

# Getting Ready for the National Stand-Down to Prevent Struck- by Incidents in Construction

March 25, 2026 Webinar



# Housekeeping



Today's webinar is being hosted by CPWR



It will be recorded and automatically shared via follow-up email.



The recording and slides will also be posted on [cpwr.com/webinars](https://cpwr.com/webinars).




Attendees are automatically muted! Please submit questions via chat or Q&A.



Spanish audio is available via simultaneous interpretation


# Interpretación simultánea

## WINDOWS - MAC (Navegador web/*Browser*)

1. En los controles del seminario web, haga clic en **Interpretación** 
2. Haga clic en el idioma que desee escuchar.
3. (Opcional) Para escuchar solo el idioma interpretado, haga clic en **Silenciar audio original**.

**Nota:** Hay que unirse al audio del seminario web a través de audio o VoIP de la computadora. No podrá escuchar la interpretación de idiomas si utiliza las funciones de audio de teléfono [llamada directa](#) o [recibir llamada](#).


## ANDROID - iOS (Aplicación móvil/*Mobile App*)

1. En los controles del seminario web, toque los puntos suspensivos 
2. Toque **Interpretación de idiomas**.
3. Toque el idioma que desee escuchar.
4. (Opcional) Toque el botón de alternancia **Silenciar audio original**.
5. Haga clic en **Finalizado**.


**Nota:** No podrá escuchar la interpretación de idiomas si utiliza las funciones de audio de teléfono [llamada directa](#) o [recibir llamada](#).

# What is the Struck-by Stand-Down?


- One piece of what the Struck-by Work Group does
- Began in 2020
- Aligns with National Work Zone Awareness Week, but focuses on construction
- Voluntary event for employers to talk directly to employees about safety



## NATIONAL STAND-DOWN to Prevent Struck-By Incidents



April  
20-24,  
2026



FOR MORE INFORMATION: [CPWR.COM/STRUCK-BY-HAZARDS](https://cpwr.com/struck-by-hazards)

# Who is the Struck-by Work Group?

- The NORA Construction Sector Council brings together **individuals and organizations with a shared interest in improving the safety and health of construction workers.**
- The Struck-by Work Group is a long-standing subcommittee of active volunteers from the larger Construction Sector Council.
- In addition to organizing the Stand-Down annually, the Work Group **develops resources and holds other virtual events focused on preventing ALL types of struck-by incidents.**

<https://www.cdc.gov/nora/councils/construction.html>

# Today's Panelists

**Kenneth Koroll**

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Services*

Occupational Safety and  
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(OSHA)

**Emily J. Haas, Ph.D.**

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National Institute for  
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**Brad Sant, Esq.**

*Senior Vice President,  
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Association (ARTBA)


**Jessica Bunting, MPH**

*Research to Practice (r2p)  
Program Director CPWR*

# Why Focus on Roadway Safety?

- Transportation incidents accounted for over 1/3 of all occupational fatalities in 2023
- One of the most common causes of workplace injuries among construction workers
- Occur on and off public roadways with vehicles and equipment operating on or near construction sites
- Highway work zones are especially hazardous for construction workers

<https://www.cpwr.com/research/data-center/data-reports/>

CPWR  THE CENTER FOR CONSTRUCTION RESEARCH AND TRAINING

# Data Bulletin

WWW.CPWR.COM  
FEBRUARY 2026

## Transportation Injuries in the Construction Industry

Derek Dufoe, MS, Amber Trueblood, DrPH, William Harris, MS, Raina D. Brooks, MPH

### OVERVIEW

Transportation incidents, which accounted for over a third of all occupational fatalities in 2023, are one of the most common causes of workplace injuries among construction workers. Transportation hazards occur on and off public roadways with vehicles and equipment operating on or near construction sites. Highway work zones are especially hazardous for construction workers with an estimated 101 thousand (K) crashes resulting in 39K worker injuries in 2023.

This Data Bulletin examines transportation injuries, including injuries due to transportation incidents (referenced as transportation injuries throughout), involving a vehicle as primary source, and fatal motor vehicle crashes in construction work zones. Injury statistics come from the U.S. Bureau of Labor Statistics (BLS) Survey of Occupational Injuries and Illnesses (SOII) and Census of Fatal Occupational Injuries and Illnesses (CFOI). Nonfatal data are provided biennially for injuries among private wage-and-salary workers resulting in days away from work, while fatal data contain annual injury statistics for all construction workers. Nonfatal and fatal transportation injuries were examined by detailed event/exposure type, primary source, and major subsector. Fatal injuries were also analyzed by state. Crash data was collected from the National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS), including time of day and pedestrian involvement. Data to calculate rates were obtained from the U.S. BLS Current Population Survey (CPS). Nonfatal injury rates were calculated per 10,000 full-time equivalents (FTEs) and fatal injury rates were calculated per 100,000 FTEs using CPS data. Nonfatal injury rates by major subsector were calculated per 10,000 workers using CES data.

### THIS ISSUE

This issue examines transportation injuries, including injuries due to transportation incidents, injuries involving a vehicle as a primary source, and fatal motor vehicle crashes in construction work zones.

### KEY FINDINGS

From 2011-2012 to 2021-2022, the number of nonfatal transportation injuries among private wage-and-salary construction workers increased 14.8%, but the rate decreased by 16.3%. *Chart 1*

From 2021-2022 Specialty Trade Contractors (NAICS 238) had the highest number of nonfatal transportation injuries (4.9K), while Heavy and Civil Engineering (NAICS 237) had the highest injury rate (6.5 per 10,000 workers). *Chart 4*


The number (-3.8%) and rate (-30.0%) of fatal transportation injuries among construction workers declined from 2012 to 2023. *Chart 5*

In 2023, Texas had the highest number of fatal transportation injuries in construction (31), while West Virginia had the highest rate (9.0 per 100,000 FTEs). *Chart 9*

From 2012 to 2023, there was a 31.1% increase in fatal construction work zone crashes. *Chart 10*

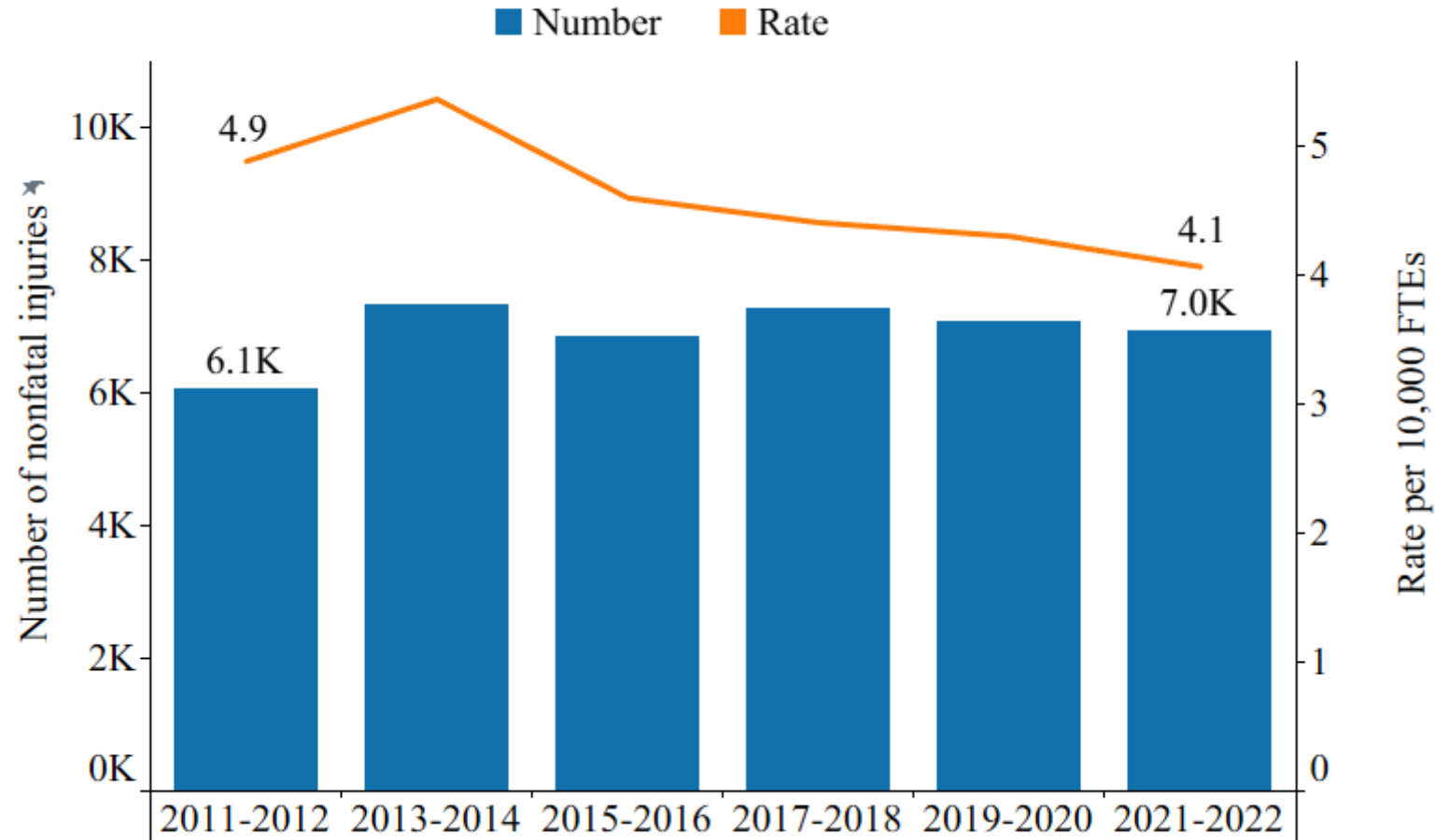
### NEXT DATA BULLETIN

Small Establishments in Construction



CPWR-The Center for Construction Research and Training. Correspondence to: [datacenter@cpwr.com](mailto:datacenter@cpwr.com)

