



May 14, 2021

Docket Management Facility
United States Department of Transportation
1200 New Jersey Avenue SE
West Building, Ground Floor
Room W12-140
Washington, DC 20590-0001

RE: Docket No. FHWA-2020-0001, RIN 2125-AF85, National Standards for Traffic Control Devices; the Manual on Uniform Traffic Control Devices for Streets and Highways; Revision

The American Road & Transportation Builders Association (ARTBA) is pleased to submit the following comments on the Federal Highway Administration's (FHWA) Dec. 14, 2020, proposed amendments to the Manual on Uniform Traffic Control Devices (MUTCD).

Introduction

The safety of the men and women who build and maintain America's transportation infrastructure—as well as those traveling through our work zones—is a top priority for ARTBA. In the roadway construction industry, the word “safety” conjures up different meanings, depending on one's experience and perspective. For example, when a designer thinks about safety, he or she may be concerned about roadway alignments, proper curves and sloping. To a construction engineer, the concern may be focused on load capacity and the durability of materials. The traffic engineer may be worried about moving traffic safely through a work zone with adequate signage and channelizing devices. The construction contractor worries about injuries to employees and damage to equipment.

As the only national trade association representing all sectors of the transportation construction industry, ARTBA works to bring together infrastructure and safety leaders to better understand the complex and intricate interaction during all phases of transportation construction. The task is not an easy one. We regularly find situations where the safety enhancements for one group inadvertently create hazards for another. Ultimately, however, ARTBA understands that significant safety improvements for all parties will be best accomplished through a coordinated comprehensive approach, as represented in these comments.

Section 1: Repeal of the MUTCD's Ban on Patented and Proprietary Products

Unfortunately, the FHWA's proposed update to the MUTCD appears to prize the internal procedures of uniformity and standardization over the external outcomes of protecting public health and improved system performance. It is ironic that many of the rationales cited for the

proposed revisions to the MUTCD are the same objectives the agency said would be achieved in 2019 when it lifted its ban on the use of federal funds for the products and process with intellectual property right protections. Yet the proposal explicitly contradicts that 2019 action by imposing more explicit barriers to innovation from patented and proprietary products. It is clear ARTBA and FHWA have a different focus on what we each believe should be the top priority for the MUTCD, but the following comments are an attempt to show how a common ground between these perspectives could be achieved.

As the agency considers ARTBA's recommendations, we are compelled to point out FHWA's resistance to patented and proprietary products is inconsistent with long-standing practices commonly found in the executive branch. Agencies with equally complex and important mandates, such as the Department of Defense and National Aeronautics and Space Administration, have learned how to protect the public interest while capitalizing on innovations and technologic advances that are not in the public domain. FHWA cannot maximize the use of innovation and technology to achieve the MUTCD's objectives without following suit.

As with any product and project-based decisions, states should have the flexibility to address their unique needs and pursue the highest level of safety and system performance. As our comments demonstrate, this opportunity for project owners does not have to compromise uniformity.

Repealing the MUTCD's Ban on Patented and Proprietary Products is Necessary to Furthering the Goals of Innovation, Efficiency and Safety

The FHWA publicly announced its intention to update the MUTCD in October of 2018. The agency noted this process would "reflect advances in technological and operational practices, incorporate recent trends and innovations, and set the stage for automated driving systems as those continue to take shape." The anticipated revisions would "propose to allow more flexibility and innovation to improve travel for drivers, pedestrians and bicyclists."

Repealing the MUTCD's current ban on patented and proprietary products is a necessary step to achieving this goal.

ARTBA recognizes the need for consistency and uniformity in directional and safety guidance on the nation's roadways. This has been cited as a rationale for retaining the MUTCD's current prohibition. However, there should also be consistency and uniformity in U.S. Department of Transportation (U.S. DOT) policies. The department could include broad guidelines in the new MUTCD that would fully address this concern.

Innovation and technology in our sector continue to evolve exponentially. Full embrace of those advancements, including through the MUTCD, would carry significant benefits for the nation in safety, economic growth, congestion relief and other areas. While consistency in

guidance is important, utilizing every available tool to protect public health should be FHWA's primary objective.

