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Federal Highway Administration

23 CFR Part 630

[Docket No. FHWA-2022-0017]

RIN 2125-AG05

Work Zone Safety and Mobility and Temporary Traffic Control Devices

AGENCY: Federal Highway Administration (FHWA), U.S. Department of Transportation (DOT).

ACTION: Notice of Proposed Rulemaking (NPRM); request for comments.

SUMMARY: The FHWA proposes to amend its regulations that govern traffic safety and mobility in highway and street work zones. The FHWA recognizes that increasing road construction activity on our highways can lead to travel disruptions which could potentially result in congestion and crashes, as well as loss in productivity and public frustration with work zones. These proposed changes are intended to facilitate consideration of the broader safety and mobility impacts of work zones in a more coordinated and comprehensive manner across project development stages.

DATES: Comments must be received on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: To ensure that you do not duplicate your docket submissions, please submit comments by only one of the following means:

- Federal eRulemaking Portal: Go to https://www.regulations.gov and follow the online instructions for submitting comments.
- Mail: Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE.,

Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The telephone number is (202) 366-9329.

All submissions should include the agency name and the docket number that appears in the heading of this document or the Regulation Identifier Number (RIN) for the rulemaking. All comments received will be posted without change to https://www.regulations.gov, including any personal information provided.

FOR FURTHER INFORMATION CONTACT: Mr. Jawad Paracha, Office of Transportation Operations (HOTO-1), (202) 366-4628, or via email at Jawad.Paracha@dot.gov, or Mr. William Winne, Office of the Chief Counsel (HCC-30), (202) 366-1379, or via email at William.Winne@dot.gov. Office hours are from 8:00 a.m. to 4:30 p.m., E.T., Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

Electronic Access and Filing

This document and all comments received may be viewed online through the Federal eRulemaking portal at www.regulations.gov using the docket number listed above. Electronic retrieval help and guidelines are also available at www.regulations.gov. An electronic copy of this document may also be downloaded from the Office of the Federal Register's Website at www.FederalRegister.gov and the Government Publishing Office's Website at www.GovInfo.gov.

All comments received before the close of business on the comment closing date indicated above will be considered and will be available for examination in the docket at the above address. Comments received after the comment closing date will be filed in the docket and will be considered to the extent practicable. In addition to late comments, FHWA will also continue to file relevant information in the docket as it becomes available after the comment period closing date and interested persons should continue to examine the docket for new material. A final rule may be published at any time after the

close of the comment period and after DOT has had the opportunity to review the comments submitted.

Background

The principal mission of the DOT is to ensure America has the safest, most efficient, and modern transportation system in the world. This system boosts our economic productivity and global competitiveness and enhances the quality of life in communities both rural and urban. We depend on transportation for access to jobs, to enable us to conduct our business, to supply us with services and goods, and to facilitate our leisure and recreational activities. The Department's mission is accomplished through strategic goals pertaining to safety, economic strength and global competitiveness, equity, climate and sustainability, transformation, and organizational excellence.

An efficient and well-maintained roadway network is a critical component of our overall transportation system. Our roadway network must be continuously monitored and repaired to keep it functioning. Periodically, roadways must also be rehabilitated, reconstructed, or otherwise improved. The FHWA strongly encourages that work zones to accomplish these activities be implemented and maintained as safely as possible and with the least possible amount of travel disruption. Doing so directly supports the DOT safety strategic goal and facilitates the movement of people and goods while that work occurs, which is essential for maintaining economic strength and global competitiveness. Similarly, effective work zone management also ensures that impacts themselves do not unduly burden any one user group excessively without efforts to mitigate those differential impacts, which furthers the DOT equity strategic goal. Congestion generated by work zones contributes to vehicular pollution, and reducing congestion undoubtedly supports DOT goals pertaining to climate and sustainability. Finally, continuous development and support of new technologies, strategies, and uses of new sources of data

for work zone management relate directly to the Department's transformation and organizational excellence goals.

This NPRM proposes changes to Subpart J, Work Zone Safety and Mobility, and Subpart K, Temporary Traffic Control Devices to clarify and correct certain aspects of the regulations that were last modified in 2004 and 2006, respectively.

Subpart J – Work Zone Safety and Mobility

Work zones are a necessary part of meeting the need to maintain and upgrade our aging roadway infrastructure. Work zone activities are expected to increase significantly with the passage of the Bipartisan Infrastructure Law (BIL) (enacted as the Infrastructure Investment and Jobs Act (Public Law No. 117-58) (November 15, 2021)). The law provides approximately $350 billion for Federal highway programs during Fiscal Years 2022 through 2026.[1] This represents a 55 percent increase in highway and bridge program funding over the Fixing America's Surface Transportation (FAST) Act (Public Law No. 114-94, December 4, 2015).[2]

Even without increased funding, work zones already result in significant safety and mobility impacts. In 2020 (the latest year for which data are available), the National Highway Traffic Safety Administration (NHTSA) reports that 857 individuals lost their lives in 774 fatal work zone crashes.[3] In 2020, 117 workers at road construction sites experienced a fatal occupational injury, 62 of which involved a worker on foot being struck by a motor vehicle.[4]

In terms of mobility impacts, it has been estimated that 10 percent of congestion

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[1] BIL information can be viewed at the following internet Website: *https://www.fhwa.dot.gov/bipartisan-infrastructure-law/funding.cfm.*

[2] FAST Act information can be viewed at the following internet Website: *https://www.govinfo.gov/content/pkg/PLAW-114publ94/html/PLAW-114publ94.htm*.

[3] Fatal Analysis Reporting System (FARS) maintained by NHTSA. More information is available at the following internet Website: *http://www-fars.nhtsa.dot.gov/.*

[4] Census of Fatal Occupational Injuries maintained by the Bureau of Labor Statistics, U.S. Department of Labor. More information is available at the following internet Website: *https://www.bls.gov/iif/data.htm.*

in urban areas and 35 percent of congestion in rural areas is caused by work zones.[5] In Pennsylvania, 17 to 26 percent of congestion is attributed to roadwork[6]; in Florida, 4 to 7 percent of mid-day and p.m. peak congestion on arterial streets are attributed to work zones.[7] Certainly, the requirements contained in 23 CFR part 630 Subpart J continue to be needed to help manage and mitigate work zone safety and mobility impacts across the country.

The FHWA has developed multiple resources to assist States in implementing the revisions to the Work Zone Safety and Mobility Rule 2004.[8,9,10,11,12] Overall, States have complied with requirements to establish a work zone safety and mobility policy and to implement a process for identifying significant projects. However, the extent of implementation of some of the other required State-level processes and procedures has varied across the country. For example, many States have developed and implemented systematic procedures to assess anticipated work zone impacts in project development. However, only a few States have established procedures to monitor and manage actual safety and mobility impacts during project implementation or to perform post-project evaluations, despite increased availability of data sources and methodologies available to

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[5] "Traffic Congestion and Reliability: Trends and Advanced Strategies for Congestion Mitigation, FHWA Office of Operations," can be viewed at the following internet Website: *https://ops.fhwa.dot.gov/congestion_report/executive_summary.htm.*

[6] "Transportation Systems Management and Operations Performance Report," Pennsylvania Department of Transportation, January 2020, can be viewed at the following internet Website: *https://www.penndot.gov/ProjectAndPrograms/operations/Documents/2020-January_TSMOPerformance-Report.pdf.*

[7] Soltani-Sobh, A., Ostojic, M., Stevanovic, A., Ma, J. and Hale, D.K. (2017). "Development of Congestion Causal Pie Charts for Arterial Roadways." International Journal for Traffic & Transport Engineering, 7(1).

