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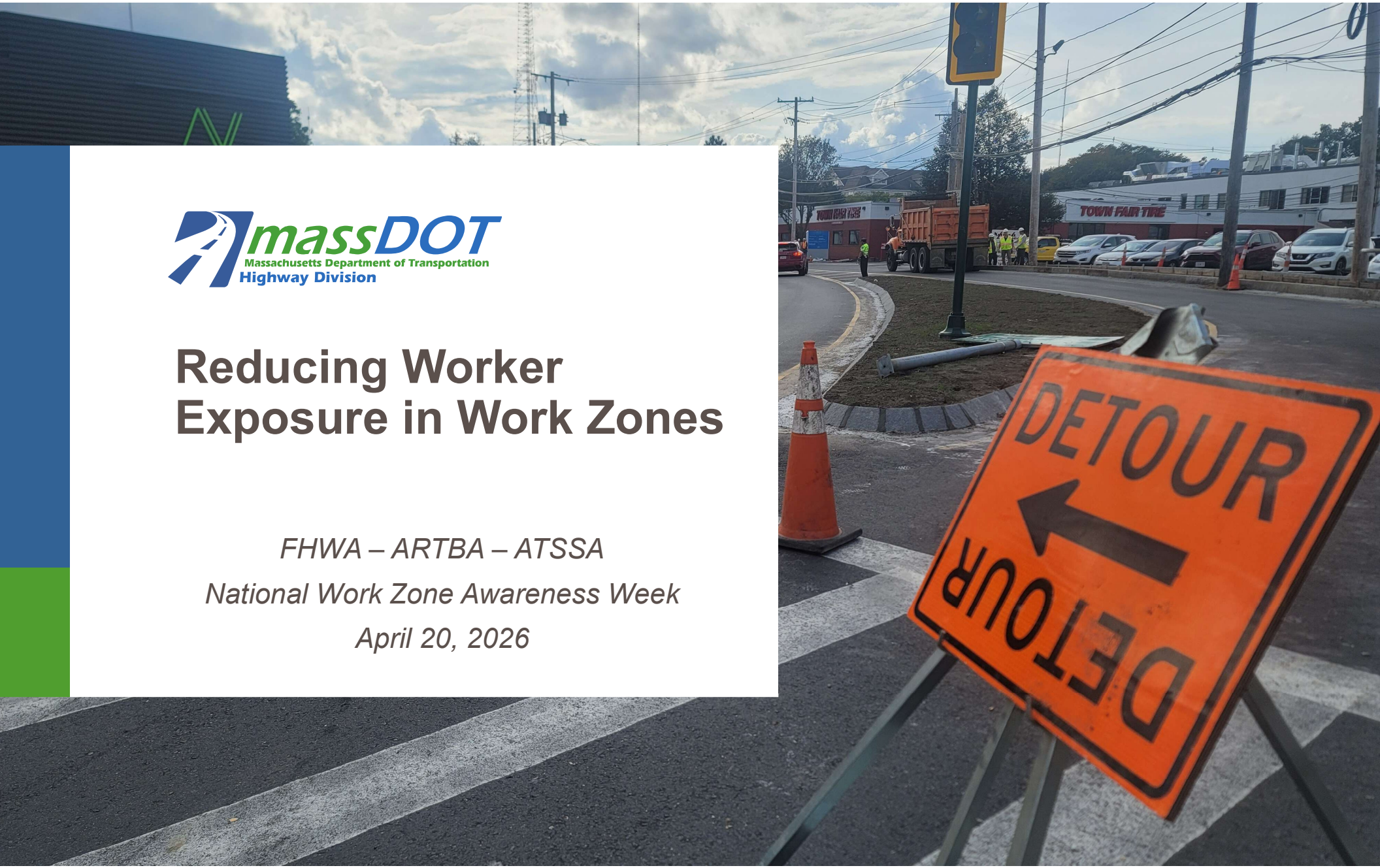
Reducing Worker Exposure in Work Zones

