

# WORK ZONE MANAGEMENT PROGRAM

## COMMERCIAL MOTOR VEHICLE SAFETY IN WORK ZONES

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U.S. Department  
of Transportation

**Federal Highway  
Administration**



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# CMV DEFINITION

Federal Highway Administration (FHWA), Federal Motor Carrier Safety Administration (FMCSA), and National Highway Traffic Safety Administration (NHTSA) agreed on using the term Commercial Motor Vehicles (CMV) when referring to large trucks and buses.

Commercial Motor Vehicles are defined as those with Gross Vehicle Weight (GVW) or Gross Combination Weight (GCW) of 10,001 or more pounds.



Source: Texas A&M Transportation Institute



Source: Texas A&M Transportation Institute



# WORK ZONE DEFINITION

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An area of roadway where construction, maintenance, or utility work is occurring.

Source: [Manual on Uniform Traffic Control Devices \(MUTCD\)](#)

# QUESTIONS

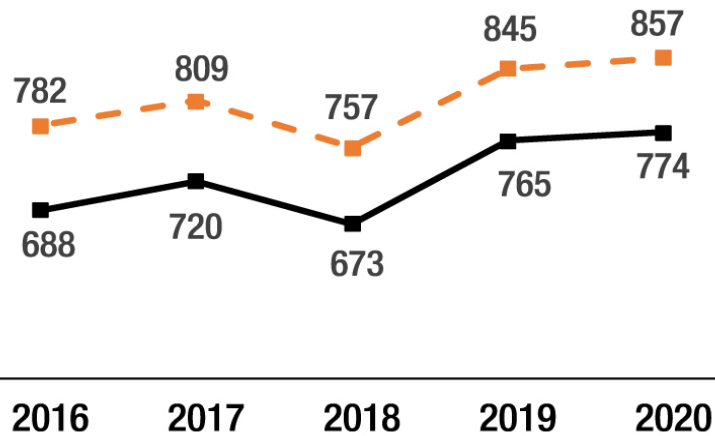
- What percentage of CMV-involved crashes occurred in work zones in 2020?
- Which 10 states had the highest number of CMV-involved crashes in work zones (2014-2018)?
- What has FHWA done to improve CMV safety in work zones?
- What else can be done?



