

Heavy Equipment and Work Vehicles: Rolling Object Struck-by Hazards

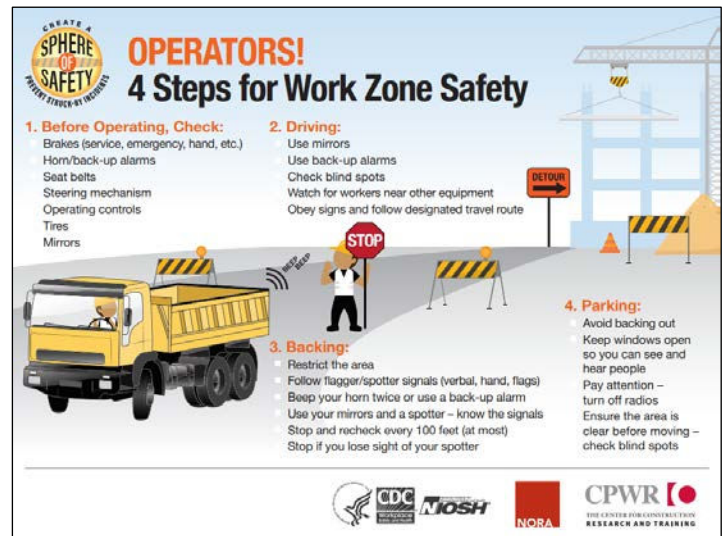
Workers on foot are at risk of being struck by heavy equipment and work vehicles on job sites. Having an internal traffic control plan and communicating it with all employees is critical to preventing struck-by incidents.

Protect workers by:

- Developing an internal traffic control plan and communicating the plan to all employees.
- Communicating each day before work begins – work schedules, potential hazards, corrective measures, and workers-on-foot locations.
- Using equipment designed to minimize blind areas and equipment with proximity warning systems.
- Designing worksites to minimize backing vehicles and equipment.
- Ensuring that drivers only back under the direction of a spotter.
- Training workers on safe work practices, including recognizing equipment blind areas, using safe backing procedures and spotters, and understanding equipment-free and worker-free zones.
- Requiring use of personal protective equipment, such as hard hats and high-visibility clothing.
- Inspecting equipment and vehicles prior to operation to ensure they are working properly, including safety features like back-up alarms or horns.
- Directing construction vehicles and equipment away from workers using visual safety devices (e.g., portable barricades, cones).
- Developing, implementing, and testing the method(s) of communication that will be used during operations.
- Installing signs to guide workers on foot with respect to traffic areas, vehicle flow, and worker-free zones.

Planning Resources

- [Preventing Worker Injuries and Deaths from Backing Construction Vehicles and Equipment](#)
- [Job Hazard Analysis](#)
- [Building Information Modeling \(BIM\) for Safety Planning](#)
- [Artificial Intelligence Collision Avoidance System](#)
- [High-Visibility Safety Apparel](#)
- [Illumination Ring for Hard Hats](#)
- [Object Detection and Camera System for Heavy Equipment](#)
- [Work Zone Lighting](#)
- [Internal Traffic Control Toolkit](#)
- [Preventing Runovers and Backovers Toolkit](#)
- [Construction Equipment Visibility](#)
- [CPWR's Head Protection Webpage](#)
- [OSHA Competent Person Resources](#)
- What's the Risk? Best Practices to Reduce the Likelihood of Struck-by Injuries From Heavy Equipment and Crane Activities: [Play Recording](#); [PDF of Slides](#)
- Preventing Struck-by Incidents: Learning by Experience: [Play Recording](#); [PDF of Slides](#)



Training Resources

- Toolbox Talks:
 - Work Zone Safety: Vehicle Operators ([English](#), [Spanish](#))
 - Work Zone Safety: Working Around Vehicles ([English](#), [Spanish](#))

- Head Protection ([English](#), [Spanish](#))
- Posters/Infographics:
 - STAY ALERT IN WORK ZONES! (English [PDF](#) & [JPEG](#); Spanish [JPEG](#))
 - OPERATORS! 4 Steps for Work Zone Safety (English [PDF](#) & [JPEG](#); Spanish [JPEG](#))
 - CONTRACTORS! Work Zone Safety Starts with Your Internal Traffic Control Plan (English [PDF](#) & [JPEG](#), Spanish [JPEG](#))
 - Head Protection (English [PDF](#) & [JPEG](#))
 - In 1 Strike You Could Be Out (English [PDF](#) & [JPEG](#))
- Webinars:
 - What's the Risk? Best Practices to Reduce the Likelihood of Struck-by Injuries From Heavy Equipment and Crane Activities: [Play Recording](#); [PDF of Slides](#)
 - Preventing Struck-by Incidents: Learning by Experience: [Play Recording](#); [PDF of Slides](#)
 - Prevención de Incidentes por Atropellos: Zonas de Trabajo, Equipos Pesados e Impacto de Objetos: [ver video](#); [descargar presentación](#)