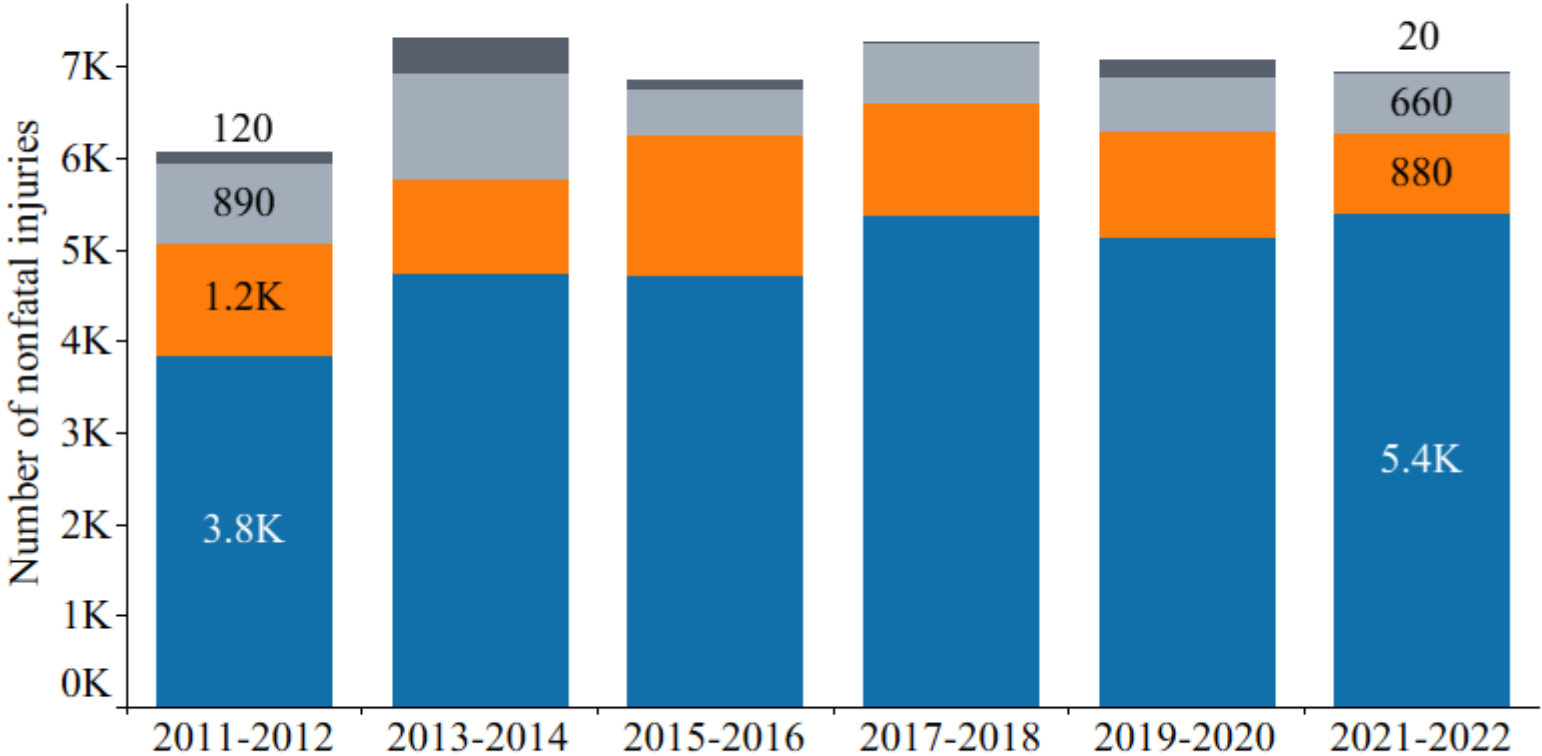
# 1. Number and rate of nonfatal transportation injuries in construction (Private wage and salary; 2011-2022)



**Source:** BLS, 2011-2022 Survey of Occupational Injuries and Illnesses and IPUMS, Current Population Survey 2011-2022. Calculations by CPWR Data Center.

## 2. Number of nonfatal transportation injuries in construction, by event type (Private wage and salary; 2011-2022)

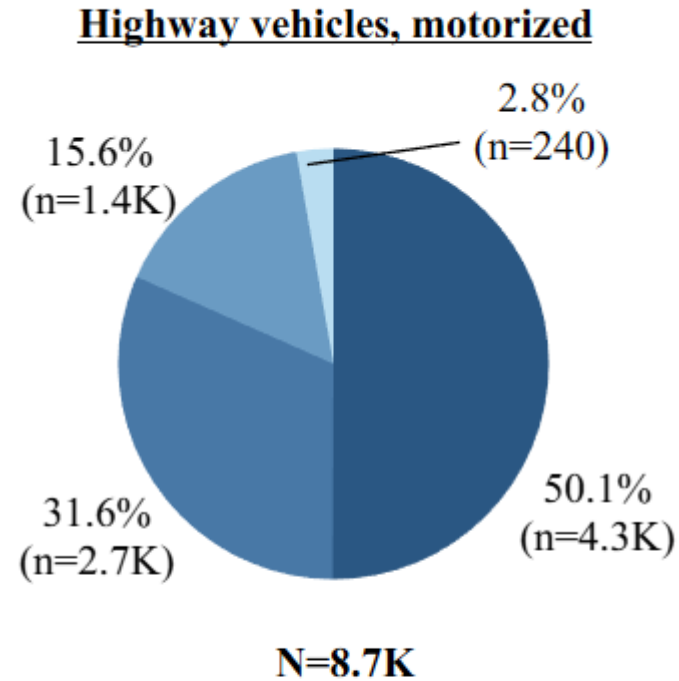
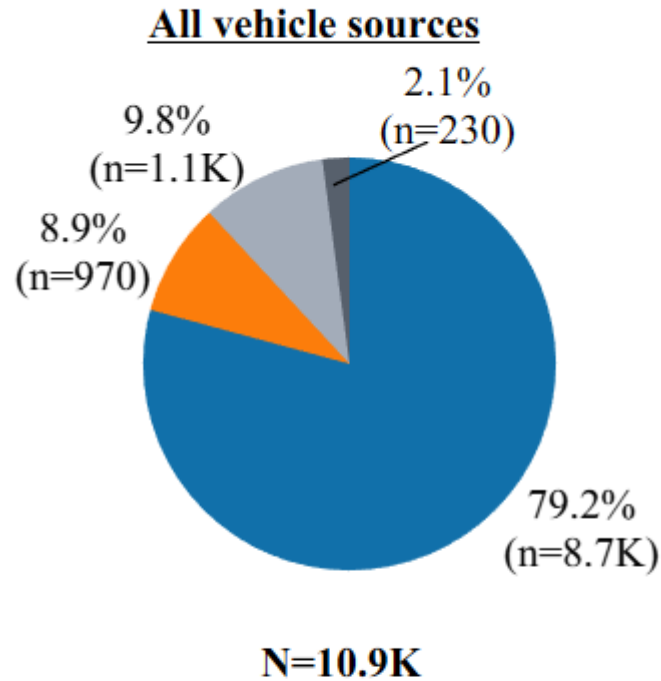
■ Roadway incidents\*
 ■ Nonroadway incidents\*
   
■ Pedestrian vehicular incidents
 ■ All other transportation incidents



**Source:** BLS, 2011-2022 Survey of Occupational Injuries and Illnesses. Calculations by CPWR Data Center.

\*Involving motorized land vehicles.

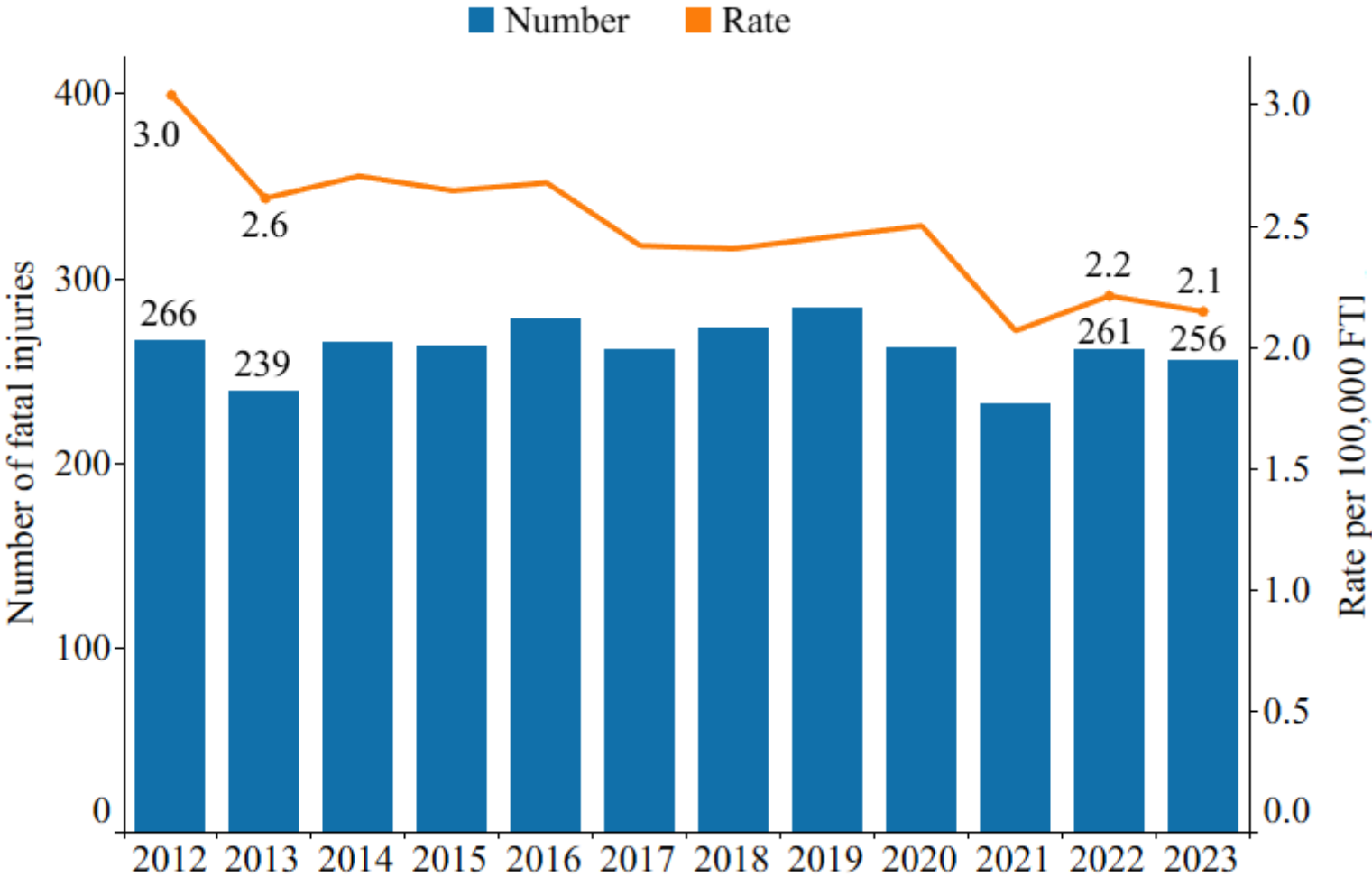
### 3. Nonfatal injuries in construction, by vehicle source (Private wage and salary; 2021-2022)



