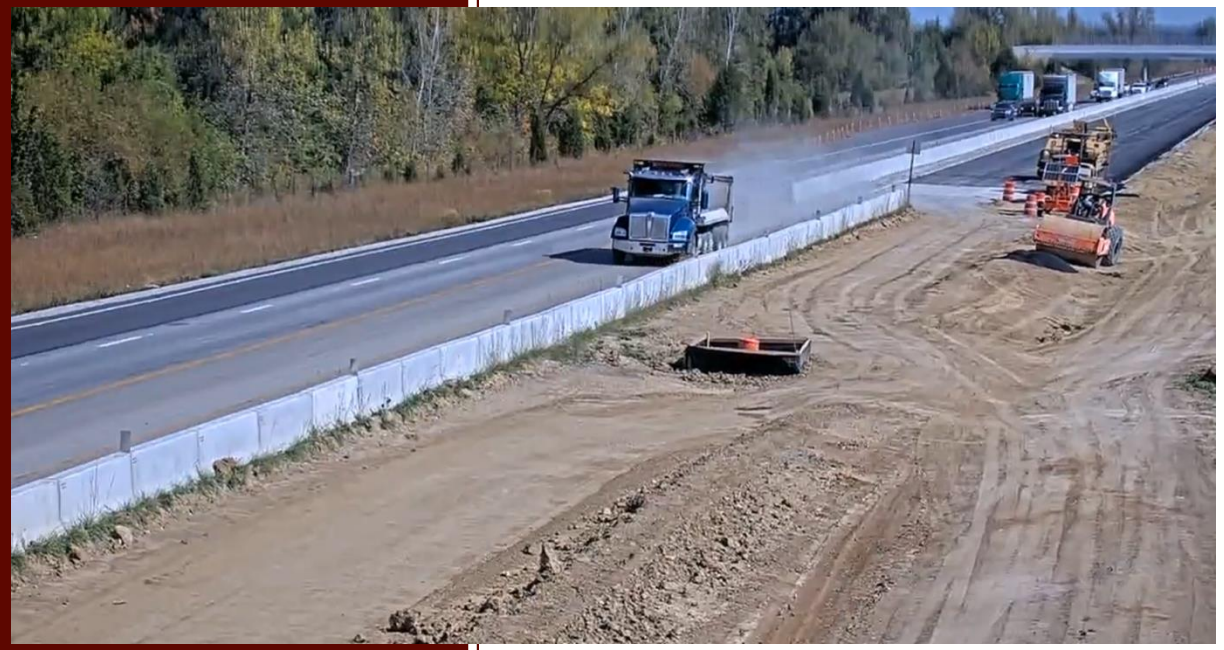
Best Practices for Work Site Access and Egress

Workspace Access Points

Challenges, Resources, and Noteworthy Practices



Source: TTI.

Texas A&M Transportation Institute

Melisa D. Finley

Senior Research Engineer

10/27/26

Definitions

- A **work zone** is an area of a roadway where construction, maintenance, or utility work is occurring
- **Construction vehicles** refers to work-related large trucks that deliver and/or haul away materials
- A **workspace access point** is location where construction vehicles enter and exit the workspace
- **Commercial motor vehicles (CMVs)** refer to large trucks and buses with a gross vehicle weight or gross combination weight of 10,001 or more pounds

Workspace Access Point Challenges

- Restricted workspace area
- Number and placement of access points
- Proximity of workers and staged equipment
- High-speed traffic
- Slow-moving construction vehicles
- Limited gaps in traffic
- Drivers follow construction vehicles into workspace



Source: TTI.

NCHRP 17-61 Findings[1]

- NHTSA/FMCSA Large Truck Crash Causation Study (LTCCS) database
  - Construction vehicles exiting or entering the open travel lanes from the workspace attributed to 10% of crashes on interstates/freeways
  - Speed differentials were a significant factor
- Virginia DOT Road Network System (RNS) Crash database
  - Construction vehicles entering the open travel lanes from the workspace were the second leading cause for same-direction sideswipe crashes
  - Third leading cause for crashes involving construction vehicles was when they were entering/exiting the workspace

[1] *Analysis of Work Zone Crash Characteristics and Countermeasures*. 2018. https://nap.nationalacademies.org/catalog/25006/analysis-of-work-zone-crash-characteristics-and-countermeasures.

Ohio DOT Research Project[2]

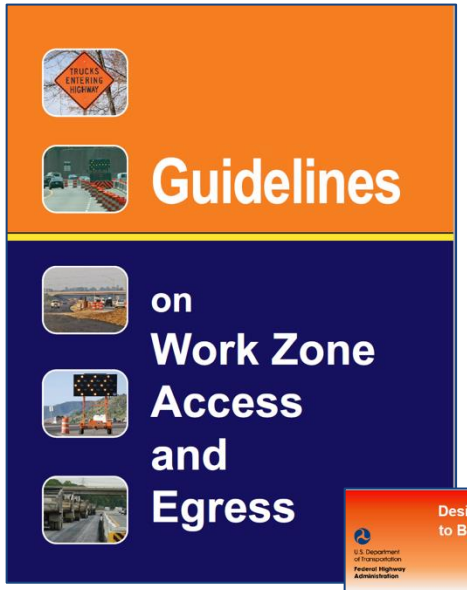
- 19% of serious injury[3] CMV-involved work zone crashes included a work-related CMV
  - Most of these crashes resulted from a work zone intrusion
  - 2% attributed to construction vehicles entering or exiting the workspace
    - 70% result of a construction vehicle exiting the workspace
    - 90% involved a construction vehicle
    - 50% rear-end crashes
    - 50% sideswipe crashes



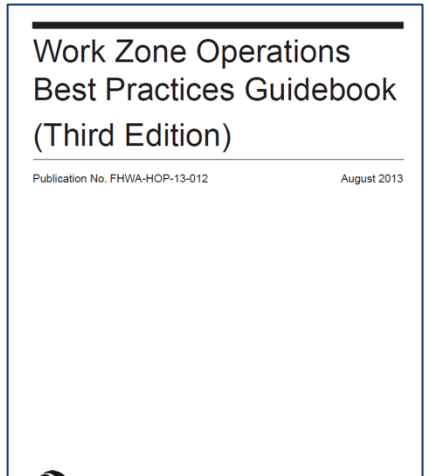
Source: TTI.

[2] *Investigation of Commercial Motor Vehicle (CMV)-Related Crashes in Ohio Work Zones*. 2025. https://ohiomemory.org/digital/collection/p267401ccp2/id/22724.
[3] Fatal, serious injury suspected, and minor injury suspected (KAB) crashes on Ohio DOT maintained roadways.

