanes because there is another speed expectation during school times?

¹ Ferencak, N and Wesley Marshall, Wesley. Suppressed Child Pedestrian and Bicycle Trips as an Indicator of Safety: Adopting a Proactive Safety Approach in Denver, Colorado. *Transportation Research Part A Policy and Practice*, 2019/03/28.

http://www.kostelecplanning.com/wp-content/uploads/2019/11/Ferencak-Marshall_Suppressed-child-ped-bike-trips-as-an-indicator-of-safety-Adopting-a-proactive-safety-approach_2019.pdf

The 45 mph and 40 mph segments connect to one another along Ten Mile Road in Meridian, Idaho. The 45 mph zone is south of Franklin road while the 40 mph zone is south of Franklin Road. You'll see in the screen capture below this that ACHD increased the speed limit to 45 mph south of Franklin based on an 85th percentile analysis with no consideration of the safety ramifications for people using the bike lane.



Dear Road Wizard: ACHD was kind enough to widen Franklin Road west of Ten Mile Road to Black Cat Road, adding three more lanes! The road is great but now the speed limit has been reduced to 40 mph. That seems a little slow considering it used to be 45 mph with just two lanes. Can we get that bumped back up?

~ Wendy

Road Wizard:

Back during the planning for widening Franklin from Ten Mile to Black Cat, the speed limit on Franklin east of Ten Mile to Linder Road was 40 mph. Some law enforcement agencies prefer consistent speed limits along a corridor, so ACHD set most of Franklin through the city of Meridian at 40 mph.

However, speed studies later revealed that 45 mph was more appropriate for Franklin between Ten Mile and Linder, so that section went up to 45 mph. Franklin west of Linder to Black Cat remained the same with plans to look at the speed limit after the widening work was finished. That's pretty typical after a major change to a major roadway.

The Meridian Transportation Commission, which makes recommendations to the Meridian City Council, also requested a speed limit analysis on Franklin through the city limits. ACHD is doing speed studies and will present those findings to the commission in February before making any changes.

It's not unusual for speed limits to change after major roadway construction. After the Ten Mile Interchange opening, Ten Mile from Franklin to Interstate 84 was originally set at 35 mph. But it was later increased to 40 mph before finally getting bumped up to its current 45 mph limit.

Other Methods for Setting Speed Limit: I support more specific language on alternative methods of setting speed limits, such as USLIMITS2. Where I am in Boise, our highway district (ACHD) still evaluates speed limits (even on local residential streets) through the lens of the 85th percentile. I have seen many neighborhoods in and around Boise request speed limit changes or other speed management techniques from ACHD to make their neighborhoods safer for pedestrians and bicyclists, only to be told that the speed limit is fine because it fits within the confines of the 85th percentile analysis. This is not a unique problem, as I saw similar examples during my time in North Carolina working with the City of Asheville and NCDOT, and have dealt with similar stubborn adherence to the 85th percentile “rule” in doing other work across the United States.

As states have increased speed limits on interstate highways (80 mph in Idaho), we have seen the corresponding 85th percentile speed raised with them. One Idaho study showed the new 85th percentile speed at 83.6 mph after speed limits were raised to 80 mph; Idaho Transportation Department Engineers never questioned the validity of the 85th percentile rule, but instead noted the increase in crashes was consistent with what was experienced on other interstates across the state.

- Link to ITD report, page 31 of the PDF file: https://itd.idaho.gov/wp-content/uploads/2019/09/September2019_BoardPacket.pdf

At what speed limit does the assumption of the 85th percentile speed being the safest speed begin to deteriorate? How should use of the 85th percentile to set speed limits on interstate highways consider the physical limitations of the human body and structure limitations of automobiles in a crash. It’s evident from the NTSB report and other analysis that this has never been fully vetted from a research perspective and used to define how best to set speed limits in a variety of street setting.

