 MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION	TRAFFIC CONTROL DEVICE APPLICATION GUIDELINES OFFICE OF TRAFFIC AND SAFETY		
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POSITIVE PROTECTION IN WORK ZONES

MdMUTCD REFERENCE

Part 6

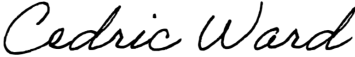
BACKGROUND AND PURPOSE

The purpose of this document is to establish the minimum requirements and provide guidance for the use of positive protection devices between the workspace and motorized traffic in order to reduce the likelihood of highway work zone fatalities and serious injuries to both workers and road users. This policy is developed in accordance with the ***Maryland Manual on Uniform Traffic Control Devices (MdMUTCD)***, ***Maryland Transportation Code § 8-613.2***, and ***FHWA's 23 CFR Part 630, Subpart K***.

ATTACHMENTS

1. Policy for Positive Protection in Work Zones
2. Work Zone Positive Protection Exception Form

REVISION HISTORY

Revision Date	Revision Description
Approved	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">  <hr style="width: 100%;"/> Director, Office of Traffic and Safety </div> <div style="text-align: right;"> 12/31/2025 Date </div> </div>

POLICY FOR POSITIVE PROTECTION IN WORK ZONES

Effective Date: December 31, 2025

Approved by: *Sutapa Samanta* Date: 1/6/2026
Chief Engineer

Approved by: *Andre Fitzrell* Date: 1-6-26
Chief Operating Officer

Policy Statement

As outlined in Subpart K of 23 CFR Part 630 this policy strengthens SHA's commitment to providing safe work environments and protecting roadway users through the consistent application of positive protection measures. This policy replaces the "Policy for the Use of Temporary Traffic Barrier in Work Zones" dated November 7, 2008.

This policy is mandatory for all projects in construction on or after December 31, 2026.

DEFINITIONS

- **Duration of Work:** The time that work occupies a work space location, from the first moment a worker is exposed to traffic until the moment the work is completed, including hours when the work zone may be inactive.
- **Engineering Study:** The analysis, evaluation and documentation 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 safely manage work zones. An engineer, or an individual working under the supervision of an engineer, shall perform the 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 decision-making tools may be used in the engineering study.
- **Escape for Workers:** A clear, open escape area where no physical barrier or significant drop-off prevents a highway worker from safely moving out of the path of an intruding vehicle.
- **Exposure Control Measure:** 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 Facility:** All roadways with a posted speed limit of 45 mph or greater during construction.

- **Highway Worker:** This includes, but is not limited to, personnel of the contractor, subcontractor, agency, utilities, and law enforcement, performing work within the right-of-way of a transportation facility.
- **Motorized traffic:** The motorized traveling public. This term does not include motorized construction or maintenance vehicles and equipment within the workspace.
- **No Means of Escape:** Workers are exposed to live traffic and do not have a safe, practical route to move away from an errant vehicle due to physical constraints such as limited space, barriers, walls, bridges or other confined locations. Examples of physical constraints include guardrail, retaining walls, bridge abutment, long/steep slope, limited space, barriers, walls, bridges or other confined locations.
- **Other Traffic Control Measures:** All other temporary traffic controls strategies other than Positive Protection Devices and Exposure Control Measures but, may include uniformed law enforcement officers.
- **Positive Protection Devices:** Devices that contain or redirect vehicles and meet applicable industry crashworthiness evaluation criteria. Devices can include temporary traffic barriers, movable barriers, mobile barrier, and in some cases a protection vehicle.
- **Protection Vehicle:** A work vehicle with approved flashing lights, Arrow Panel, and Truck or Trailer-Truck Mounted Attenuator (TMA/TTMA) used to protect workers, motorists, or work equipment from errant vehicles.
- **Roadway:** The part of a highway that is improved, designed or ordinarily used for vehicular travel, other than the shoulder.
- **Shoulder:** The portion of a highway contiguous with the roadway for the accommodation of stopped vehicles, for emergency use and for the lateral support of the base and surface courses of the roadway.
- **Temporary Traffic Barriers:** The use of temporary concrete barrier or similar positive protection system to prevent motorized intrusion in a work zone or protect the road users from a drop-off or fixed object hazard.
- **Work space:** that portion of the highway closed to road users and set aside for workers, equipment, and material.