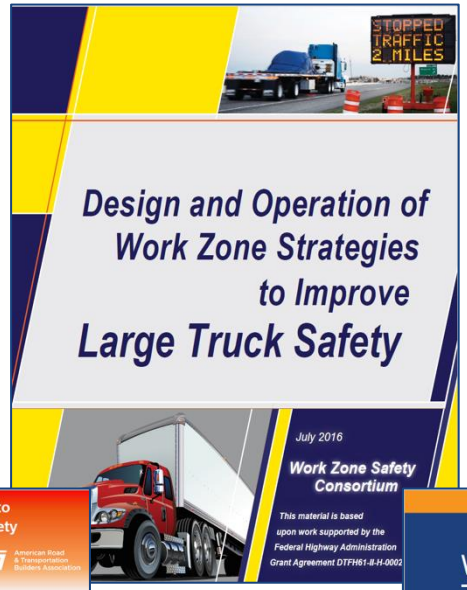
Existing Resources[4]



Source: American Road & Transportation Builders Association.



Source: FHWA.



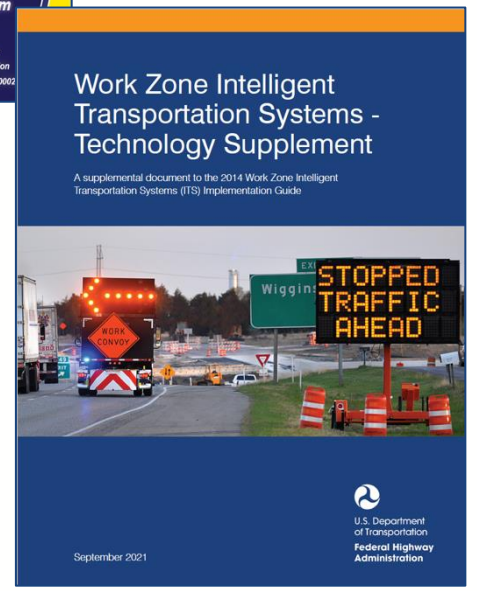
Source: American Road & Transportation Builders Association.



Source: American Road & Transportation Builders Association.



Source: American Road & Transportation Builders Association.



Source: FHWA.

[4] https://workzonesafety.org/.

Noteworthy Practices

- Incorporate workspace access point design requirements into manuals and standards
- Design workspace access points to minimize speed differentials
- Meet with contractors, subcontractors, and construction vehicle drivers to encourage proper use of workspace access points
- Perform routine inspections of workspace access points
- Number workspace access points
- Provide level, stabilized pavement transitions



Source: TTI.

Other Temporary Traffic Control Strategies

- Truck-mounted warning signs
- Static advance warning signs
- Portable changeable message signs
- Use real-time (ITS) technologies



Source: Virginia DOT.



Source: TxDOT.



Source: TTI.



Source: TTI.



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Construction Access and Work Zone Impacts

Jason Quicksall, P.E.

State Work Zone Engineer

TDOT Department of Transportation

Project overview

9 miles
Widening corridor

55,000
Approx. AADT

30%
Truck traffic

Nov 2021
Construction began

Two lanes maintained in each direction



Construction access challenges

- Narrowed shoulders and extensive barrier
- More than 36 construction access points
- Narrow entrances (~50 ft) and low entry/exit speeds
- Poor pavement markings and pavement condition





Annual crash counts

198	196	240	439
2019	2020	2021	2022

Construction began in November 2021

Fatal crash counts

3 crashes

2019

1 crashes

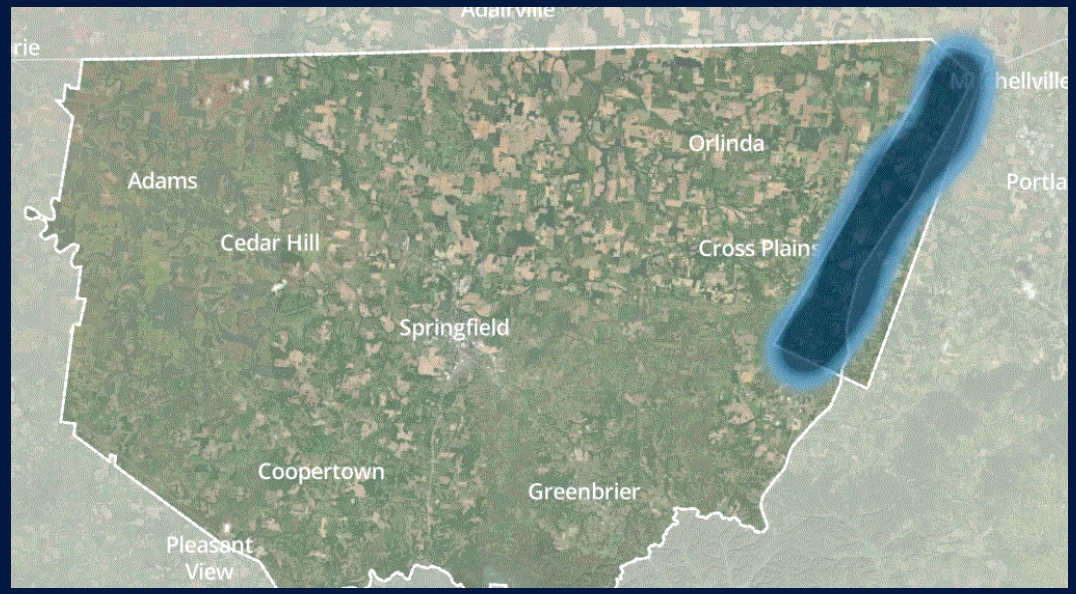
2020

1 crashes

2021

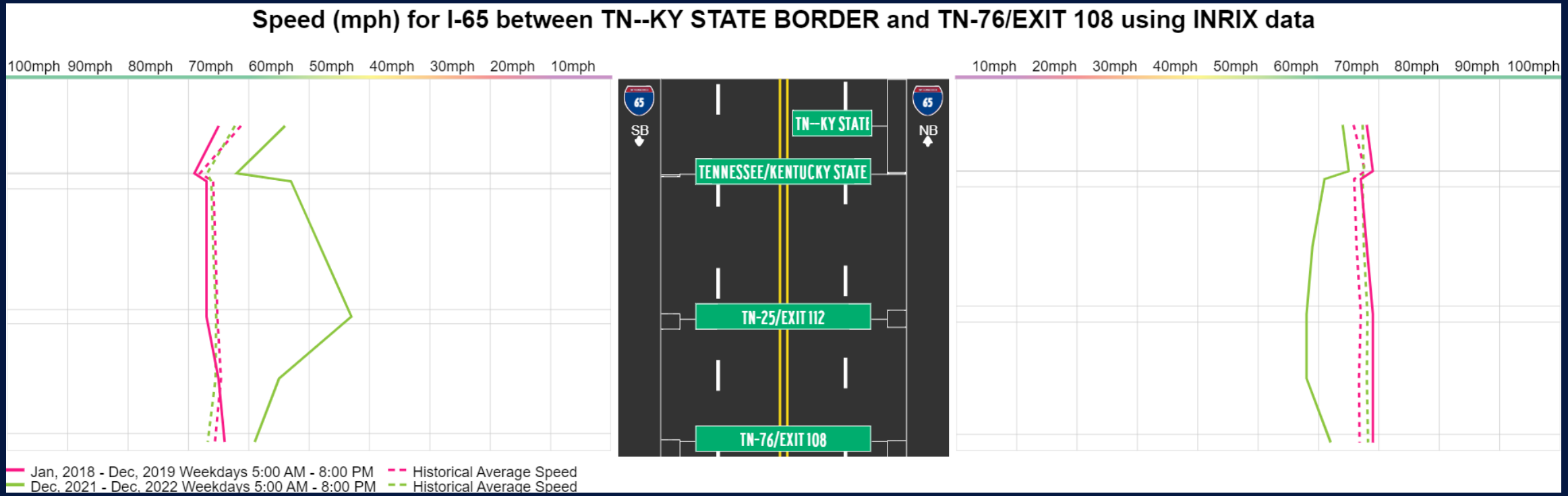
5 crashes

2022



Average speed comparison

RITIS data: prior years compared with 2022



Lower average speeds and increased congestion despite no reduction in lane capacity.