- Highway vehicles, motorized
- Off-road and industrial vehicles - powered
- Plant and industrial vehicles - unpowered
- All other vehicles
- Trucks
- Highway vehicle, motorized, unspecified
- Passenger vehicles
- Multi-purpose highway vehicles

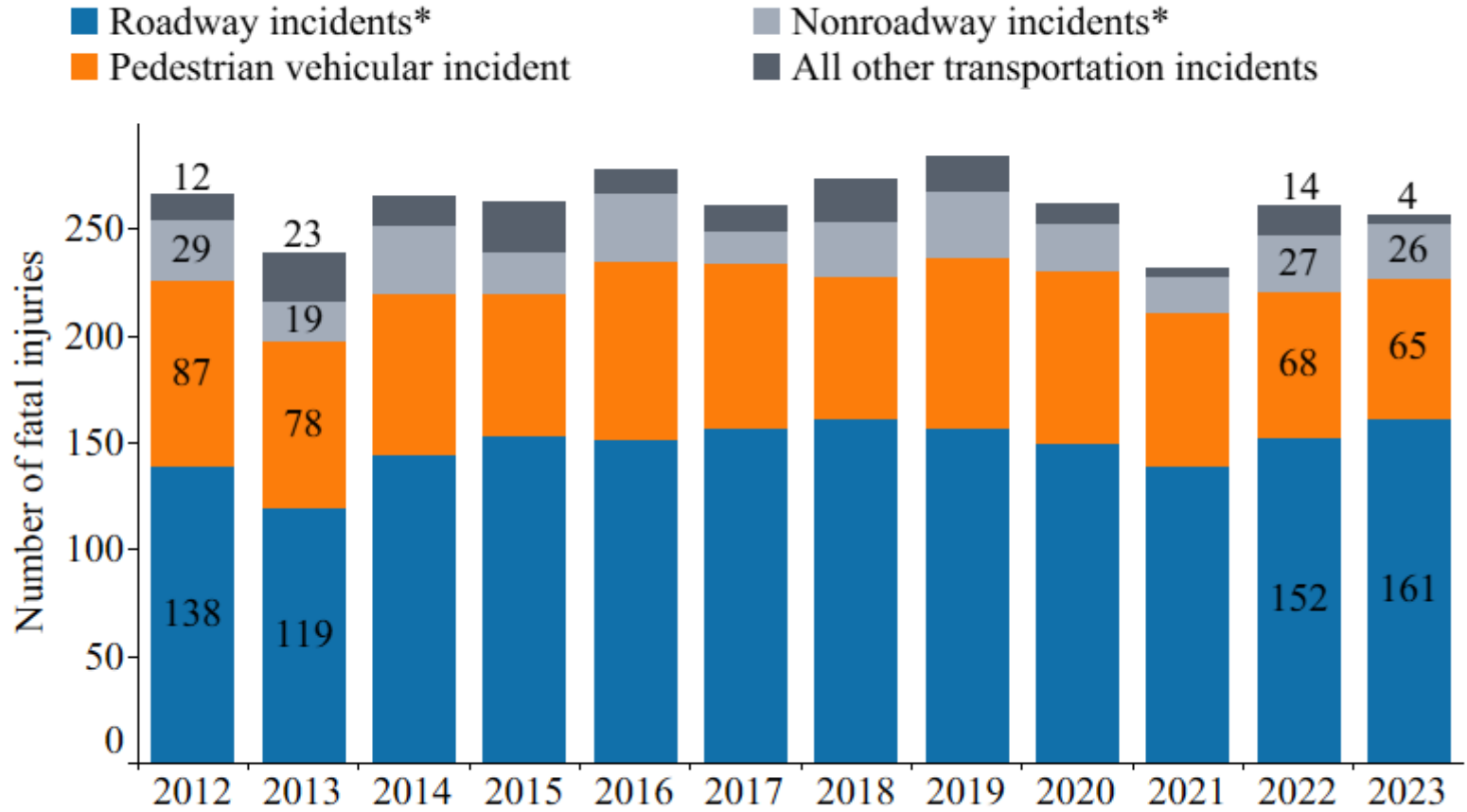
**Source:** BLS, 2021-2022 Survey of Occupational Injuries and Illnesses. Calculations by CPWR Data Center.

### 5. Number and rate of fatal transportation injuries in construction (2012-2023)



**Source:** BLS, 2012-2023 Census of Fatal Occupational Injuries and Illnesses and IPUMS, Current Population Survey 2012-2023. Calculations by CPWR Data Center.

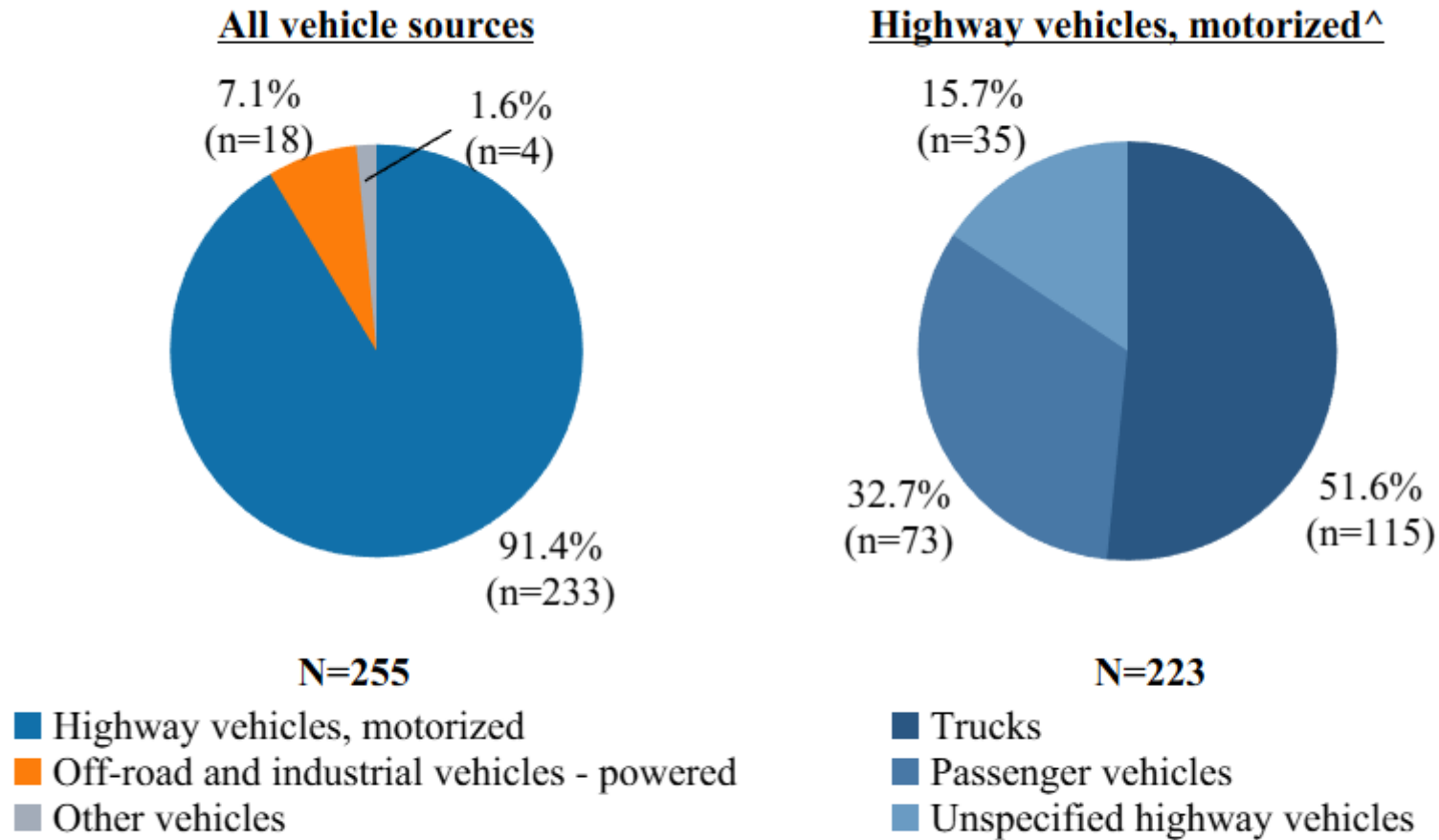
### 6. Number of fatal transportation injuries in construction, by event type (2012-2023)



**Source:** BLS, 2012-2023 Census of Fatal Occupational Injuries and Illnesses. Calculations by CPWR Data Center.

\*Involving motorized land vehicles.

## 7. Fatal injuries in construction, by vehicle source\* (2023)



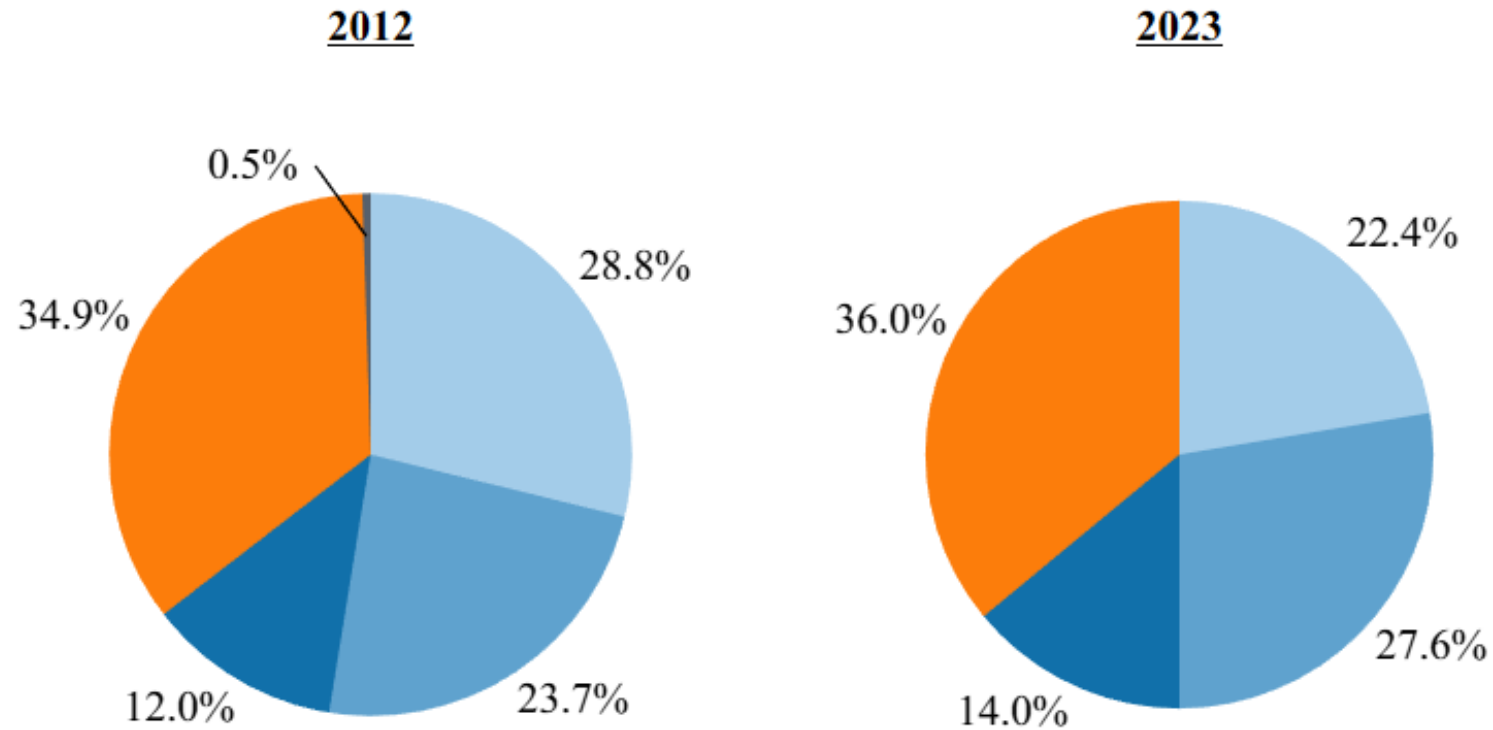
**Source:** BLS, 2023 Census of Fatal Occupational Injuries and Illnesses. Calculations by CPWR Data Center.