I. Positive Protection Policy

A. Use of Positive Protection Devices in Work Zones (Speed Limit \geq 45 mph)

Positive protection devices **must be used** in work zones with a **posted speed limit of 45 mph or greater during construction** under the following conditions:

1. Highways (Speed Limit \geq 45 mph)

a. Positive protection devices are required for any work duration when any of the following conditions apply:

- Workers do **not** have a safe escape route from traffic.
- Work occurs **on the roadway, on the shoulder, or within 15 feet of an open travel lane**.
- **Unprotected roadside hazards** (e.g., drop-offs, unfinished bridge decks) remain in the clear zone during non-working hours.

b. Temporary traffic barrier shall be used as a positive protection device when:

- Work on the roadway or shoulder is expected to last **at least two (2) weeks** (as consecutive days), **and**
- The work space limits remain unchanged for that duration.

2. Expressways or Limited Access Highway (Divided Road with Controlled Access) (Speed Limit \geq 45 mph)

In addition to Conditions 1a and 1b above, when work is expected to last **at least two (2) weeks** (as consecutive days), and the work space limits remain unchanged for that duration, the following applies:

a. If work is in the travel lane:

- **Full closure** should be considered first.
- If full closure is not feasible, **temporary traffic barriers** shall be used as positive protection.

b. If work is on the shoulder or within 15 feet of an open travel lane:

- **Temporary traffic barriers** shall be used as positive protection

3. Short-duration Projects (See Section IV)

a. Protection vehicles shall be used per Standard MD 104.01-11A from the Book of Standards for Highways and Incidental Structures.

4. Exceptions: If an engineering study determines that positive protection or temporary traffic barrier protection is not feasible when required by this Policy, refer to Section III for the exception process.

B. Supplementary Positive Protection Assessment

For work zones where positive protection is not required based on criteria 1) and 2) above, the need for positive protection devices should still be considered where workers are at increased risk, and where positive protection devices offer the highest potential for increased safety for

workers and road users. Refer to Section II Evaluation Process for additional information on the process and criteria to determine the need for positive protection.

II. Evaluation

Positive Protection Evaluation

As part of the evaluation process, the Design/Project Engineer will determine the need of positive protection for the project during preliminary design. Representatives from various SHA offices, such as the Office of Highway Development (OHD), SHA District Office (Construction, Maintenance and Traffic), Office of Traffic and Safety, Office of Construction, etc., may assist the project/design engineer in this process, if needed. In some cases, special maintenance of traffic (MOT) coordination meeting(s) may be needed. The Design/Project Engineer shall consider the use of positive protection devices as required by the Policy Statement. When the Policy requires the use of positive protection devices, but the use is not feasible, refer to Section III for the exception process.

Supplementary Positive Protection Assessment

The Design/Project Engineer should also consider the use of positive protection in situations not required by the policy but 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. Example factors and conditions for consideration may include the following.

- Project scope and duration
- Anticipated operating conditions including traffic volume, vehicle mix, and speeds through the work zone
- Anticipated traffic safety impacts
- Type of work (as related to worker exposure and crash risks)
- Distance between traffic and workers, and extent of worker exposure
- Escape paths available for workers to avoid a vehicle intrusion into the workspace
- Time of day (e.g., night work)
- Work area restrictions (including impact on worker exposure)
- Consequences from/to road users resulting from roadway departure
- Potential hazard to workers and road users presented by device itself and during device placement and removal
- Geometrics that may increase crash risks (e.g., poor sight distance, sharp curves)
- Access to/from workspace
- Roadway classification
- Impacts on project cost and duration
- Lateral clearance to hazards (proximity of traffic to construction workers, equipment and other unprotected features)

Exposure Control Measures and Other Traffic Control Measures Consideration

Exposure control measures and other traffic control measures should be considered to reduce risk for workers and road users. These measures can be considered in combination as appropriate based on project characteristics and factors. The “*Transportation Management Plan (TMP) Guidelines for Development, Implementation and Assessment*” (see Work Zone Impact Management Strategies and the Work Zone Design Checklist) provides guidance on the selection of the appropriate measures based on the project conditions.

a) Exposure Control Measures (Examples):

- Full road closures
- Ramp closures
- Median crossovers
- Full or partial detours or diversions
- Protection of work zone setup and removal operations using rolling roadblock
- Performing work at night or during off-peak periods when traffic volumes are lower
- Buffer lanes
- Accelerated construction techniques
- Construction Phasing/Staging

b) Other Traffic Control Measures (Examples):

