

APRIL 11-15
2022

NATIONAL STAND-DOWN
TO PREVENT STRUCK-BY INCIDENTS



Welcome!

G Scott Earnest, PhD, PE, CSP
Associate Director, NIOSH, Construction
Manager, NORA Construction Sector

STOP. TALK. ACT.

NIOSH Office of Construction Safety & Health

**APRIL 11-15
2022**

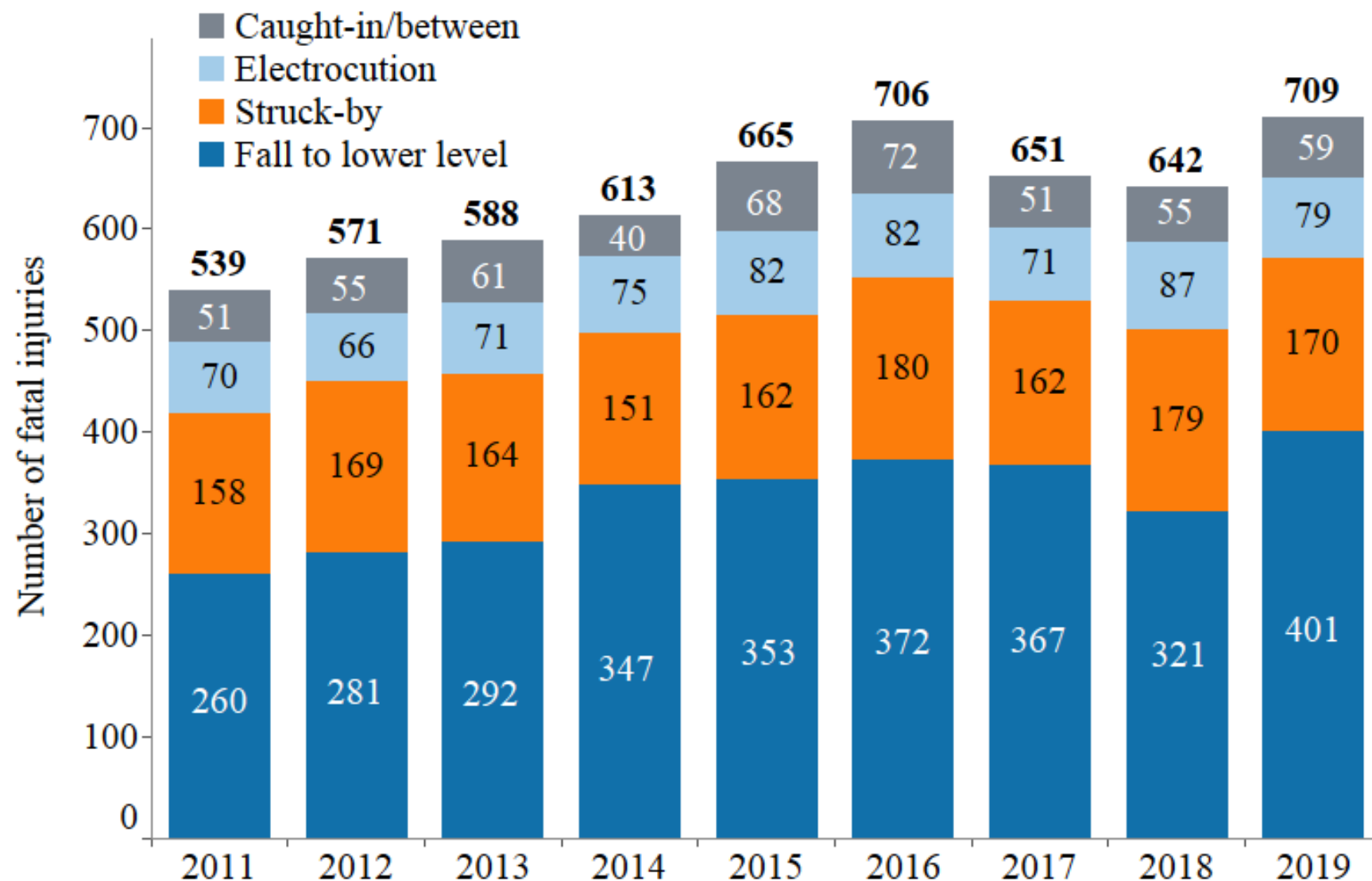
NATIONAL STAND-DOWN TO PREVENT STRUCK-BY INCIDENTS



- April 11, 2022 at 1 PM EDT – *Preventing Struck-by Incidents in Roadway Work Zones*
- 11 de abril de 2022 a las 3 PM EDT – *Prevención de Incidentes por Atropellos: Zonas de Trabajo, Equipos Pesados e Impacto de Objetos*
- April 13, 2022 at 2 PM EDT – *What's the risk? Best Practices to reduce the likelihood of struck-by injuries from heavy equipment and crane activities*
- April 14, 2022 at 2PM EDT – *Preventing Struck-by Incidents from Dropped Tools & Other Objects*

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

6. Number of fatal injuries caused by Construction Focus Four, 2011-2019



Source: U.S. Bureau of Labor Statistics, Census of Fatal Occupational Injuries.



6. Number of fatal injuries in construction by top 5 event or exposure categories, average of 2018-2020*

■ Other Event/Exposure

■ Top Event/Exposure Category

Primary Event or Exposure	Top Detailed Event or Exposure	Number of fatal injuries
Falls, slips, trips	Falls to lower level	376 (Top=358)
Transportation incidents	Roadway incidents involving motorized land vehicle	273 (Top=155)
Exposure to harmful substances/environments	Exposure to electricity	173 (Top=73)
Contact with objects and equipment	Struck by object or equipment	160 (Top=81)
Violence/other injuries by persons/animals	Intentional injury by person	61 (Top=56)
		0 100 200 300 400 500 600

Source: U.S. Bureau of Labor Statistics, 2018-2020 Census of Fatal Occupational Injuries.

Calculations by the CPWR Data Center.