[8] "Implementing the Rule on Work Zone Safety and Mobility (23 CFR 630 Subpart J)," September 2005, can be viewed at the following internet Website: *https://ops.fhwa.dot.gov/wz/rule_guide/index.htm.*

[9] "Work Zone Impacts Assessment –An Approach to Assess and Manage Work Zone Safety and Mobility Impacts of Road Projects" August 2006, can be viewed at the following internet Website: *https://ops.fhwa.dot.gov/wz/resources/final_rule/wzi_guide/index.htm.*

[10] "Developing and Implementing Transportation Management Plans for Work Zones," December 2005, can be viewed at the following internet Website: *https://ops.fhwa.dot.gov/wz/resources/publications/trans_mgmt_plans/index.htm.*

[11] "Work Zone Public Information and Outreach Strategies," November 2005, can be viewed at the following Website: *https://ops.fhwa.dot.gov/wz/info_and_outreach/index.htm.*

[12] "Work Zone Process Reviews" can be viewed at the following internet Website: *https://ops.fhwa.dot.gov/wz/prtoolbox/wzpr.htm*.

do so.[13,14,15] Similarly, many States have not fully embraced the opportunities for conducting data-driven performance-based work zone process reviews that these data sources and methodologies now offer, despite additional guidance and encouragement to do so.[16,17] The FHWA acknowledges that a lack of clarity in what is specifically required by certain parts of the regulation may partially explain the uneven adoption. The existing regulation has language that was considered necessary at the time it was established to ensure State understanding of the regulation, but which is now considered superfluous to its understanding and implementation.

In addition, FHWA recognizes that the required frequency of Agency work zone process reviews may be hampering some States from performing more in-depth assessments using available data and methods. Section 11302 of the BIL calls for revisions to § 630.1008(e) to ensure that the work zone process review is required not more frequently than once every 5 years. In addition, Section 11303 of the BIL calls for revisions to § 630.1010(c) to ensure that only a project with a lane closure for 3 or more consecutive days shall be considered to be a significant project for purposes of that section and, notwithstanding any other provision of law, a State shall not be required to develop or implement a transportation management plan (TMP) (as described in § 630.1012) for a highway project not on the Interstate System if the project requires not more than 3 consecutive days of lane closures.

These regulations were last modified in 2004 and introduced requirements for

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[13] "Guidance on Data Needs, Availability, and Opportunities for Work Zone Performance Measures," March 2013, can be viewed at the following internet Website: *https://ops.fhwa.dot.gov/wz/resources/publications/fhwahop13011/index.htm.*

[14] "Work Zone Performance Management Peer Exchange Workshop," May 2013, can be viewed at the following internet Website: *https://ops.fhwa.dot.gov/wz/p2p/pmwkshop053013/index.htm.*

[15] "Work Zone Intelligent Transportation Systems Implementation Guide," January 2014, can be viewed at the following internet Website: *https://ops.fhwa.dot.gov/publications/fhwahop14008/index.htm.*

[16] "Utilizing the Work Zone Capability Maturity Framework to Improve Work Zone Management Capabilities and Process Review Efforts," April 2019, can be viewed at the following internet Website: *https://ops.fhwa.dot.gov/wz/webinars/wzcmf/presentation/index.htm.*

[17] "Guidance for Conducting Effective Work Zone Process Reviews," April 2015, can be viewed at the following internet Website: *https://ops.fhwa.dot.gov/publications/fhwahop15013/index.htm.*

State departments of transportation to develop and adopt work zone safety policies; to conduct work zone impacts analyses during project development to better understand individual project characteristics and the associated work zone impacts; to develop TMPs for projects as determined by the State's policy and results of impact analysis; and provisions to allow States flexibility to choose either method-based or performance-based specifications for their contracts. The FHWA proposes to revise §§ 630.1004, 630.1006, 630.1008, 630.1010, 630.1012, 630.1014, and 630.1016 to clarify certain aspects of the regulation and to update and provide additional emphasis to certain elements that have not seen the quality of implementation that was initially envisioned. The following is a summary of key proposed changes:

- Incorporation of new definitions and clarification of some existing definitions;
- Incorporation of a requirement in a State's Work Zone Safety and Mobility Policy to define the safety and mobility performance measures that the State will monitor and report;
- Reframing the requirement for bi-annual work zone process reviews as work zone programmatic reviews to be performed every 5 years, along with additional information on what is to be included in such reviews;
- Revising the definition of what constitutes a "significant project"; and
- Simplifying the language describing the components of a TMP.

Section-by-Section Discussion of the Proposed Revisions to the Subpart J

§ 630.1004 Definitions and explanation of terms

The proposed changes to this section include: defining terms not previously defined; strengthening the definitions of a few terms that were already included in this section; and improving the organization of the regulation.

The FHWA proposes to add definitions of the terms "Agency" and "State" to this section. The FHWA also proposes to modify the definition of "Mobility" in work zones

to delete the language about not compromising the safety of highway workers, as the importance of not compromising the safety of highway workers is already emphasized in the definition of "Safety." Next, the definition of "Safety" would be revised to remove superfluous language and to strengthen the language pertaining to highway workers by adding the rate of highway worker fatalities and injuries per hours of work activity as a useful performance measure of safety.

The FHWA also proposes to move the definition of "Transportation Management Plan" that had been a part of § 630.1012(b) to this Definitions section. This definition includes reference to the temporary traffic control (TTC) plan and a traffic operations (TO) component to the TMP, as needed. The description of a public information component has been expanded to public information and outreach (PIO) to be consistent with the intent of that aspect of the TMP. The definition of a "Work Zone Crash" would be revised to make it consistent with the definition of a work zone crash in the Model Minimum Uniform Crash Criteria (MMUCC).[18] The reference to the MMUCC would be updated to the 5th edition published in 2017, and superfluous language describing the development of the MMUCC would be removed.

The FHWA also proposes to revise the definition of "Work Zone Impacts" to better list the factors affecting work zone impacts, particularly factors that affect highway worker safety. Examples are provided of traffic and travel characteristics that influence such impacts (volume, speed, vehicle mix and classification, etc.). In addition, revisions to the definition are proposed to better describe that such impacts may extend upstream or downstream of the limits of the work zone in addition to other highway corridors, other modes of transportation, or the regional transportation network.

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[18] "Model Minimum Uniform Crash Criteria Guideline" (MMUCC), 5th Ed. (Electronic), 201703, produced by National Center for Statistics and Analysis, NHTSA. Telephone 1-(800)-934-8517. Available at the following internet Website: https://www.nhtsa.gov/mmucc-1.

Finally, FHWA proposes to add a definition for "Work Zone Programmatic Reviews." This definition would replace the term "Process Review" to better emphasize the intent of the review upon the State's overall work zone management program. The work zone programmatic review is a data driven, systematic, and holistic analysis that uses quantitative and qualitative data from different sources to assess the safety and mobility performance of work zones under an agency's jurisdiction in order to identify improvements to that agency's work zone processes and procedures.