Access improvements in 2023

- Fewer, better-designed access points through contractor coordination
- Most locations provided 1,000+ ft of acceleration / merge distance
- Improved pavement, advance signage, and spray thermoplastic markings
- Some issues remained: short acceleration distance and uneven pavement





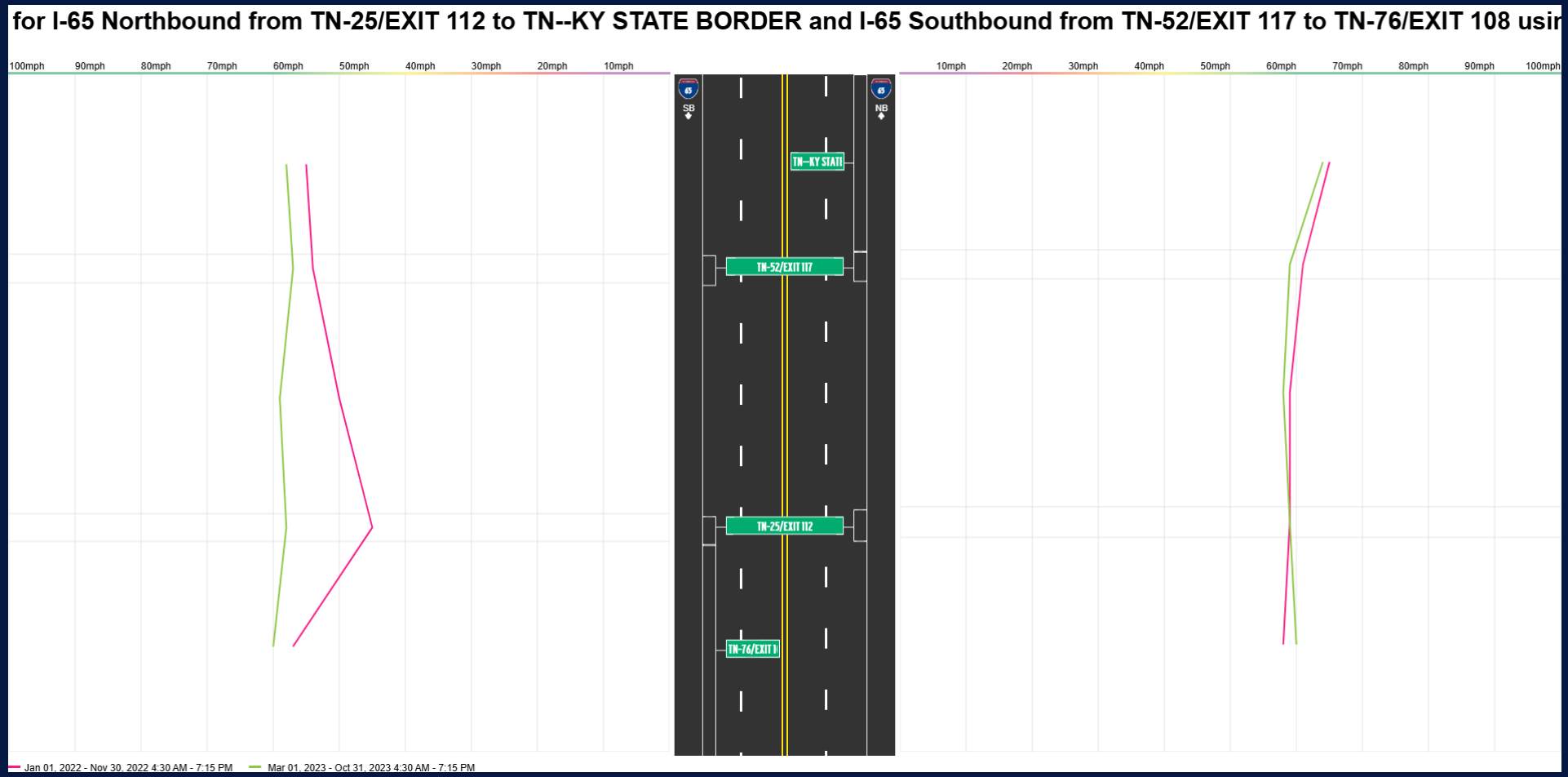
308

Reported 2023 crashes

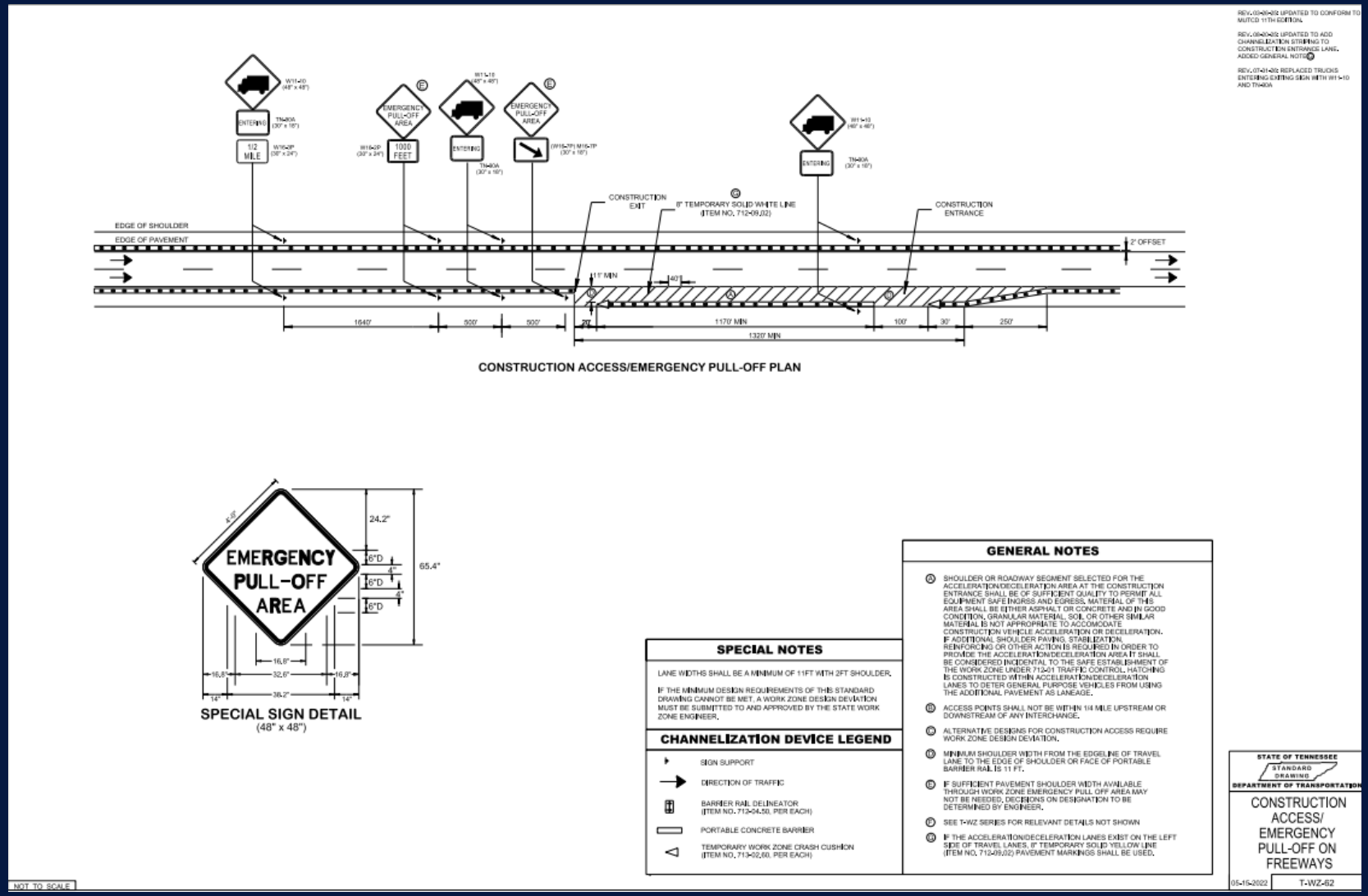
~29%

Reduction from 283 in 2022