\*Due to rounding may not sum to 100%.

^Excludes injuries without detailed source information.

### 11. Fatal crashes in construction work zones, by time of day (2012 versus 2023)

■ Morning   ■ Afternoon   ■ Evening   ■ Night   ■ Unknown



**Source:** NHTSA, 2012 and 2023 Fatality Analysis Reporting System. Calculations by CPWR Data Center.

# CPWR's Struck-by Prevention Webpage

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THE CENTER FOR CONSTRUCTION  
RESEARCH AND TRAINING

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## Struck-By Hazards

**ATTENTION!** This year's Stand-Down will take place during National Work Zone Awareness Week, April 20-24, 2026.

Struck-by incidents are the 2nd leading cause of death among construction workers, and the leading cause of nonfatal injuries in the construction industry.<sup>21</sup> The National Stand-Down to Prevent Struck-by Incidents is a voluntary event for employers to talk directly to employees about safety. Any workplace can hold a stand-down by taking a break to focus on "Struck-by Hazards" and reinforcing the importance of training and prevention. Learn more by joining our webinar on getting ready for the event!

March 25th, 2026 at 2:00pm Eastern  
Getting Ready for the National Stand-Down to Prevent Struck-by Incidents in Construction: A Webinar  
[Register Here](#)

We will also be hosting a webinar during the Stand-Down week itself:  
Monday, April 20<sup>th</sup> at 1:00 PM Eastern  
Use of Positive Protection Devices for Work Zone Safety  
[Register Here](#)

A report from CPWR, [Struck-by Hazards, Barriers, and Opportunities in the Construction Industry – 2022 Survey Results](#), explores causes of struck-by injuries; barriers to their prevention; and examines measures to protect workers and barriers to implementing them. [Based on these research findings and research on the use of nudges to guide decision-making, CPWR developed a Planning Program to Prevent Struck-by Incidents.](#)

The following are materials developed by CPWR, NIOSH, and the NORA Construction Sector Council to use in support of this initiative.

**Stand-Down Materials**

- [Sphere of Safety Sticker Artwork](#)
- 2023 NIOSH Struck-by Stand-Down Science Blog: [Struck-By Injuries in the Construction Sector: Common Hazards, Barriers, and Opportunities to Keep Workers Safe](#)
- Preventing Struck-by Incidents Infographic: English [PDF](#) & [IPEG](#); Spanish [PDF](#) & [IPEG](#)
- [Electrical Transmission & Distribution Partnership Infographic on Preventing Struck-by Incidents](#)
- [One-page summary of resources on struck-by hazards](#)
- [PowerPoint presentation on Struck-by Hazards and the Stand-Down](#)

← RESEARCH

- Research Projects +
- Data Center +
- Research to Practice (r2p) +
- Training and Awareness Programs from Research +
- Management Resources from Research +
- Hazard-Specific Resources & Training Tools

- Primary resource & information hub for the Struck-by Work Group
- Includes:
  - Resources from CPWR developed with the support and input of the Struck-by Work Group
  - Resources from other partners
  - Links to relevant research

<https://cpwr.com/struck-by-hazards>

# Planning Program to Prevent Struck-by Incidents

I. Why should you have a plan to prevent struck-by incidents?

II. Section 1. Identify the Risks

- I. Falling Objects
- II. Flying Objects
- III. Swinging Objects
- IV. Rolling Objects

III. Section 2: Make a Pre-Job Plan

- I. Falling Objects
- II. Flying Objects
- III. Swinging Objects
- IV. Rolling Objects

IV. Section 3: Nudges to Support Planning

<https://cpwr.com/struck-by-hazards>



## Why should you have a plan to prevent struck-by incidents?

Struck-by hazards exist across all sectors, trades, and job sites. Transportation incidents are the second leading cause of death and contact with objects and equipment is the fourth leading cause of death in construction.<sup>1</sup>

**By planning ahead of the project** – starting at the bidding stage – you can eliminate struck-by hazards at the source by making sure the site is set up correctly and getting the appropriate equipment, controls, and PPE in place before work begins.

### **Who should be involved in planning at the pre-bid and pre-job phase of the project?**

**Bidding on a new project** may involve the estimator, project manager, safety director, competent person and, if needed, manufacturer/suppliers, owner, and/or general contractor. **Pre-job planning before a project starts** may involve the project superintendent/manager, competent person, foreperson, manufacturer/suppliers, owner, and/or general contractor.

**By planning daily once work begins** – before each shift and before engaging in tasks that present struck-by hazards – you can keep all employees engaged and aware of hazards, solutions, and workplace safety policies.

### **Who should be involved in daily planning?**

The short answer here is *everyone*. Those making major decisions like the foreperson and those carrying out the work *or other work nearby* should all be included in pre-task planning. The planning meeting is a critical time for those working together *and* others working nearby to communicate, get on the same page about potential hazards, and figure out how to protect one another.

## Section 1. Identify the Risks

### FALLING OBJECTS

Struck-by falling object hazards are present when something falls from an elevation to a lower level and strikes, crushes, or pins a person.

#### **1. Will there be work at heights?**

If workers on ladders, scaffolds, aerial lifts, roofs, decking, etc. are conducting work above where others are working, resting, or walking below, there is a risk for struck-by incidents. Tools, equipment, or materials could be dropped, knocked, or blown by wind, ultimately striking another worker or bystander.

[If yes, click here for more information on planning and solutions.](#)

**2. Will materials be transported by truck, crane, or other moving equipment?**

If the load is not secured properly, materials can fall from a truck bed or off a crane hook, striking workers behind or below.

*[If yes, click here for more information on planning and solutions.](#)*

**3. Are there materials or tools heavy enough to injure someone when dropped on the same level?**

Tools or materials dropped by an individual could cause injury to themselves or coworkers nearby.

*[If yes, click here for more information on planning and solutions.](#)*

## **Section 2. Make a Pre-Job Plan**

For any questions you responded “yes” to in Section 1, it is important to plan out the prevention and protection solutions you intend to use. Solutions include everything from employee training to traffic planning to the use of specific equipment and PPE. Consider the hierarchy of controls and refer to the supplemental resources available in Section 1 for assistance in determining the best and most complete range of solutions for each hazard. Skip the questions that don’t apply or write N/A.

**Date:**

**Job site:**

**Completed by:**

**FALLING OBJECTS**

**How will you address falling object hazards from work at heights?**

## Section 3. Nudges to Support Planning

### Nudges for Safety and Health Decisions

**Prompts:** Use standardized explicit verbal, visual, and/or numeric information to make previously *unknown or inaccessible information* more available. Prompts are designed to nudge individuals at key times to think through *how and when* they should make a decision.

**Reminders:** Are similar to prompts but make important information *that is already known or available* more visible and accessible. Reminders are used to ensure that salient information is used to make safer decisions and practices and is often used to combat procrastination.

**Feedback:** Involves providing direct and clear information to the decision-maker about the results of their safety decisions and safety practices. Feedback provides information about their use of the appropriate safety decisions and serves to reinforce the related safety practices.

**Social Norms:** Provides a point of comparison by presenting information relative to others in a work group. Because humans are influenced by what others do, social norms influence decisions by providing guidance regarding the expectations or rules within a work group.

**Simplify:** Involves revising and presenting relevant information so that it is more apparent or readily available to decision-makers. Simplifying the message reduces the attentional demands and cognitive effort needed to make the safer decision.

**Incentives:** Involves changing decision consequences and motivators. Incentives are designed to provide positive rewards in response to desired decisions in an effort to promote desired outcomes.

# Additional Resources

## HOW HEAVY IS DEADLY?

An object may not be heavy... but if it falls, it could be deadly.

The greater the drop height, the greater the landing force.

Height	1 pound	2 pounds	5 pounds	10+ pounds
300 feet	Serious to Severe	Severe	Deadly	Deadly
200 feet	Serious to Severe	Severe	Severe to Deadly	Deadly
150 feet	Serious	Severe	Severe to Deadly	Deadly
100 feet	Serious	Severe	Severe	Severe
50 feet	Serious	Serious to Severe	Severe	Severe
20 feet	Serious	Serious	Severe	Severe
10 feet	Serious	Serious	Serious	Severe
6 feet	Serious	Serious	Serious	Serious

**FALLING OBJECTS CAN CAUSE**

- Minor injuries like bruises and cuts
- More serious injuries like broken bones
- Severe injuries like paralysis
- Death, in extreme (or some) cases

**WHAT CAN YOU DO**

- Tether your tools and equipment
- Keep your work area clear of loose tools and equipment
- Learn about how to prevent objects from happening

**CPWR** **NIOSH**

## Preventing Work Zone Struck-by Incidents

Exploring Impacts of the Infrastructure Investment and Jobs Act (IIJA)

Accidents in Roadway Work Zones

**CPWR** **NIOSH**

## STOP THE DROP!

### PREVENT DROPPED OBJECTS WHEN WORKING AT HEIGHTS

**REMEMBER!**

- Secure tools and materials to prevent them from falling on people below. Smaller tools (less than 5 lbs) can be tethered to the worker.
- Use measures like canopies to protect workers below.
- Barricade work areas.
- Always wear your seat belt.
- Inspect all equipment before use.
- Keep materials organized.
- Train workers.

