May 13, 2021

The Honorable Nicole Nason
Administrator
Federal Highway Administration
U.S. Department of Transportation
1200 New Jersey Avenue S.E.
Washington, D.C. 20590

Re: Comments for Docket No. FHWA-2020-0001
Notice of Proposed Amendment (NPA) on the Manual on Uniform Traffic Control Devices (MUTCD)

The American Chemistry Council (ACC) is pleased to provide comments on the proposed Amendments to the Manual on Uniform Traffic Control Devices (MUTCD). ACC supports the adoption of the 11th edition of the MUTCD, and specifically supports amendments that will improve uniformity of road marking standards to advance automated vehicle deployment.

ACC represents the leading companies engaged in the business of chemistry. ACC members apply the science of chemistry to make innovative products and services that make people's lives better, healthier and safer. The business of chemistry is a $565 billion enterprise and a key element of the nation's economy. It is among the largest exporters in the nation, accounting for ten percent of all U.S. goods exports. Chemistry companies are among the largest investors in research and development.

Our member companies have a long history of providing paints and coatings to help automotive manufacturers protect and beautify vehicles, as well as coatings applied to bridges, roadways and public infrastructure. As the automotive industry transforms vehicle designs toward automation, connectivity, and electrification, the chemical industry has continued to develop innovative offerings to provide technology solutions.

Our industry is pioneering the development of paints and related coatings that will improve vehicle and infrastructure visibility to radar and light detection and ranging (LIDAR) sensors used in autonomous driving systems. Our industry has designed coatings with enhanced LIDAR vehicle detection that enables improved visibility and reliability for dark colors or in challenging environmental conditions.

Many member companies are also leaders in the traffic safety and road marking industries and provide the most comprehensive lineup of pavement marking materials and electronic control products. From traditional paints and thermoplastics to high-performance formulas and plural components for roadway striping and preferential lane treatments as well as preformed thermoplastic for transverse markings, streetscape crosswalks and traffic calming treatments, and custom horizontal surface signage, you can find our industry's products throughout the world.

We appreciate the work done by the Federal Highway Administration on the proposed 11th edition on the MUTCD. Specifically, the FHWA's proposed updates to the MUTCD,

emphasizing the need to improve roadway safety and begin to prepare roadways for vehicle automation systems. In this regard, we offer the following comments:

With autonomous vehicles being one of the most significant transformations in transportation, there is need for advanced coating technologies. For example, road markings serve as either a primary or secondary guide in all vehicle automation system technologies and must provide consistent and clear delineation of intended vehicle paths. We fully support the FHWA's emphasis on uniformity of road marking standards to support automated vehicle deployment.

More specifically, we support the following proposed changes to the MUTCD, all designed to tighten national uniformity to improve roadway safety and begin to prepare roadways for vehicle automation systems:

- Using 6-inch wide markings on interstates, freeways, and expressways,
- Using 6-inch wide edge lines on conventional two-lane highways,
- Using dotted edge lines along exit and entrance ramps,
- Placing chevron markings in gore areas, and
- Eliminating the use of intermittent markings as a substitute for continuous markings.

These proposals will enable driver assistance and fully automated vehicle systems to address the most common fatal crash type in the US, single vehicle lane departures. These crash types can be reduced by as much as 66 percent, depending on technology adoption rates and roadway readiness levels.[1]

In addition to the benefit these proposals provide in support of machine vision systems, the proposed MUTCD changes to tighten uniformity of national road marking standards have also been shown to reduce single vehicle lane departures on two-lane highways for human-led vehicles.[2] In the FHWA study where data were analyzed from three states that adopted 6-inch wide edge lines, total lane departure crashes were reduced 15 to 30 percent, while fatal and serious injury crashes were reduced 15 to 37 percent.

In this regard, ACC supports the adoption of the 11th edition of the MUTCD. We appreciate your consideration of the above comments and are available to answer any questions.

Sincerely,

Kimberly Wise White, Ph.D
American Chemistry Council (ACC)
Vice President, Regulatory and Technical Affairs Division

---

[1] Penmetsa, P., Hudnall, M., and Nambisan, S. (2019). Potential safety benefits of lane departure prevention technology. *International Association of Traffic and Safety Services Research*, *43*(1), pp. 21–26.

[2] Report FHWA-HRT-12-048
https://www.fhwa.dot.gov/publications/research/infrastructure/pavements/12048/12048.pdf