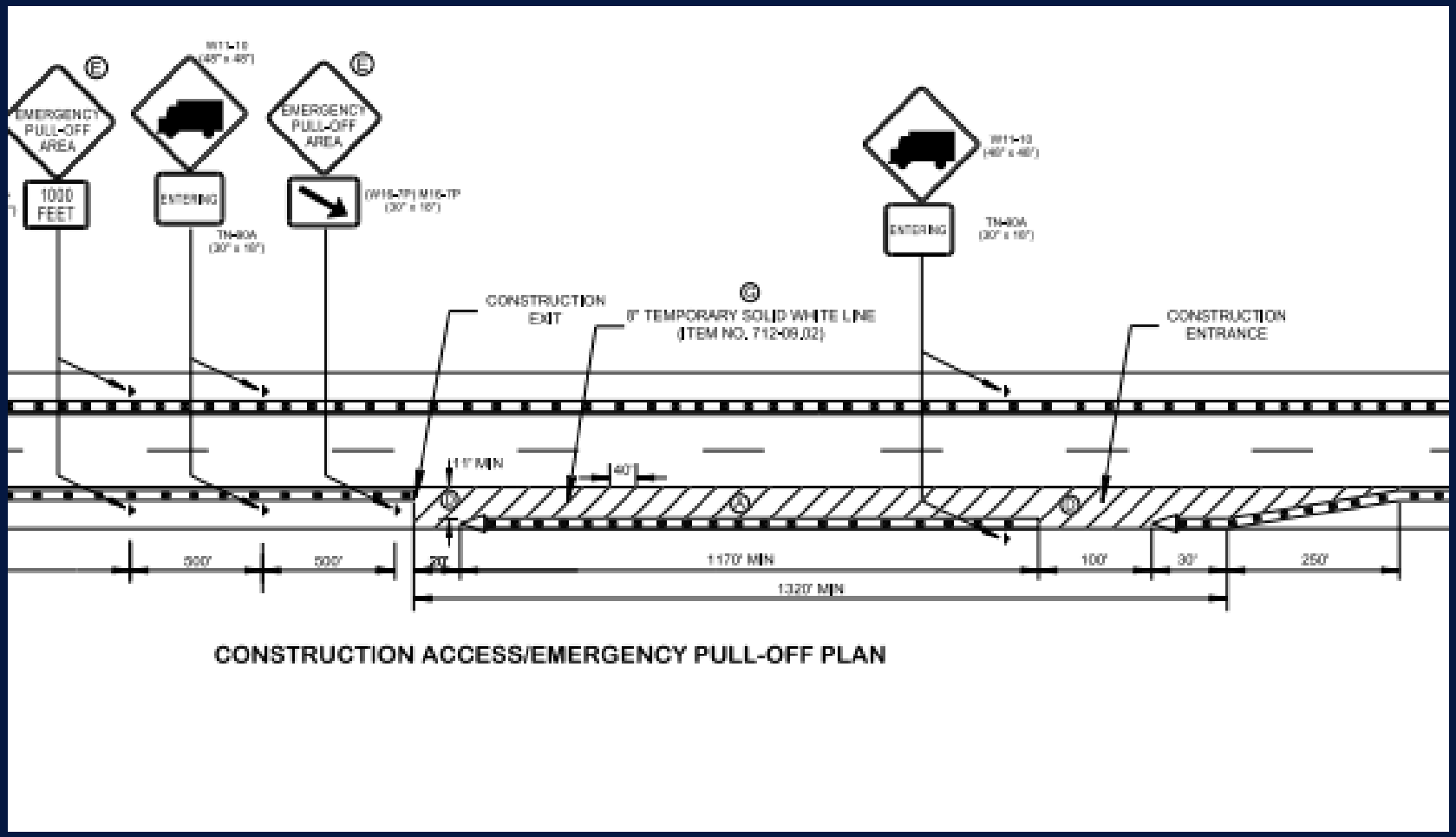
Average speed comparison 2022 vs 2023



Construction access standard drawing T-WZ-62



Construction access standard drawing T-WZ-62



CONSTRUCTION ACCESS/EMERGENCY PULL-OFF PLAN

Widening project overview

5 miles

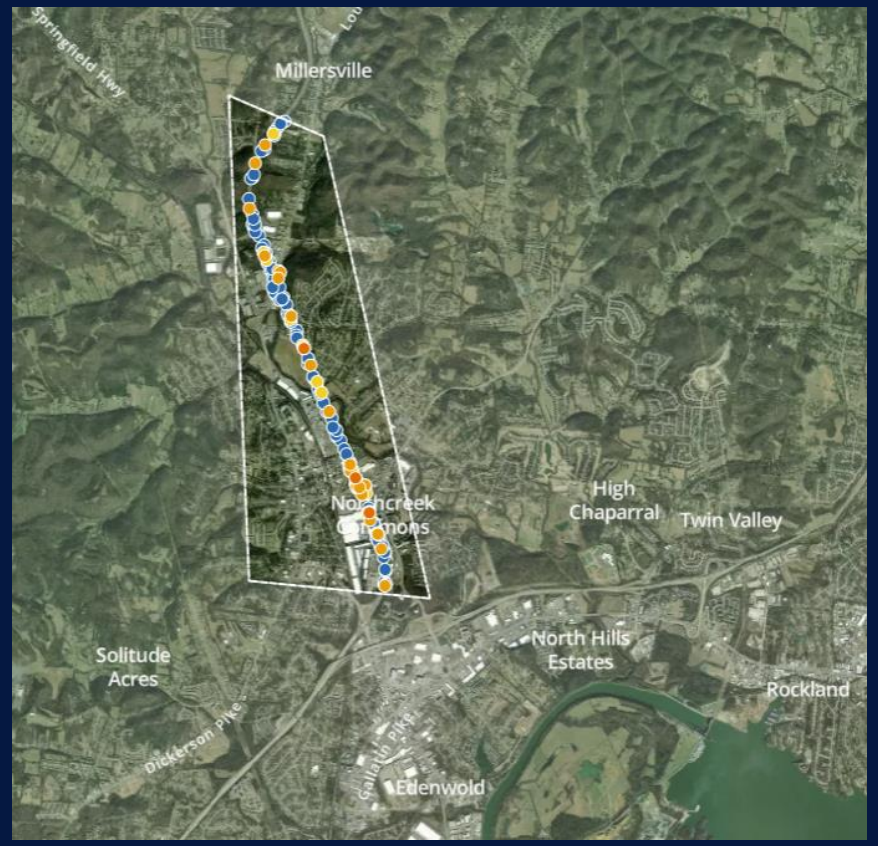
Widening corridor

82,000

Approx. AADT

May 2025

Construction began

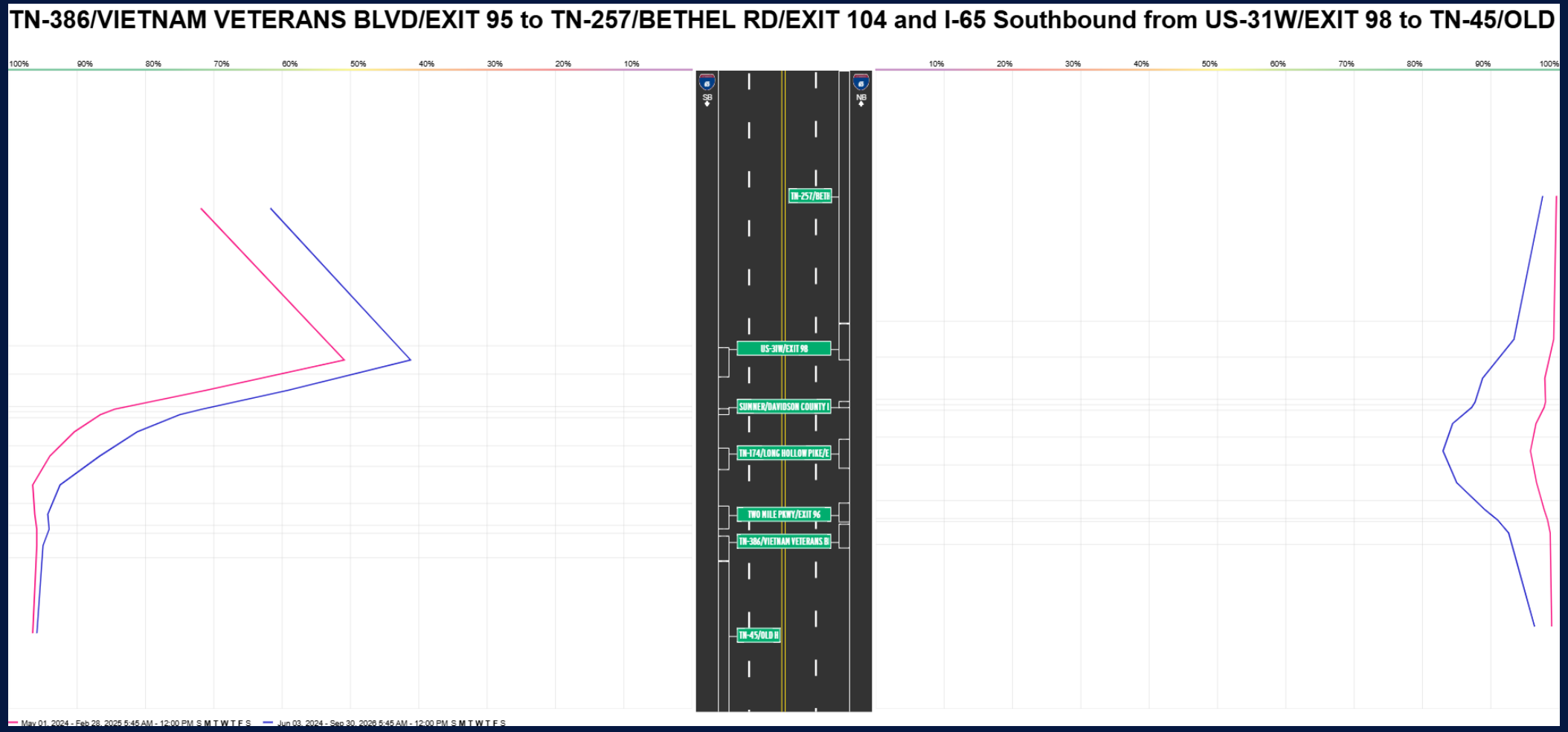


Two lanes maintained northbound and southbound