- **Recommendations:**

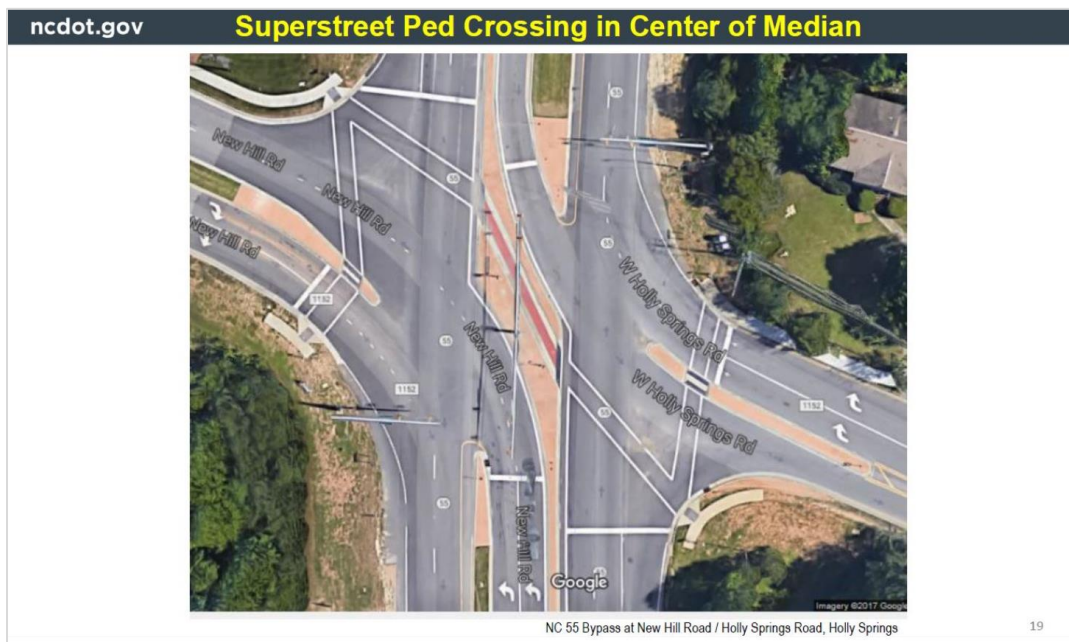
- Develop a separate section of MUTCD on setting speed limits and include recommendations on how to factor in pedestrian and bicyclist needs.
- Include of references to Safe Systems and USLIMITS2 methods to set speed limits and further guidance on speed limit settings as it relates to bicyclists asked to either share lanes or operate in unprotected, in-street bike lanes.
- FHWA should study the limitations of the application of the 85th percentile to set speed limits on interstate highways and other routes to update MUTCD with this guidance.

9. Pedestrian Signal Timing in Two-Stage and Multi-Stage Crossings (Section 4I.06)

There is no consideration of pedestrian delay or pedestrian level of service to guide forcing pedestrians into a two-stage or multi-stage crossing. Additional guidance is needed to ensure pedestrians are not forced into two- or multi-stage crossings for purposes of maximizing motorist throughput. The video below on Iowa State Highway 163 shows a pedestrian feeling compelled to run across an intersection for fear of being caught by a short phase that does not allow a pedestrian to cross the road fully in one stage. This leads to inconsistent behavior and expectations of motorists and pedestrians.

- Video: <https://youtu.be/IsMFNHM2f74>

Today, there are numerous multi-stage crossings being applied on things like Reduced Conflict Intersections and other “creative” engineering to maximize vehicle throughput without consideration of what that entails for pedestrians, as well as bicyclists. The image below shows a multi-stage crossing forced on a pedestrian on a Superstreet on NC Highway 55 in Holly Springs, North Carolina. Without standards and guidance on allowable pedestrian delay and minimization of crossings, agencies like NCDOT feel they can program signal timing any way they want to without regard for pedestrian level of service, pedestrian delay, or pedestrian value of time.