# NATIONAL WORK ZONE CRASH DATA (2016-2020 NHTSA FARS DATA)



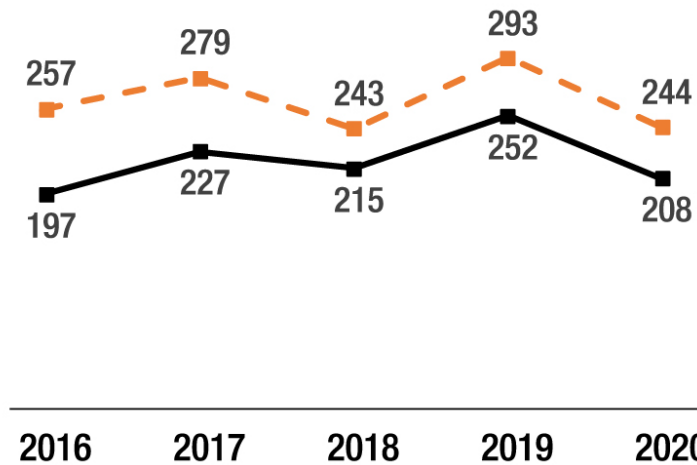
Work Zone Fatal Crashes and Fatalities



—■— Work Zone Fatal Crashes    - -■- - Work Zone Fatalities



Commercial Motor Vehicle-Involved Crashes\*

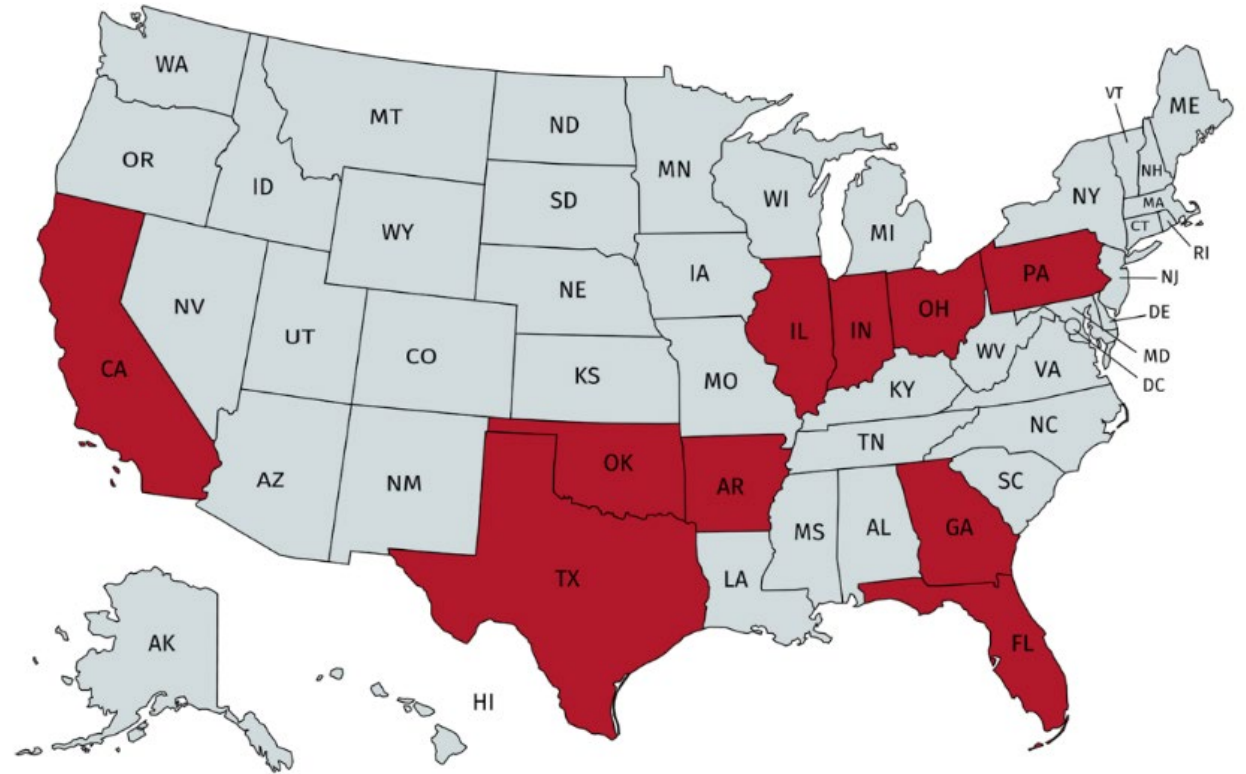


—■— Work Zone Fatal Crashes    - -■- - Work Zone Fatalities

Source: [Work Zone Data — Work Zone Safety Information Clearinghouse](#)

# OPPORTUNITY STATES (FHWA-WORK ZONE)

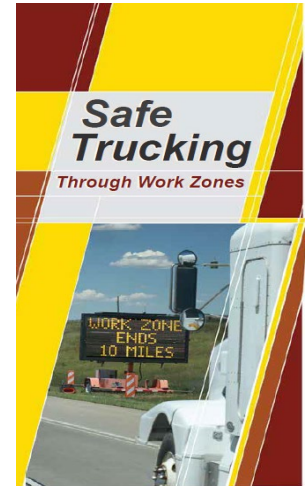
- Ten Opportunity States based on fatal crash data (2012 – 2018)
- In 2020-2021:
  - Conducted targeted state-level effort to promote CMV safety in work zones
    - Delivered 10 tailored workshops
    - Developed 10 State-specific Action Plans
  - Conducted webinar to share workshop findings and recommendations with stakeholders



Source: ICF/Texas A&M Transportation Institute

# OTHER FHWA EFFORTS TO IMPROVE CMV SAFETY IN WORK ZONES

- FHWA Work Zone Safety Grant Program
  - American Road and Transportation Builders Association (ARTBA):
    - Design and Operations of Work Zones Strategies to Improve Large Truck Safety publication
    - Safe Trucking Through Work Zones brochure and presentation
    - Use of Smart Work Zone Technology to Improve Work Space Access Point Safety fact sheet and training
    - Designing Work Space Access Points to Better Accommodate Large Trucks fact sheet and training
    - Separating Large Trucks From Non-Truck Traffic in Work Zones fact sheet and training
  - University of Wisconsin-Madison
    - Information for Work Zone Designers - Accommodating Oversize/Overweight Vehicles in Work Zones publication and training
- Large Truck Safety in Work Zones Webinars
- National Work Zone Awareness Week (April 11 – 15, 2022)







# EXAMPLES OF ENGINEERING NOTEWORTHY PRACTICES

- Including temporal effects of large trucks in impact analyses
- Using safety and mobility metrics to identify CMV safety issues
- Partnering with CMV organizations
- Planning and designing for CMVs (e.g., barrier offset, lane widths, and typical cross sections)
- Designing and evaluating work space access point to better accommodate large trucks
- Using smart work zone technology
  - Queue detection and notification
  - Work space access point warning
- Separating large trucks from non-truck traffic in work zones

# SMART WORK ZONE TECHNOLOGY FOR QUEUE DETECTION AND WARNING

Smart Technology Location	Reduction in Total Crashes	Reduction in Injury Crashes	Analysis Method
Illinois (2014)	24%	11%	Year-to-year comparison
Wisconsin (2018)	15%	63%	Year-to-year comparison
Texas (2016)	44%	61%	Comparisons when queuing was expected
Texas (2018)	55%	81%	Comparisons when queuing was verified

Source: [workzonesafety.org](http://workzonesafety.org)