3 access points permitted NB and SB



Congestion / Speed Analysis



Additional Safety Treatments

- Thermoplastic rumble strips at construction access points
- Solar advance warning system (SAWS) deployed
- Spray Thermo used for all pavement marking





Reported crash counts and severity

230

2023 crashes

232

2024 crashes

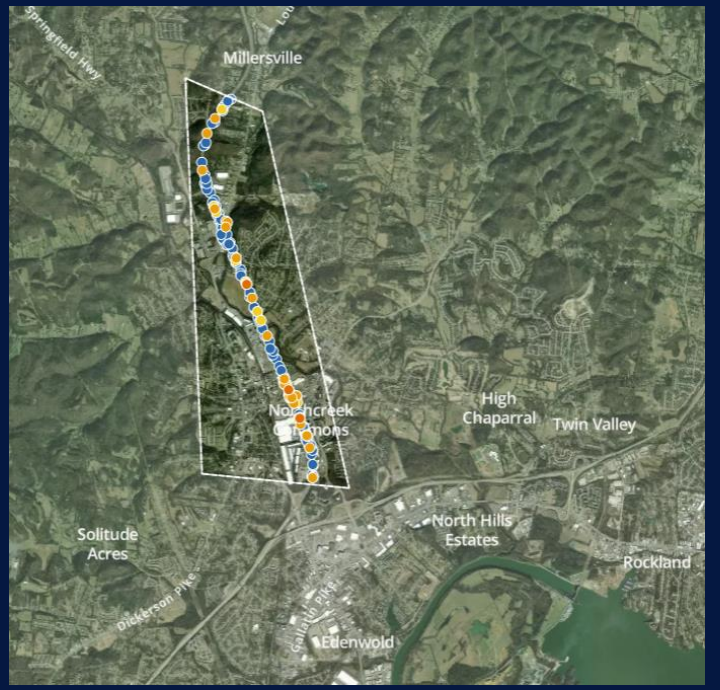
263

May 2025–May 2026

13%

Reported increase





36% decrease in serious crashes



Questions?

