

When are Positive Protection Barriers Appropriate?

Federal Law & Standards

- **2005 - Congress calls for Positive Protection**
Under section 1110 of SAFETEA-LU, Congress enacted 23 USC 109(e)(2) and 112(g) which call for positive protection "between workers and motorized traffic".
- **2007 - FHWA adopts Temporary Traffic Control Devices Rule ("Subpart K")**
FHWA adopted Subpart K (23 CFR 630.1102 et seq.) pursuant to the mandate in SAFETEA-LU. 23 CFR 630.1108(a) of Subpart K lists [5 circumstances](#) under which practitioners need to ("shall") consider use of positive protection.
- **2010 - ANSI establishes National Standard for Work Zone Safety**
ANSI Standard A10.47 (§4.4) provides that positive protection "shall be considered" in, at minimum, the [5 circumstances](#).

Federal Law

The statutes and underlying regulations, read together, call for positive protection (barrier) "between workers and motorized traffic" which "contain and/or redirect" errant vehicles and meet applicable [crashworthiness criteria](#). ^{1, 2}

Circumstances under which positive protection needs to ("shall") be considered:

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

1. Work zones that provide workers **no means of escape** from motorized traffic (e.g., tunnels, bridges, etc.);
2. **Long duration** work zones (e.g., two weeks or more) resulting in substantial worker exposure to motorized traffic;
3. Projects with **high anticipated operating speeds** (e.g., 45 mph or greater), especially when combined with high traffic volumes;
4. Work operations that place **workers close to travel lanes** open to traffic; and
5. Roadside **hazards**, such as drop-offs or unfinished bridge decks, that will remain in place overnight or longer." ¹⁰

Separate Pay Items:

Federal statutes require a "separate pay item" for positive protection. ^{1, 11}

ANSI Standards

ANSI Standard A10.47 (§4.4) likewise provides that positive protection measures “shall be considered” when any of the following exist:

1. Work zones that provide employees **no means of escape** (e.g. tunnels, bridges, etc.) from external motorized traffic intruding into the work space.
2. **Long duration** work zones (e.g. two weeks or more) resulting in substantial employee exposure to motorized traffic.
3. Projects with **high anticipated operating speeds** (e.g. ≥ 45 mph, 72 km/h) especially when combined with high traffic volumes ($> 20,000$ vehicles per day).
4. Work operations that place employees within **one lane width** to travel lanes open to traffic.
5. Roadside **hazards**, such as drop-offs or unfinished bridge decks, that will remain in place overnight or longer.

ANSI Standard A10.47 further notes that there might be other circumstances not listed that merit the use of positive protection.

Footnotes

¹ [Temporary Traffic Control Devices, 23 U.S.C. § 112\(g\).](#)

² [Definitions, Subpart K - Temporary Traffic Control Devices, 23 C.F.R. § 630.1104.](#)

³ [Positive Protection Measures Defined, 23 U.S.C. 112\(g\)\(4\).](#)

⁴ [2019 Associated General Contractors of America \(AGC\) Highway Workzone Safety Study.](#)

⁵ [2018 Associated General Contractors of America \(AGC\) Highway Workzone Safety Study.](#)

⁶ [2017 Associated General Contractors of America \(AGC\) Highway Workzone Safety Study.](#)

⁷ [2016 Associated General Contractors of America \(AGC\) Highway Workzone Safety Study.](#)

⁸ Estimated Total Crashes & Injuries Data: 2013-2015 data from NHTSA National Automotive Sampling General Estimates System (NASS/GES). NHTSA retired NASS/GES at the end of 2015. 2016-2017 data from NHTSA's replacement Crash Report Sampling System (CRSS).

⁹ Fatalities Data: NHTSA Fatality Analysis Reporting System (FARS) Encyclopedia. 2018 is the last year with available data.

¹⁰ [Positive Protection Devices, Subpart K - Temporary Traffic Control Devices, 23 C.F.R. § 630.1108\(a\)\(1-5\).](#)

¹¹ [Payment for Traffic Control, Subpart K - Temporary Traffic Control Devices, 23 C.F.R. § 630.1108\(f\)\(2\).](#)

¹² ["Portable Positive Protection: A Guide for Short Duration and Short Term Work Zones", Updated by Mobile Barriers LLC, Based on Material Developed by ATSSA for the FHWA Work Zone Safety Grant Program \(June 2016\).](#)

¹³ [U.S. Department of Transportation, "Guidance on Treatment of the Economic Value of a Statistical Life in U.S. Department of Transportation Analyses - 2016 Adjustment," \(August 8, 2016\).](#)

¹⁴ UC Davis/AHMCT, "A Risk Assessment and Cost Benefit Analysis for [Highly Mobile Barriers]," Technical Report Number UCD-ARR-08-09-30-01, (2008). Ibid, Attachment 3.

¹⁵ Mobile Barriers LLC internal crash analysis for Washington D.C. located highly mobile barrier.

¹⁶ Former Deputy Executive Director of the Texas Department of Transportation (TxDOT).

¹⁷ [2013 Associated General Contractors of America \(AGC\) Highway Workzone Safety Study.](#)

¹⁸ [2014 Associated General Contractors of America \(AGC\) Highway Workzone Safety Study.](#)

¹⁹ [2015 Associated General Contractors of America \(AGC\) Highway Workzone Safety Study.](#)

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