Repeal of the MUTCD's Patented and Proprietary Products Ban is Consistent with FHWA's 2019 Repeal of 23 CFR 635.411

The FHWA repealed in 2019 the proprietary products rule (23 CFR 635.411), which dated to 1916. The bold action opened the door to new protection for public health and other infrastructure advances. FHWA now needs to complement this action by extending it to the oversight of safety-related devices and procedures on the nation's highways and streets.

In announcing the repeal, the FHWA characterized the old rule as a "barrier to innovation in highway technology" and noted that its repeal "best provides State [Departments of Transportation] greater flexibility to use innovative technologies in highway transportation." In addition to strong support from ARTBA, the repeal was endorsed by multiple state departments of transportation, national industry, and manufacturing associations, as well as a substantial majority of individuals commenting to the docket.

Unfortunately, the repeal of the regulatory impediments to patented and proprietary products did not apply to the MUTCD. The proposed updates to the MUTCD provide FHWA the opportunity to rectify that technicality. Ultimately, there is clear commonality between FHWA's characterization of the old proprietary products rule and the outcomes the agency seeks in its update of the MUTCD, including the promotion of safety and efficiency.

Protection of Patented and Proprietary Products is Essential to Fostering Innovation and Increasing Safety

The MUTCD's current ban on patented and proprietary products acts as a barrier to innovation. It discourages states from procuring items with intellectual property right protections with federal funds, despite the potential benefits to safety, durability, and cost they may bring.

The following examples illustrate where current prohibitions within the MUTCD have prevented the consideration of innovative products with positive safety impacts:

➤ Evolutionary Markings, Inc. (EMI):

EMI is a small business incorporated in Idaho in 2014 to develop next generation marker technology to improve visibility and highway safety. EMI's products are grid or solar powered and have the capability to integrate wireless communication and connectivity into light emitting diode (LED) lighted markers (smart markers) and light strips. Real time responsive, smart markers or light strips with communication capabilities did not exist until they were invented and patented by EMI. Many state departments of transportation expressed interest in EMI's products to help deter wrong-way collisions.

Wrong-way crashes are considered the most serious type of traffic collision because of their head-on nature and are often caused by impaired or confused drivers. An official state DOT request for experimentation under the MUTCD to test EMI's wrong way products as part of a warning system was filed by the Idaho Transportation Department (ITD) for the acquisition and evaluation of supporting data, characteristics, and functionality. FHWA denied ITD's request to test a warning system. The agency cited EMI's patent, arguing its products were not allowable for testing because they were not "in the public domain." The decision communicated by FHWA to ITD was that EMI's products could only be experimentally tested if EMI waived its patent rights.

If EMI did so, then the company would not be able to protect its innovations from being appropriated by larger competitors. Because EMI did not waive its patent rights, FHWA has prevented it from marketing, selling or even testing its innovative safety technology in the state DOT marketplace.

➤ Clearview Font

The Clearview font controversy illustrates how the prohibition on patented products results in undesired outcomes. Clearview is a roadside typeface that provided an alternative to the 70-year-old Highway Gothic typeface that was previously the exclusive type for standard for directional signage in the U.S. The FHWA in 2004 approved Clearview for provisional use after scientific research at respected institutions like Penn State and the Texas A&M Transportation Institute suggested it offered superior readability, especially at night.

There was some dispute in subsequent years over the enhanced visibility the Clearview font provided, but over 25 states were using it until FHWA de-authorized it in 2016. While FHWA cited faults in the legibility of some Clearview colors and contrasts, it also cited the patented and proprietary products restrictions as justification, stating "The federal government promotes items that are in the public domain as much as possible."

The FAQ on the MUTCD website states, "IA-5 (i.e. Clearview font usage) was terminated for a combination of reasons; the body of research conducted subsequent to the issuance of IA-5 did not demonstrate that Clearview provided a practical improvement over the established FHWA Standard and the limitations on the use of the Clearview style were causing significant confusion amongst sign professionals, especially at the local levels where its misuse more often occurred. Because of these considerations, **and because the MUTCD generally does not consider equivalent alternatives due to their impact on uniformity, the FHWA discontinued the use of the Clearview letter style.**" (Emphasis added.)

FHWA's decision raised significant concerns with a number of states that were using the Clearview font and preferred to keep it. Encouraged by these states, Congress mandated that the font be reinstated in 2018. From FHWA's website, "The Interim

Approval is being reinstated in accordance with the statutory requirement that was included in the *Omnibus Appropriations Act, 2018* (Sec. 125 of Division L), which required the reinstatement for the fiscal year.”