Jason Quicksall, P.E.

State Work Zone Engineer

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614.668.2864

TDOT Department of Transportation



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VDOT Trucks Entering Highway System



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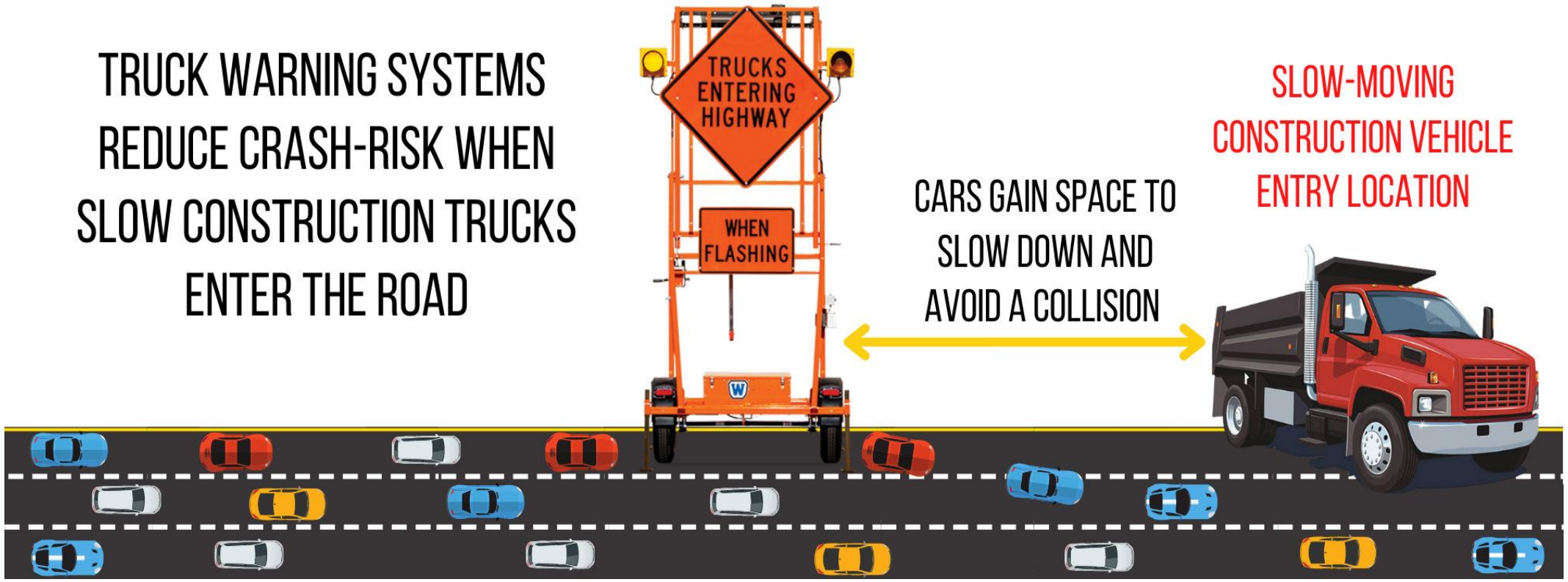
What Is A Trucks Entering Highway System?

- Provides An Advance Warning When Slow-moving Construction Vehicles Are About To Merge Into Traffic
- Automated System That Relies On Detection Of Construction Vehicles
- This Allows The Drivers To Get Real-time Notification And Lets Them Adjust Their Driving Speed.

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TRUCK WARNING SYSTEMS REDUCE CRASH-RISK WHEN SLOW CONSTRUCTION TRUCKS ENTER THE ROAD





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Comments From Construction Staff

- You Need A Good Line Of Sight
- Advance Warning Signs Work Well With Slow Moving Vehicles
- Helps With Narrow Lanes
- Need To Maintain The Open Areas Clear Of Material



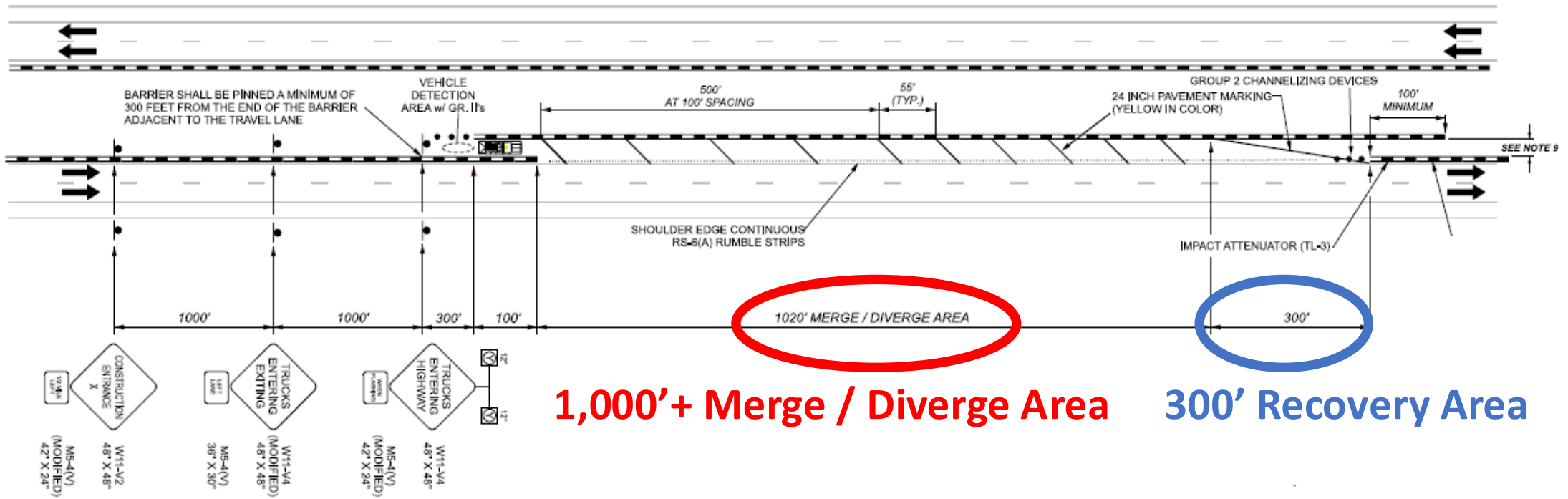
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Items Added Or Modified Durning Construction