Relevant Standards

- OSHA Standard 29 CFR - <https://www.osha.gov/laws-regs/regulations/standardnumber/1926>
 - [1926 Subpart C - General Safety and Health Provisions](#)
 - [1926.20 - General safety and health provisions.](#)
 - [1926.21 - Safety training and education.](#)
 - [1926.22 - Recording and reporting of injuries.](#)
 - [1926.23 - First aid and medical attention.](#)
 - [1926.25 - Housekeeping.](#)
 - [1926.26 - Illumination.](#)
 - [1926.28 - Personal protective equipment.](#)
 - [1926.29 - Acceptable certifications.](#)
 - [1926 Subpart E - Personal Protective and Life Saving Equipment](#)
 - [1926.95 - Criteria for personal protective equipment.](#)
 - [1926.96 - Occupational foot protection.](#)
 - [1926.100 - Head protection.](#)
 - [1926.102 - Eye and face protection.](#)
 - [1926 Subpart G - Signs, Signals, and Barricades](#)
 - [1926.200 - Accident prevention signs and tags.](#)
 - [1926.201 - Signaling.](#)
 - [1926 Subpart O - Motor Vehicles, Mechanized Equipment, and Marine Operations](#)
 - [1926.600 - Equipment.](#)
 - [1926.601 - Motor vehicles.](#)
 - [1926.602 - Material handling equipment.](#)
 - [1926.603 - Pile driving equipment.](#)
 - [1926.604 - Site clearing.](#)
- American National Standards Institute (ANSI):
 - [ANSI/American Society of Safety Professionals \(ASSP\) A10.47-2021 – Work Zone Safety for Roadway Construction](#)
 - [ANSI/International Safety Equipment Association \(ISEA\) 107-2020 – High-Visibility Products](#)
 - [ANSI/ISEA Z89.1-2014 \(R2019\) – Head Protection](#)

Nudges to Improve Planning

- Job Site Posters: *see Training Resources above*
- Text Messages

Target Audience	Texts: General	Texts: Specific
Supervisors and Workers	<ul style="list-style-type: none"> • Planning prevents struck-by incidents: Test your communication methods BEFORE working with heavy equipment and vehicles. • Safety planning saves lives: Plan for struck-by incidents BEFORE work begins with heavy equipment and vehicles. 	<ul style="list-style-type: none"> • An internal traffic control plan helps protect people working within the work zone from being struck by construction equipment and vehicles. Remember to communicate the plan every day before work begins so all parties are informed about the locations of others. (Supervisors) • Develop and test the method of communication that will be used between spotters and operators of heavy equipment and vehicles to prevent struck-by incidents. • Communication signals should be used when heavy equipment and vehicles are in operation and if contact is lost, operation should stop immediately.

- Email Messages

Example:

Dear [],

Safety is everyone’s responsibility – especially those who supervise others. If work on your job site includes working around heavy equipment or work vehicles, remember to develop an internal traffic control plan before any work begins and to communicate it to all employees to help prevent struck-by incidents. Be sure to:

- Communicate each day before work begins – work schedules, potential hazards, corrective measures, and workers-on-foot locations.
- Use equipment designed to minimize blind areas and equipment with proximity warning systems.
- Design worksites to minimize backing vehicles and equipment.
- Ensure that drivers only back under the direction of a spotter.
- Train workers on safe work practices, including recognizing equipment blind areas, using safe backing procedures and spotters, and understanding equipment-free and worker-free zones.
- Require use of personal protective equipment, such as hard hats and high-visibility clothing.
- Inspect equipment and vehicles prior to operation to ensure they are working properly, including safety features like back-up alarms or horns.
- Direct construction vehicles and equipment away from workers using visual safety devices (e.g., portable barricades, cones).
- Develop, implement, and test the method(s) of communication that will be used during operations.
- Install signs to guide workers on foot with respect to traffic areas, vehicle flow, and worker-free zones.

CPWR’s Struck-by Planning Program can help you create a more detailed plan.

Thanks for helping to instill a safety and health culture here at [company name]. Stay safe!

[Name]

- Stickers



CPWR has a simple “Sphere of Safety” hardhat sticker design that can be downloaded and printed. We also have limited supplies available for free, which can be ordered by contacting Grace Barlet at gbarlet@cpwr.com.

[Download Sphere of Safety sticker artwork](#)



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