- Additional signing
- Changeable message signs
- Arrow panels
- Automated flagger assistance devices (AFADs)
- Trained flaggers and spotters
- Intrusion alarms
- Temporary Portable Rumble Strips or Thermoplastic rumble strips
- Channelizing device spacing reduction
- Longitudinal channelizing barricades
- Work zone speed management (including speed reduction or variable speed limits)
- Law enforcement
- Speed Safety Cameras (also known as Automated Speed Enforcement (ASE) and Maryland SafeZones Program)
- Drone radar
- Worker and work vehicle/equipment visibility, including the use of green light per MD 104.01-18A and MD 104.01-18B on highway vehicles used for protection of highway workers
- Public information and traveler information
- Temporary traffic signals
- Protection vehicles
- Worker’s Presence Trailer
- Speed Display Trailer
- Intelligent Transportation Systems (ITS) devices

III. Exception Process

Positive protection shall be provided in accordance with Section I.A of this Policy. When the use of positive protection or exposure control measures to divert traffic away from the workspace are not feasible, an exception may be requested with **justification from an engineering study**.

The engineering study, prepared by the Design/Project Engineer, must explain why positive protection is not feasible and may include tools such as benefit-cost analysis, decision matrices, or decision trees.

To request an exception:

1. The Design/Project Engineer completes the engineering study and the **Positive Protection Exception Form** (Attachment B).
2. Submit both documents to the District Engineer (DE) for approval.
3. Once approved, email a copy of the approved form to the Division Chief of the Office of Traffic of Safety (OOTS), Traffic Development and Support Division (TDSD).

For Areawide contracts, the DE or the Director of the leading office will determine if one Exception Form will be sufficient to cover the entire contract, or if each project location will require a separate form.

IV. Blanket Exceptions for Short-Duration Projects

SHA has determined that the use of temporary traffic barriers is not justified for specific types of short-duration projects. The project activities usually involve a single shoulder/lane closure during off-peak hours and do not exceed mobility thresholds outlined in the “*SHA’s Work Zone Lane Closure Analysis Guidelines*”. Shoulder/Lane closures should follow the **Temporary Traffic Control Typical Applications** in the *Book of Standards for Highways and Incidental Structures*. For these projects, **protection vehicles** will continue to be used as positive protection when speed limits are 45 mph or higher, or as directed by the Designer/Project Engineer. More than one PV may be needed to adequately provide positive protection for work zones where work activities occur over long distances.

Examples of Project Types with Blanket Exceptions may include:

- **Roadway and shoulder maintenance** – patching, sweeping, and joint filing and crack sealing
- **Mobile Operations** – mowing, line striping, litter pick up
- **Roadside and drainage maintenance** – litter pickup, animal removal, foliage/tree-limb removal, maintaining stormwater management areas and mowing
- **Traffic services** – repairing traffic barrier or barrier end treatment/attenuators, and sign maintenance and inspection
- **Structure maintenance** – graffiti removal, bridge inspection and maintaining noise abatement walls
- **Maintenance Support Services** – may include roadway lighting maintenance or repair, signal/ITS devices (such as cameras or DMS) construction and maintenance repairs, and winter maintenance
- **Adopt a Highway and Sponsor a Highway Programs**

V. References

1. Federal Highway Administration, “23 CFR Part 630, Work Zone Safety and Mobility and Temporary Traffic Control Devices”, FHWA, *Federal Register*, vol. 89, 2024, pp. 87282–87299, <https://www.govinfo.gov/content/pkg/FR-2024-11-01/pdf/2024-25065.pdf>
2. Maryland Annotated Code Transportation Article § 8-613.2- Safety of highway construction, maintenance, utility, and other highway workers, [https://govt.westlaw.com/mdc/Document/NEFAC0E4028BE11DC86C9DA296AADD960?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=\(sc.Default\)](https://govt.westlaw.com/mdc/Document/NEFAC0E4028BE11DC86C9DA296AADD960?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default))
3. Maryland Department of Transportation State Highway Administration Book of Standards for Highway and Incidental Structures
<https://apps.roads.maryland.gov/BusinessWithSHA/bizStdsSpecs/desManualStdPub/publicationonline/ohd/bookstd/index.asp>
4. Maryland Manual on Uniform Traffic Control Devices
<https://www.roads.maryland.gov/mdotsha/pages/index.aspx?PageId=835>