FHWA – ARTBA – ATSSA

National Work Zone Awareness Week

April 20, 2026



Discussion Points

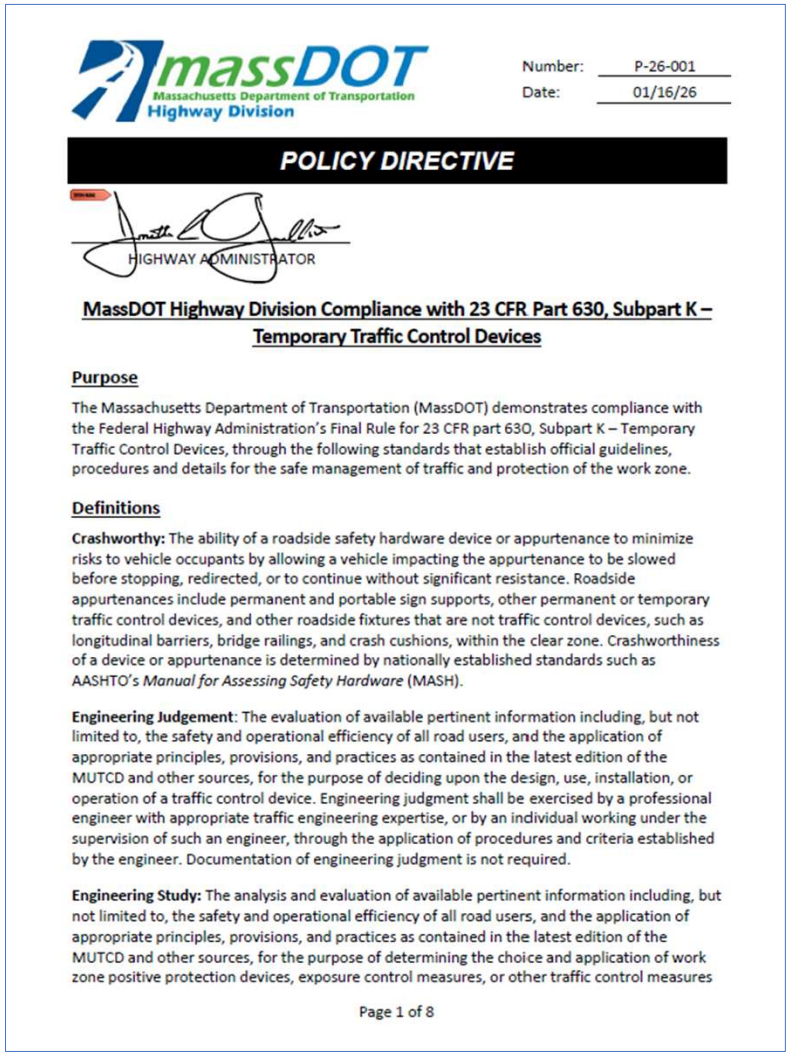
- **Applying Quality Control Guidelines and Quality Control Inspection Practices**
  - New MassDOT Policy on Temporary Traffic Control Devices
  - Good & Bad Traffic Control Device Use
    - Work Zone Sign Issues
    - Channelizing Devices - Drums
    - MASH Compliance
- **Identifying Effective Traffic Control Device Spacing Strategies**
  - Enhanced Work Zone Layout
  - Work Zone Speed Limits
- **Use of Automated Deployment Systems for Temporary Portable Rumble Strips**
  - MassDOT practice for the use of TPRS
  - Why move towards required automated deployment

Quality Control

MassDOT Directive P-26-001

- New Policy Directive focused documenting compliance with the Federal Highway Administration's Final Rule for 23 CFR part 630, Subpart K – Temporary Traffic Control Devices
- Geared towards addressing Positive Protection:
  - Escape Routes
  - No Means of Escape
  - Exposure Control Measures
  - Positive Protection Devices
  - Other Traffic Control Measures

- Maintenance of Temporary Traffic Control Devices
  - Requirement for quality control on Temporary Traffic Control Devices used in the work zone
  - MassDOT adopted ATSSA's "*Quality Guidelines for Temporary Traffic Control Devices and Features*"