**CPWR** **NIOSH**

## PREVENTING STRUCK-BY INCIDENTS

**CPWR** **NIOSH**

## ¡OPERADORES!

### 4 pasos para la seguridad en la zona de trabajo

- Antes de operar, revise:**
  - Los frenos (servicio, emergencia, manual, etc.)
  - La bocina / alarmas de retroceso
  - El cinturón de seguridad
  - El mecanismo de conducir
  - Los controles de operación
  - Las llantas
  - Los espejos
- Manejando:**
  - Utilice los espejos
  - Utilice las alarmas de retroceso
  - Revise los puntos ciegos
  - Esté atento a los trabajadores cerca de otros equipos
  - Obezca señales y siga las rutas designadas
- Retrocediendo:**
  - Restringa el área
  - Siga las señales del observador/señalador (verbal, de mano, banderas)
  - Suene la bocina dos veces o utilice una alarma de retroceso
  - Utilice sus espejos y un señalador - conozca las señales
  - Deténgase y vuelva a revisar cada 100 pies (como máximo)
  - Deténgase si pierde de vista al observador
- Estacionando:**
  - Evite salir de retroceso
  - Mantenga las ventanas abiertas para que pueda ver y escuchar a la gente
  - Ponga atención - apague los radios
  - Asegúrese de que el área esté libre antes de moverse - y revise los puntos ciegos

**CPWR** **NIOSH** **NORA**

## CRANE AND LIFT ZONE SAFETY

### PLANNING FOR A SAFE LIFT

Hold a lift planning meeting before any work begins. Identify a lift director or person in charge of the lift, and include properly licensed or certified operators, riggers, signal persons, and any others involved with the lift.

- Make sure all workers are properly trained and licensed or certified, if appropriate
- Plan for the items that will be moved - their weight, dimensions, pick points, and center of gravity
- Review the lifting capacities of the crane and rigging, as well as lifting points, methods of attachment, sling angles, boom and swing angles, and crane orientations
- Ensure the crane and rigging are properly inspected and maintained
- Discuss how the crane operator and signal person will communicate during the lift, a back-up plan if communication is lost, and an emergency stop procedure
- Determine possible impacts of weather, terrain, or other environmental factors
- Set up barricades and post warning signs around the lift zone
- Identify nearby obstacles the crane could strike (e.g., overhead power lines, structures, below ground hazards)

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## Seguridad en la zona de trabajo: trabajar alrededor de vehículos

**CPWR** **CHARLA** **INFORMATIVA**

- Manténgase alerta y esté atento a otros trabajadores.
- No se pare ni camine delante o detrás del equipo a menos que el operador indique que es seguro.
- No se desvíe hacia el tráfico o los carriles de entrega de camiones.

**CPWR** **NIOSH** **NORA**



# Selecting Head Protection for Construction Work

## CPWR Selecting Head Protection for Construction Work

THE CENTER FOR CONSTRUCTION RESEARCH AND TRAINING

A traumatic brain injury (TBI) is an injury that affects how the brain works. It can be caused by a bump, blow, jolt, or penetrating injury to the head. TBIs can be mild, but more serious TBIs can lead to disability and even death.<sup>1</sup>

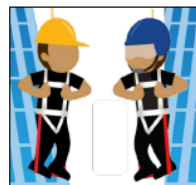
Based on historical data, over 50,000 nonfatal work-related TBIs are treated on average annually in United States (US) emergency departments.<sup>2</sup> Nonfatal TBIs can be life-altering events; 43% of hospital patients treated for a TBI did not attend ordinary work for five years after their injury, which means these individuals were receiving a social transfer payment such as sickness absence benefits, experiencing short- or long-term sickness, or had died.<sup>3</sup> Among all US industries, construction has the highest number of both nonfatal<sup>2</sup> and fatal work-related<sup>4</sup> TBIs. **Between 2003 and 2010, 2,210 construction workers died from a TBI.** These deaths represented 25% of all construction fatalities and 24% of work-related TBI fatalities among all industries during the same period.<sup>5</sup> More recent data show a similar pattern, with 2,297 fatal intracranial injuries in construction from 2015 to 2022.<sup>6</sup>

Construction workers are at higher risk for TBIs because, in their work environment, they may be struck by falling or flying objects and may experience different kinds of slips, trips, and falls – from falls on the same level to falls from ladders and equipment to falls from multi-story buildings or scaffolding dozens of feet in the air. Over a third of all nonfatal work-related TBIs are attributed to falls, and among workers 55 years and older, the majority result from same level falls.<sup>2</sup> **When it comes to fatal work-related TBIs, more than half are caused by falls, especially from roofs, ladders, and scaffolds.<sup>5</sup>**

Wearing protective headgear, such as a hardhat or safety helmet, is essential for reducing the risk of a TBI. A study by Kim et al. found individuals who had a work-related fall and were wearing a safety helmet were less likely to have head injuries compared to individuals who were not wearing a safety helmet.<sup>7</sup> Protective headgear should be selected based on your trade, type of work, and work environment. **Rather than recommending a one-size-fits-all solution, the goal of this guidance document is to provide you with information on types of protective headgear, factors to consider, and additional resources.**

### Acknowledgements

CPWR – The Center for Construction Research and Training would like to thank its [Expert Evaluation Panel on Construction Headgear](#) for their feedback throughout the inception and development of this document. In 2023, CPWR convened experts from academia, labor, government, manufacturing, and others to participate in an evaluation panel on the use of safety helmets with chin straps versus traditional hardhats. **The goal of this expert evaluation panel was to: (1) assess industry awareness and**



- Resource produced by a CPWR Expert Evaluation Panel with 25 members
- Provides an overview of key issues in head protection to help inform stakeholders about how to make the best decision about head protection for their needs
- Released in March 2024; updated in October 2024
- Available in English and Spanish

[https://www.cpwr.com/wp-content/uploads/FS-Selecting\\_Head\\_Protection.pdf](https://www.cpwr.com/wp-content/uploads/FS-Selecting_Head_Protection.pdf)

# Resources from OSHA

- [Highway Work Zones](#)
- [Preventing Backovers](#)

Occupational Safety and Health Administration


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## Highway Work Zones and Signs, Signals, and Barricades

# CONSTRUCTION INDUSTRY



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### Overview

Highway, road, street, bridge, tunnel, utility, and other workers for the highway infrastructure are exposed to hazards from outside and inside the work zone. Falls, electrical, struck-by, and caught between are the common hazards found in this type of work. Guidance for the set-up of work zone signs, barricades, flagging, etc. are found in the U.S. Department of Transportation's "Manual on Uniform Traffic Control Devices (MUTCD)." The MUTCD is referenced in [1926 Subpart G](#).

- [Federal Highway Administration](#) of U.S. Department of Transportation (DOT) and Federal Highway Administration (FHWA). Contains links to their statistics and related information.
  - [Work Zone Safety and Mobility Rule](#). Provides the text of the final rule which updated and broadened 23 CFR 630 Subpart J and informational materials.
  - [Work Zones](#) of
  - [National Work Zone Awareness Week](#) of
  - [Reducing Highway Fatalities](#)
  - [Current Manual on Uniform Traffic Control Devices \(MUTCD\)](#). 2009 Edition with Revision Numbers 1 and 2 incorporated, dated May 2012 ([PDF](#) of )
    - [MUTCD PART 6: TEMPORARY TRAFFIC CONTROL](#). 2009 Edition (PDF)
  - [Highway Work Zone Safety](#) of . National Institute for Occupational Safety and Health (NIOSH) Workplace Safety & Health Topics. Provides resources for workers in highway construction work zones that are exposed to risk of injury from the movement of construction vehicles and equipment within the work zones, as well as from passing motor vehicle traffic.
  - [Building Safer Highway Work Zones: Measures to Prevent Worker Injuries From Vehicles and Equipment](#) of . U.S. Department of Health and Human Services (DHHS), National Institute for Occupational Safety and Health (NIOSH) Publication. No. 2001-128, (April 2011). Presents a list of interventions discussed during a workshop with over 30 industry participants. It is available at no charge by calling NIOSH at toll-free 1-800-35-NIOSH (1-800-356-4674).


### How can OSHA Help?

OSHA has developed this webpage to provide workers and employers useful, up-to-date information on Highway Work Zones and Signs, Signals, and Barricades. For other valuable worker protection information, such as Workers' Rights, Employer Responsibilities and other services OSHA offers, read [OSHA's Workers](#) page.

#### Highlights

- [Work Zone Traffic Safety Fact Sheet](#)
- [Work Zone Traffic Safety QuickCard](#) in various languages.

#### Related Topics



### Prevent Heat Illness at Work

Outdoor and indoor heat exposure can be dangerous.



