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POLICY DIRECTIVE

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HIGHWAY ADMINISTRATOR

MassDOT Highway Division Compliance with 23 CFR Part 630, Subpart K – Temporary Traffic Control Devices

Purpose

The Massachusetts Department of Transportation (MassDOT) demonstrates compliance with the Federal Highway Administration's Final Rule for 23 CFR part 630, Subpart K – Temporary Traffic Control Devices, through the following standards that establish official guidelines, procedures and details for the safe management of traffic and protection of the work zone.

Definitions

Crashworthy: The ability of a roadside safety hardware device or appurtenance to minimize risks to vehicle occupants by allowing a vehicle impacting the appurtenance to be slowed before stopping, redirected, or to continue without significant resistance. Roadside appurtenances include permanent and portable sign supports, other permanent or temporary traffic control devices, and other roadside fixtures that are not traffic control devices, such as longitudinal barriers, bridge railings, and crash cushions, within the clear zone. Crashworthiness of a device or appurtenance is determined by nationally established standards such as AASHTO's *Manual for Assessing Safety Hardware* (MASH).

Engineering Judgement: The evaluation of available pertinent information including, but not limited to, the safety and operational efficiency of all road users, and the application of appropriate principles, provisions, and practices as contained in the latest edition of the MUTCD and other sources, for the purpose of deciding upon the design, use, installation, or operation of a traffic control device. Engineering judgment shall be exercised by a professional engineer with appropriate traffic engineering expertise, or by an individual working under the supervision of such an engineer, through the application of procedures and criteria established by the engineer. Documentation of engineering judgment is not required.

Engineering Study: The analysis and evaluation of available pertinent information including, but not limited to, the safety and operational efficiency of all road users, and the application of appropriate principles, provisions, and practices as contained in the latest edition of the MUTCD and other sources, for the purpose of determining the choice and application of work zone positive protection devices, exposure control measures, or other traffic control measures

to safely manage work zones. An engineering study shall be performed by a professional engineer with appropriate traffic engineering expertise, or by an individual working under the supervision of such an engineer, through the application of procedures and criteria established by the engineer. An engineering study shall be documented in writing and submitted to MassDOT for approval.

Escape Routes: An unobstructed, designated path from an active work zone that leads workers to a safe area away from unexpected hazards, such as an errant vehicle entering a work area.

Exposure Control Measures: Traffic management strategies to avoid work zone crashes involving workers and motorized traffic by eliminating or reducing traffic through the work zone or diverting traffic away from the workspace.

High-Speed: A roadway with a posted speed limit of 50 mph or greater. *Note: the implementation of a Work Zone Speed Limit to below 50 mph does not eliminate the need to consider Positive Protection Devices, nor does it reclassify the facility as a non-High-Speed Roadway.*

Manual on Uniform Traffic Control Devices **(MUTCD):** A federal publication that establishes uniform national criteria for the use of traffic control devices that meet the needs and expectancy of road users on all streets, highways, pedestrian and bicycle facilities, and site roadways open to public travel per 23 CFR 655. The Massachusetts Amendments to the MUTCD (MA Amendments) has been correlated with and conforms, as closely as Massachusetts laws and conditions will allow, to the standards adopted by the Federal Highway Administrator as a National Standard for application on all Classes of Highways. The MA Amendments are authorized by MGL c. 85 § 2.

No Means of Escape: A work area that has no designated Escape Route, where workers would face a significant risk of exposure and injury due to encroachment by an errant vehicle. Work areas that have No Means of Escape include, but are not limited to:

- All Long-Term Stationary, Intermediate-Term Stationary, and Short-Term Stationary work in 500’ or longer tunnels or on 500’ or longer bridges, regardless of the length of the work area.
- Locations where work is taking place utilizing an aerial lift, bucket truck, scaffolding, or other similar device, that is located within the clear zone on a High-Speed roadway.

Other No Means of Escape locations are determined using Engineering Judgement during the development of the Traffic Management Plan; this shall include an evaluation of the work duration, time of day the work is planned for, distance of the work area to active traffic, roadway speeds and volumes, and other factors that affect worker exposure.

Other Traffic Control Measures: All strategies and temporary traffic control devices other than Positive Protection Devices and Exposure Control Measures, including uniformed law enforcement officers, used to reduce the risk of work zone crashes involving motorized traffic.

Planned Work: Work within the right-of-way that has approved Temporary Traffic Control Plans. The following definitions apply to durations of Planned Work:

- Long-Term Stationary: Work that occupies a location for more than three days. Examples include bridge replacement, intersection reconstruction, etc.
- Intermediate-Term Stationary: Work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than 1 hour. Examples include emergency bridge joint or deck repairs.
- Short-Term Stationary: Daytime work that occupies a location for more than one hour within a single daylight period. Examples include bridge inspection, guardrail repairs, pavement repairs, drainage repairs, tree trimming, etc.
- Short Duration: Work that occupies a location for up to 1 hour. Examples include pothole repairs, storm drain cleaning, roadway debris clearing, etc.
- Mobile: Work that moves intermittently or continuously. Examples include street sweeping, roadside mowing, etc.