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Number: P-26-001
Date: 01/16/26

POLICY DIRECTIVE

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

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Why Quality Control is Needed for Traffic Control Devices

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Sign Retroreflectivity – Daytime

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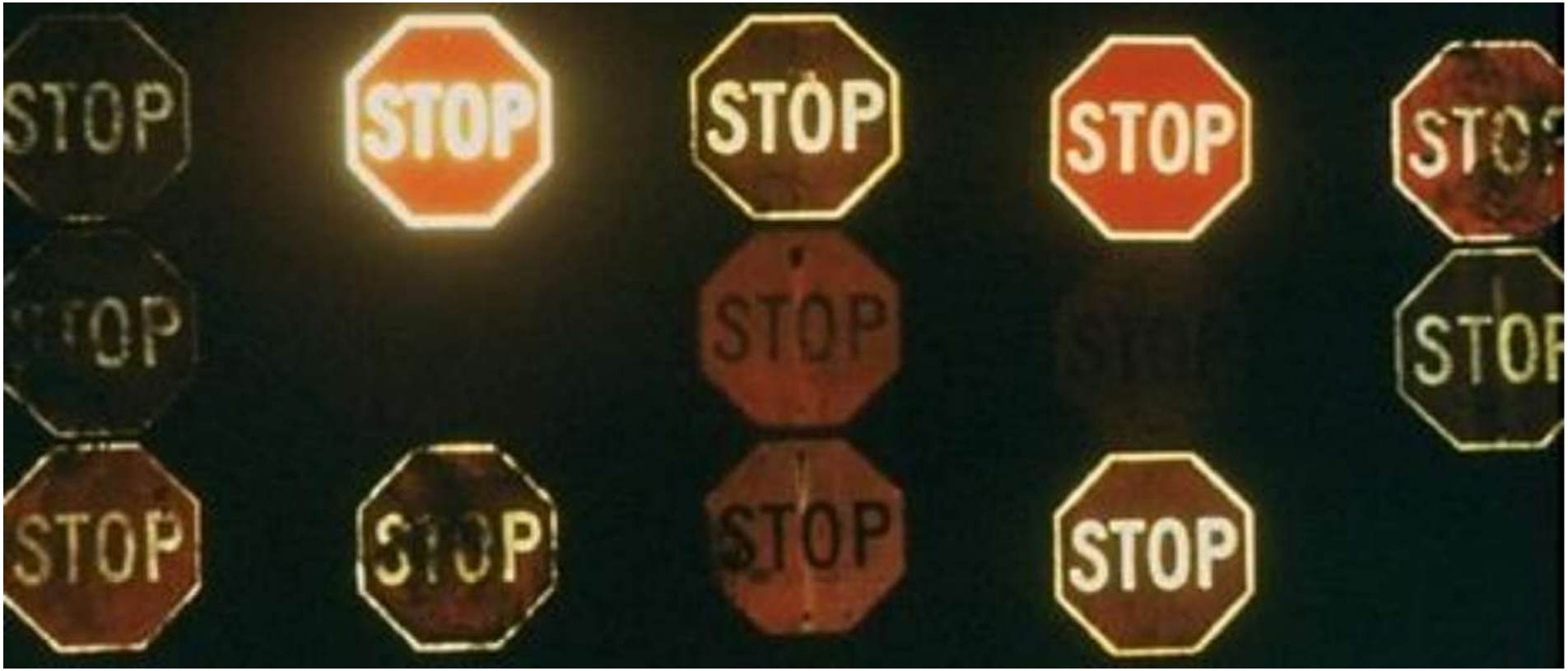
Sign Retroreflectivity - Nighttime



BAD

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Sign Condition

BAD

- Average Bid price for Safety Signage for the past year is $26.36 per SF
  - $422 for standard sign on Interstate projects and $240 for non-interstate project
- Should be regularly cleaned (air compressor or sprayed with water)

Sign Bunching / Sign Stands

BAD

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Channelizing Devices – Drums