# NIOSH Struck-by Resources for Awareness and Prevention

Struck by Stand-down Kick-off Webinar

Emily J. Haas, PhD – NIOSH Division of Safety Research

March 25, 2026

# Previous NIOSH Struck-by Stand-down Highlights and Resources

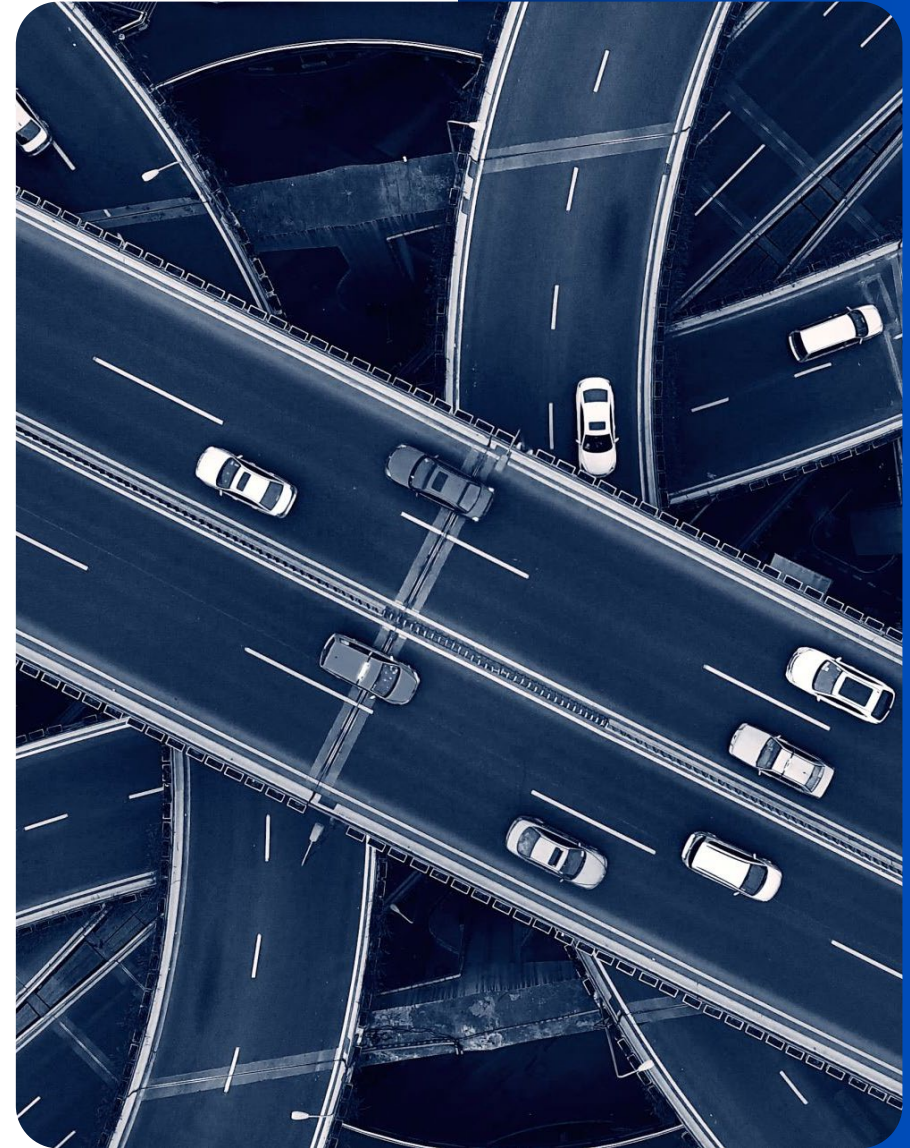
- Toolbox talks, hazard recognition discussions
- Training videos and infographics
- *Example: Internal Traffic Control Plans (ITCPs)* can be used to coordinate vehicle flow to prevent inside-work-zone struck-by events
- NIOSH 2022 Stand-Down Update
- NIOSH 2024 Stand-Down News



2024 NIOSH ITCP Bulletin



2024 NIOSH Stand-Down eNews



# Refuse Workers & Struck-By Risk

Workers around refuse trucks encounter unique struck-by hazards from the vehicle itself, moving parts, and nearby traffic

## Best practices include:

- ✓ Stop truck if visual contact with spotter is lost
- ✓ Maintain operator-to-worker visibility
- ✓ Use alarms, radar, cameras during backing and movement

Access the workplace solution document here



# WORKPLACE SOLUTIONS

From the National Institute for Occupational Safety and Health

## Preventing Struck-by Injuries and Deaths When Working with Refuse Trucks

### Summary

Workers who operate or work around refuse trucks are at risk for possible injury and death from being struck by the truck, truck components, and vehicles traveling in the work area. Refuse trucks are identified as trash, garbage, and recycling trucks that transport civilian waste and recyclable materials. The National Institute for Occupational Safety and Health (NIOSH) provides steps for employers and employees to reduce the risk of struck by incidents.

### Introduction

Refuse and recyclable material collectors (hereafter referred to as waste collectors) are employed in five industries [BLS 2023]:

- Waste collection
- Local government (excluding schools and hospitals)
- Waste treatment and disposal
- Remediation and other waste management services
- State government (excluding schools and hospitals)

In 2023, more than 135,000 workers were employed as waste collection workers [BLS 2023]. Waste collection workers face unique occupational hazards that increase their risk of fatal and non-fatal occupational injuries [NIOSH 1997, NIOSH 2021, NIOSH 2022, NIOSH 2023a]. Tasks such as standing on refuse collection truck riding steps and moving waste behind and around these vehicles increase the risk of injury and death from transportation incidents and, particularly, struck-by incidents [NIOSH 2021, NIOSH 2022, NIOSH 2023].

Slow Down to Get Around™, a national safety campaign that reminds motorists to drive more carefully when near waste and recycling trucks, is also the name commonly applied to Move Over laws [SWANA 2023a]. These laws require motorists to change lanes and/or slow down when approaching an authorized emergency vehicle that is parked or otherwise stopped on a roadway [DOT 2008]. However, Move Over laws differ by state in defining which types of vehicles are included. As of 2023, thirty U.S. states have expanded their Move Over law to include refuse vehicles [SWANA 2023a]. However, waste collection workers need further safeguards to help protect them from being struck-by passing vehicles.



Photo by @fotokastic/Getty Images

**Figure 1.** National Waste & Recycling Association Slow Down to Get Around Campaign [SWANA 2023a].

### Description of Exposure

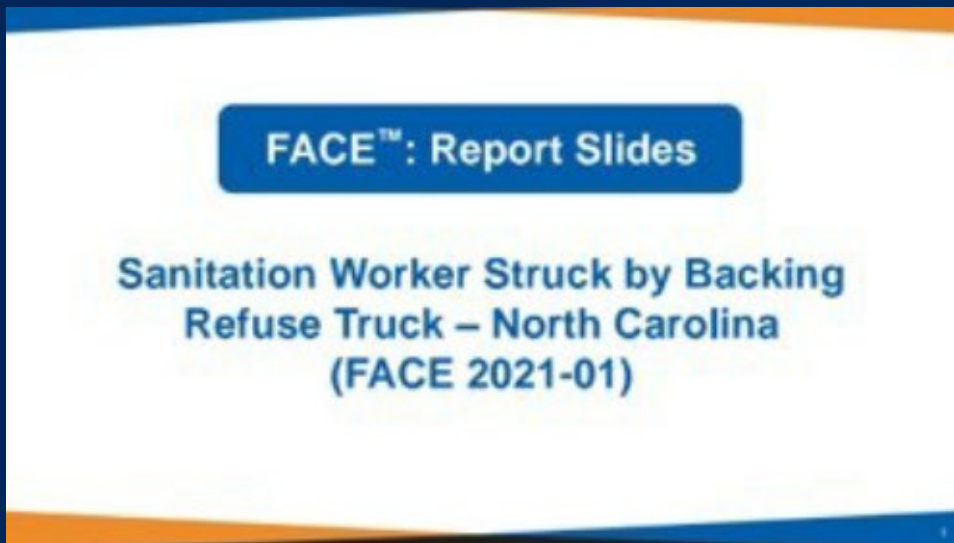
A NIOSH review of injury and fatality data was conducted to identify fatal and non-fatal refuse truck-related injuries. There were 310 occupational fatalities associated with refuse trucks between 2012 and 2022, with a fatality rate of 22.6 per 100,000 waste collection workers [BLS 2024]. This rate is more than six times the average occupational fatality rate of 3.7 per 100,000 for all industries combined [BLS 2024]. Seventy-four percent of refuse truck-related deaths were related to transportation incidents, which include both struck-by incidents and collisions involving other vehicles [BLS 2024].



U.S. Centers for Disease Control and Prevention  
National Institute for Occupational Safety and Health



The NIOSH Fatality Assessment and Control Evaluation (FACE) database provides investigative reports on struck-by incidents across industries, including detailed causation and prevention recommendations.



NIOSH and State partners are currently examining findings from FACE reports to inform pedestrian worker fatalities involving struck-by vehicle incidents (anticipated completion 2026)

# Truck-Mounted Attenuators (TMAs) to Protect Roadway Responders



2024 CDC/NIOSH TMA Bulletin



TMAs are impact-absorbing devices mounted to vehicles that help protect workers and emergency responders from moving traffic at roadway scenes.

## Key points:

- ✓ TMAs reduce crash severity and protect personnel at highway and roadside incidents.
- ✓ Adoption has expanded beyond construction to fire, EMS, and other emergency response services.
- ✓ TMAs provide advance protection ahead of work zones or incident scenes.
- ✓ Knowledge gaps remain related to deployment standards and training.

# Thank you.

For more information, contact CDC

1-800-CDC-INFO (232-4636)