§ 630.1006 Work zone safety and mobility policy

A data-driven approach to work zone safety and mobility management requires the definition and use of performance measures. However, when originally published in 2004, the existing regulation did not require States to define the performance measures they would use to monitor and manage work zone impacts as well as their overall work zone management program. As a result, not all States have identified performance measures they plan to monitor, nor have they developed the processes and procedures necessary to compute such measures. Therefore, FHWA proposes to revise this section to add a requirement that the State's work zone safety and mobility policy will identify the safety and mobility performance measures that will be used to monitor and manage performance. The revision suggests the following project-level and programmatic-level performance measure examples: number of fatal and injury crashes occurring in a work zone (project-level measure); percent of projects that exceed a preestablished crash rate in the work zone (programmatic-level measure); number of highway worker fatalities and injuries experienced or highway worker fatality and injury rate per hours worked (project- or programmatic-level measure); percent of projects that experience queues above a predefined threshold (programmatic-level measure); and percent of time when speeds in a work zone drop below a predefined threshold (project-level measure).

§ 630.1008 State-level processes and procedures

When the existing regulation was published in 2004, the idea of work zone safety and mobility management was a new concept. Consequently, the language in the regulation was written to give States significant leeway in how they chose to establish work zone safety and mobility management policies and procedures. The FHWA believes that States have made significant strides in their assessment and management procedures over the past 15 years that the existing regulation has been in place. In addition, analytical tools and data sources are readily available to perform these assessments. Therefore, FHWA proposes to revise § 630.1008(b) on work zone assessment and management procedures to strengthen these requirements. The word "should" would be replaced with "shall" in the first sentence. Strengthening the requirement to perform these assessments and management efforts will facilitate continued improvement in work zone safety and mobility nationally without unduly burdening the States. Next, the word "potential" would be added before "work zone impacts" to further indicate that it is an activity that occurs during project development, and the phrase "to all road users and highway workers" would be added to emphasize the importance of assessing potential impacts to both groups during project development. Finally, the words "impacts occurring" would be added after the phrase "safety and mobility" to emphasize the importance of monitoring conditions that occur when a work zone is in place.

Similarly, regulatory language published in 2004 indicated the need to use data and other information to improve agency work zone safety and mobility management processes but did not provide a lot of specifics as to what data or information could or should be used. Thus, FHWA also proposes to revise § 630.1008(c) on work zone data. A description of safety surrogate data and of work zone exposure data would be added to the list of available data sources that States shall use to monitor and manage work zone impacts for specific projects during implementation and to perform its work zone

programmatic reviews. Examples of operational information (speeds, travel times, queue length and duration, etc.) would also be added to this section.

The FHWA proposes to revise § 630.1008(e) to change the description of process reviews to work zone programmatic reviews. The change in terminology emphasizes the importance of the review to look at all aspects of a State's work zone management program. To comply with BIL, the frequency of work zone programmatic reviews is reduced from once every 2 years to once every 5 years. A statement would be added that the review will be shared with FHWA at the end of each 5-year review period.

The FHWA also proposes to strengthen the requirements of the work zone programmatic review with the addition of § 630.1008(e)(1) to indicate that it shall include a data-driven assessment of the safety and mobility performance of either all work zones occurring during the 5-year period of the review, or a representative sample of the State's significant work zones. The proposed regulation further states that the approach used for selecting the representative projects shall be documented in the review and based on factors such as land use, roadway type, type of work zone, and extent of the work zone impacts. Language is added which proposes that each programmatic review shall include an assessment of work zone safety and mobility performance occurring since the last review, systematic identification of the States' work zone management processes and procedures to be improved, action items to be taken to achieve improvement, divisions/offices responsible for implementing the actions, and the estimated timeline for implementation. Language is also added that would require States to monitor work zone performance annually and report that performance to FHWA at the end of the third year after the most recent programmatic review. Given the longer time that would now be allowed between reviews, this proposed requirement emphasizes the need to monitor work zones on a continuous basis rather than simply evaluating a sample of work zones at 5-year intervals.

The regulatory language published in 2004 indicated that appropriate personnel who represent the various stages of project development, and different offices within the State that are involved in work zone management, should participate in the process (now programmatic) review but did not explicitly call out agency functions and offices that should be involved in the review. Therefore, FHWA proposes to add § 630.1008(d)(2) to explicitly identify the various State divisions or offices that shall be examined as part of the programmatic review, including but not limited to project planning, design, project implementation, maintenance activities, transportation operations and management, permitting (e.g., utilities, oversize/overweight, lane closures, sidewalk closures), training, and public information and outreach. The remaining language in this section would be revised as § 630.1008(e)(3). The FHWA proposes to add "and implementation" after "project development" to keep it consistent with the similar statement in § 630.1006. The FHWA also proposes to remove the last sentence of the remaining language in the existing version of this section since it simply describes the intent of process reviews and is not essential to the implementation of the regulation.

§ 630.1010 Significant projects

The FHWA proposes to revise § 630.1010(c) in response to directives included in BIL. Specifically, the paragraph would be changed to state that projects on the Interstate System within the boundary of a designated Transportation Management Area (TMA) that require intermittent or continuous lane closures for 3 or more consecutive days shall be considered significant projects.

The FHWA also proposes to add a new § 630.1010(d) to indicate that States shall not be required to develop or implement the TO or PIO components of a TMP for a highway project not on the Interstate System if the project is not deemed significant by the State. Although the existing language appeared to already allow this, this additional

paragraph would emphasize that point more directly. This proposed addition would require that the previous paragraph (d) be renumbered as § 630.1010(e).

§ 630.1012 Project-level procedures

The FHWA proposes to revise § 630.1012(b) describing the TMP. The first full sentence would be moved to the § 630.1004 definitions and explanation of terms. The second sentence would be edited to utilize the TO and PIO acronyms previously defined § 630.1004.

The FHWA proposes to revise § 630.1012(b)(1) describing a TTC plan. The second sentence of this paragraph is superfluous to the intent of the regulation and would be deleted in its entirety. The American Association of State Highway and Transportation Officials (AASHTO) "Roadside Design Guide" that is incorporated by reference would be updated to the 2011 edition. This document was developed by AASHTO to present the concepts of roadside safety (including those in work zones) to designers so that the most practical, appropriate, and beneficial roadside design can be accomplished for each project.

Section 630.1012(b)(3) would be edited slightly to use the term "PIO" when discussing the public information and outreach component of a TMP when used.

The FHWA also proposes to delete §§ 630.1012(d)(1) and 630.1012(d)(2) from the regulation. Both paragraphs are informational only and are not needed.

§ 630.1016 Compliance Date

The FHWA proposes that the compliance date be 12 months after publication of the final rule in the Federal Register. This would allow States time to implement the proposed changes in requirements. In addition, FHWA proposes to specify that the States' next work zone programmatic review would be due on December 31, 2025, and once every 5 years thereafter.