The video below shows the experience of a pedestrian caught in the middle of one of these superstreet, median u-turn, or reduced conflict intersections. The video is of NC Hwy 55 in Chapel Hill, North Carolina. In this particular example, the analysis I conducted revealed the time to use the multi-stage crossing ranged from 160 seconds (2 minutes and 40 seconds) to 220 seconds (4 minutes and 30 seconds); with an average crossing time of 229 seconds (3 minutes and 20 seconds). The pedestrian is required to wait up to two minutes in the median of the road with traffic traveling up to 55 mph on either side of the median.

- Video: <https://www.youtube.com/watch?v=D6lr79UoJPA>
- **Recommendation:** MUTCD standards and guidance for maximum pedestrian delay and dwell times in two-stage and multi-stage crossings. Otherwise, as see in the North Carolina DOT examples, traffic engineers feel they can force pedestrians into time commitments to cross streets that are inconsiderate of a pedestrian’s delay or their value of time.

10. Automated Vehicles (Section 5)

It is unclear from where this section originated since it does not have a formatting or series of tables and data to justify the findings, consistent with other sections of MUTCD. It appears to have been done in great haste.

There is no mention of the impacts of autonomous vehicles on pedestrians, especially people with disabilities who have to navigate the streets with these vehicles in operation. There is limited information on automated vehicles pertaining to bicyclists other than support of separated bicycle facilities, presumably due to the operating shortcomings of automated vehicles when it comes to their abilities to identify vulnerable road users properly and safely.

- **Recommendation:** Remove Chapter 5 and all of its sections until it can be substantiated with data and science, as well as comprehensive considerations for vulnerable road users.

If FHWA allowed representatives of the Autonomous Vehicle industry to draft all or portions of this chapter, then it should either be removed or FHWA should afford the same opportunity to organizations like America Walks, League of American Bicyclists and NACTO to develop MUTCD content for people who walk and bike.

11. Prohibit States from deviating from Federal MUTCD on safety elements for vulnerable road users.

The State of Utah, through the Utah Department of Transportation (UDOT), was allowed by FHWA to deviate from the 2009 MUTCD's contents on pedestrian walk intervals and pedestrian crossing rates when adopting their own state version of MUTCD. While some states use their state-adopted versions of MUTCD to work to enhance safety (e.g. California using yellow paint for school zone crosswalk markings), states like Utah have used their own state versions to make conditions worse for pedestrians.

The table below compares Federal MUTCD (current, no change to proposed language on these sections) and Utah's MUTCD. The walk speed calculations of 3.5 feet per second were derived from Federal MUTCD-related research on the needs of people with disabilities. No state should be allowed to feel like they can time signals for faster pedestrians and ignore the needs of people with disabilities when timing signals. In Utah's case, their state version of MUTCD is predicated on giving pedestrians less time to cross streets.

Federal MUTCD, Section 4I.06 (2009 and draft versions)	Utah MUTCD, Section 4E.06 (December 2011)
Guidance: Except as provided in Paragraph 9, the pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the curb or edge of pavement at the end of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 3.5 feet per second to at least the far side of the traveled way or to a median of sufficient width for pedestrians to wait.	Guidance: Except as provided in Paragraph 8, the pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the curb or edge of pavement at the end of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 4 feet per second to at least the far side of the traveled way or to a median of sufficient width for pedestrians to wait.
The walk interval should be at least 7 seconds in length so that pedestrians will have adequate opportunity to leave the curb or shoulder before the pedestrian clearance time begins.	The walk interval should be at least 4 seconds in length so that pedestrians will have adequate opportunity to leave the curb or shoulder before the pedestrian clearance time begins.

Utah's MUTCD is here: <https://drive.google.com/file/d/1JyNnvMXo5LgvhvSltSOh5miCxD84PSdJ/view>

- **Recommendation:** Prohibit states from adopting their own state versions of MUTCD that alter MUTCD contents pertaining to pedestrian safety and accessibility elements that allow agencies to make conditions worse or less safe for pedestrians and other vulnerable road users.

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