Work Zone Positive Protection Exception Form

A. PROJECT INFORMATION

Project Title: _____ Project Number: _____
 Route Name and nearest cross street: _____
 Project Limits: _____
 District: _____ County: _____
 Speed Limit: _____ Anticipated Project Duration: _____

B. POSITIVE PROTECTION EVALUATION

Positive protection in work zones is REQUIRED* per Section I of the Positive Protection Policy due to the following conditions: (Check all that apply)

- Posted Speed Limit during construction is 45 mph or greater.
- Workers do not have a safe escape route from traffic.
- Work occurs on the roadway.
- Work occurs on shoulder next to an open travel lane.
- Work occurs within 15 feet of an open travel lane.
- Unprotected roadside hazards (e.g., drop-offs, unfinished bridge decks) remain in the clear zone during non-working hours.
- Work is expected to last at least two (2) weeks and the workspace limits remain unchanged. *
- Work is located on an Expressway or Limited Access Highway (Divided Road with Controlled Access)
- Work is in the travel lane and full closure is not feasible.
- Temporary traffic barrier** is required as a positive protection device per the Positive Protection policy.

**Refer to SHA Positive Protection Policy for Blanket Exceptions for Short-Duration Projects*

C. MITIGATION MEASURES

Indicate what exposure control measures and other traffic control measures will be deployed to reduce risk for workers and road users.

Exposure Control Measures (Check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Full road closures | <input type="checkbox"/> Buffer lanes |
| <input type="checkbox"/> Ramp closures | <input type="checkbox"/> Accelerated construction techniques |
| <input type="checkbox"/> Median crossovers | <input type="checkbox"/> Construction Phasing/Staging |
| <input type="checkbox"/> Full or partial detours or diversions | <input type="checkbox"/> Other (Specify): _____ |
| <input type="checkbox"/> Protection of work zone setup and removal operations using rolling roadblock | _____ |
| <input type="checkbox"/> Performing work at night or during off-peak periods when traffic volumes are lower | |

Work Zone Positive Protection Exception Form

Other Traffic Control Measures (Check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Additional signing | <input type="checkbox"/> Drone radar |
| <input type="checkbox"/> Changeable message signs | <input type="checkbox"/> Worker and work vehicle/equipment visibility |
| <input type="checkbox"/> Arrow panels | <input type="checkbox"/> Public information and traveler information |
| <input type="checkbox"/> Automated Flagger Assistance Devices (AFADs) | <input type="checkbox"/> Temporary traffic signals or portable traffic signals |
| <input type="checkbox"/> Intrusion alarms | <input type="checkbox"/> Protection vehicles |
| <input type="checkbox"/> Temporary Portable Rumble Strips (TPRS)/ Thermoplastic rumble strips | <input type="checkbox"/> Worker's Presence Trailer |
| <input type="checkbox"/> Channelizing device spacing reduction | <input type="checkbox"/> Speed Display Trailer |
| <input type="checkbox"/> Longitudinal channelizing barricades | <input type="checkbox"/> Intelligent Transportation Systems (ITS) devices: (Specify) _____ |
| <input type="checkbox"/> Work zone speed management | <input type="checkbox"/> Other (Specify): _____ |
| <input type="checkbox"/> Law enforcement | _____ |
| <input type="checkbox"/> Speed Safety Cameras (Automated Speed Enforcement (ASE)) | _____ |

D. EXCEPTION REQUEST

When positive protection or temporary traffic barrier protection *is warranted* but *not feasible* provide engineering study with justification.

Reason why positive protection is necessary including construction activity description (add attachment if necessary)

Engineering Justification and risk assessment (add attachment if necessary)

Work Zone Positive Protection Exception Form

I. APPROVALS

Design/Project Engineer

_____ Date _____

Concurrence

Exception to not provide positive protection or temporary traffic barrier protection is granted based on the reasons shown on this form.

Assistant District Engineer - Traffic

_____ Date _____

District Engineer

_____ Date _____

*Forward a copy of the signed form to the Chief, Traffic Development and Support Division,
Office of Traffic and Safety at WZ.TDSD@mdot.maryland.gov*

Retain a copy of the approved form in the project file.