Subpart K – Temporary Traffic Control Devices

In 2007, at 72 FR 68489, FHWA added a new subpart K to 23 CFR part 630 to facilitate the appropriate use of, and expenditure of funds for, uniformed law enforcement officers, positive protective measures between workers and motorized traffic, and installation and maintenance of temporary traffic control devices during construction, utility, and maintenance operations. The intent of the regulation was to reduce both worker and motorist fatalities and injuries in work zones. Overall, work zone fatalities did decrease significantly during the latter half of that decade, from a high of 1,068 work zone fatalities in 2004 to 590 fatalities in 2011.[19] Unfortunately, since then that trend has reversed, growing from 590 fatalities in 2011 to 857 fatalities in 2020 (the most recent year of available national work zone fatality data).

Vehicle collisions with highway workers as a percentage of all highway worker fatalities have also been trending upward in recent years. In 2015, 35 percent of all highway worker fatalities at road construction sites were caused by a vehicle striking a worker; by 2020, that number has increased to 53 percent.[20,21]

Among other provisions, the initial NPRM for Subpart K, published November 1, 2006, at 71 FR 64173, proposed that "….positive protective measures shall be required to separate workers from motorized traffic in all work zones conducted under traffic in areas that offer workers no means of escape (e.g., tunnels, bridges, etc.) unless an engineering analysis determines otherwise."[22] The FHWA received a substantial number of comments to the NPRM. While overall the responses were supportive of the intent of the proposed rule, several of the respondents noted that the language imposed the

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[19] Fatality Analysis Reporting System (FARS) maintained by NHTSA and is available at the following URL: *http://www.fars.nhtsa.dot.gov/.*

[20] Census of Fatal Occupational Injuries. Bureau of Labor Statistics, US. Department of Labor, Washington, DC. Accessible at https://www.bls.gov/iif/overview/cfoi.htm.

[21] Worker Fatalities and Injuries at Road Construction Sites. National Work Zone Safety Information Clearinghouse. Accessible at https://workzonesafety.org/work-zone-data/worker-fatalities-and-injuries-at-road-construction-sites/.

[22] Notice of Proposed Rulemaking 23 CFR part 630 Temporary Traffic Control Devices. Federal Register, Vol. 71, No. 211, November 1, 2006.

requirements without any supporting research indicating that the proposed criteria were appropriate.[23] This created significant concerns with some respondents, who viewed the requirements as arbitrary and overly prescriptive. The FHWA, in response to the comments, acknowledged the lack of available data and research regarding vehicle intrusions, and modified the final rule language to require the need for longitudinal traffic barrier and other positive protection devices to be based on an engineering study. The final rule also required States to consider use of positive protection where such devices offer the highest potential for increased safety for workers and road users. The FHWA retained the conditions listed in the 2006 NPRM as examples of situations where positive protection use shall be considered and added roadside hazards such as drop-offs or unfished bridge decks that will remain overnight or longer as other examples.

Language in the Moving Ahead for Progress in the 21st Century Act (MAP-21) signed into law on July 6, 2012, directed FHWA to modify Subpart K to re-incorporate the original language proposed in the 2006 NPRM related to criteria for requiring positive protection.[24] However, research and data did not support the thresholds stated in the law. A study using the Roadside Safety Analysis Program (RSAP) and available data from New York State regarding work zone intrusion crash severities indicated that positive protection use in work zones could be justified using benefit-cost analyses in many cases, but on higher volume roadways and for longer duration projects than were specified in the law language.[25,26] The FHWA funded a separate benefit-cost analysis, using a different methodology, to evaluate the efficacy of modifying Subpart K language

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[23] Final Rule, 23 CFR Part 630 Subpart K, Temporary Traffic Control Devices. Federal Register, Vol. 72, No. 233, December 5, 2007.
[24] Moving Ahead for Progress in the 21st Century Act (MAP-21). Public Law 112-141, Section 1405, Highway Worker Safety, July 6, 2012.
[25] Ullman, G.L., M.D. Finley, J.E. Bryden, R. Srinivasan, and F.M. Council. *Traffic Safety Evaluation of Nighttime and Daytime Work Zones*. NCHRP Report 627. Transportation Research Board of the National Academies, Washington, DC, 2008.
[26] Ullman, G.L., V. Iragavarapu, and D. Sun. *Work Zone Positive Protection Guidelines*. Report No. FHWA/TX-11/0-6163-1. Texas Transportation Institute, College Station, TX, May 2011.

and also concluded that the thresholds for positive protection use stated in MAP-21 could not be justified.[27] Another study using an updated version of RSAP and updated cost values still resulted in recommendations for positive protection use in work zones that were higher than specified in the MAP-21 language.[28] Despite the lack of research findings supporting the criteria, reference to the MAP-21 language was retained in the Fixing America's Surface Transportation (FAST) Act, signed into law on December 4, 2015.[29]

While the results of the various analyses have not supported the inclusion of the specific thresholds of the 2006 NPRM language into the Subpart K regulation, there is reason to revise the rule at this time. It has been over 15 years since the rule was first published. New technologies, such as work zone intelligent transportation systems (also referred to as smart work zones) and automated flagger assistance devices (AFADs), have become dependable tools that are now readily available to help mitigate the safety and mobility impacts of work zones and should be listed as options to consider within the regulation. Other advanced technologies to support connected and automated vehicle travel through and around work zones continue to be developed and deployed. Conversely, despite sufficient time to develop appropriate procedures to do so, adoption of the requirement to base decisions regarding the need for longitudinal traffic barriers and other positive protection devices on an "engineering study" have been uneven across the States. A need exists to strengthen the rule with regard to what constitutes an engineering study. Finally, the rule references guidelines and other documents that have been superseded by newer publications, and the rule needs to be revised to reflect the proper publication references.

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[27] Support for MAP-21 Section 1405: Cost-Benefit Analysis. Unpublished report prepared for FHWA. March 12, 2013.
[28] Ullman, G.L. and V. Iragavarapu. *Work Zone Positive Protection Guidelines for Idaho*. Report No. FHWA-ID-14-228. Texas A&M Transportation Institute, College Station, TX, November 2014.
[29] Fixing America's Surface Transportation Act (FAST Act). Public Law 114-94. Section 1427, Highway Work Zones, December 4, 2015.

Section-by-Section Discussion of the Proposed Revisions to Subpart K

§ 630.1104 Definitions

Proposed revisions to § 630.1106(b) of the rule would specify that States are to perform an engineering study to guide decisions regarding the use of positive protection devices to prevent the intrusion of motorist traffic into the workspace and other potentially hazardous areas in the work zone, use of exposure control measures to avoid or minimize worker exposure to motorized traffic and road user exposure to work activities, and use of other traffic control measures. Therefore, FHWA proposes to add a definition of an engineering study to this section.

Next, NCHRP 350 has been superseded with the Manual of Assessing Safety Hardware (otherwise known as MASH), American Association of State Highway and Transportation Officials, AASHTO. The FHWA's longstanding policy is that all roadside safety hardware installed on the National Highway System (NHS) be crashworthy. As the MASH implementation process moves forward, there no longer is a need to call out the crashworthiness requirements that positive protection devices shall meet. Therefore, FHWA proposes that the text "…National Cooperative Highway Research Program (NCHRP) Report 350, Recommended Procedures for the Safety Performance Evaluation of Highway Features, 1993, Transportation Research Board, National Research Council" and subsequent language that incorporates by reference that report into the regulation be deleted.