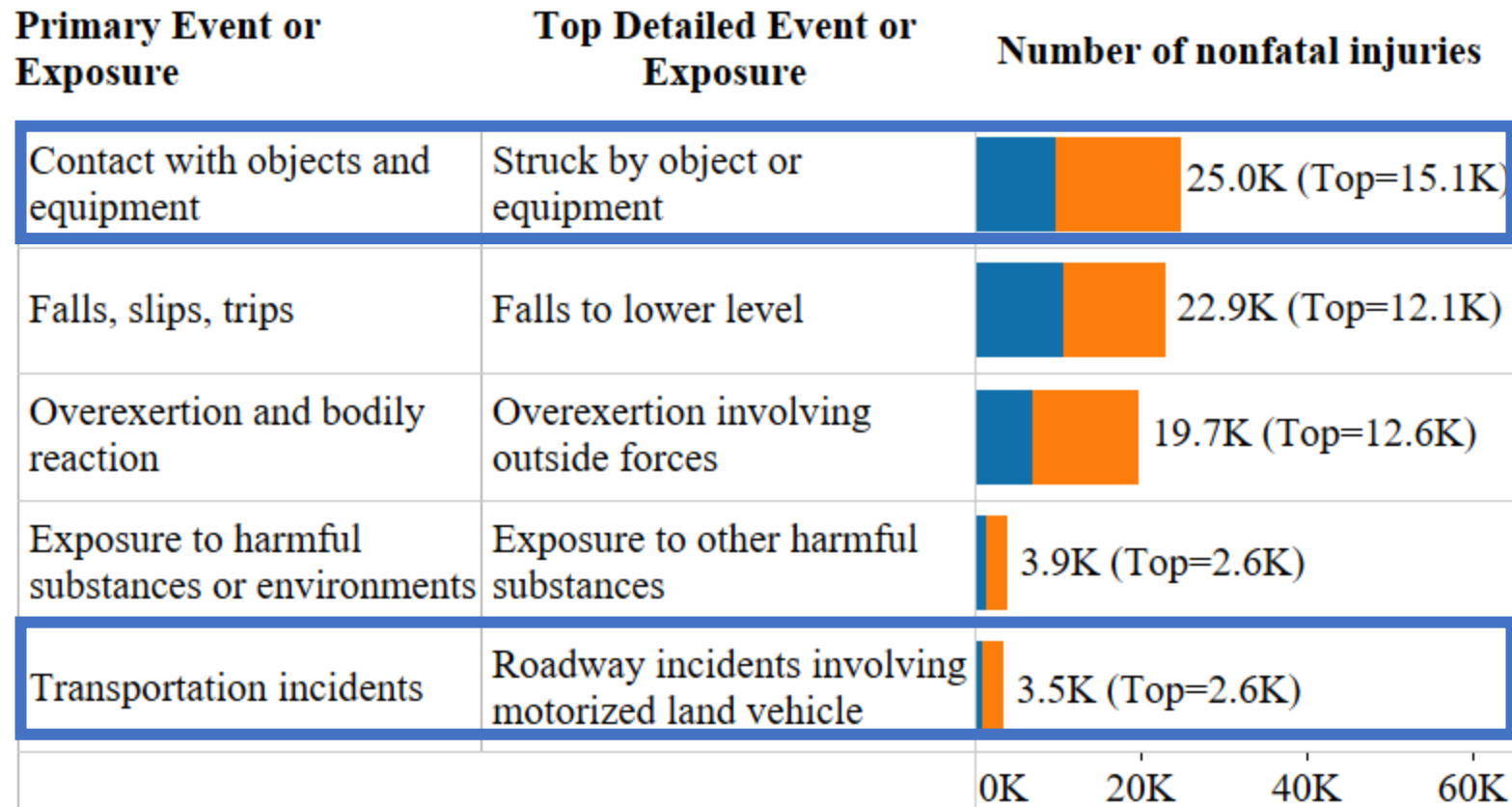
*Cases missing event or exposure data were excluded.



12. Number of nonfatal injuries in construction by top 5 event or exposure categories, average of 2018-2020

■ Other Event/Exposure

■ Top Event/Exposure Category

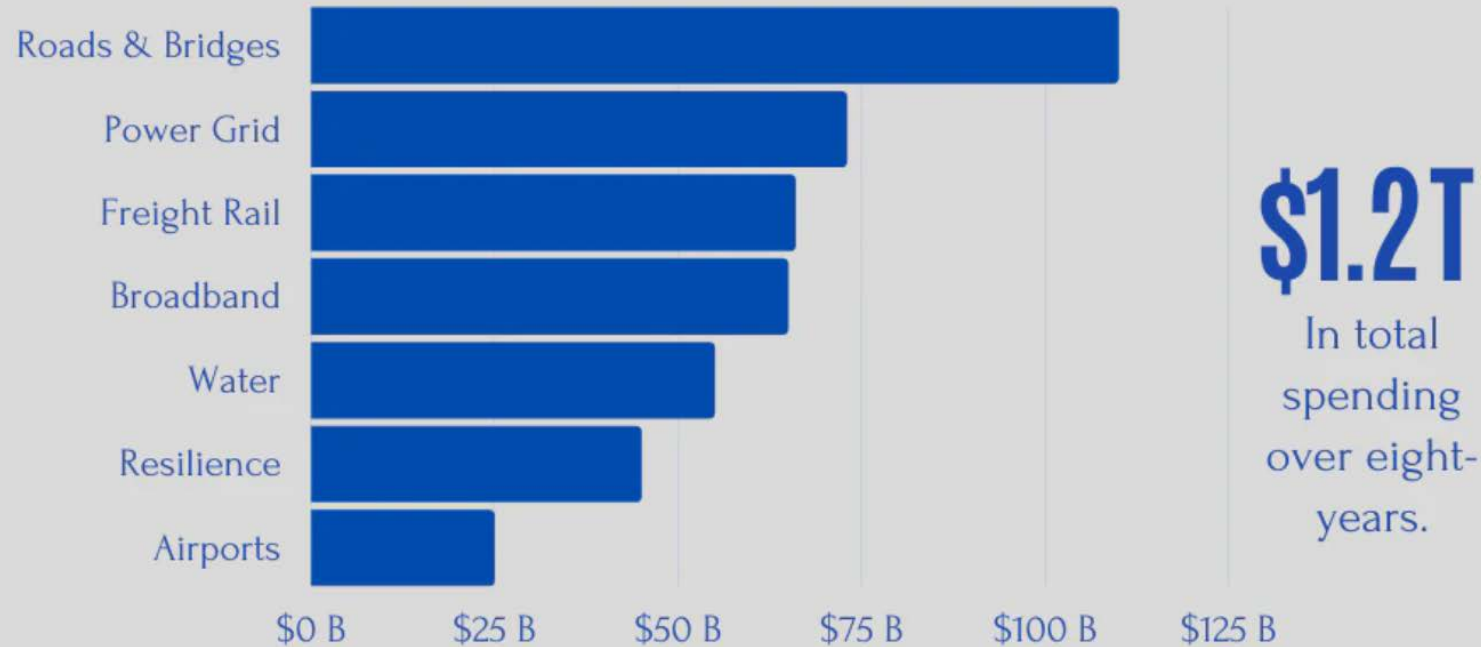


Source: U.S. Bureau of Labor Statistics, Survey of Occupational Injuries and Illnesses, 2018-2020.
Calculations by the CPWR Data Center.

Infrastructure Bill and Construction



INFRASTRUCTURE BILL BREAKDOWN



The \$1 trillion infrastructure package recently signed into law by President Joe Biden is largely expected to be a boost for the construction industry. But where firms will find workers to complete these projects is a big question the industry is contending with.

JUNG GETTY | GETTY IMAGES

APRIL 11-15
2022

NATIONAL STAND-DOWN
TO PREVENT STRUCK-BY INCIDENTS



Preventing Struck-by Incidents in Work Zones

Monday, April 11

1:00 – 2:30 p.m.

STOP. TALK. ACT.

Welcome: **Scott Earnest**, National Institute for Occupational Safety and Health.

Moderator: **Bradley Sant**, American Road & Transportation Builders Association – Forecasting Impacts of the Infrastructure Investment and Jobs Act

Panelists: **David Ferraro**, Connecticut Department of Transportation – Surviving a Work Zone Struck-by Incident . . . and Doing Something About it.

Laura Huizinga, Lindsay Transportation – Choices and Options for Positive Protection in Roadway Work Zones

Marchel Johnson, Virginia Department of Transportation – Keeping Work Zone Incidents Low during the COVID-19 Pandemic

Martha Kapitanov, U.S. Federal Highway Administration – The National Work Zone Safety Strategic Plan and Other Efforts to Improve Work Zone Safety



Preventing Work Zone Struck-by Incidents

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



Roadway Construction Is Dangerous

- According to federal data, in 2020:
 - 857 people died in work zone crashes
 - 170 were “persons on foot” and bicyclists
- On average, about 135 roadway workers are killed on the job annually.
 - The leading cause of death and injury for these workers are struck-by incidents



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Key IIJA Roadway Safety Provisions

- Increases funding for Highway Safety Improvement Program
- Allows funding for Automated Speed Enforcement in Work Zones
- Allows creation of “Safety Contingency Funds”
- Emphasizes and requires safety benchmarks for “Vulnerable Road Users” which includes roadway construction workers
- The IIJA delivers a 44 percent increase in core federal highway funding between FY 2021 and FY 2022



What does this mean for speed cameras?