Positive Protection Devices: A crashworthy device which contains and/or redirects vehicles in accordance with MASH.

Project Development and Design Guide **(PDDG):** A MassDOT publication that defines the Department's planning and design process and criteria.

Transportation Management Plan (TMP): Consists of strategies to manage the work zone impacts of a project. The scope, content and degree of detail may vary based on the complexity of the project. The TMP includes either site specific Temporary Traffic Control Plans (TTCPs) or typical application standard drawings to define how the traffic control devices and work area is to be configured. TMPs may also include transportation operations and public information components for more complex project designs. A TMP submitted by a Contractor to MassDOT will also include contact information for the person(s) responsible for the deployment and maintenance of all temporary traffic control devices.

Temporary Traffic Control Plans (TTCP): A TTCP is a set of plans showing temporary traffic control measures to be used for facilitating road users through a work zone or an incident area. The TTCP shall be consistent with the provisions of the MUTCD. The scope of the TTCP is determined by the project characteristics and the traffic safety and control requirements identified for the project.

Unplanned or Emergency Work (UE Work): Work within the right-of-way, typically to repair, replace, or remove infrastructure or objects that pose an immediate safety hazard to the traveling public. UE Work typically occurs without a formal TTCP and often includes activities such as debris removal or bridge deck repairs, among others. The use of positive protection devices, exposure control measures, and other traffic control measures associated with UE Work will vary based upon the duration of the work and the exposure potential.

Work Zone Speed Limit: A regulatory speed limit that has been approved and signed by the State Traffic Engineer per a Special Speed Regulation in accordance with MGL c. 90 § 17D.

Applicability

This policy applies to all MassDOT projects, including work done on MassDOT facilities through Highway Access Permits. A designer of a non-federal aid or Highway Access Permit project on a low-speed roadway may, after completing an Engineering Study, request relief from MassDOT on one or more aspects of this policy, but approval by MassDOT is not guaranteed.

UE Work is not covered by this policy, though the strategies and applications identified herein should be applied to such work, where possible.

Policy and Procedures for Work Zone Safety Management

Through MassDOT's project development process and preparation of the TMP, the design engineer is required to examine a wide range of traffic control strategies to reduce motorist and worker exposure to construction activities. The TMP is developed for each project in accordance with the PDDG. The TMP covers all of the traffic operations, work zone safety, worker protection and public informational strategies to be employed on a particular project. These strategies are selected through review and analysis of all the variables related to the specific project location and the type and duration of work to be completed. Traffic operations and safety are key factors in the decision-making process to provide road users and workers the best options for reducing exposure and impacts to mobility.

Work Zone Safety Management Measures and Strategies

Positive Protection Devices

Appropriate work zone positive protection devices are to be chosen and designed for all applicable projects and for each phase of construction. The design process covers a broad range of traffic conditions, vehicle speed, length of need, and duration of construction to ensure that motorist and worker safety are addressed in a uniform manner. Types of devices include, but are not limited to truck mounted attenuators, temporary barrier, impact attenuators, etc.

Positive Protection Devices are also required if it has been determined that work is taking place in an area that has No Means of Escape for roadway workers.

Temporary barrier systems are typically used for long-term stationary temporary traffic control on high-speed roadways, but each situation is different and requires an independent evaluation. Use of barrier systems may also be necessary on lower speed roadways where lack of sufficient lateral buffer is available.

In general, temporary barrier systems are utilized when protection is needed due to:

- Staged bridge construction/maintenance
- Pavement edge drop-off condition
- Temporary earth support
- Bridge pier or railing rehabilitation
- Staged utility or culvert construction
- Non-traversable slope or steep/rough embankment within the clear zone
- Separation of opposing high-speed traffic

MassDOT also encourages innovative solutions (e.g. mobile barrier trucks, moveable barrier, etc.) for high risk and/or high exposure short-term stationary work zones.

Exposure Control Measures

Appropriate exposure control measures should be considered for the following reasons:

- To avoid or limit risk from motorized traffic to vulnerable road users such as construction personnel, bicyclists, and pedestrians.
- To minimize the exposure of road users to work activities taking place for construction and maintenance operations.
- To avoid inadvertently creating conflicts among road users, while also providing adequate consideration to the impacts on mobility.