§ 630.1106 Policy and Procedures for Work Zone Safety Management

The FHWA proposes to modify § 630.1106(b) to clarify that agency processes, procedures, or guidance regarding strategies and devices to be used for the management of work zone impacts, including the use of positive protection devices and other strategies, are to be based on an engineering study. In addition, new details are proposed

to provide characteristics of an engineering study and examples of the types of engineering decisionmaking tools that could be used in the engineering study.

The FHWA also proposes to modify the text for paragraph (b)(2) from "Anticipated traffic speeds through the work zone" to "Anticipated operating conditions including traffic volume, vehicle mix, and speeds through the work zone." Paragraph (b)(3) would then be modified from "Anticipated traffic volume" to "Anticipated traffic safety impacts," paragraph (b)(4) would be deleted, and the remaining item list would be renumbered.

§ 630.1108 Work Zone Safety Management Measures and Strategies

The FHWA proposes to modify § 630.1108(a), Positive Protection Devices, to remove redundant language indicating that decisions regarding the use of longitudinal traffic barrier and other positive protection devices shall be based on an engineering study, as this was already stated in § 630.1106(b). The FHWA also proposes that this section be revised to require positive protection devices be used in work zones with high anticipated operating speeds that provide workers no means of escape from motorized traffic intruding into the workspace unless an engineering study determines otherwise. This language is consistent with that initially proposed in the 2006 Subpart K NPRM and in MAP-21 for these situations. The remaining portion of this section would retain the existing language requiring positive protection devices to be considered in other 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.

The FHWA proposes to modify the list of technologies and strategies in § 630.1108(c), Other Traffic Control Measures. Specifically, FHWA proposes that paragraph (c)(7) be modified to include the use of automated flagger assistance devices (AFADs) in addition to enhanced flagger station setups already mentioned. Paragraph

(c)(16) would be modified from automated speed enforcement to speed safety cameras, which is the preferred title of the technology as an FHWA proven safety countermeasure.[30] Two additional technologies, protection vehicles and intelligent transportation systems (ITS) and other advanced technology solutions and strategies, are additionally proposed as paragraphs (c)(21) and (c)(22).

§ 630.1110 Maintenance *of Temporary Traffic Control Devices*

The FHWA proposes to revise the internet Website addresses of the American Traffic Safety Services Association's (ATSSA) "Quality Guidelines for Work Zone Traffic Control Devices," the Illinois Department of Transportation "Quality Standards for Work Zone Traffic Control Devices," and the Minnesota Department of Transportation "Quality Standards - Methods to determine whether the various traffic control devices are Acceptable, Marginal, or Unacceptable." These documents are currently available, but the Website addresses have changed since subpart K was originally issued in 2007.

Discussion under 1 CFR Part 51

The FHWA is incorporating by reference the more current versions of the manuals listed herein. Specifically, FHWA incorporates by reference Chapter 9 of the AASHTO "Roadside Design Guide: Traffic Barriers, Traffic Control Devices, and other Safety Features for Work Zones" but will incorporate the 2011 edition instead of the 2002 edition. This document was developed by AASHTO to present the concepts of roadside safety (including those in work zones) to designers so that the most practical, appropriate, and beneficial roadside design can be accomplished for each project. In addition, FHWA incorporates by reference its 2009 "Manual on Uniform Traffic Control Devices for Streets and Highways," including Revisions No. 1 and No. 2, dated May

[30] *Speed Safety Cameras.* FHWA-SA-21-070. FHWA, U.S. Department of Transportation, Washington, DC.

2012, and No. 3 dated August 2022. This document was developed by FHWA to define the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public travel.

The documents that FHWA is incorporating by reference are reasonably available to interested parties, primarily State DOTs, local agencies, and Tribal governments carrying out Federal-aid highway projects. These documents represent the most recent refinements that professional organizations have formally accepted and are currently in use by the transportation industry. The documents incorporated by reference are available on the docket of this rulemaking and at the sources identified in the regulatory text below. The specific standards are discussed in greater detail elsewhere in this preamble.

Rulemaking Analyses and Notices

Executive Order 12866 (Regulatory Planning and Review), Executive Order 13563 (Improving Regulation and Regulatory Review), and DOT Regulatory Policies and Procedures

The FHWA has considered the impacts of this rule under Executive Order (E.O.) 12866 (58 FR 51735, Oct. 4, 1993), Regulatory Planning and Review, as amended by E.O. 1314094 ("Modernizing Regulatory Review"), and DOT's regulatory policies and procedures. The Office of Information and Regulatory Affairs within the Office of Management and Budget (OMB) has determined that this rulemaking is not a significant regulatory action under section 3(f) of E.O. 12866. Accordingly, OMB has not reviewed it under that E.O.

It is anticipated that the proposed rule would not be economically significant for purposes of E.O. 12866. The proposed rule would not have an annual effect on the economy of $200 million or more. The proposed rule would not adversely affect in a material way the economy, any sector of the economy, productivity, competition, or jobs.

In addition, the proposed changes would not interfere with any action taken or planned by another Agency and would not materially alter the budgetary impact of any entitlements, grants, user fees, or loan programs.

Regulatory Flexibility Act

In compliance with the Regulatory Flexibility Act (Pub. L. 96-354, 5 U.S.C. 601-612), FHWA has evaluated the effects of this proposed rule on small entities and has determined that it is not anticipated to have a significant economic impact on a substantial number of small entities. This rule applies to all State and local highway agencies that use Federal-aid highway funding in the execution of their highway program. However, the proposed regulatory action would only directly impact State requirements regarding work zone programmatic reviews, and otherwise would clarify the characteristics of a significant project. State governments are not included in the definition of small entity set forth in 5 U.S.C. 601. Therefore, FHWA certifies that the proposed rule will not have a significant economic impact on a substantial number of small entities.

Unfunded Mandates Reform Act of 1995

This proposed rule would not impose unfunded mandates as defined by the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4, 109 Stat. 48). This proposed rule would not result in the expenditure by State, local, and Tribal governments, in the aggregate, or by the private sector, of $168 million or more in any one year (2 U.S.C. 1532). In addition, the definition of "Federal Mandate" in the Unfunded Mandates Reform Act excludes financial assistance of the type in which State, local, or Tribal governments have authority to adjust their participation in the program in accordance with changes made in the program by the Federal Government. The Federal-aid highway program permits this type of flexibility.

Executive Order 13132 (Federalism Assessment)

This proposed rule has been analyzed in accordance with the principles and criteria contained in E.O. 13132, and FHWA has determined that this proposed rule would not have sufficient federalism implications to warrant the preparation of a federalism assessment. The FHWA also has determined that this proposed rule would not preempt any State law or State regulation or affect the States' ability to discharge traditional State governmental functions.

Paperwork Reduction Act of 1995

Under the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3501, et. seq.), Federal agencies must obtain approval from OMB for each collection of information they conduct, sponsor, or require through regulations. The FHWA has determined that the rule does not contain collection of information requirements for the purposes of the PRA.