- Highway Safety Improvement Program generally is used for roadway infrastructure improvements to mitigate crashes but can be used for Automated Speed Enforcement.
- Speeding is involved in approximately one-third of all highway fatalities.
- Excessive vehicle speed and speed variability are primary factors contributing to work zone crashes.

**(See ARTBA Policy and Guidance on Automated Speed Enforcement)*



What does this mean for contingency funds?

- States are allowed to create contingency funds for unanticipated safety needs.
- Contingency funds can be used for additional temporary traffic control to protect motorists and workers.
- Can be used to provide funding for “positive protection” between workers and motorists.

**(See ARTBA Policy on Positive Protection)*

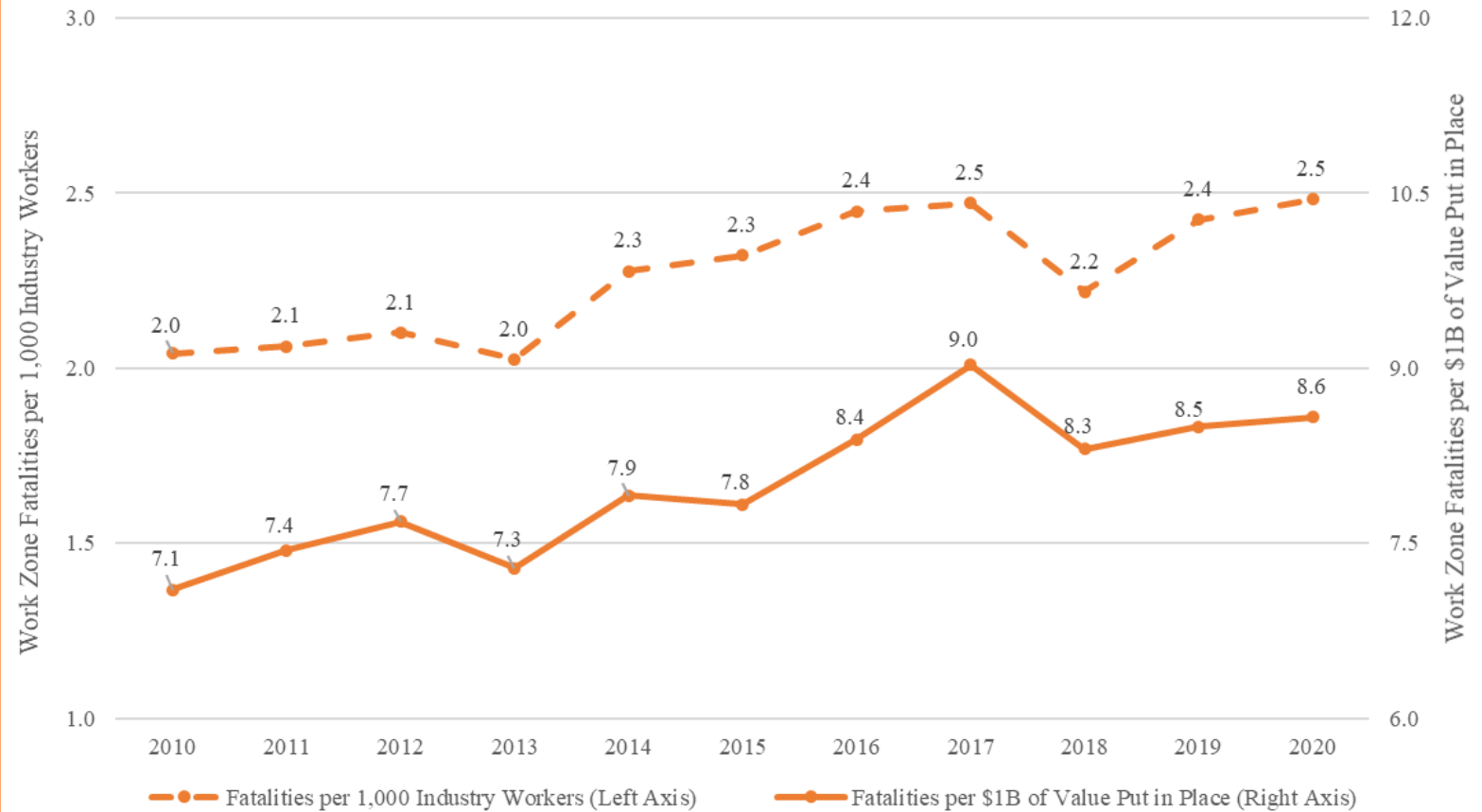


What does this mean for vulnerable road users (VRUs)?

- VRUs defined as pedestrians, bicyclists, other cyclists, and persons on personal conveyance.
- NHTSA defines pedestrians to include roadway construction workers.
- DOT required by IIJA to develop guidance to improve safety for VRUs.
- States must complete a VRU survey within 2 years and hit benchmarks thereafter.
- Consider “safety system approach.”



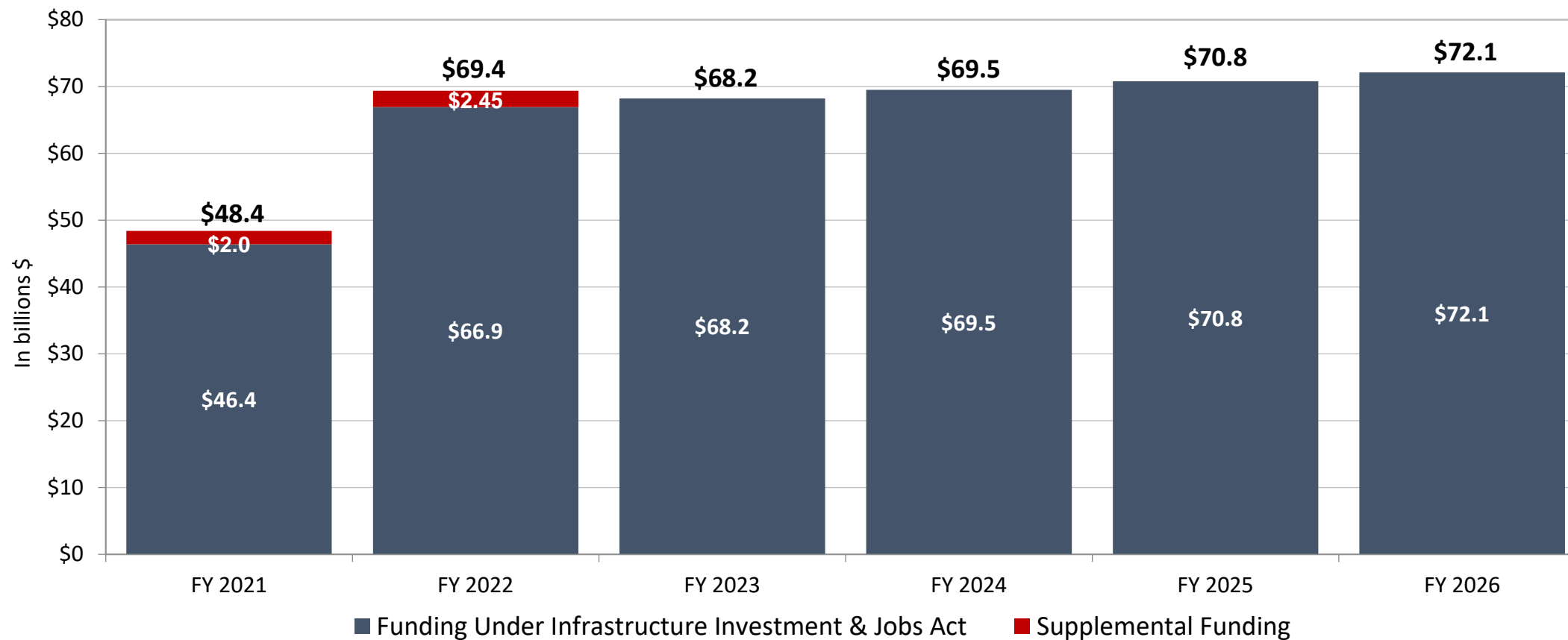
What is the impact on work zone safety?