BAD

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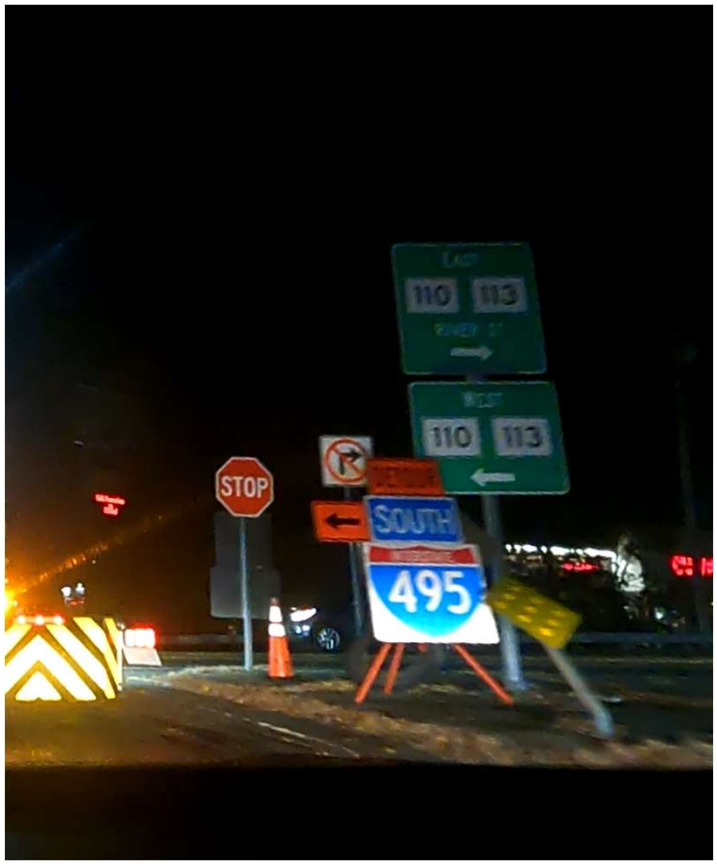
MASH Compliance

BAD



https://www.mass.gov/info-details/section-850-traffic-controls-for-construction-and-maintenance-activities