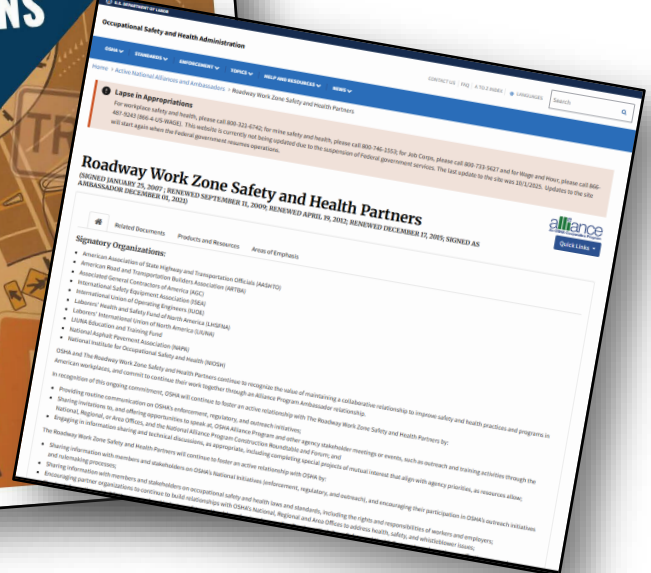
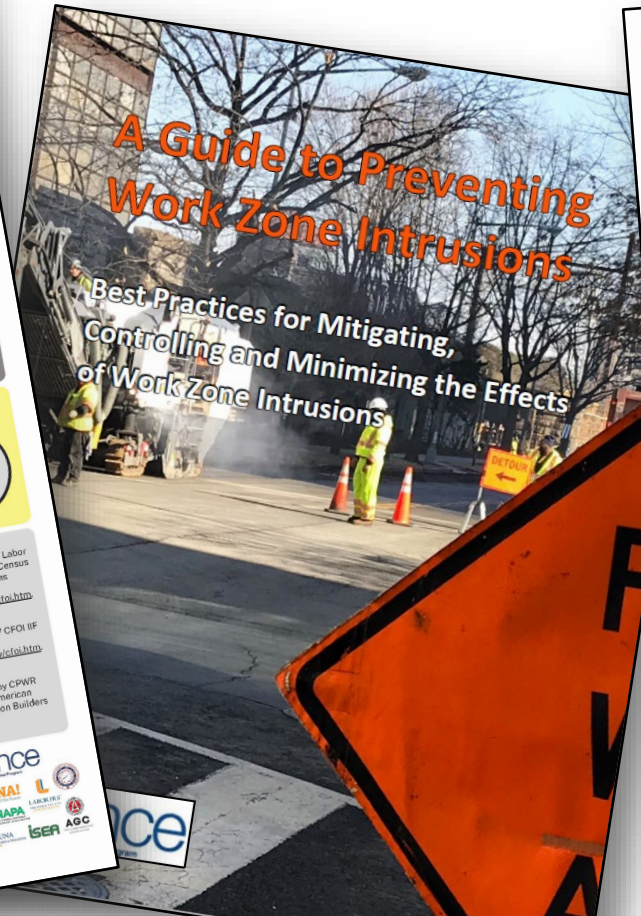
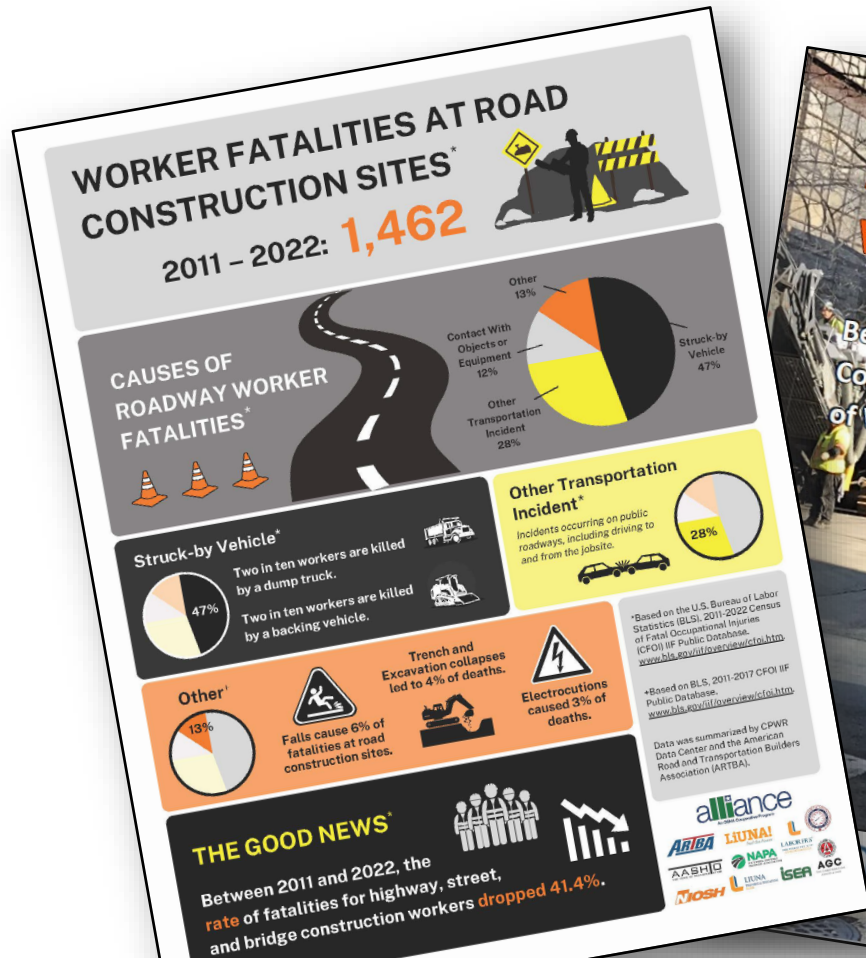
TTY: 1-888-232-6348 <https://www.cdc.gov/> | <https://www.cdc.gov/niosh>

Follow us on social **@CDCgov**

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the U. S. Centers for Disease Control and Prevention or the National Institute for Occupational Safety and Health.



# Resources from the OSHA Roadway Work Zone Safety and Health Partners Alliance



<https://www.osha.gov/alliances/roadway/roadway>

## Training

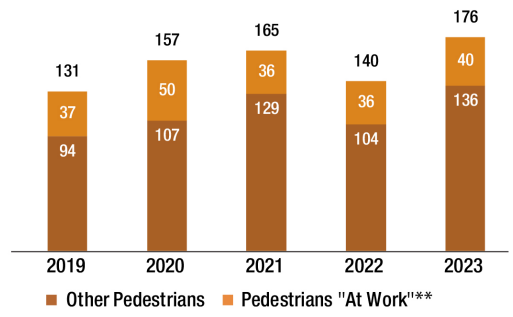
### Training

Online Courses  
FHWA Safety Grant Products  
Toolboxes

## FHWA Safety Grant Products

Search Safety Grant Products

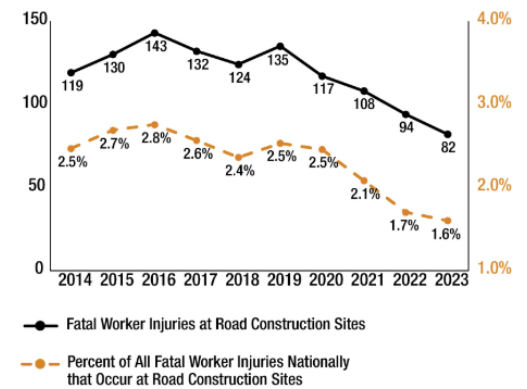
  
Pedestrian Fatalities in Work Zones



## Worker Safety and Welfare

Bureau of Labor Statistics injury and fatality statistics from 2014 – 2023 show that in recent years fatal worker injuries at road construction sites has decreased. Other BLS data shows that on average, between 2021 and 2023, more than half of road worker fatalities were due to workers on foot being struck by vehicles on the job site. With so many people, factors, and situations interacting on a job site, many that are completely outside the control of individual workers, it is extremely important that road workers are extra aware, careful, and properly protected by safety policies, procedures, devices, and personal protective equipment.

Fatal Highway Worker Injuries at Road Construction Sites

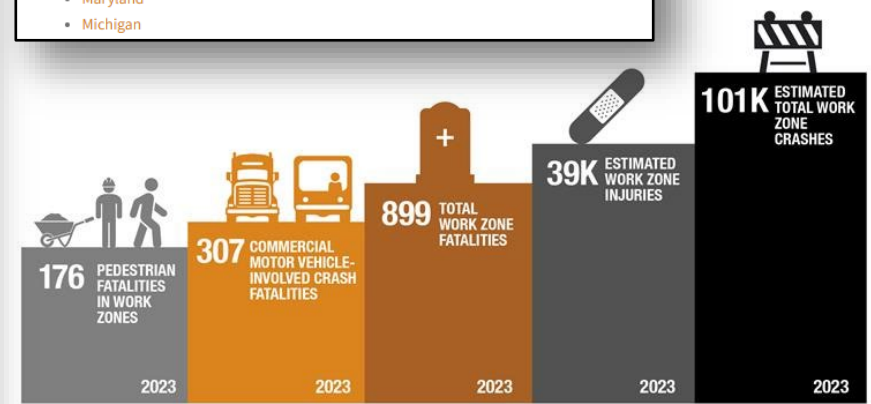


- Real-Time Traveler Information +
- Queue Warning +
- Dynamic Lane Merge +
- Incident Management +
- Variable Speed Limit +
- Speed Safety Cameras -**

Automated enforcement systems detect and capture images of speeding vehicles to be used for enforcement purposes.

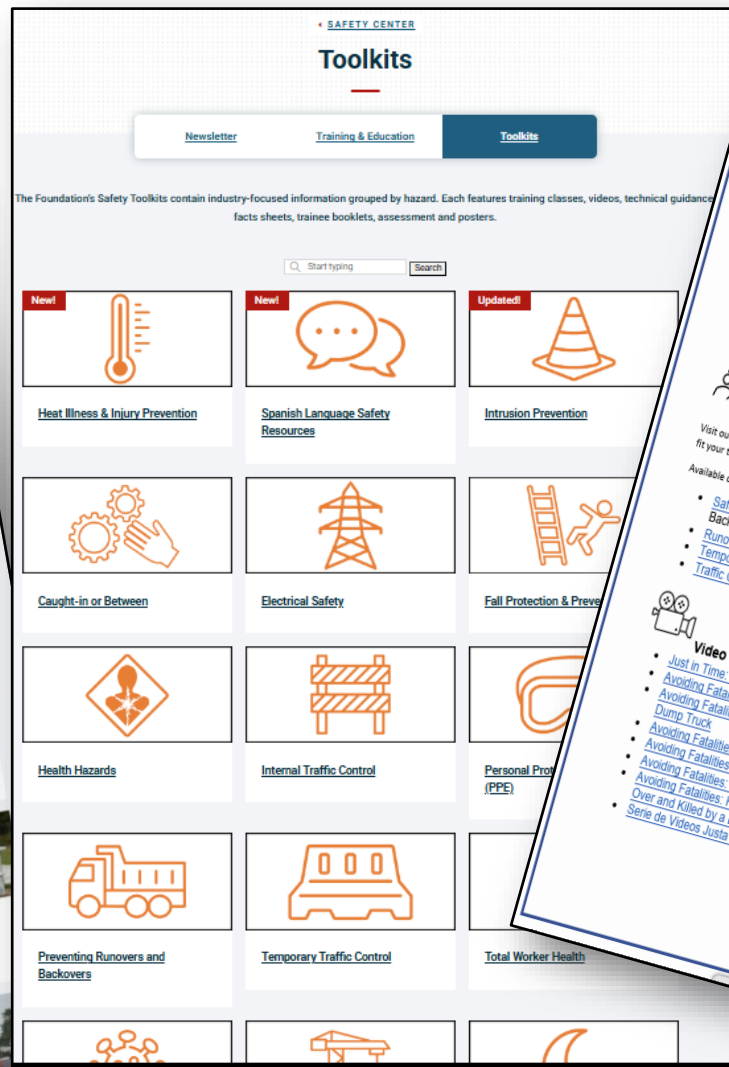
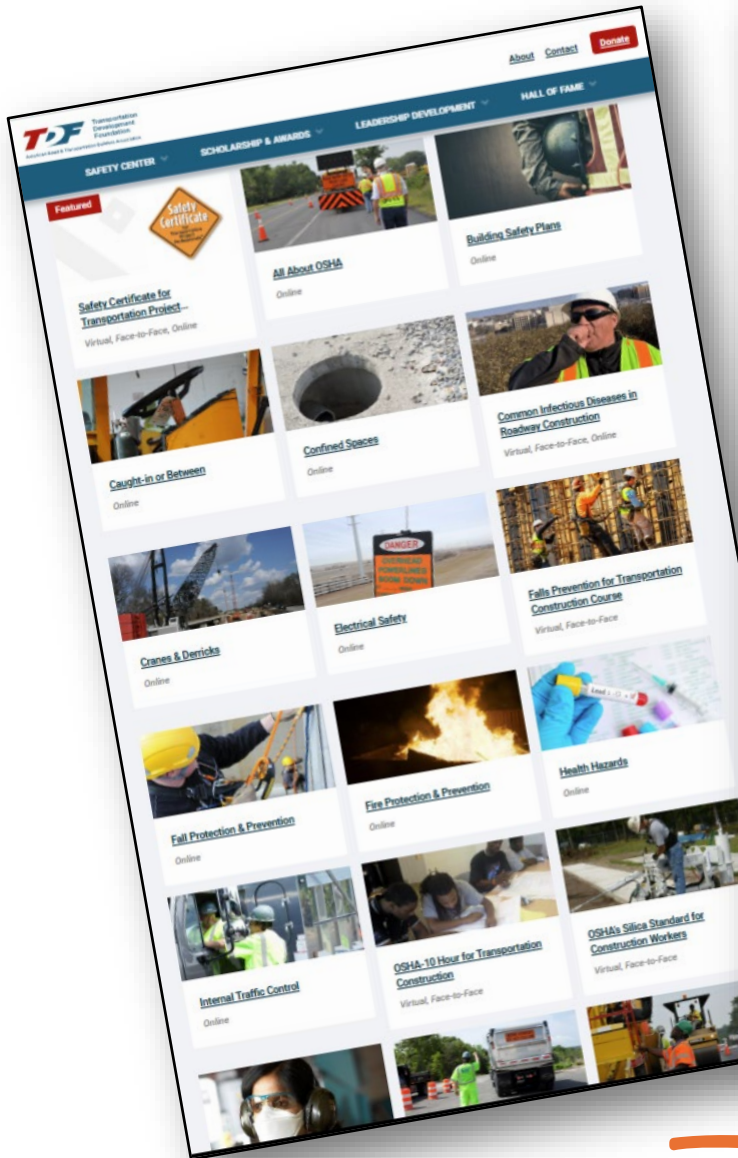
### Laws and Legislation That Allow Speed Safety Cameras in Work Zones