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TO PREVENT STRUCK-BY INCIDENTS



Federal Highway Investment



NATIONAL STAND-DOWN
TO PREVENT STRUCK-BY INCIDENTS



What is the impact on work zone safety?

ARTBA estimates the IIJ funding will result in at least 4,000 additional work sites annually, beginning in 2023.



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TO PREVENT STRUCK-BY INCIDENTS



Thank you!

Bradley Sant
Senior Vice President, Safety and Education
American Road & Transportation Builders Association
bsant@artba.org



SURVIVING A WORK ZONE STRUCK-BY INCIDENT AND DOING SOMETHING ABOUT IT!!

#OBEYTHEORANGE



MY STORY

Meet: Dave Ferraro



- Construction Project Manager
- Safety Passionate
- 1995 hit in a work zone
- “Come Home Safe” Motto

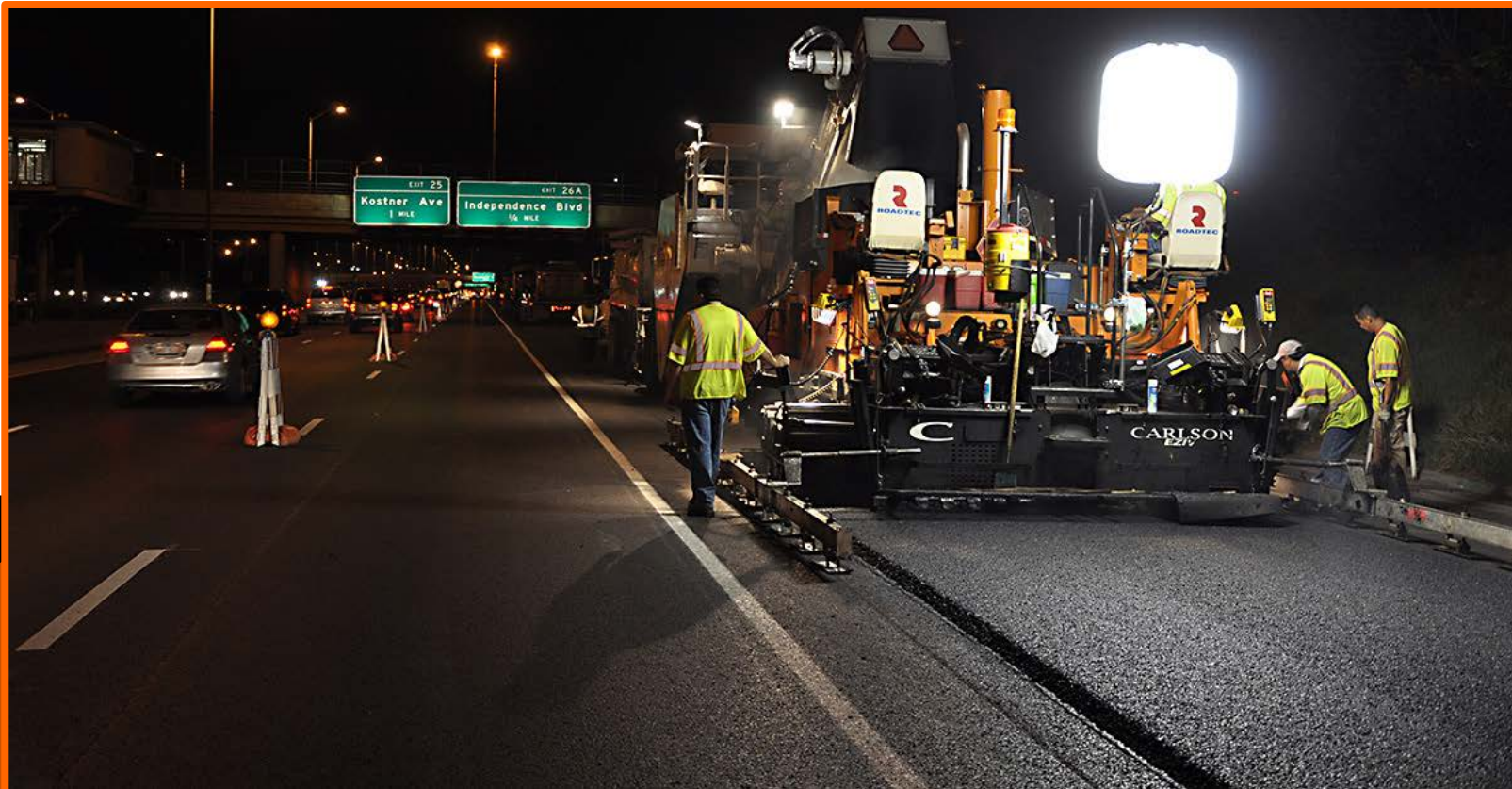
MY STRUCK-BY INCIDENT

- November 16, 1995
- I-95 in Greenwich, Connecticut (NY border)
- Nighttime paving operation, two lanes closed on a three lane interstate
- It could have been so much worse!!



MY STRUCK-BY INCIDENT (CONTINUED)

- November 16, 1995
- I-95 in Greenwich, Connecticut (NY border)
- Nighttime paving operation, two lanes closed on a three lane interstate
- It could have been so much worse!!



CTDOT WORK ZONE SAFETY CAMPAIGN MISSION

- To be Connecticut's extension of the national campaign to raise awareness about the hazards of work zones and a voice for Connecticut roadway workers' safety within work zones in the State's transportation network.
- In conjunction with:
 - NHTSA
 - FHWA
 - National Workzone Safety Clearinghouse
 - ATSSA



OUR VISION

Our vision is to reach every driver in Connecticut's transportation communities to impress the importance of driving in and through work zones safely, driving work zone accidents and fatalities down to zero



WHO ARE WE?

- CT Work Zone Safety Campaign
- Founded in 1999
- Volunteer, Grass-Roots



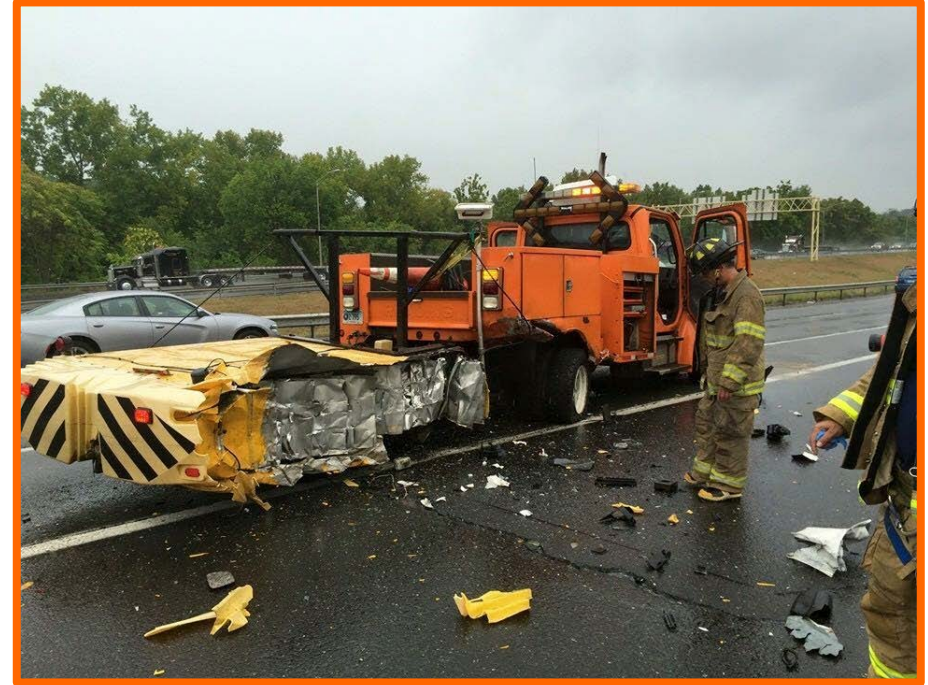
WHO WE HONOR

All men and women who have perished while working in highway work zones.