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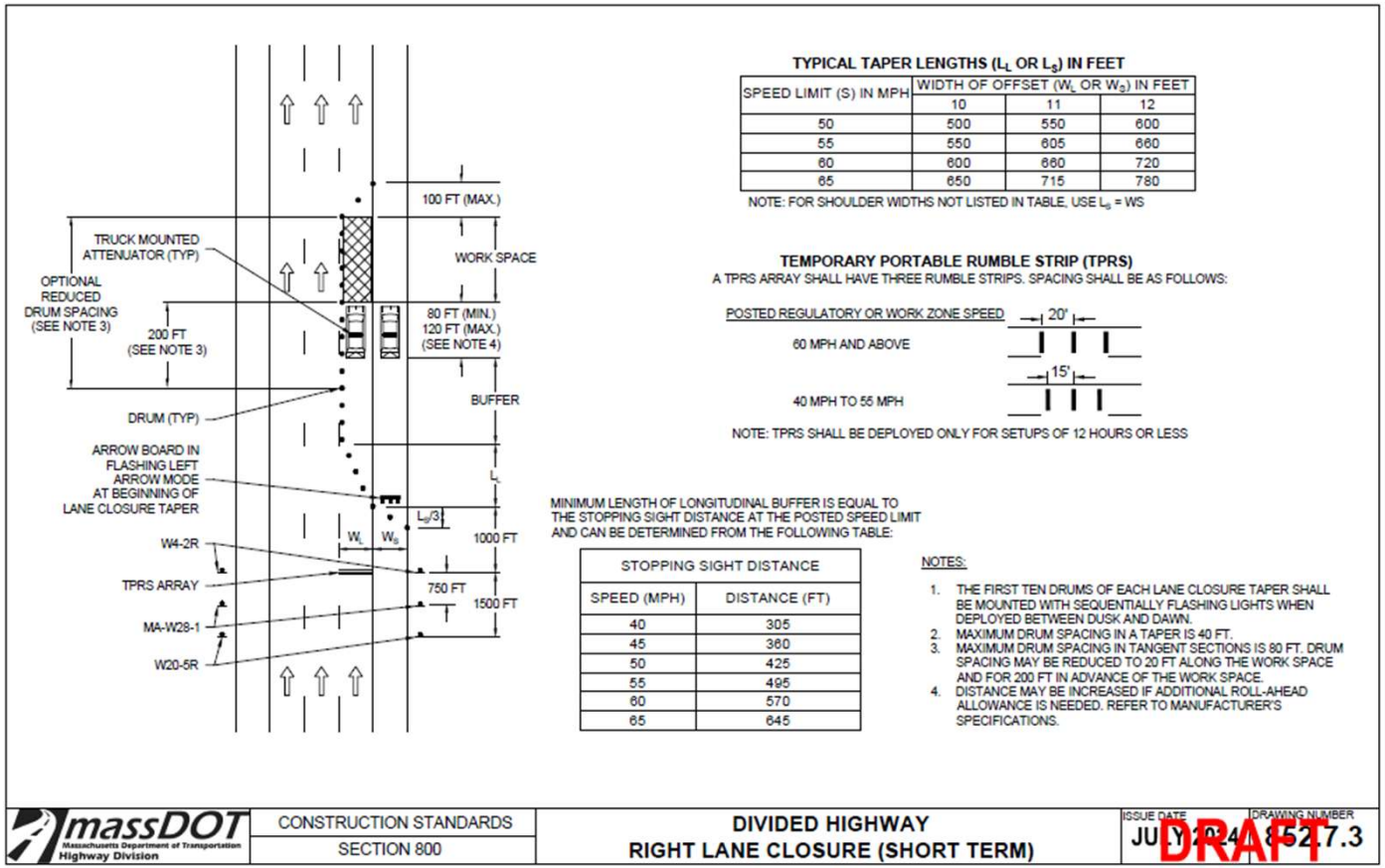
Enhanced TCD Layout

Enhanced Work Zone Traffic Control Device Layout

- MassDOT is updating our "Divided Highway Lane Closure" (Short Term) Standard Drawings that will provide:
  - Tighter spacing of channelizing devices in work area (20-feet)
  - Use of Type III barricade or drums inside closed lane(s)
  - Plan will be to update additional drawings for other lane closures