- Shoulder Rumble Stipes In Construction Entrance
- Wider Yellow Diagonal Hatching Markings To 24”
- Added Drums In Advance Of The Impact Attenuator At The Entrance Opening

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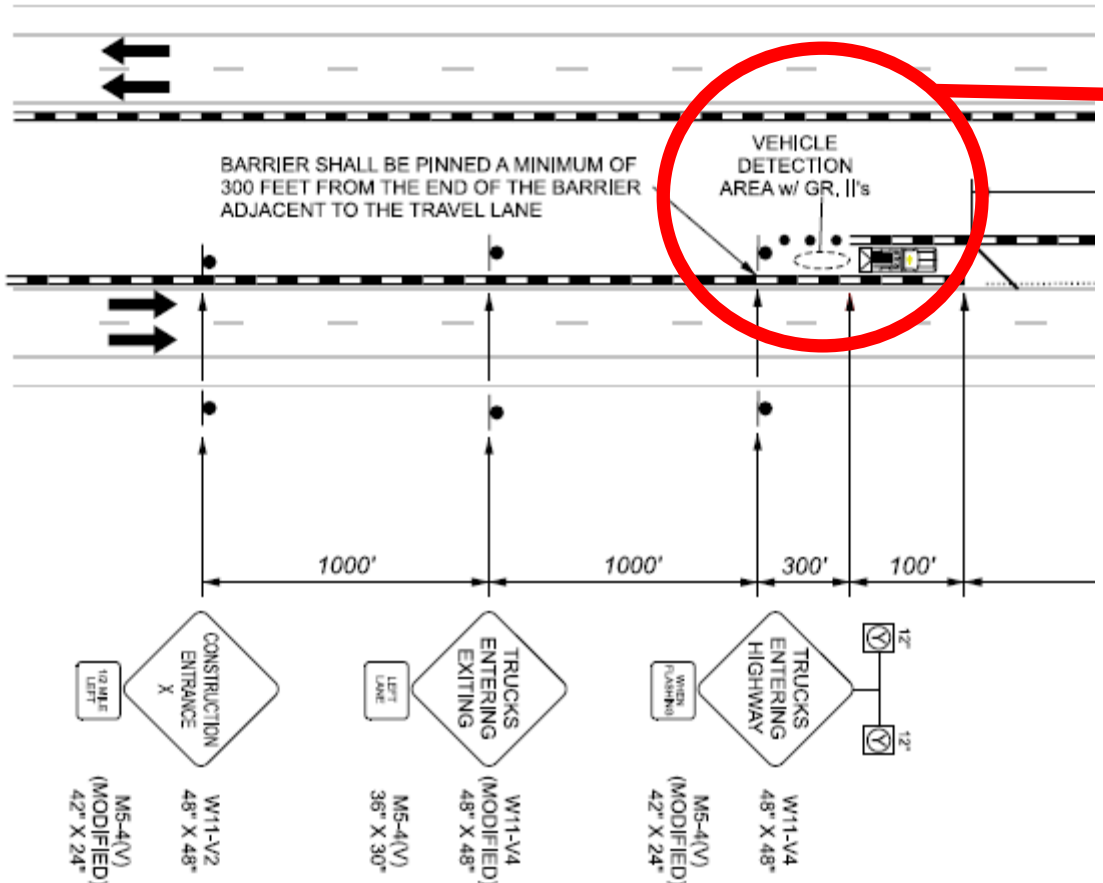
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1,000’+ Merge / Diverge Area **300’ Recovery Area**

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Vehicle Detection Area

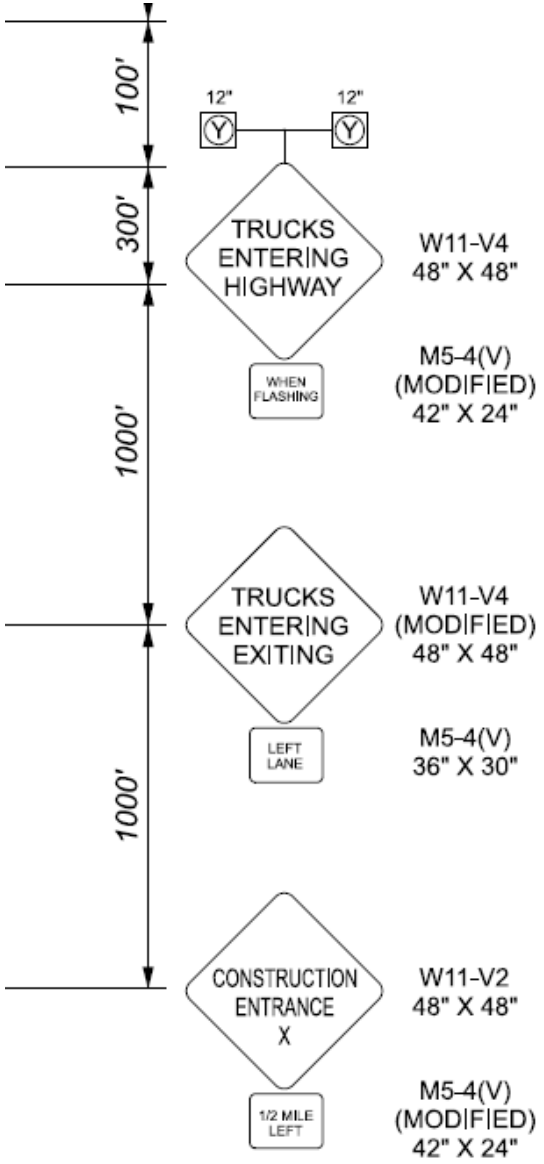
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TRUCKS ENTERING HIGHWAY
With Flashing Beacons