WHAT DO WE DO?

- Public Service Announcements
- Public Outreach and Education
- Social Media
- Participation in National Work Zone Awareness Week



HOW DO WE DO IT:

- Media outlet partnerships
- Contracts with Venues
- Give-away Items
- Annual Press Conference



xfinity theatre



MASCOTS

Slow Down Sam

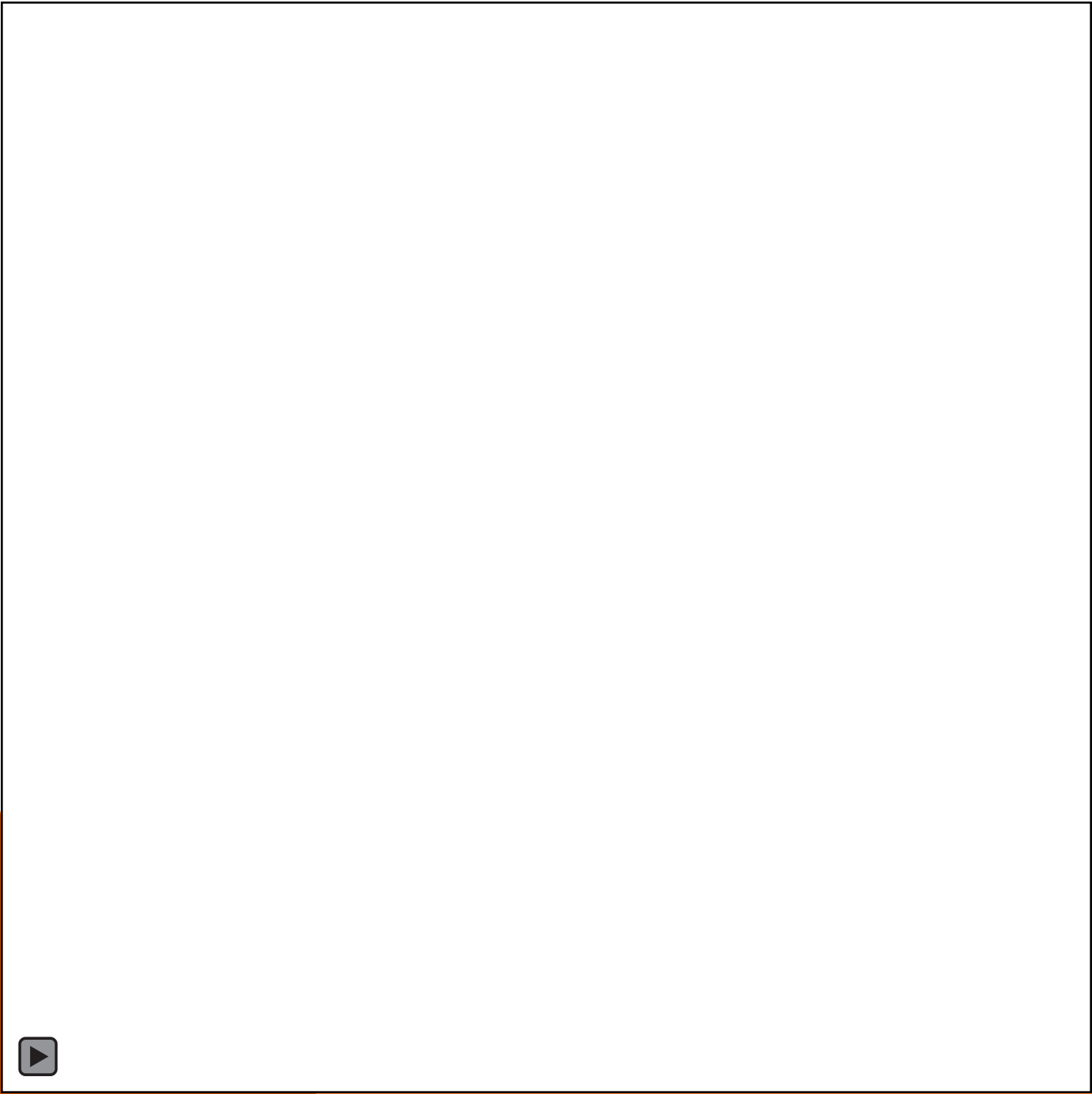


Work Zone Wally

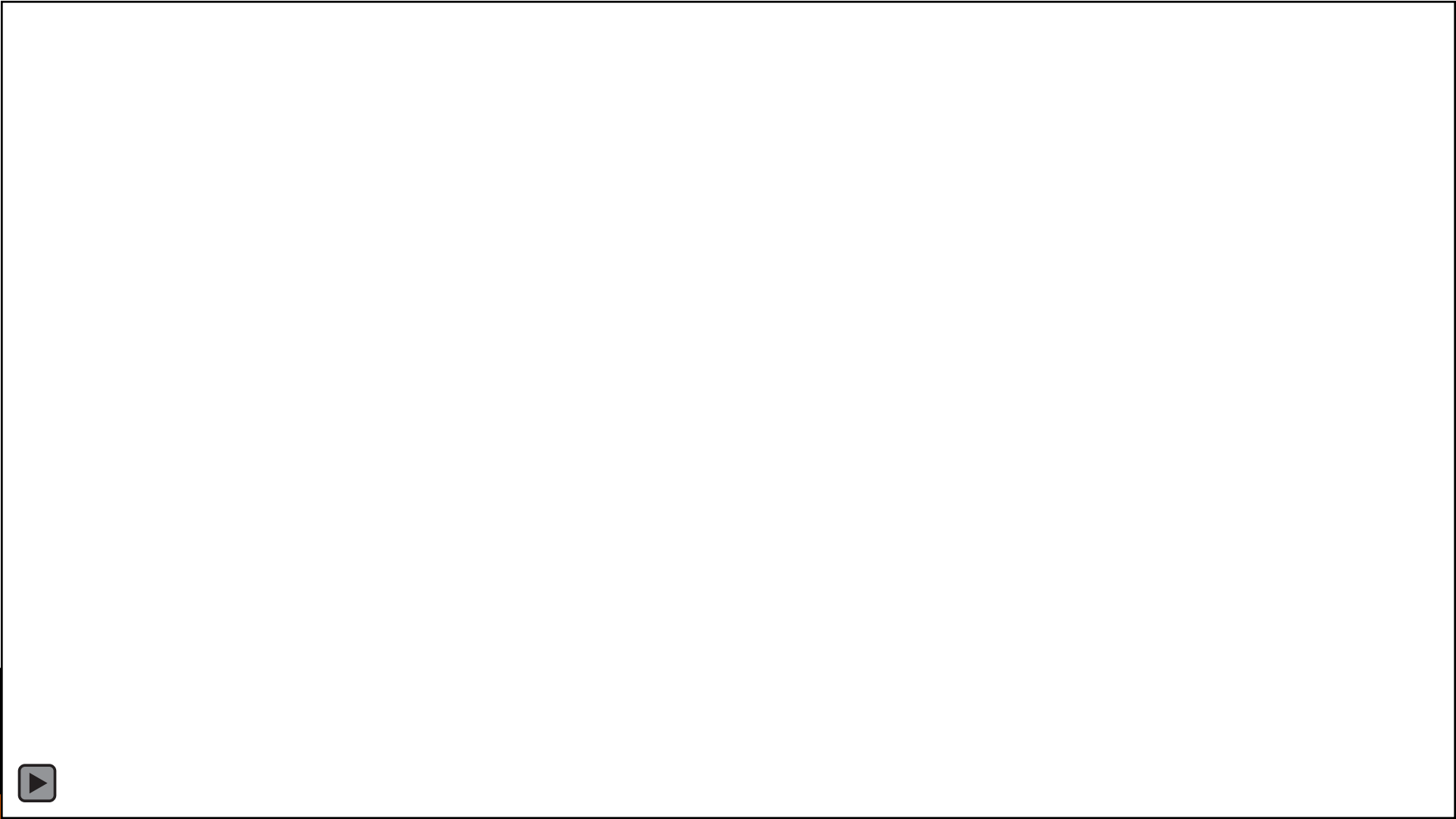


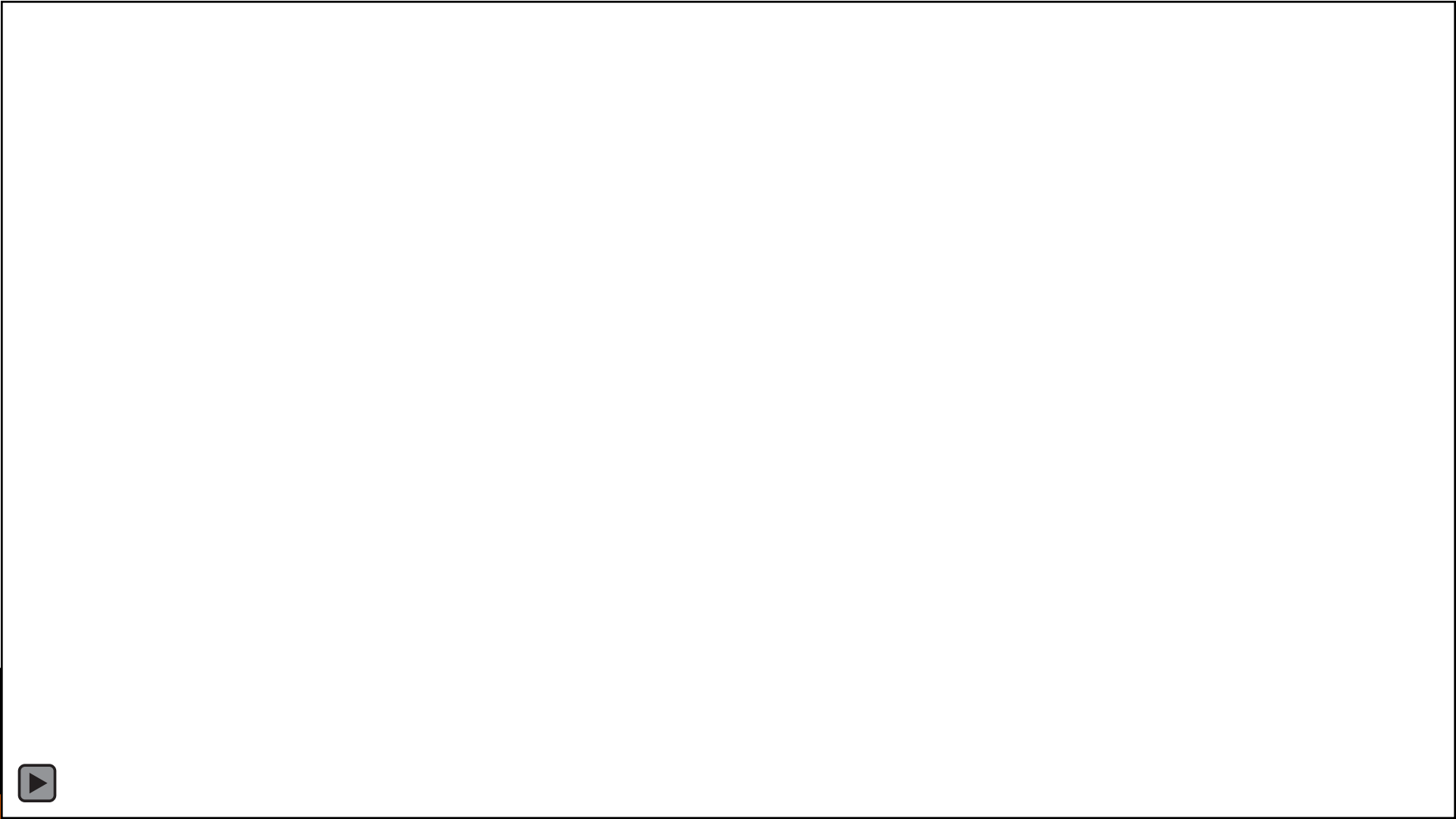
Darryl the Barrel Dog







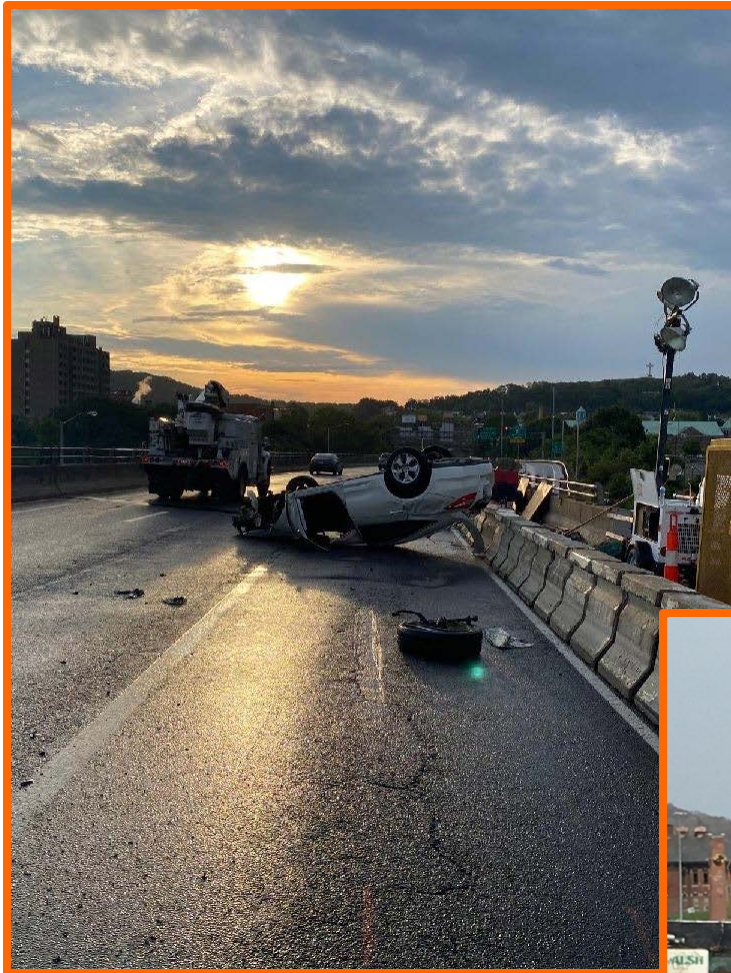




WHY WE DO WHAT WE DO:







THE FUTURE OF WORK ZONE SAFETY:



AUTOMATED SPEED ENFORCEMENT IN WORK ZONES:



“It Was Just...”