➤ Zone Crew Safety

Zone Crew Safety, a Colorado based company, developed and patented intuitive signs in 2013 that are clearly recognizable as both a directional indicator and a safety warning device causing drivers to slow down for construction zones and/or street crossings. These signs utilize a stick-figure shape that is recognized worldwide as a known representation of a human being. Effective message comprehension occurs without any education, multilingual issues or advanced placement notice.

This figure-shaped marker has been demonstrably effective in providing directions for cyclists and runners on open roadways nationwide. These markers have also been utilized for navigating street closures by vehicles and mapping multimodal transportation pathways ranging from a single public event site to a large venue involving a complex cluster of buildings and parking structures.

Although FHWA issued a formal letter allowing use of the product for events, exclusion from the MUTCD or even classification as permitted for experimentation based on secured intellectual property rights has caused pervasive denial for testing at the city, county and state levels.

Formal presentations and live product demonstrations of Zone Crew Safety’s product have been made to state transportation boards, the full range of DOT employees, industry associations, affiliated national and regional tradeshows, as well as the National Committee for Uniform Traffic Control Devices (NCUTCD). However, the MUTCD’s current restrictions on patented and proprietary products continues to prevent the product’s continued development and use.

Similar to the aforementioned concerns of Evolutionary Markings, a waiver of patent rights would prevent Zone Safety Crew from protecting its innovations from being appropriated by larger competitors. Once again, the MUTCD’s barrier to innovation is denying states the opportunity to use a product that may address their unique needs.

➤ Rectangular Rapid Flashing Beacons

The FHWA in 2017 terminated the Interim Approval under the MUTCD for rectangular rapid flashing beacons (“RRFBs”), a type of safety device used to alert drivers to pedestrians at uncontrolled crosswalks.¹ In 2008, the FHWA issued an initial Interim

¹ MUTCD – Interim Approval for Optional Use of Rectangular Rapid Flashing Beacons (IA-11) TERMINATION, December 21, 2017.

Approval in which its Office of Transportation Operations reviewed the available data on the RRFB and considered the device to be “highly successful for the applications tested.” The agency further stated that the RRFB “offers significant potential safety and cost benefits, because it achieves very high rates of compliance at a very low relative cost in comparison to other more restrictive devices.”² Following this initial approval, the city of St. Petersburg, Florida, installed more than 120 RRFBs along its roads. Whit Blanton, director of the county's metropolitan planning organization, remarked, “in terms of their effectiveness, they are through the roof.”³

Unfortunately, once FHWA discovered that aspects of the subject device had been patented, the agency terminated the Interim Approval, stating “[i]t is against the public interest to encourage the exclusive use of proprietary products.”⁴ Meanwhile, the city was left in a difficult position as it had plans to install an additional 50 of the devices, and Tampa Bay officials planned to install 70.⁵

To resume installation of the devices, the manufacturer was forced to abandon its patents. Once this occurred, FHWA issued a new interim approval for the devices, and again stated that it “offers significant potential safety and cost benefits.”⁶ As a result of the inconsistency between FHWA policy and the MUTCD, cities like St. Petersburg are being denied products and services they clearly feel are in the public interest to improve safety.

Proposed Changes to the MUTCD’s Treatment of Patented and Proprietary Products

In order to fully realize the FHWA’s goals of promoting safety and innovation through the MUTCD, ARTBA recommends the following improvements. Each proposal contrasts the FHWA’s proposed revisions to the MUTCD with ARTBA’s recommended alternative.

² MUTCD – Interim Approval for Optional Use of Rectangular Rapid Flashing Beacons (IA-11), (July 16, 2008).

³ IWTSP News, *You know those flashing crosswalks? Here's why cities can no longer install them*, (Jan 4, 2018), available at <https://www.wtsp.com/article/news/local/you-know-those-flashing-crosswalks-heres-why-cities-can-no-longer-install-them/67-504933220>.

⁴ Statement of FHWA spokesperson, WTSP News, *You know those flashing crosswalks? Here's why cities can no longer install them*, (Jan 4, 2018), available at <https://www.wtsp.com/article/news/local/you-know-those-flashing-crosswalks-heres-why-cities-can-no-longer-install-them/67-504933220>.