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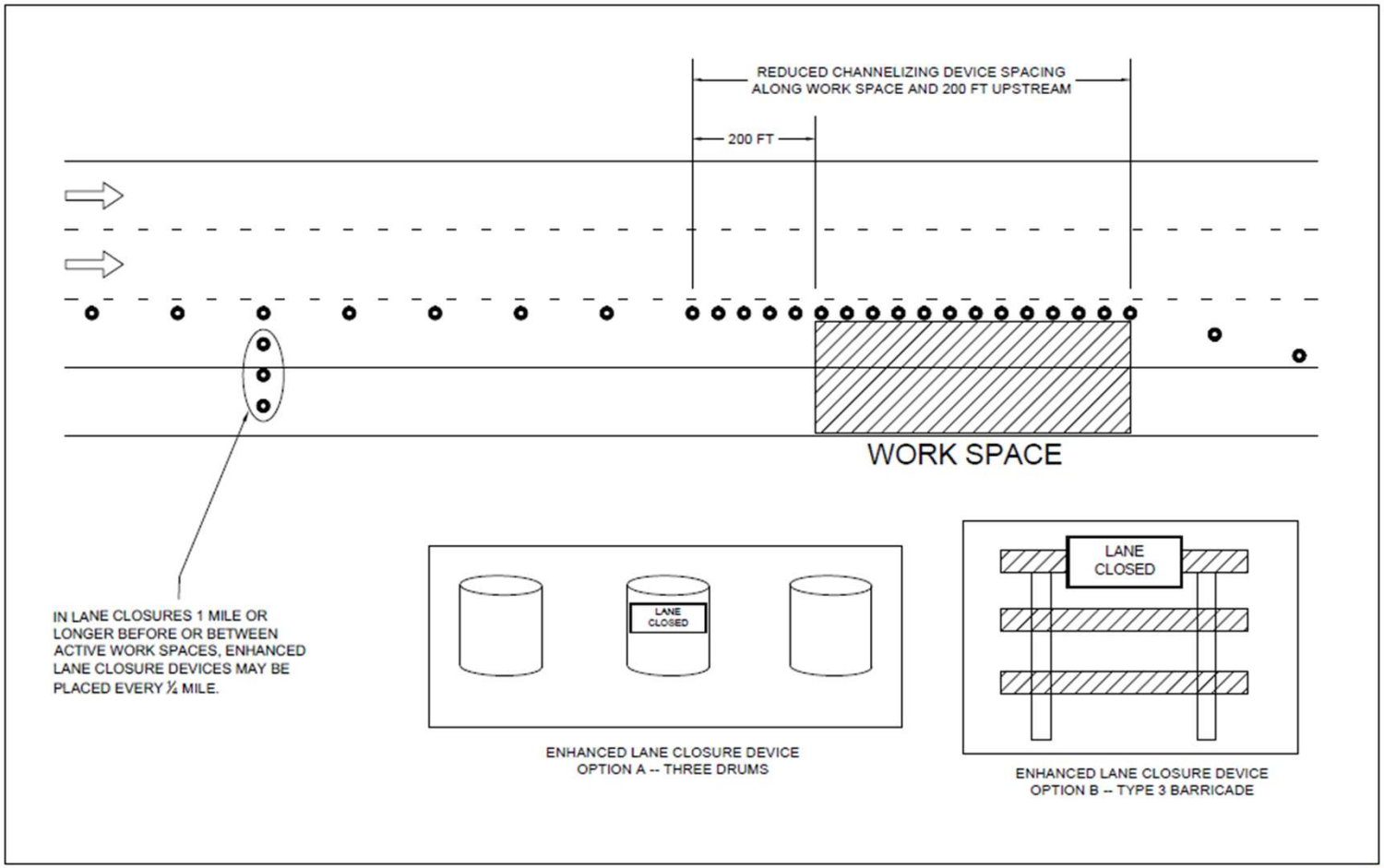
Enhanced Work Zone Traffic Control Device Layout