It was just a quick call

It was just a short trip

It was just one drink

It was just a picture

It was just an email

It was just a glance

It was just a text

It was just a bite

“Just” is all
it takes



GET YOUR FREE MATERIALS AT:
nsc.org/justdrive

Distracted driving is an epidemic.
Be part of the solution.

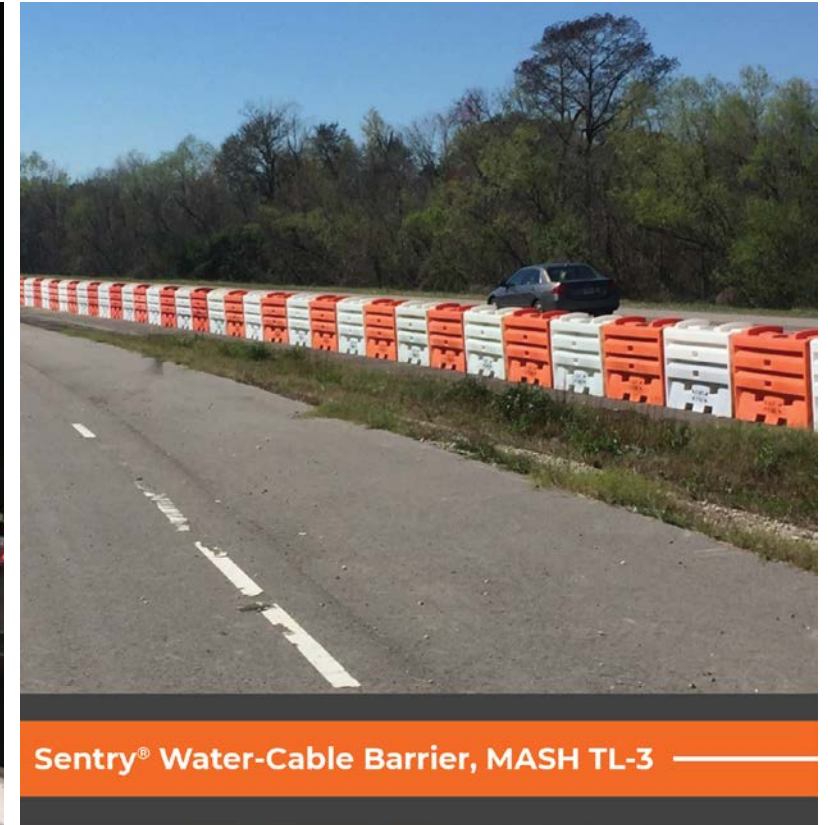


“Work zones are particularly dangerous because of daily changes in traffic patterns, narrowed rights-of-way and other construction activities, according to the Federal Highway Administration. Crews work close to moving traffic — sometimes just a few feet away.”

In 2019, 842 people died in highway work-zone crashes, an 11.2% increase from the previous year—representing the largest percentage increase of highway work zone fatalities since 2006, according to the Federal Highway Administration (FHWA).

Source: The Pew Charitable Trusts (www.pewtrusts.org)

“Work Zone Crashes Climb During Pandemic, Even as Traffic Ebbs”, By Jenni Bergal
Published: October 6, 2020



Traditional Positive Protection Options

Photo Credit: www.workzonebarriers.com & www.traffixdevices.com

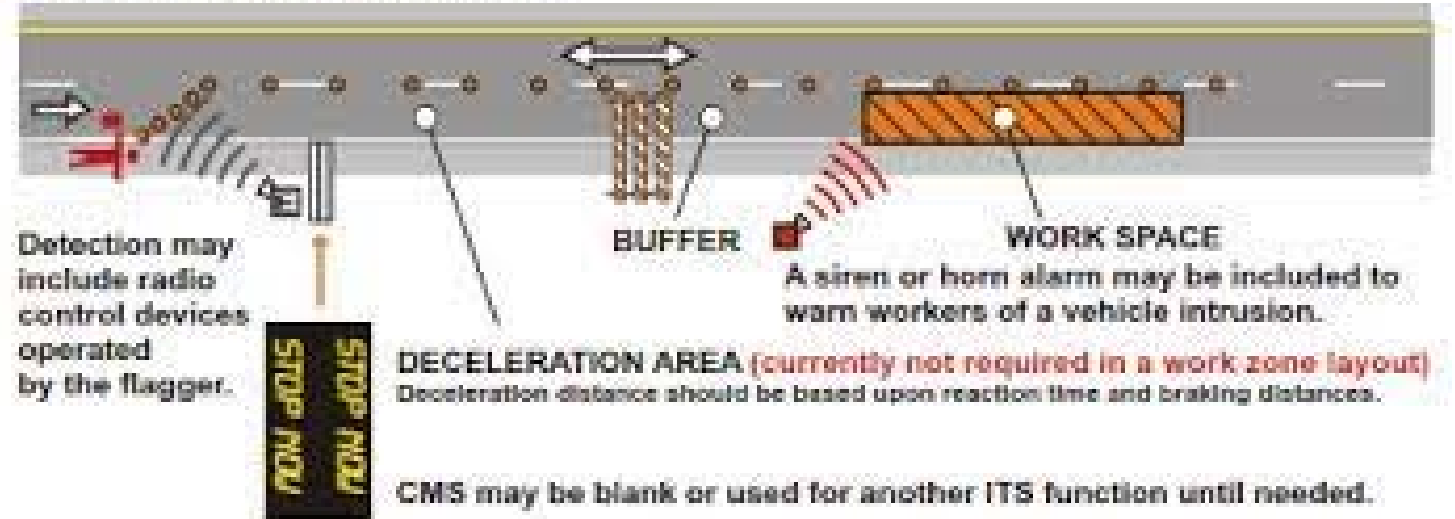


Mobile & Moveable Barrier Options

Photo Credit: www.workzonebarriers.com & www.lindsay.com




WORK SPACE INTRUSION



Work Zone Intrusion Alerts & Protection





How do we eliminate work zone intrusion and fatalities?

Design

Intrusion Protection

Intrusion Prevention



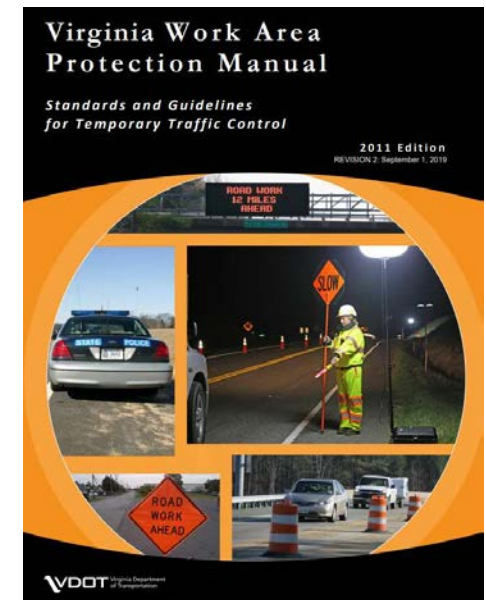
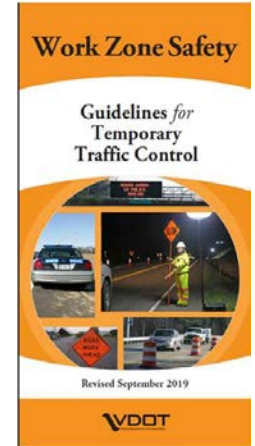
KEEPING WORK ZONE INCIDENTS LOW DURING COVID-19