⁵ WTSP News, *You know those flashing crosswalks? Here's why cities can no longer install them*, (Jan 4, 2018), available at <https://www.wtsp.com/article/news/local/you-know-those-flashing-crosswalks-heres-why-cities-can-no-longer-install-them/67-504933220>.

⁶ MUTCD – Interim Approval for Optional Use of Pedestrian-Actuated Rectangular Rapid-Flashing Beacons at Uncontrolled Marked Crosswalks (IA-21), (March 20, 2018).

Section 1A.01 – Purpose of the MUTCD

FHWA Proposal:

The purpose of the MUTCD is to establish national criteria for the use of traffic control devices that meet the needs and expectancy of road users on all streets, highways, bikeways, and site roadways open to public travel. This purpose is achieved through the following objectives:

- A. Promote national uniformity in the meaning and appearance of traffic control devices.
- B. Promote national consistency in the use, installation, and operation of traffic control devices.
- C. Provide basic principles for traffic engineers to use in making decisions regarding the use, installation, operation, maintenance, and removal of traffic control devices.
- D. Promote safety and efficiency through appropriate use of traffic control devices.

ARTBA Recommendation:

The purpose of the MUTCD is to establish national criteria for the use of traffic control devices that meet the needs and expectancy of road users on all streets, highways, bikeways, and site roadways open to public travel. This purpose is achieved through the following objectives:

- A. Identify safety as the highest priority for every aspect of the manual.**
- B. Promote safety and efficiency through appropriate use of traffic control devices.
- C. Promote national uniformity in the meaning and appearance of traffic control devices.
- D. Promote national consistency in the use, installation, and operation of traffic control devices.
- E. Provide basic principles for traffic engineers to use in making decisions regarding the use, installation, operation, maintenance, and removal of traffic control devices.

Rationale:

Under FHWA's current policy, patent protections for traffic control devices are universally inconsistent with uniformity under the MUTCD. While promoting "uniformity" is important,

safety is the primary objective of the MUTCD. Promising opportunities to improve safety and transform transportation technology by the testing and use of innovative products that are patented or proprietary should not be prohibited on the basis of uniformity alone.

The current FHWA policy is inflexible and exclusionary. It creates a regulatory roadblock to forward thinking safety advances in America's roadways, unless patent holders abandon their patent protections and allow anyone to use their intellectual property for free. Private enterprise and small businesses should be incentivized to innovate safety solutions, rather than deterred. They should also be granted a reasonable opportunity to recapture their significant investment in costs and risks incurred to develop new transportation technologies that promote public safety.

FHWA's proposed language in Section 1D.08 actually expands its absolute ban on patents and proprietary products. In contrast, ARTBA's recommendation allows for a paradigm shift to an inclusive policy that examines and regulates all promising safety advances and transportation technology, even if patented. Technology properly deployed and proportionately used can help in protecting public safety in these rapidly changing times and reduce the number of individuals injured and killed as a result of transportation.

Section 1B.06 – Experimentation, Subsection F, Paragraph 11

FHWA Proposal:

A request for experimentation that involves a new traffic control device or a new application of an existing traffic control device shall include from the agency conducting the experiment, the manufacturer and/or developer of the device, and the supplier of the device, a legally binding statement certifying that the traffic control device is not protected by a patent, trademark, or copyright, and that the traffic control device is in the public domain and may be used freely in traffic control device design and application without infringement or claim of trade secret misappropriation. The legally binding statement shall also state that the agency conducting the experiment, the manufacturer and/or developer of the device, and the supplier of the device are aware that if patent, trademark, or copyright protection is established in the future for the device or application, such action will result in its removal from the MUTCD, cancellation of its interim approval, or cancellation of the authorization for experimentation.