- Arkansas
- California
- Colorado
- Connecticut (See Sec. 13a-262, Sec. 13a-263, Sec. 13a-266, and Sec. 13a-269)
- Delaware
- Illinois
- Indiana
- Iowa
- Kentucky
- Louisiana
- Maryland
- Michigan





American Road & Transportation Builders Association

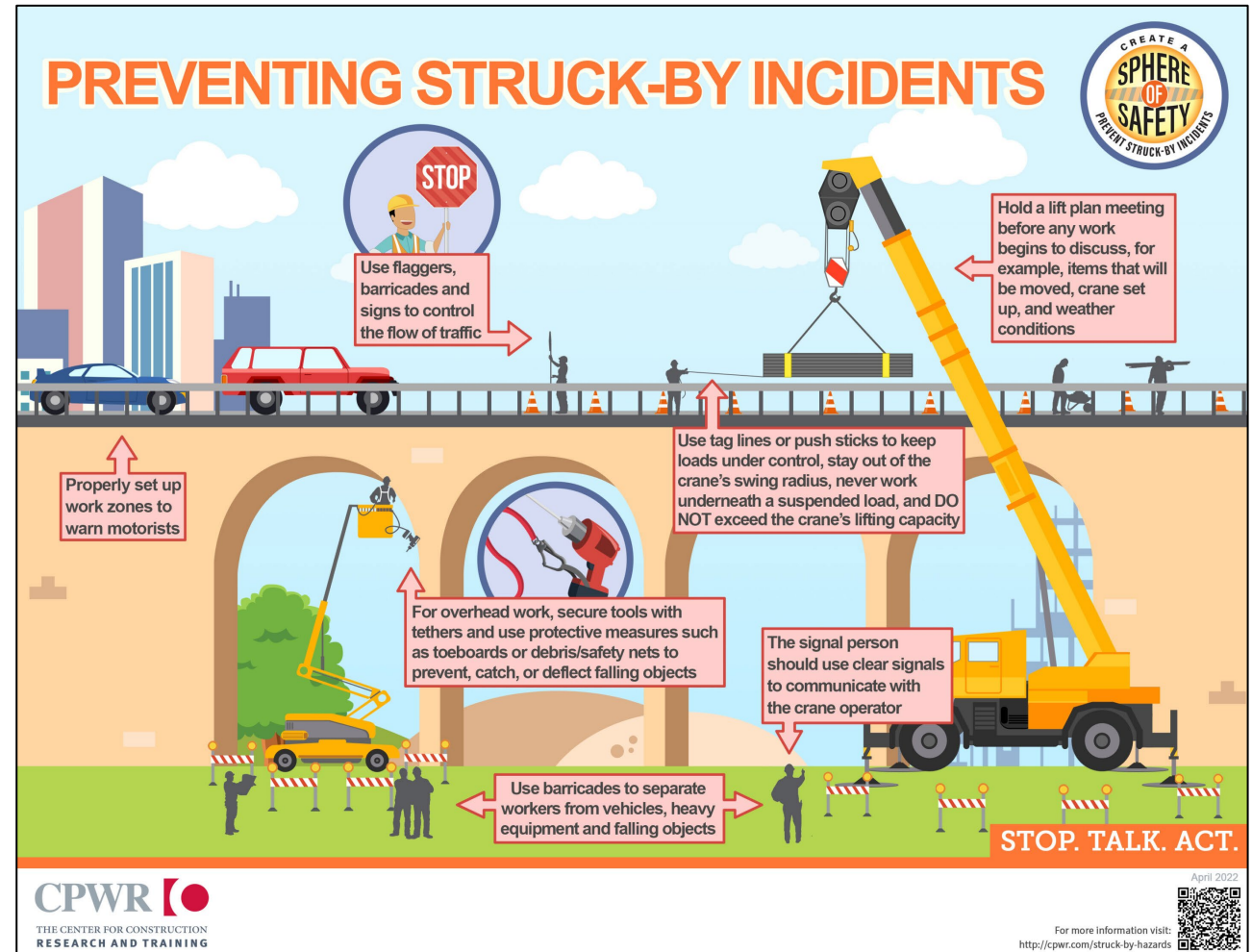


ARTBA Safety Center

<https://artbatdf.org/safety-center/>

# How to Participate

- Attend a virtual event
- Hold your own Stand-Down
  - Inspect equipment
  - Review hazards, solutions, communication between workers, etc.
- Revisit your internal traffic control plan
- Conduct training



# May 20<sup>th</sup> at 1:00pm: *Use of Positive Protection Devices for Work Zone Safety*

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## The webinar will cover:

- An overview of recent changes to the FHWA's Work Zone Safety and Mobility rule, which dictates when positive protection devices must be used or considered.
- Information on the practical application of this rule, plans for its implementation, and types of positive protection companies may want to consider using.

## Panelists:

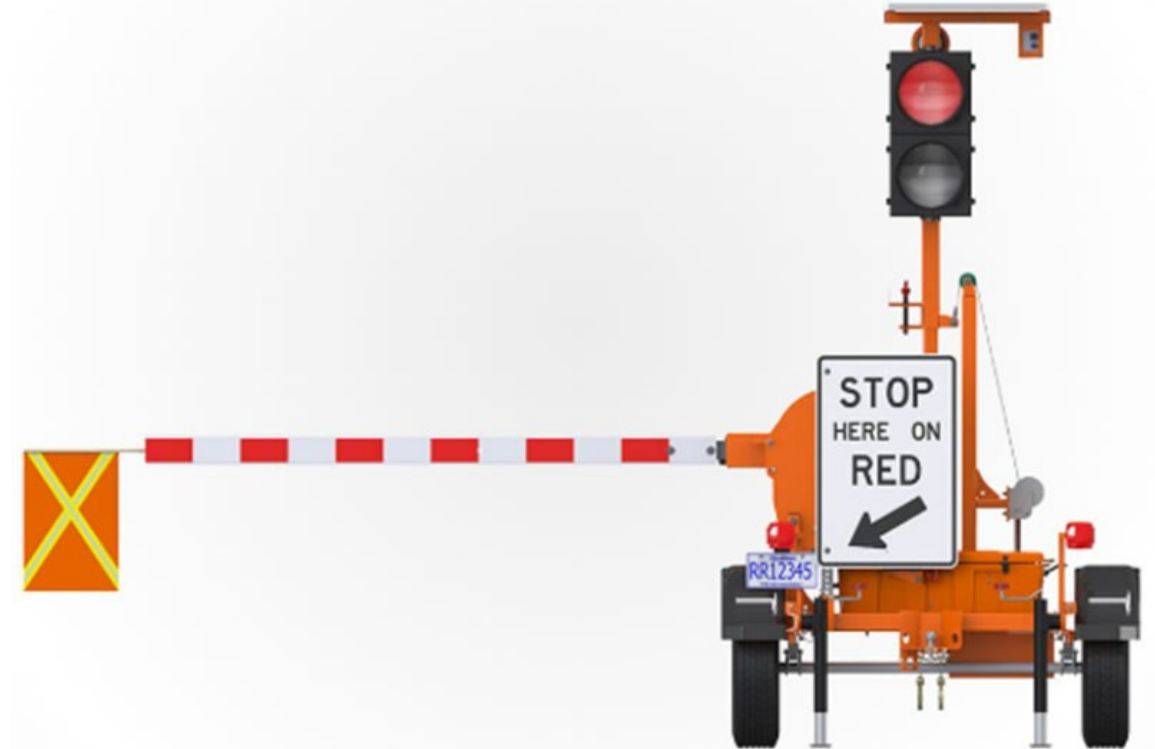
- Brad Sant, Esq., Senior Vice President, Safety and Education, ARTBA
- Ryan Papariello, GSP, Safety and Health Specialist, LHSFNA
- Christina Bennett, PE, Construction & Maintenance Engineer, South Dakota DOT
- Laura Huizinga, Senior Business Development Manager, Lindsay Corporation

**Registration:** [https://us06web.zoom.us/webinar/register/WN\\_bD7Q-vWZQBi-YpVphX6\\_oA](https://us06web.zoom.us/webinar/register/WN_bD7Q-vWZQBi-YpVphX6_oA)



# May 20<sup>th</sup> at 2:30pm: *Work Zone Safety Innovations*

- Organized by ARTBA, FHWA, and ATSSA through the National Work Zone Safety Information Clearinghouse
  - Wearable green lights and PPE
  - Automated Flagger Assistance Device Best Practices
  - All Weather Temporary Pavement Markings
  - Worker Alert Technologies



Register: <https://connect.artba.org/events/nwzaw-work-zone-innovations>

Thank you!

Questions?

CPWR  THE CENTER FOR CONSTRUCTION  
RESEARCH AND TRAINING

# NATIONAL STAND-DOWN to Prevent Struck-By Incidents



April  
20-24,  
2026



FOR MORE INFORMATION: [CPWR.COM/STRUCK-BY-HAZARDS](https://cpwr.com/struck-by-hazards)