Marchel H. Johnson

Keeping Virginia Moving During COVID-19

- **Communication**
 - Contracting Partners
 - State Forces
- **Best Practices**
 - Virginia supplement to Chapter 6 of the MUTCD
 - Virginia Work Area Protection Manual
 - **Work Zone Training**
 - Still trained over 4500 individuals
 - Virtual options
 - **Increase allowable work hours on**
 - Interstates
 - High Volume Primary & Secondary Roads



Keeping Virginia Moving During COVID-19

- **Best Practices**

- **Safety Enhancements**

- Legislative support
- Rumble Strips
- Personal Protective Equipment
- Lighting
- Safety Standowns



Keeping Virginia Moving During COVID-19

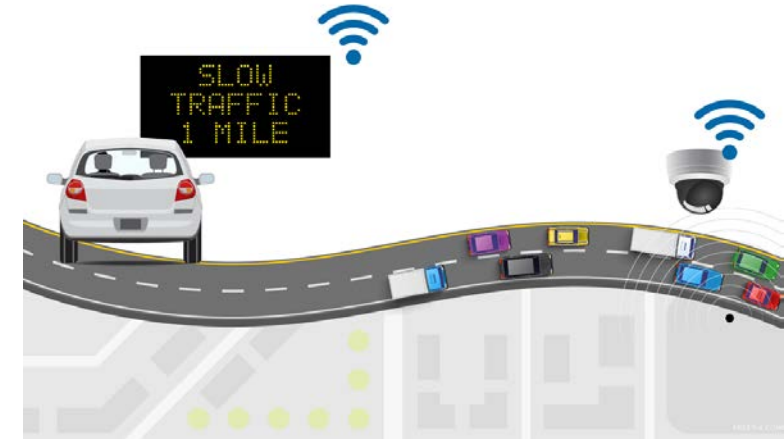
- **Best Practices**

- **Safety Enhancements**

- Programmable message boards
- Smart Work Zone Devices
- Virginia OSHA (VOSH)
 - Enforcement of Work Zones
 - Unique Standards - Reverse Signal Operations
- Always evaluating safer technologies

- **Interdepartmental Collaboration**

- Work Zone Management Advisory Committee





Marchel Johnson

Assistant Director Safety, Security & Emergency Management

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WORK ZONE MANAGEMENT PROGRAM

NATIONAL WORK ZONE SAFETY STRATEGIC PLAN (WZSSP)


National Stand Down to Prevent Struck-by Incidents

April 11, 2022



U.S. Department
of Transportation

**Federal Highway
Administration**



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U.S. Department
of Transportation
**Federal Highway
Administration**



AGENDA

- 2022 National Work Zone Awareness Week (NWZAW)
- Potential Strategic Objectives for National Work Zone Safety Strategic Plan (WZSSP)
- Resources

2022 NATIONAL WORK ZONE AWARENESS WEEK

- **Work Zone Safety Training Day** - April 11
- **National kickoff event** - April 12
- **Go Orange Day** - April 13
- **Social media storm** - April 14
- **Moment of Silence** - April 15



[National Work Zone Awareness Week - FHWA Work Zone \(dot.gov\)](https://www.fhwa.gov/workzone)



WORK ZONE SAFETY NEEDS



WORK ZONE CRASH TRENDS

Overall Trends

- 16% increase since 2015
- Interstates overrepresented
- Rural → daytime
- Urban → nighttime
- Rear-end collisions overrepresented, especially in rural areas

At-Risk Subpopulations

- Highway workers (rural non-interstate roadways)
- Commercial motor vehicles
- Motorcyclists (urban areas)



WORK ZONE CRASH TRENDS (CONT'D)

Behavioral Contributors

- Distraction
- Speeding
- Tailgating or following too close

Work Zone Risk Areas

- Lane closures
- Shoulder/median closures
- Transition areas (lane closures, lane shifts, crossovers)
- Activity area
- Both active and inactive work zones



PROJECT OVERVIEW: STAKEHOLDER INPUT

- **Advisory Panel**

- Review WZSSP from a national perspective
- Confirm/revise/eliminate Strategic Objectives currently suggested
- Identify new Strategic Objectives, if relevant
- Suggest other stakeholders
- Review revised WZSSP after Regional Workshops

- **Regional Workshops**

- Review WZSSP from a practitioner's perspective
- Additional input on Strategic Objectives
- Implementation driven
- Identify specific activities



POTENTIAL STRATEGIC OBJECTIVES



POTENTIAL STRATEGIC OBJECTIVES

- 1 Expand the Usefulness of Data-Driven Safety Analyses and Management Processes for Work Zones
- 2 Expand the Availability, Accuracy, and Use of Work Zone Event Data
- 3 Reduce Commercial Motor Vehicle (CMV) Involvement in Fatal and Injury Work Zone Crashes



POTENTIAL STRATEGIC OBJECTIVES

4

Reduce Driver Behaviors That Contribute to Fatal and Injury Work Zone Crashes

5

Reduce Workspace Intrusions and Worker Struck-By Vehicle Crashes

6

Improve Accommodation of Pedestrians, Bicyclists and Other Non-motorized Users Through and Around Work Zones



POTENTIAL STRATEGIC OBJECTIVES

7

Improve Accommodation of Motorcyclists Through and Around Work Zones

8

Identify, Evaluate, and Encourage Implementation of Effective Low-Cost Improvements to Temporary Traffic Control

9

Support Efforts to Improve Connected and Autonomous Vehicle Abilities to Accommodate Work Zones



POTENTIAL STRATEGIC OBJECTIVES

10

Improve Consideration of Traffic Incident Management (TIM) Needs in Work Zones

11

Work Zone Safety Strategic Workforce Development

12

Support Strategic Work Zone Safety-Related Research



RESOURCES



ONLINE RESOURCES

- FHWA Work Zone Management Website:
 - <http://ops.fhwa.dot.gov/wz/>
- National Work Zone Awareness Week Web page:
 - https://ops.fhwa.dot.gov/wz/outreach/wz_awareness.htm
- National Work Zone Safety Information Clearinghouse Website:
 - <https://www.workzonesafety.org/>
 - Videos, training, factsheets, etc.





For Flaggers

Select a State or Territory

Certification





RESOURCES AVAILABLE ON THE CLEARINGHOUSE (1 OF 2)

- Fall Prevention Fact Sheets:
 - [Fall Prevention Fact Sheets — Work Zone Safety Information Clearinghouse](#)
- NIOSH FACE Videos:
 - [NIOSH FACE Animated Videos — Work Zone Safety Information Clearinghouse](#)
- Online Training (LMS) Modules:
 - [ARTBA Online Courses — Work Zone Safety Information Clearinghouse](#)



RESOURCES AVAILABLE ON THE CLEARINGHOUSE (2 OF 2)

- Just in Time Videos:
 - Fall Rescue Safety: [English](#) and [Spanish](#)
 - Electrical Safety: [English](#)
 - Trenching Safety: Five Ways Soil Can Hurt or Kill You: [English](#) and [Spanish](#)
 - Blind Spots: Safe Backing and Spotting: [English](#) and [Spanish](#)

FROM TXDOT: [WORK ZONES \(TXDOT.GOV\)](https://www.txdot.gov/work-zones)



WORK ZONE MANAGEMENT PROGRAM

THANK YOU

MARTHA.KAPITANOV@DOT.GOV