ARTBA Recommendation:

A request for experimentation that involves a new traffic control device or a new application of an existing traffic control device shall include from the agency conducting the experiment, the manufacturer and/or developer of the device, and the supplier of the device, a legally binding statement certifying that (1) the traffic control device is not protected by a patent, trademark, or copyright, and that the traffic control device is in the public domain and may be used freely in traffic control device design and application without infringement or claim of trade secret misappropriation, **or (2) the traffic control device is protected by a patent, trademark, or**

copyright, along with a detailed description of the protected rights sufficient to identify basis of the assertion, the asserted rights category or type (patent, trademark, or copyright), the name and contact information of all persons asserting the rights, the duration, nature and extent of the rights being asserted and a representation that copies of documents relating to the protected rights will be provided upon FHWA request. The certification shall also include a statement that the agency conducting the experiment will first obtain an acknowledgment from the asserting persons that the protected rights involved in roadway use in the experimentation are subject to the provisions of the Manual and that they will cooperate with the FHWA and the public agency submitting the request so that the purposes of Section 1A.01 of the Manual can be determined by experimentation.

Rationale:

The suggested change would allow patented and proprietary products to be used in the experimentation process without patent holders having to forfeit their proprietary protections. FHWA would also be allowed to consider these products on the basis of their safety impacts, rather than having them shut out of the experimentation process before their benefits are known.

Section 1D.01 – Purpose and Principles of Traffic Control Devices, Standard

FHWA Proposal:

All traffic control devices used on site roadways open to public travel shall have the same shape, color, and meaning as those required by the MUTCD for use on public highways, except as provided in Paragraph 5 of Section 1A.03. Sign size exceptions are noted in each Chapter as applicable.

ARTBA Recommendation:

All traffic control devices used on site roadways open to public travel shall have the same shape, color, and meaning as those required by the MUTCD for use on public highways, except as provided in Paragraph 5 of Section 1A.03 **or as may be further determined from the results of Section 1B.06 experimentation. Experimentation for innovations in traffic safety and transportation technology may be required to determine safety, design, selection, uniformity and other considerations for each device.** Sign size exceptions are noted in each Chapter as applicable.

Rationale:

This addition would allow the results of experimentation to play a role in determining whether a product can be used on public highways, rather than solely basing the decision on a product's patent status.

Section 1D.03 – Uniformity of Traffic Control Devices, Support

FHWA Proposal:

Uniformity of the meaning of traffic control devices is vital to their effectiveness. Uniformity means treating similar situations in a similar way. Uniformity of devices simplifies the task of the road user because it aids in recognition and understanding, thereby reducing perception/reaction time. Uniformity assists road users, law enforcement officers, and traffic courts by giving everyone the same interpretation. Uniformity assists public highway officials through efficiency in manufacture, installation, maintenance, and administration.

The use of uniform traffic control devices does not, in itself, constitute uniformity. A standard device used where it is not appropriate is as objectionable as a non-standard device; in fact, this might be worse, because such misuse might result in disrespect at those locations where the device is needed and appropriate.

ARTBA Recommendation:

Uniformity of the meaning of traffic control devices is vital to their effectiveness. Uniformity means treating similar situations in a similar way. Uniformity of devices simplifies the task of the road user because it aids in recognition and understanding, thereby reducing perception/reaction time. Uniformity assists road users, law enforcement officers, and traffic courts by giving everyone the same interpretation. Uniformity assists public highway officials through efficiency in manufacture, installation, maintenance, and administration.

The use of uniform traffic control devices does not, in itself, constitute uniformity. A standard device used where it is not appropriate is as objectionable as a non-standard device; in fact, this might be worse, because such misuse might result in disrespect at those locations where the device is needed and appropriate. **The use of traffic control devices that are protected by a patent, trademark or copyright is not excluded from experimentation or approval for interim use and may comply with the uniformity and purpose provisions of Section 1D.03 upon the acquisition and evaluation of supporting data, characteristics and functionality from Section 1B.06 experimentation.**

Rationale: The proposed addition allows uniformity to remain an important consideration for the MUTCD, but not the sole basis for excluding a product from use on public highways.

Section 1D.08 – Public Domain, Copyrights and Patents, Standard

FHWA Proposal:

Traffic control device design or application provisions contained in this Manual shall be in the public domain. Traffic control devices contained in this Manual shall not be protected by a

patent, trademark, or copyright, except for the Interstate Shield, 511 Travel Information pictograph, and any items owned by FHWA.

A traffic control device design or application shall not be eligible for official experimentation (see Section 1B.05) or interim approval (see Section 1B.07) unless it is in the public domain. Express abandonment of any and all forms of proprietary protection, such as patents, trademarks, or copyrights, related to the design and application of the traffic control device shall satisfy the requirement for the traffic control device to be in the public domain.