The following Exposure Control Measures should be evaluated during the planning and design of the TMP:

- Restricted Access
    - Full road closures
    - Ramp closures
    - Temporary median crossovers
    - Detours
    - Rolling roadblocks
- Partial or Limited Access
    - Lane shifts

    - Pedestrian diversions
    - Road worker protection during the setup and removal of temporary traffic control and other work zone devices
- Scheduling techniques
    - Time of day scheduling
    - Accelerated construction

Other Traffic Control Measures

MassDOT has created standards and guidance that go beyond typical minimum requirements to ensure safety within work zones and other temporary traffic control setups. These changes are reflected in the PDDG, the MA Amendments, the MassDOT *Standard Specifications for Highways and Bridges*, the MassDOT *Construction Standard Details*, and other Department publications. These measures include, but are not limited to:

- Standards that exceed MUTCD minimums
    - Minimum 36-in. height cones
    - Fluorescent orange sheeting required on all work zone warning signs
    - Reduced spacing on channelization devices
    - Drums required on all lane and shoulder tapers
    - Wet reflective pavement markings
- Technology-based devices
    - Expanded use of Portable Changeable Message Signs (PCMS)
    - Connected Flashing Arrow Boards
    - Temporary Traffic Control Signals
    - Residential Driveway Temporary Signals
    - Smart and Connected Work Zone Systems
    - Sequential flashing lights on the first 10 drums in a merging taper during nighttime operations
- Speed Management
    - Work Zone Speed Limits
    - Temporary Portable Rumble Strips
- Worker Safety
    - Improved worker and work vehicle and equipment conspicuity
    - Certified roadway flaggers
- Public Outreach
    - Public Involvement Plans
    - Publishing events on the Connected Work Zone Standard

Uniformed Law Enforcement Officers

Uniformed Law Enforcement Officers, referred to as Traffic Officers in MassDOT Standard Specifications parlance, are typically used in the following temporary traffic control setups:

- Traffic control for alternating one-way operations, with exception to locations that are under control of roadway flaggers or temporary traffic signals.
- Short-term stationary closures of the left shoulder of divided highways.
- Short-term stationary closures of one or more left lanes of divided highways.
- Short-term stationary closures of the center lane of divided highways.
- Short-term stationary partial closure of an off-ramp.
- Short-term stationary work on the mainline within/adjacent to an off-ramp.
- Rolling roadblocks.

In addition to these scenarios, MassDOT or the Design Engineer may determine that other conditions in a specific work zone may warrant the use of a Traffic Officer and will identify those locations within the TTCP.

The presence of a Traffic Officer and marked law enforcement vehicle in view of motorized traffic on a highway project is encouraged in these scenarios but is not a substitute for temporary traffic control devices required by the MUTCD, other MassDOT standards, and the accepted TMP. In general, the need for Traffic Officers should be on projects with high traffic speeds and volumes, and where the work zone is expected to result in substantial disruption to or changes in normal traffic flow patterns.

The Commonwealth of Massachusetts has guidelines and promulgated regulations about the use of road flaggers and Traffic Officers on public works projects as authorized in Chapter 86 of the Acts of 2008 and established under 700 CMR 6.00.

Work Vehicles and Equipment

MassDOT recommends the use of the TRUCKS ENTERING AND EXITING sign (MA-W8-6b) for all fixed work zones or staging areas that have defined entry/exit points to the workspace. If the work zone or staging area is protected by barrier, any breaks or gaps in the barrier that exist within the clear zone must be shielded or be made crashworthy by use of an attenuator or by other means.

Spacing of channelizing devices may also be adjusted to allow for work zone access during daily temporary traffic control setups. Increasing the spacing immediately past planned work areas may allow construction vehicles easier ingress/egress to the construction area.

All construction vehicles entering into, exiting from, or actively working within work areas shall be equipped with appropriate warning lights, in accordance with the MUTCD and Massachusetts General Law.

Payment for Traffic Control

Payment for standard temporary traffic control devices and operations shall be per the MassDOT *Standard Specifications for Highways and Bridges*. MassDOT has eliminated the use of lump sum items for all standard temporary traffic control devices. For non-standard temporary traffic control devices, MassDOT will create a special provision that defines device criteria, method of measurement and basis of payment. MassDOT reserves the right to withhold payment to contractors not in compliance with the standard specifications or special provisions.

Maintenance of Temporary Traffic Control Devices

The MUTCD requires temporary traffic control devices (TCD) to convey changes in roadway alignment, cross-section, and other expectations of road users in a manner that provides clear direction and can be understood by all. That requires that proper TCDs be used for the temporary traffic control operation they are addressing, and that the TCDs are effective, clearly visible, clean and in compliance with applicable MUTCD standards.

To monitor the proper condition of TCDs used in a temporary traffic control zone, MassDOT has adopted the American Traffic Safety Services Association (ATSSA) *Quality Guidelines for Temporary Traffic Control Devices and Features*. These Guidelines are used for reviewing and determining acceptable, marginal, and unacceptable TTC devices and features. It is the Contractor's responsibility to ensure compliance with any and all TTC devices. Any device(s) found to be out of compliance with the aforementioned standard shall be removed from use and immediately replaced with a compliant device. If the non-compliant device cannot be immediately replaced work may be stopped by MassDOT, with risk of no compensation for non-compliant devices, until such time as all devices can be made compliant.

Compliance

This policy has been updated as of December 31, 2025, to comply with 23 CFR Part 630: Work Zone Safety and Mobility and Temporary Traffic Control Devices regulations. This policy is to be implemented into all applicable MassDOT Highway Projects no later than December 31, 2026.

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, MassDOT may request variances for those projects from FHWA on a project-by-project basis.