National Environmental Policy Act

The FHWA has analyzed this proposed rule pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 et seq.) and has determined that it is categorically excluded under 23 CFR 771.117(c)(20), which applies to the promulgation of rules, regulations, and directives. Categorically excluded actions meet the criteria for categorical exclusions under the Council on Environmental Quality regulations and under 23 CFR 771.117(a) and normally do not require any further NEPA approvals by FHWA. The FHWA does not anticipate any adverse environmental impacts from this proposed rule.

Executive Order 13175 (Tribal Consultation)

The FHWA has analyzed this proposed regulatory action in accordance with the principles and criteria contained in E.O. 13175, "Consultation and Coordination with Indian Tribal Governments." The purpose of the proposed regulatory action is to improve motorist, worker, and other vulnerable road user safety and mobility on Federal-aid highway projects. The FHWA believes that the proposed action would not have

substantial direct effects on one or more Indian Tribes, would not impose substantial direct compliance costs on Indian Tribal governments, and would not preempt Tribal law. Therefore, the funding and consultation requirements of E.O. 13175 do not apply and a Tribal summary impact statement is not required.

Executive Order 12898 (Environmental Justice)

The E.O. 12898 requires that each Federal Agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minorities and low-income populations. The FHWA has determined that this proposed rule does not raise any environmental justice issues.

Regulation Identifier Number

A RIN is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN contained in the heading of this document can be used to cross reference this action with the Unified Agenda.

List of Subjects in 23 CFR Part 630

Government contracts, Grant programs-transportation, Highway safety, Highways and roads, Incorporation by reference, Reporting and recordkeeping requirements, Traffic regulations.

Issued under authority delegated in 49 CFR 1.81 and 1.85.

Shailen P. Bhatt
Administrator
Federal Highway Administration

In consideration of the foregoing, FHWA proposes to amend Title 23, Code of Federal Regulations, part 630, as set forth below:

PART 630— PRECONSTRUCTION PROCEDURES

1. The authority citation for part 630 is revised to read as follows:

Authority: 23 U.S.C. 106, 109, 112, 115, 315, 320, and 402(a); Sec. 1110, 1501, and 1503 of Pub. L. 109-59, 119 Stat. 1144; Pub. L. 105-178, 112 Stat. 193; Pub. L. 104-59, 109 Stat. 582; Pub. L. 97-424, 96 Stat. 2106; Pub. L. 90-495, 82 Stat. 828; Pub. L. 85-767, 72 Stat. 896; Pub. L. 84-627, 70 Stat. 380; 23 CFR 1.32 and 49 CFR 1.81 and 1.85, and Pub. L. 112-141, 126 Stat. 405, section 1303.

SUBPART J – Work Zone Safety and Mobility

2. Revise subpart J of part 630 to read as follows:

Subpart J – Work Zone Safety and Mobility

Sec.

§ 630.1002 Purpose.

Work zones directly impact the safety and mobility of road users and highway workers. These safety and mobility impacts are exacerbated by an aging highway infrastructure and growing congestion in many locations. Addressing these safety and mobility issues requires considerations that start early in project development and continue through project completion. Part 6 of the MUTCD (incorporated by reference, see § 630.1018) sets forth basic principles and prescribes standards for the design, application, installation, and maintenance of traffic control devices for highway and street construction, maintenance operation, and utility work. In addition to the provisions in the

MUTCD, there are other actions that could be taken to further help mitigate the safety and mobility impacts of work zones. This subpart establishes requirements and provides guidance for systematically addressing the safety and mobility impacts of work zones, and for developing strategies to help manage these impacts on all Federal-aid highway projects.

§ 630.1004 Definitions and explanation of terms.

As used in this subpart:

Agency means a State or local highway agency or authority.

Highway workers include, but are not limited to, personnel of the contractor, subcontractor, agency, utilities, and law enforcement, performing work within the right-of-way of a transportation facility.

Mobility is the ability to move from place to place and is significantly dependent on the availability of transportation facilities and on system operating conditions. With specific reference to work zones, mobility pertains to moving road users efficiently through or around a work zone area with minimum delay compared to baseline travel when no work zone is present. The commonly used performance measures for the assessment of mobility include delay, speed, travel time, and queue lengths.

Safety is a representation of the level of exposure to potential hazards for users of transportation facilities and highway workers. With specific reference to work zones, safety refers to minimizing potential hazards to road users in the vicinity of a work zone and highway workers at the work zone interface with traffic. The commonly used performance measures for highway work zone safety are the number of crashes or the consequences of crashes (fatalities and injuries) at a given location or along a section of highway during a period of time. In terms of highway worker safety performance measures, the number of highway worker fatalities and injuries at a given location or along a section of highway during a period of time, and the rate of highway worker

fatalities and injuries per hours of work activity, are commonly used measures.

State refers to a State department of transportation.

Transportation management plan (TMP) consists of strategies to manage the work zone impacts of a project. Its scope, content, and degree of detail may vary based upon the agency's work zone policy and the agency's understanding of the expected work zone impacts of the project.

Work zone[2] is an area of a highway with construction, maintenance, or utility work activities. A work zone is typically marked by signs, channelizing devices, barriers, pavement markings, and/or work vehicles. It extends from the first warning sign or high intensity rotating, flashing, oscillating, or strobe lights on a vehicle to the END ROAD WORK sign or the last temporary traffic control (TTC) device.

Work zone crash[3] is a crash that occurs in or related to a construction, maintenance, or utility work zone, whether or not workers were actually present at the time of the crash. "Work zone-related" crashes may also include crashes involving motor vehicles slowed or stopped because of the work zone, even if the first harmful event occurred before the first warning sign.

Work zone impacts refer to work zone-induced deviations from the normal range of transportation system safety and mobility. The extent of the work zone impacts may vary based on factors such as: road classification and geometrics; area type (urban, suburban, and rural); traffic and travel characteristics (volumes, speeds, vehicle mix and classification, etc.); type of work being performed; distance between workers and traffic; availability of escape paths for workers; time of day/night; and complexity and duration of the project. These impacts may extend beyond the physical location of the work zone

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[2] *see* MUTCD, Part 6, "Temporary Traffic Control" (incorporated elsewhere in this subpart).
[3] *see* "Model Minimum Uniform Crash Criteria Guideline" (MMUCC), 5th Ed. (Electronic), 2017, produced by NHTSA. Available at the following internet Website: *https://www.nhtsa.gov/mmucc-1*.

itself, including upstream or downstream of the work zone location, other highway corridors, other modes of transportation, and/or the regional transportation network.

A work zone programmatic review is a data-driven, systematic, and holistic analysis that uses quantitative and qualitative data from different sources to assess the safety and mobility performance of work zones under a State's jurisdiction in order to identify improvements to that agency's work zone processes and procedures.

§ 630.1006 Work zone safety and mobility policy.

(a) Each State shall implement a policy for the systematic consideration and management of work zone impacts on all Federal-aid highway projects. This policy shall address work zone impacts throughout the various stages of the project development and implementation process. This policy may take the form of processes, procedures, or guidance, and may vary based on the characteristics and expected work zone impacts of individual projects or classes of projects.

(b) At a minimum, the policy shall identify safety and mobility performance measures that will be used to manage performance, such as number of fatal and injury crashes occurring in a work zone, percent of projects that exceed a preestablished crash rate in the work zone, number of highway worker fatalities and injuries experienced or highway worker fatality and injury rate per hours worked, percent of projects that experience queues above a predefined threshold, and percent of time when speeds in a work zone drop below a predefined threshold.