The requirement for the traffic control device to be in the public domain shall not apply to individual components used in the assembly or manufacture of the traffic control device.

ARTBA Recommendation:

Traffic control device design or application provisions contained in this Manual shall be in the public domain, except for the Interstate Shield, 511 Travel Information pictograph, any items owned by FHWA, **and Traffic control devices that are protected by a patent, trademark, or copyright and approved for official experimentation, interim approval, official rulemaking by FHWA, or as contained in this Manual.**

The duration of rights for patents shall be limited as determined by Title 35 of the U.S. Code and upon expiration of a patent term or upon express waiver, the respective patented traffic control device shall be in the public domain.

A patented traffic control device design or application shall be eligible for official experimentation under the provisions for requesting and conducting experimentation contained in Section 1B.06 of this Manual. A patented traffic control device design or application shall be eligible for interim approval in Section 1B.08, pending official rulemaking based upon the results of official experimentation.

The requirement for the traffic control device to be in the public domain shall not apply to individual components used in the assembly or manufacture of the traffic control device.

Rationale:

ARTBA's proposed revisions would allow patent holders to retain ownership of their intellectual property while also allowing the products to be used on public highways.

FHWA's proposed revision to Section 1D.08 perpetuates the ban on patented and proprietary traffic control devices before by not allowing these devices to be eligible for testing or interim approval. Thus, a potential device cannot even be considered for use on public roadways until any patented or proprietary element has been disavowed.

ARTBA's recommended revisions to Section 1D.08 would permit the experimenting agency and patent holder to participate in the MUTCD process and work with the FHWA to assure MUTCD compliance and permit the advancement of life saving technologies. Testing is always necessary for the acquisition and evaluation of supporting data, characteristics, and functionality of new technology and products. Utilizing the data obtained from state departments of transportation or experimental agency testing would enable the FHWA to determine uniform specifications, brightness, quantities, colors, deployment configurations, etc. of new innovative products.

FHWA's support for proposed Section 1D.08 introduces its "message concept" for the first time in the history of the MUTCD to justify its regulatory ban on patented and proprietary traffic control innovations. Specifically, FHWA states:

"The limitation on patented, trademarked, or copyrighted traffic control devices applies to the message that the device conveys to the road user. If a patent or other protection covers the device's communication to the road user by virtue of its appearance, audible message, or other aspects of the message conveyed (e.g., the order in which traffic control signal indications change from green to yellow and red), then the device is considered to be protected and not in the public domain."

Under this new concept, if a patent or other protection covers the device's communication to the road user by virtue of its appearance, audible message, or other aspects of the message conveyed, then the device is considered to be protected, not in the public domain, and precluded from the MUTCD. FHWA does allow other aspects of a device (e.g., internal controls, circuitry, electronics, mechanics, housing, etc.) to be patented or proprietary so long as the appearance, audible message, or other aspects of the message conveyed, including the manner of conveyance, remain freely reproducible by all without infringing on these proprietary rights or interests.

This narrow eligibility would not be workable as written. Internal aspects of devices are generally not patentable because typically they are "prior art" under US patent laws. Frankly, it is doubtful there will be many new and innovative internal components that will be invented to be used in someone else's traffic control devices.

ARTBA's recommendation recognizes that safety improvements and transportation technology advancements must include all traffic control devices, permitting both the agency and patent holder to participate in the MUTCD process and work together with the FHWA to assure the uniformity of messaging.

Section 2: The MUTCD's Treatment of Positive Protection Standards

In Dangerous Conditions, the Use of Positive Protection Should be Presumed

While there have been improvements in U.S. roadway fatality deaths over the past 20 years, the number of annual roadway worker deaths has remained relatively unchanged. When the

standard prescribes an “engineering study” to be conducted before positive protection is used, the decision not to conduct a study simply becomes a decision not to use positive separation. In dangerous situations, the presumptive use of such devices should be affirmative, unless an analysis determines such positive protection is NOT needed. This approach would promote safety instead of ignoring a need. ARTBA’s recommended changes take a step towards better protecting workers and all roadway users through more presumptive use of positive protective measures.