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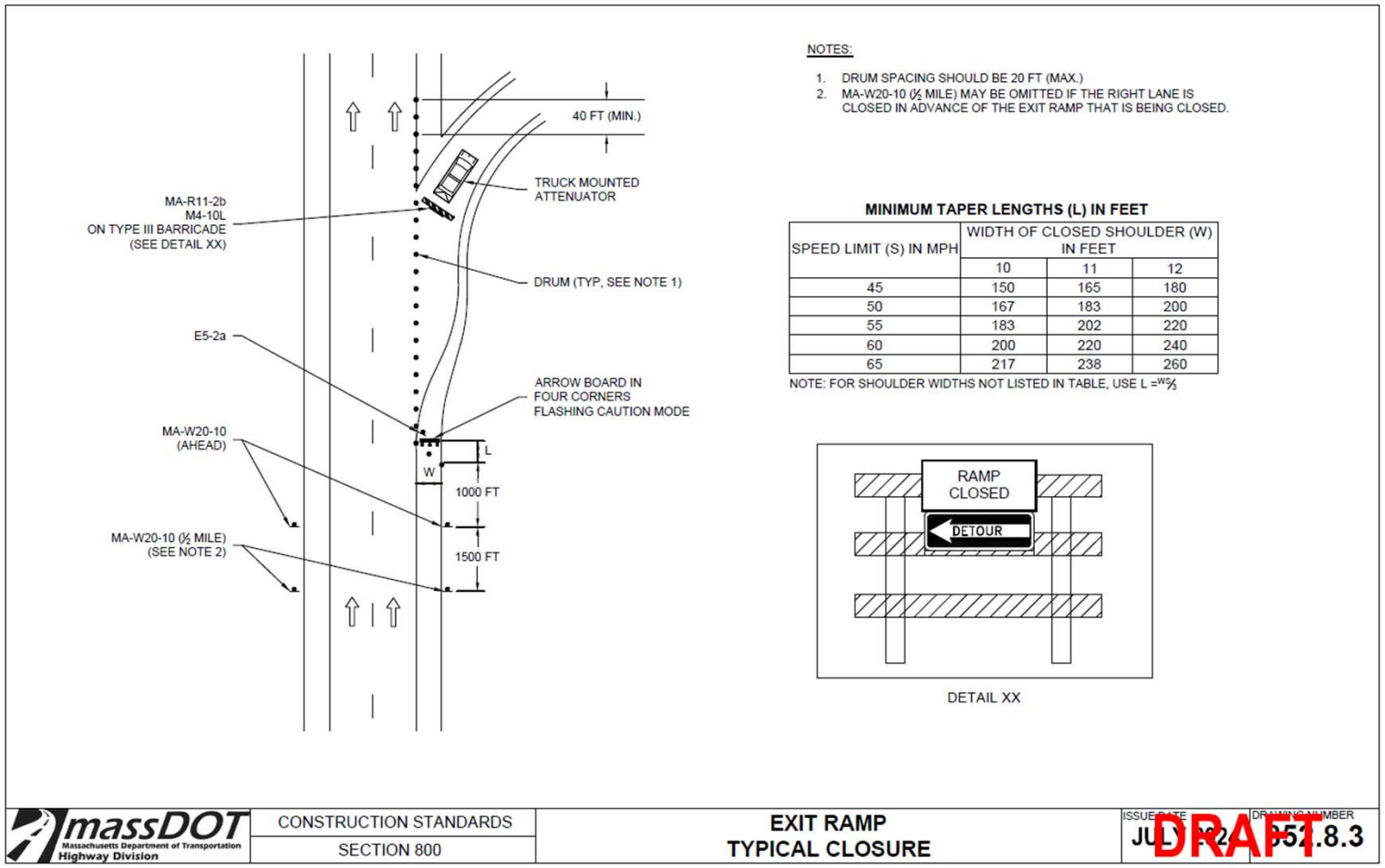
Enhanced Work Zone Traffic Control Device Layout



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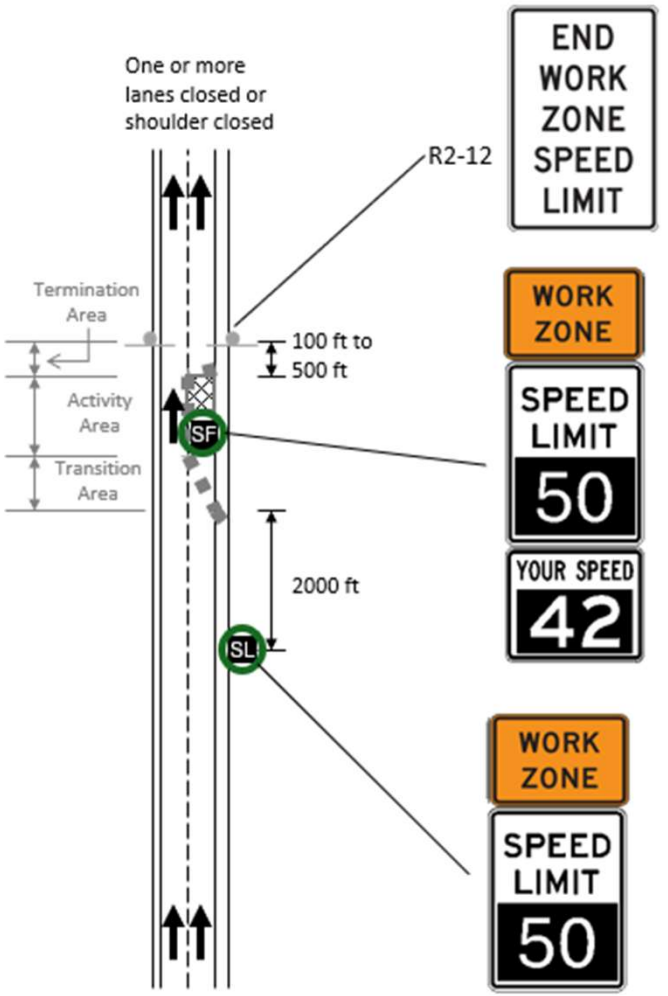
Work Zone Speed Limits (WZSL)