(c) The States should institute this policy using a multi-disciplinary team and in partnership with FHWA. The States are encouraged to implement this policy for non-Federal-aid projects as well.

§ 630.1008 State-level processes and procedures.

(a) This section consists of State-level processes and procedures for States to implement and sustain their respective work zone safety and mobility policies. State-

level processes and procedures, data and information resources, training, and periodic evaluation enable a systematic approach for addressing and managing the safety and mobility impacts of work zones.

(b) *Work zone assessment and management procedures.* States shall develop and implement systematic procedures to assess potential work zone impacts to all road users and highway workers in project development and to manage safety and mobility impacts occurring during project implementation. The scope of these procedures shall be based on the project characteristics.

(c) *Work zone data.* States shall use field observations, available work zone crash data, safety surrogate data (e.g., speed differentials, hard braking and other data from connected and autonomous vehicles), available operational information (e.g., speeds, travel times, queue length and duration), and available exposure data (e.g., number of projects, number and length of lane closures, vehicle-miles traveled through work zones) to monitor and manage work zone impacts for specific projects during implementation and to perform its work zone programmatic reviews.

(d) *Training.* States shall require that personnel involved in the development, design, implementation, operation, inspection, and enforcement of work zone related transportation management and traffic control be trained, appropriate to the job decisions each individual is required to make. States shall require periodic training updates that reflect changing industry practices and State processes and procedures.

(e) *Work zone programmatic review.* In order to assess the effectiveness of work zone safety and mobility processes and procedures, States shall perform a work zone programmatic review every 5 years and share that review with FHWA by the end of the 5-year review period.

(1) The work zone programmatic review shall include a data-driven assessment of the safety and mobility performance of all work zones or a representative

sample of the State's significant work zones over the 5-year period being reviewed. The approach used for selecting the representative projects shall be documented and should be based on factors such as land use (urban and rural locations), roadway type, type of work zone, and extent of the work zone impacts.

(2) Each programmatic review shall include an assessment of the work zone safety and mobility performance occurring since the last review was performed, systematic identification and assessment of the States' work zone management processes and procedures to be improved, action items to be taken to achieve improvement, divisions or offices responsible for implementing the actions, and estimated timeline for implementation.

(3) States shall use crash data, available safety surrogate data (e.g., speed differentials, hard braking, and other data from connected and autonomous vehicles), operational data, and the performance measures specified in their work zone policy to conduct the assessment. To ensure assessment of the safety and mobility performance of their work zones on a continuous basis, States shall monitor performance annually and report that performance to FHWA at the end of the third year after the most recent programmatic review.

(4) The work zone programmatic review shall include examination of efforts across all State divisions or offices affecting work zone safety and mobility management, including but not limited to: project planning, project design, project implementation, maintenance activities, transportation operations and management, permitting (e.g., utilities, oversize/overweight, lane closures, sidewalk closures), training, and public information and outreach.

(5) Appropriate personnel who represent the project development and implementation stages and the different offices within the State, and FHWA should

participate in this review. Other non-State stakeholders may also be included in this review, as appropriate.

§ 630.1010 Significant projects.

(a) A significant project is one that, alone or in combination with other concurrent projects nearby, is anticipated to cause sustained work zone impacts (as defined in § 630.1004) that are greater than what is considered tolerable based on State policy and engineering judgment.

(b) The applicability of the provisions in §§ 630.1012(b)(2) and 630.1012(b)(3) is dependent upon whether a project is determined to be significant. The State shall identify upcoming projects that are expected to be significant. This identification of significant projects should be done as early as possible in the project delivery and development process, and in cooperation with FHWA. The State's work zone policy provisions, the project's characteristics, and the magnitude and extent of the anticipated work zone impacts should be considered when determining if a project is significant or not.

(c) All Interstate system projects within the boundaries of a designated Transportation Management Area that require intermittent or continuous lane closures for 3 or more consecutive days shall be considered as significant projects.

(d) A State shall not be required to develop or implement the TO or PIO components of a TMP (as described in section § 630.1012(b)) for a highway project not on the Interstate System if the project is not deemed significant by the State.

(e) For an Interstate system project or categories of Interstate system projects that are classified as significant through the application of the provisions in § 630.1010(c), but in the judgment of the State do not cause sustained work zone impacts, the State may request from FHWA an exception to §§ 630.1012(b)(2) and 630.1012(b)(3). The FHWA may grant exceptions to these provisions based on the

State's ability to show that the specific Interstate system project or categories of Interstate system projects do not have sustained work zone impacts.

§ 630.1012 Project-level procedures.

(a) This section provides guidance and establishes procedures for States to manage the work zone impacts of individual projects.

(b) *Transportation Management Plan (TMP).* For significant projects (as described in § 630.1010), the State shall develop a TMP that consists of a TTC plan and addresses both transportation operations (TO) and public information and outreach (PIO) components. For individual projects or classes of projects that the State determines to have less than significant work zone impacts, the TMP may consist only of a TTC plan. States are encouraged to consider TO and PIO issues for all projects.

(1) A TTC plan describes TTC measures to be used for facilitating road users through a work zone or an incident area. The TTC plan shall be consistent with the provisions under Part 6 of the MUTCD (incorporated by reference, see § 630.1018) and with the work zone hardware recommendations in Chapter 9 of the AASHTO Roadside Design Guide (incorporated by reference, see § 630.1018). In developing and implementing the TTC plan, pre-existing roadside safety hardware shall be maintained at an equivalent or better level than existed prior to project implementation. The scope of the TTC plan is determined by the project characteristics and the traffic safety and control requirements identified by the State for that project. The TTC plan shall either be a reference to specific TTC elements in the MUTCD, approved standard TTC plans, State transportation department TTC manual, or be designed specifically for the project.

(2) The TO component of the TMP shall include the identification of strategies that the State will use to mitigate impacts of the work zone on the operation and management of the transportation system within the work zone impact area. Typical TO strategies may include, but are not limited to, demand management, corridor/network

management, safety management and enforcement, and work zone traffic management. The scope of the TO component should be determined by the project characteristics and the transportation operations and safety strategies identified by the State.

(3) The PIO component of the TMP shall include communications strategies that seek to inform affected road users, the general public, area residences and businesses, and appropriate public entities about the project, the expected work zone impacts, and the changing conditions on the project. This may include traveler information strategies. The scope of the PIO component should be determined by the project characteristics and the public information and outreach strategies identified by the State. Public information and outreach should be provided through methods best suited for the project, and may include, but not be limited to, information on the project characteristics, expected impacts, closure details, and commuter alternatives.

(4) States should develop and implement the TMP in sustained consultation with stakeholders (e.g., other transportation agencies, railroad agencies/operators, transit providers, freight movers, utility suppliers, police, fire, emergency medical services, schools, business communities, and regional transportation management centers).

(c) *Inclusion of TMP in Plans, Specification, and Estimates.* The Plans, Specifications, and Estimates (PS&E) shall include either a TMP or provisions for contractors to develop a TMP at the most appropriate project phase as applicable to the State's chosen contracting methodology for the project. A contractor developed TMP shall be subject to the approval of the State and shall not be implemented before it is approved by the State.