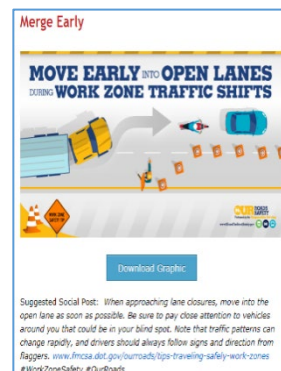


# EXAMPLES OF BEHAVIORAL NOTEWORTHY PRACTICES

- Targeted enforcement
  - Coordinating with transportation agencies to identify high-priority work zones
  - Locating upstream of active work zone access points
- Driver education
  - Speed differential hazards in work zones
  - Navigating in work zones

# FMCSA RESOURCES

- Visit the website-
  - <https://www.fmcsa.dot.gov/ourroads/work-zones-safety-tips>
- Download materials and use them at your events-
  - <https://www.fmcsa.dot.gov/ourroads/work-zone-safety-shareable-material>
  - Fact sheets, graphics, talking points, social media content (English and Spanish)





# OTHER INITIATIVES

# WORK ZONE DATA EXCHANGE (WZDX)-VOLUNTARY ADOPTION



Source: FHWA

- WZDx website:
  - <https://ops.fhwa.dot.gov/wz/wzdx/index.htm>
- Join a WZ Data Working Group:
  - [AVDX@dot.gov](mailto:AVDX@dot.gov)

# COMMERCIAL VEHICLE SAFETY ALERTS IN NORTH CAROLINA



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Drivewyze® INRIX

# NC DOT'S PILOT



INRIX + Drivewyze = real time in cab alerts  
for slow downs and congestion

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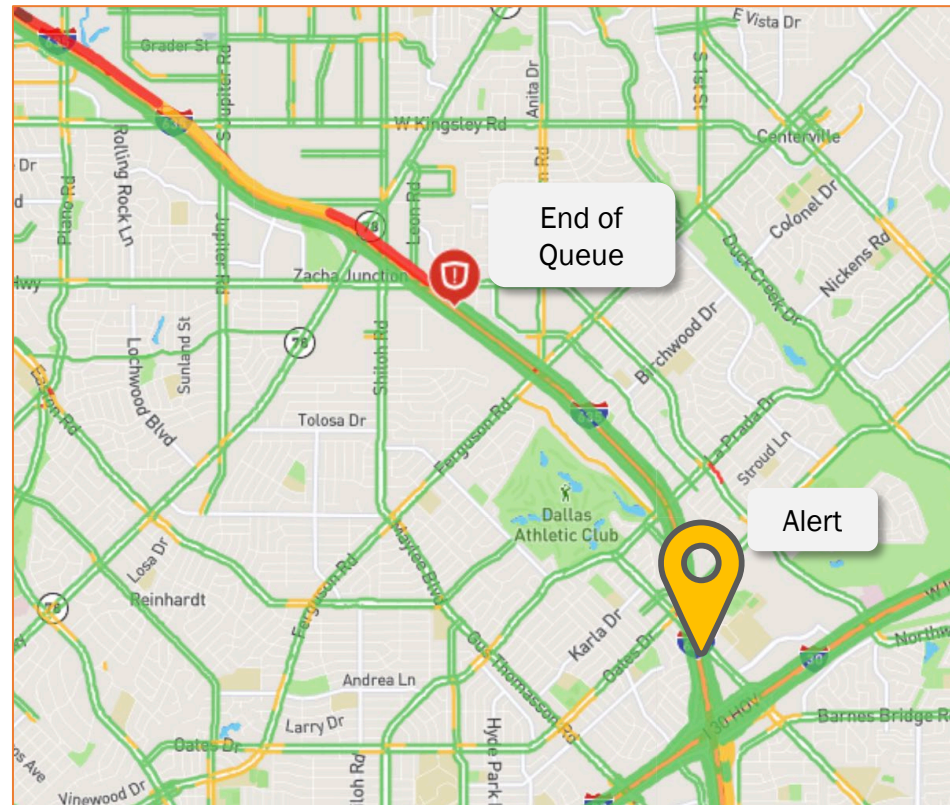


# NC DOT'S PILOT

## Traffic Alerts

### Dangerous Slowdowns

- Significant drop in speed ahead vs current speed
- Alert will be issued if speed drops 35 mph +
- 2 miles ahead



Source: NCDOT

### Congestion

- Delay vs. Free flow
- Alert will be issued if 3 minutes or more of delay
- 3 miles ahead





## OTHER IDEAS-CMV COMMUNITY FEEDBACK

- What is working?
- What else can be done?



# 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](https://ops.fhwa.dot.gov/wz/outreach/wz_awareness.htm)
- National Work Zone Safety Information Clearinghouse Website:
  - <https://www.workzonesafety.org/>
- Commercial Motor Vehicle Safety (in Work Zones) Web page:
  - [Commercial Motor Vehicle — Work Zone Safety Information Clearinghouse](#)
- FMCSA Our Roads Our Safety Campaign-Work Zones Safety Tips
  - <https://www.fmcsa.dot.gov/ourroads/work-zones-safety-tips>

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**THANK YOU!**

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