

May 13, 2021

The Honorable Stephanie Pollack
Acting Administrator
Federal Highway Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Notice of Proposed Amendments and Request for Comments: National Standards for Traffic Control Devices; the Manual on Uniform Traffic Control Devices for Streets and Highways; Revision, Docket No. FHWA-2020-0001

Dear Acting Administrator Pollack:

The Insurance Institute for Highway Safety (IIHS) welcomes the opportunity to comment on the Federal Highway Administration's (FHWA's) proposed amendments to the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD). Our comment focuses specifically on Section 2B.21, Speed Limit Sign, and the proposed new Part 5 titled "Automated Vehicles". IIHS supports FHWA's decision to update the MUTCD and recommends that FHWA consider the suggestions outlined below.

Speed limit setting

IIHS supports the National Transportation Safety Board's (NTSB's) recommendation to remove the 85th percentile speed as the only consideration in setting speed limits regardless of the type of roadway. Thus, we recommend that FHWA remove the requirement that speed limits on freeways and rural highways should be within 5 mph of the 85th percentile speed of free-flowing vehicle traffic. Additional context is needed to establish an appropriate and safe speed limit on every road, regardless of its functional classification or intended use.

If the speed limits are raised to meet the current 85th percentile, evidence shows that most drivers will simply increase their speeds further, resulting in a new, higher 85th percentile speed. Numerous studies have found that 85th percentile speeds on rural interstate highways increased when speed limits were raised and then continued increasing (Najjar et al., 2000; Retting & Cheung, 2008; Retting & Greene, 1997; Retting & Teoh, 2008). Increases in speed limits were also found to be associated with increases in fatalities (Farmer, 2019).

IIHS agrees with FHWA's decision to require that additional factors be considered when establishing or evaluating speed limits, such as road context, pedestrian and bicycle activity, and past crash experience. We believe that FHWA could bolster use of these additional factors by incorporating NTSB's recommendation to use an expert system to set speed limits. FHWA should encourage practitioners to use USLimits2 (FHWA, 2020)

to account for these important contextual criteria and adjust speed limits downward as far as the 50th percentile. “Safe speeds” are crucial to a safe system. USLimits2 will move speed limit setting practices toward a safe systems approach, which anticipates human errors and reduces injury severity when crashes occur.

Vehicle speed is a critical factor in whether pedestrians, bicyclists, and other vulnerable road users can survive an impact from a motor vehicle (Tefft, 2013). The presence of pedestrians and bicyclists on roads in urban and suburban environments should be one of the additional factors considered in setting speed limits, as required in FHWA’s proposed amendments to the MUTCD. This may result in lowering existing speed limits in some densely populated urban areas. An IIHS study found that reducing speed limits on Boston streets was effective in encouraging people to slow down, particularly among the drivers who drove the fastest (Hu & Cicchino, 2020).

Automated vehicles

IIHS agrees that traffic control devices must be uniform and consistent for driving automation systems to function properly. However, we do not see value in adding a new section specific to addressing automated vehicles. Driving automation systems should be designed to adapt to existing roads, whose features should already be relatively consistent due to other sections of the MUTCD.

For example, the proposed amendment recommends using longitudinal lines of at least 6 inches wide on roadways to support automated vehicles, when currently in the United States most longitudinal pavement markings are 4 inches wide. Recent research has shown that wider longitudinal markings do have safety benefits on some roadway types (Hussein et al., 2020). Any recommendation for the use of this countermeasure should be included in other sections of the MUTCD to benefit all road users, not just automated vehicles. In addition, our IIHS testing programs have shown that automated lane tracking systems perform well with highly visible 4-inch lines. A clear contrast between the line and the surrounding pavement is much more critical than the line width.

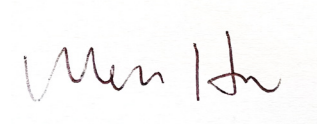
IIHS encourages FHWA to eschew recommending a separate section on automated vehicles. This would help ensure that limited safety resources will be used to implement countermeasures that are known to work for our current population of drivers, pedestrians, and bicyclists rather than to address a future technology that will adapt on its own to work within the existing infrastructure.

Conclusion

In summary, IIHS supports FHWA's efforts to update the MUTCD. For speed limit setting in Section 2B.21, IIHS recommends removing the requirement that speed limits on freeways and rural highways should be within 5 mph of the 85th percentile speed of free-flowing vehicle traffic. We agree that FHWA should require practitioners to consider additional factors when evaluating speed limits, such as pedestrians and bicyclists on roads in urban and suburban environments; FHWA should also encourage the use of

USLimits2. For the proposed Part 5 on automated vehicles, IIHS advises FHWA to eschew adding this new content and focus on our current population of drivers and road users instead.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Wen Hu', is shown on a light-colored background.

Wen Hu
Senior Research Transportation Engineer
Insurance Institute for Highway Safety

References

Farmer, C. M. (2019). The effects of higher speed limits on traffic fatalities in the United States, 1993–2017. Arlington, VA: Insurance Institute for Highway Safety.

Federal Highway Administration. (2020). *USLIMITS2: A tool to aid practitioners in determining appropriate speed limit recommendations*. Retrieved from <https://safety.fhwa.dot.gov/uslimits/>

Hu, W., & Cicchino, J. B. (2020). Lowering the speed limit from 30 mph to 25 mph in Boston: Effects on vehicle speeds. *Injury Prevention*, 26(2), 99–102.

Hussein, M., Sayed, T., El-Basyouny, K., & de Leur, P. (2020). Investigating safety effects of wider longitudinal pavement markings. *Accident Analysis & Prevention*, 142, 105527.

Najjar, Y. M., Stokes, R. W., Russell, E. R., Ali, H. E., & Zhang, X. (2000). *Impact of new speed limits on Kansas highways* (Report No. K-TRAN: KSU-98-3). Manhattan, KS: Kansas State University.

Retting, R. A., & Cheung, I. (2008). Traffic speeds associated with implementation of 80 mph speed limits on West Texas rural interstates. *Journal of Safety Research*, 39(5), 529–534.

Retting, R. A. & Greene, M. A. (1997). Traffic speeds following repeal of the national maximum speed limit. *ITE Journal*, 67(5), 42–46.

Retting, R. A., & Teoh, E. R. (2008). Traffic speeds on interstates and freeways 10 years after repeal of national maximum speed limit. *Traffic Injury Prevention*, 9(2), 119–124.

Tefft, B. C. (2013). Impact speed and a pedestrian's risk of severe injury or death. *Accident Analysis & Prevention*, 50, 871–878.