(d) *Inclusion of Pay Item Provisions in Plans, Specification, and Estimates.* The PS&Es shall include appropriate pay item provisions for implementing the TMP, either through method or performance-based specifications.

(e) *Responsible persons.* The State and the contractor shall each designate a

trained person, as specified in § 630.1008(d), at the project level who has the primary responsibility and sufficient authority for implementing the TMP and other safety and mobility aspects of the project.

§ 630.1014 Implementation.

Each State shall work in partnership with FHWA in the implementation of its policies and procedures to improve work zone safety and mobility. At a minimum, this shall involve an FHWA review of conformance of the State's policies and procedures with this regulation and reassessment of the State's implementation of its procedures at appropriate intervals. Each State is encouraged to address implementation of this regulation in its stewardship agreement with FHWA.

§ 630.1016 Compliance date.

States shall comply with all the provisions of this rule no later than [DATE ONE YEAR AFTER THE EFFECTIVE DATE]. The next work zone programmatic review will be due December 31, 2025, and once every 5 years thereafter. For projects that are in the later stages of development at or about the compliance date, and if it is determined that the delivery of those projects would be significantly impacted as a result of this rule's provisions, States may request variances for those projects from FHWA on a project-by-project basis.

§ 630.1018 Incorporation by reference.

Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved incorporation by reference (IBR) material is available for inspection at the Federal Highway Administration (FHWA) and at the National Archives and Records Administration (NARA). Contact FHWA at: Federal Highway Administration, Office of Transportation Operations, 1200 New Jersey Avenue SE, Washington, DC 20590; (202) 366–8043; https://ops.fhwa.dot.gov/contactus.htm. For information on the availability of

this material at NARA, visit *www.archives.gov/federal-register/cfr/ibr-locations.html* or email *fr.inspection@nara.gov*. The material may be obtained from the following sources:

(a) AASHTO, American Association of State Highway and Transportation Officials, 555 12th Street NW., Suite 1000, Washington, DC 20004; (202) 624-5800; website: https://store.transportation.org/.

(1) AASHTO Roadside Design Guide: "Traffic Barriers, Traffic Control Devices, and Other Safety Features for Work Zones", 2011; approved for § 630.1012.

(2) [Reserved]

(b) FHWA, Federal Highway Administration, 1200 New Jersey Avenue SE., Washington, DC 20590; telephone (202) 366–1993; website: *https://mutcd.fhwa.dot.gov.*

(1) Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), as follows; approved for §§ 630.1002; 630.1012:

(i) 2009 edition, November 4, 2009.

(ii) Revision No. 1, dated May 2012.

(iii) Revision No. 2, dated May 2012.

(iv) Revision No. 3, dated June 2022.

(2) [Reserved]

SUBPART K – Temporary Traffic Control Devices

3. Amend Subpart K by removing the authority citation.

4. Amend § 630.1104 by adding, in alphabetical order, the definition of "Engineering Study" and revising the definition of "Positive Protection Devices" to read as follows:

§ 630.1104 Definitions.

* * * * *

Engineering Study means the comprehensive analysis and evaluation of available pertinent information, and the application of appropriate principles, provisions, and

practices for the purpose of determining the choice and application of work zone positive protection devices, exposure control measures, or other traffic control measures to safety manage work zones.

* * * * *

Positive Protection Devices means devices that contain or redirect vehicles.

* * * * *

5. Amend § 630.1106 by revising paragraph (b) to read as follows:

§ 630.1106 Policy and procedures for work zone safety management.

* * * * *

(b) Agency processes, procedures, or guidance should be based on consideration of standards or guidance contained in the Manual on Uniform Traffic Control Devices for Streets and Highways and the AASHTO Roadside Design Guide, as well as project characteristics and factors. The strategies and devices to be used may be determined by a project-specific engineering study or determined from agency guidelines developed from an engineering study that indicate when positive protection devices or other strategies and approaches are to be used based on project and highway characteristics and factors. An engineer, or an individual working under the supervision of an engineer shall perform an engineering study through the application of procedures and criteria established by the engineer. The person conducting the engineering study shall document such study. Benefit-cost analyses, decision matrices, decision tree analysis, or other appropriate engineering decisionmaking tools may be used in the engineering study. The types of measures and strategies to be used are not mutually exclusive, and should be considered in combination as appropriate based on characteristics and factors such as those listed below:

(1) Project scope and duration;

(2) Anticipated operating conditions including traffic volume, vehicle mix, and

speeds through the work zone;

(3) Anticipated traffic safety impacts;

(4) Type of work (as related to worker exposure and crash risks);

(5) Distance between traffic and workers, and extent of worker exposure;

(6) Escape paths available for workers to avoid a vehicle intrusion into the work space;

(7) Time of day (e.g. night work);

(8) Work area restrictions (including impact on worker exposure);

(9) Consequences from/to road users resulting from roadway departure;

(10) Potential hazard to workers and road users presented by device itself and during device placement and removal;

(11) Geometrics that may increase crash risks (e.g., poor sight distance, sharp curves);

(12) Access to/from work space;

(13) Roadway classification; and

(14) Impacts on project cos and duration.

* * * * *

6. Amend § 630.1108 by revising paragraphs (a), (c)(7), (c)(16), and (c)(20), and adding paragraphs (c)(22) and (c)(23) to read as follows:

§ 630.1108 Work zone safety management measures and strategies.

(a) Positive Protection Devices. At a minimum, agencies shall use positive protection devices in work zones with high anticipated operating speeds that provide workers no means of escape from motorized traffic intruding into the workspace unless an engineering study determines otherwise. Positive protection devices shall be considered in other 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 such as:

* * * * *

(c) * * *

(7) Enhanced flagger station setups or use of automated flagger assistance devices (AFADs);

* * *

(16) Speed Safety Cameras (where permitted by State/local laws):

* * *

(20) Public information and traveler information;

* * *

(22) Protection vehicles; and

(23) Intelligent Transportation Systems (ITS) and other advanced technology solutions and strategies.

* * * * *

5. Amend § 630.1110 by revising footnote 1 to read as follows:

§ 630.1110 Maintenance of temporary traffic control devices.

* * * * *

[1]The American Traffic Safety Services Association's (ATSSA) Quality Guidelines for Work Zone Traffic Control Devices uses photos and written descriptions to help judge when a traffic control device has outlived its usefulness. These guidelines are available for purchase from ATSSA through the following URL: https://www.atssa.com/ATSSA-Store/Product-Miscellaneous#/storefront/9df4b401-c3e9-e811-a863-000d3a140bb5. Similar guidelines are available from various State highway agencies. The Illinois Department of Transportation “Quality Standards for Work Zone Traffic Control Devices” is available online at https://idot.illinois.gov/Assets/uploads/files/Doing-Business/Manuals-Guides-&-Handbooks/Highways/Safety-

Engineering/Traffic%20Control%20Field%20Manual%20for%20IDOT%20Employees%20(April%202016).pdf. The Minnesota Department of Transportation "Quality Standards--Methods to determine whether the various traffic control devices are Acceptable, Marginal, or Unacceptable" is available online at http://www.dot.state.mn.us/trafficeng/publ/fieldmanual/qualitystandards.pdf.

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