Section 6M.02 – Positive Protection and Temporary Traffic Barriers

FHWA Proposal

Standard:

The need for longitudinal traffic barrier and other positive protection devices shall be based on an engineering study. At a minimum, positive protection devices shall be considered in work zone situations that place workers at increased risk from motorized traffic, and where positive protection devices offer the highest potential for increased safety for workers and road users.

Support:

Consider positive protection under the following circumstances:

- A. Work zones that provide workers no means of escape from motorized traffic such as tunnels or bridges;
- B. Long-term stationary work zones of two weeks or more resulting in substantial worker exposure to motorized traffic;
- C. Projects with anticipated operating speeds of 45 mph or greater, especially when combined with high traffic volumes;
- D. Work operations that place workers close to travel lanes open to traffic; and
- E. Roadside hazards, such as drop-offs or unfinished bridge decks, that will remain in place overnight or longer.

Work zone setups vary depending on the nature of the positive protection used.

ARTBA Recommendation:

Standard:

At a minimum, positive protection devices shall be considered **and documented** in work zone situations that place workers at increased risk from motorized traffic, and where positive protection devices offer the highest potential for increased safety for workers and road users.

Consider positive protection under the following circumstances:

- A. Work zones that provide workers no means of escape from motorized traffic such as tunnels or bridges;
- B. Long-term stationary work zones of two weeks or more resulting in substantial worker exposure to motorized traffic;
- C. Projects with anticipated operating speeds of 45 mph or greater, especially when combined with high traffic volumes;
- D. Work operations that place workers close to travel lanes open to traffic; and
- E. Roadside hazards, such as drop-offs or unfinished bridge decks, that will remain in place overnight or longer.

Work zone setups vary depending on the nature of the positive protection used. **Consideration should be given to adjust for actual field conditions.**

In addition to these recommended changes, ARTBA asks that Typical Application drawings be updated to depict channelizing or positive protection devices more generically. The current depiction of orange dots is sometimes inaccurately interpreted to suggest cones and drums are the only options.

Rationale:

Repeatedly⁷, Congress has asked the U.S. Secretary of Transportation to ensure that positive protective measures are implemented in several prescribed circumstances to better protect roadway workers, yet FHWA has not acted on those statutory directions. This update to the MUTCD presents an opportunity to do so and ARTBA's recommendations are directly in-line with Congressional directives. In addition, though new products and technologies have been introduced in recent years, many agencies remain unaware of their availability or lack understanding of their potential to protect life and health.

Section 3: Other MUTCD Recommendations

Section 2A.21 – Maintaining Minimum Retroreflectivity

Comment:

Signing and striping standards are the most critical for drivers and most important to maintain. Temporary work zone systems including signing, striping, and devices are often installed quickly and with less than optimal placement of the sign or device themselves. When reviewing the roadway signing, markings, and devices in a work zone, ARTBA encourages the state or local jurisdiction to consider whether a driver who is not familiar with work zone set-ups would know how to navigate the roadway? If the answer is no, then the minimum retroreflectivity of signs,

⁷ See Section 1405 of the “Moving Ahead for Progress in the 21st Century” (MAP-21) and Section 1427 of the “Fixing America’s Surface Transportation” (FAST) Act surface transportation reauthorization laws.

markings, and devices needs to be revisited to be sure the standard is universally understood, and the roadway isn't too bright or too dark.

The current version of the MUTCD **§2A.21 – Maintaining Minimum Retroreflectivity** provides a standard requiring public agencies or officials having jurisdiction maintain sign retroreflectivity at or above the minimum levels. This language is satisfactory and provides the necessary flexibility agencies need to meet the minimum standard, but there are concerns that “bright enough” may slip or rollback in instances where there is additional retroreflectivity being used, such as a work zone. In the past, work zones have been known to be too bright and often times the response is to overcorrect and drop below the minimum standard. **ARTBA recommends that every work zone should be reviewed individually to determine the minimum retroreflectivity for that section of road.**

Conclusion

Keeping the MUTCD up to date is an essential part of maintaining the safety of our nation's transportation system. ARTBA looks forward to continuing this dialogue with FHWA and working with the Biden administration to ensure the MUTCD is able to help make the technologies and innovations of the future a part of the safety protocols of today.

Sincerely,

A handwritten signature in black ink that reads "David Bauer". The signature is fluid and cursive, with the first name "David" and last name "Bauer" clearly distinguishable.

David Bauer
President & CEO