Warning sign for TRUCKS ENTERING / EXITING

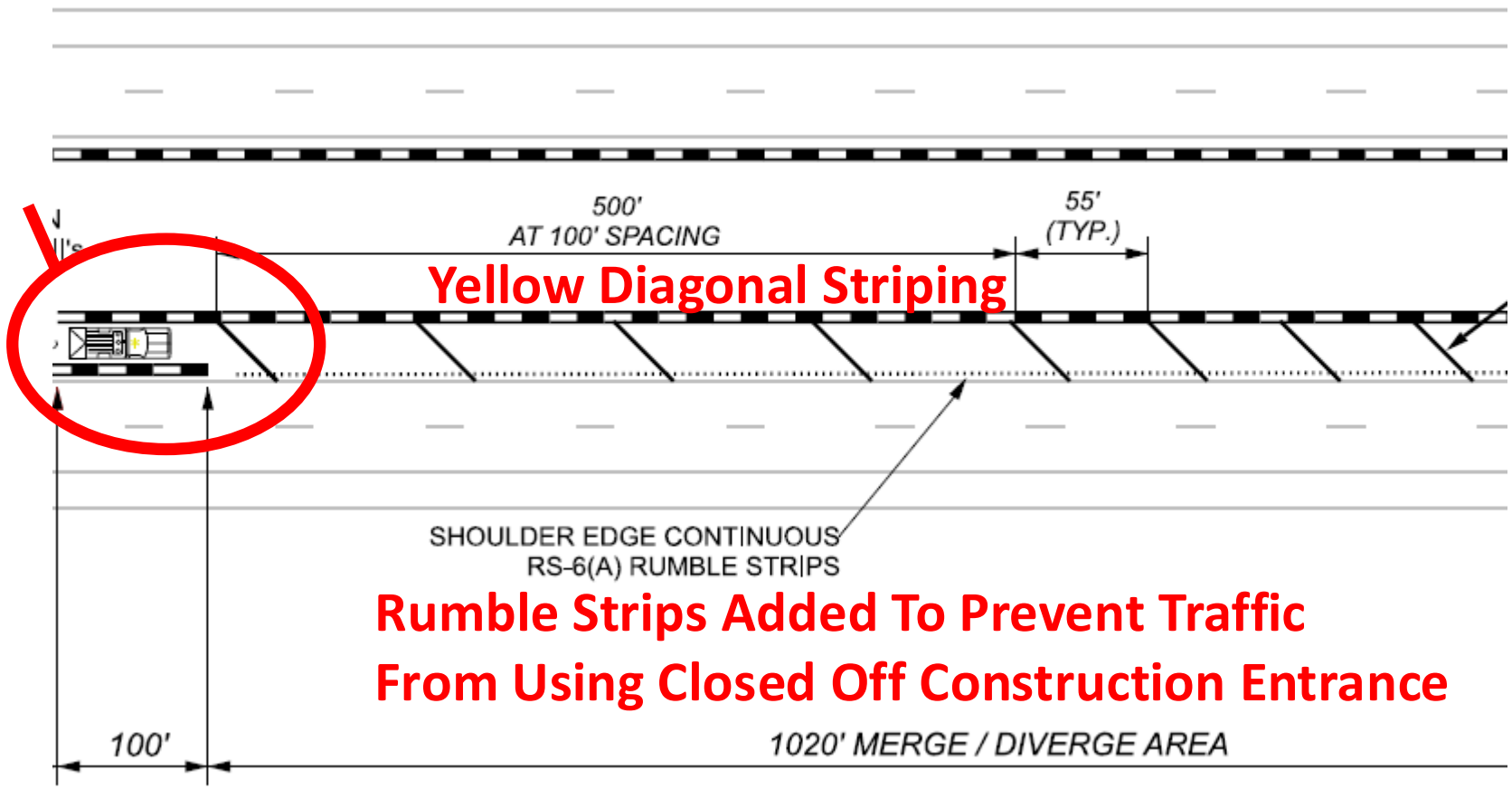
Warning sign for CONSTRUCTION ENTRANCE with ½ Mile plaque



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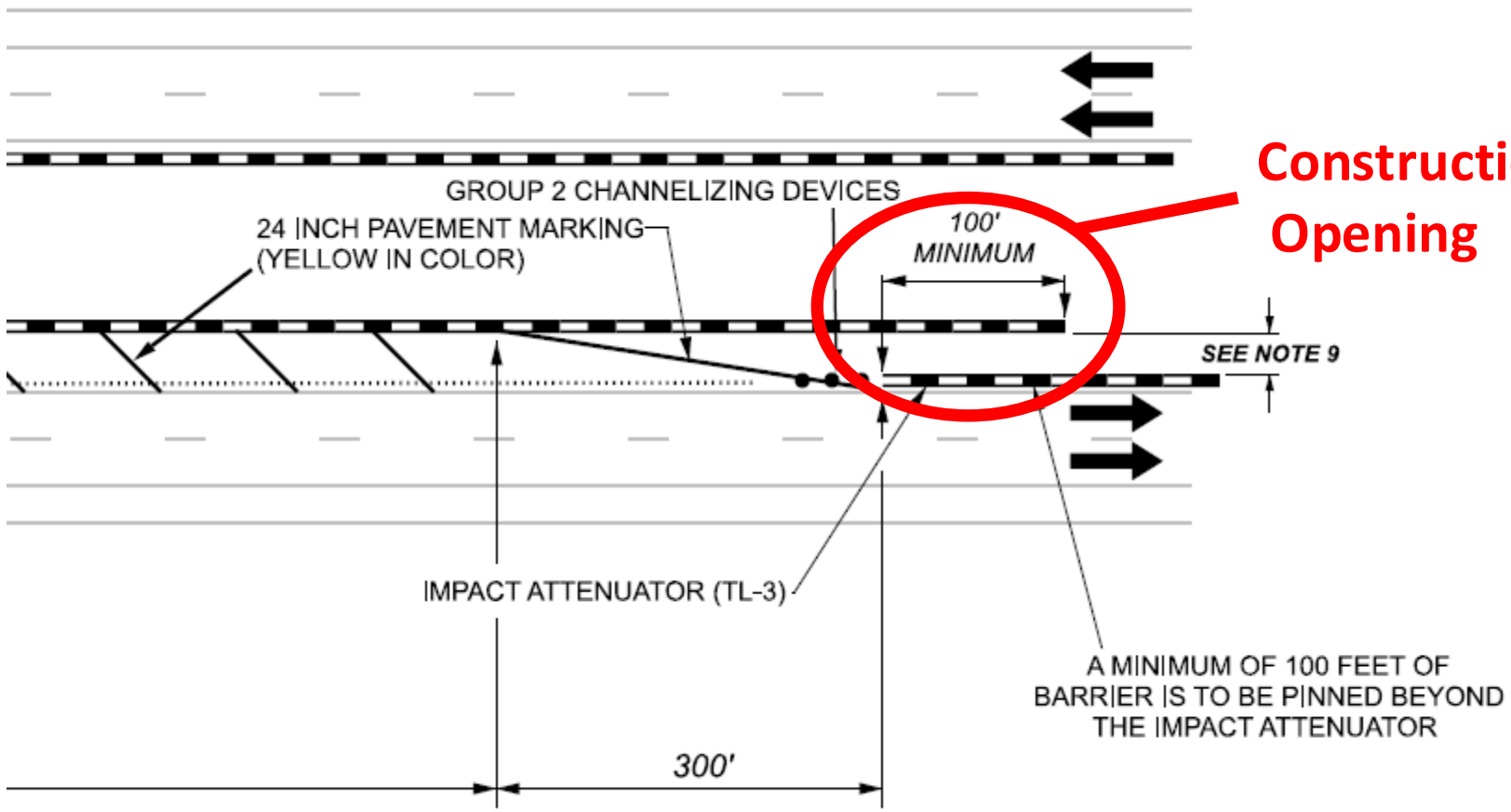
Vehicle Entrance To Open Lanes



Rumble Strips Added To Prevent Traffic From Using Closed Off Construction Entrance

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Construction Entrance Opening

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Thank You

Any Questions?