Static WZSL

- Used during a long-term construction activity behind barriers (interstate bridge replacement)
- Reduction in the posted speed limit throughout some or all phases of construction
- In effect 24 hours a day

Dynamic WZSL

- Used during nightly or maintenance activity with daily setups (nightly resurfacing)
- Only in effect when workers are present



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Temporary Portable Rumble Strips

Temporary Portable Rumble Strips

- MassDOT's experience with Temporary Portable Rumble Strips (TPRS) show that they can be effective in helping reduce vehicle speeds in work zones and alerting drivers they are approaching a work zone
- TPRS are required on all Interstate/Freeway projects
- **MassDOT will soon be requiring Automated Deployment**

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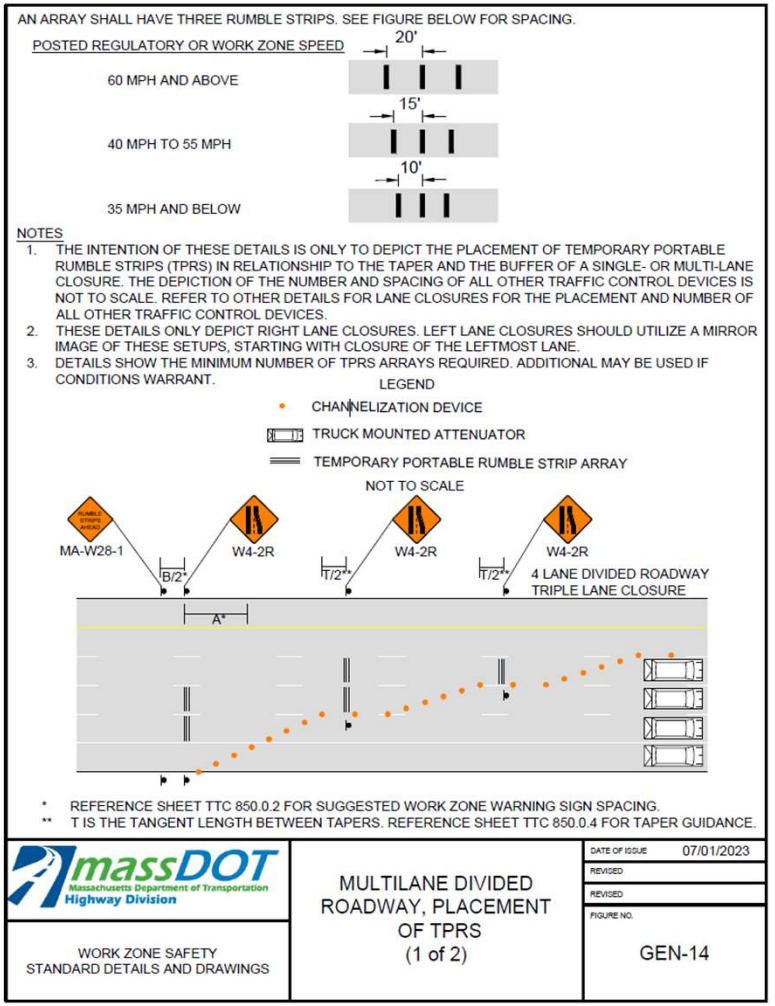

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Automated TPRS Deployment

- MassDOT has received complaints from Contractors and State Police about the unsafe nature of deploying the Temporary Portable Rumble Strips (TPRS) due to worker exposure
- Contractors have been reluctant to provide the equipment to aid in the deployment of the TPRS
- MassDOT has had a demonstration with the manufacturer and our Contractors Industry and several meetings to encourage use of the Automated Deployment Equipment
- A new standard specification is being drafted to require the use of the Automted Equipment

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Questions?

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