

# Introducing...

## K. Duane Manning

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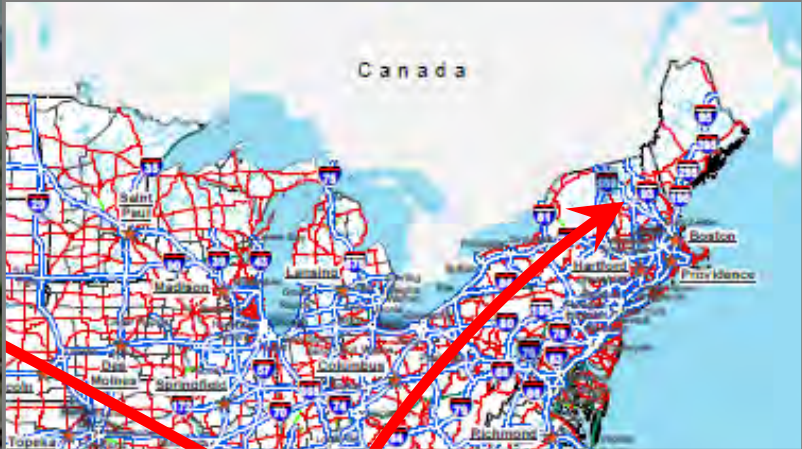
**TDOT**

Department of  
Transportation

**TDOT Region 1 Safety Manager  
Duane Manning**



# Common Concern



**2013**



**5.5 MILLION Traffic Accidents Per Year!!**

**2013 – 2.3 MILLION Injured**

**2013 Roadway Fatalities**

**32,719**

**2015**



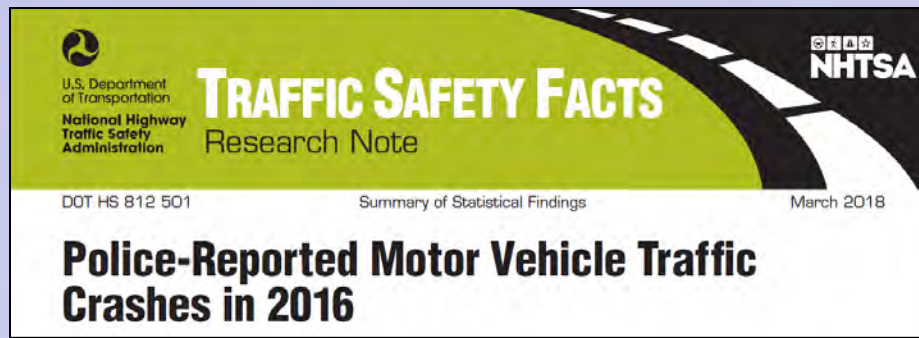
**6.3 MILLION Traffic Accidents Per Year!!**

**2015 – 2.44 MILLION Injured**

**2015 Roadway Fatalities**

**35,092**

**2016**



**7.3 MILLION Traffic Accidents Per Year!!**

**2016 – 2.18 MILLION Injured**

**2016 Roadway Fatalities**

**37,461**



**2016**

**2013**



**Fatalities Increased  
to 37,461 in 2016**

**Fatalities Increased 4,742**

**The largest percentage increase in  
nearly 50 years!**



**1 Accident  
Every 5 Seconds**

**1 Accident with  
Injury**

**Every 13 Seconds**

**1 Fatality**

**Every 15**

**Minutes**





**540  
Accidents**

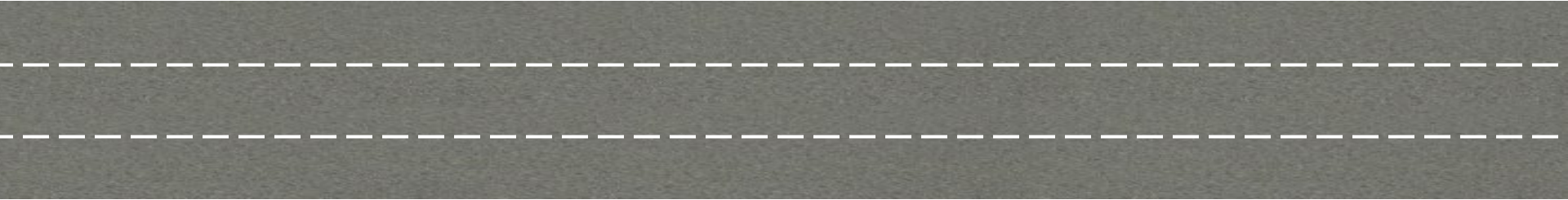
**208 Accidents  
With Injury**

***In Just 45  
Minutes...***

**3 Fatalities**

# End of Queue Accidents

**Consider an Incident on a  
Typical 3 – Lane Roadway...**



# End of Queue Accidents

Consider an Incident on a  
Typical 3 – Lane Roadway...



# End of Queue Accidents

## Where is the Queue???



# End of Queue Accidents

What is the Mood of THIS Driver,  
at the Back of the Queue?



# End of Queue Accidents



# End of Queue Accidents





**When Would YOU Apply the Brakes?**



07-17 08:07:10



**When Would YOU Apply the Brakes?**

03-07-17 08:07:11



**When Would YOU Apply the Brakes?**



**When Would YOU Apply the Brakes?**



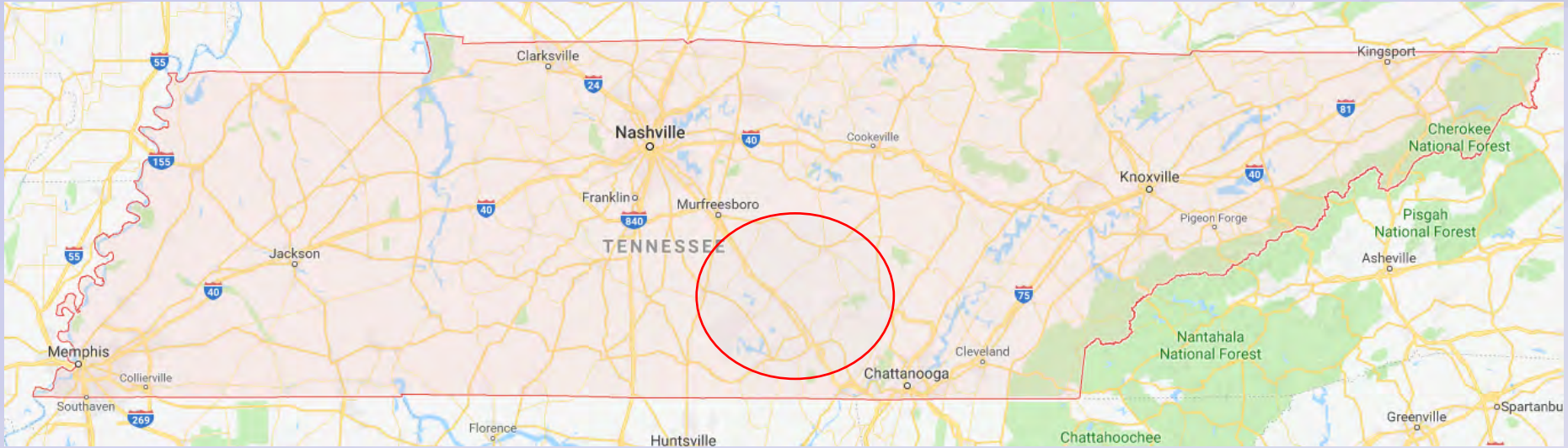
**Yearly Music Festival in Manchester, TN**

**Population of Manchester – 10,261 (2010)**

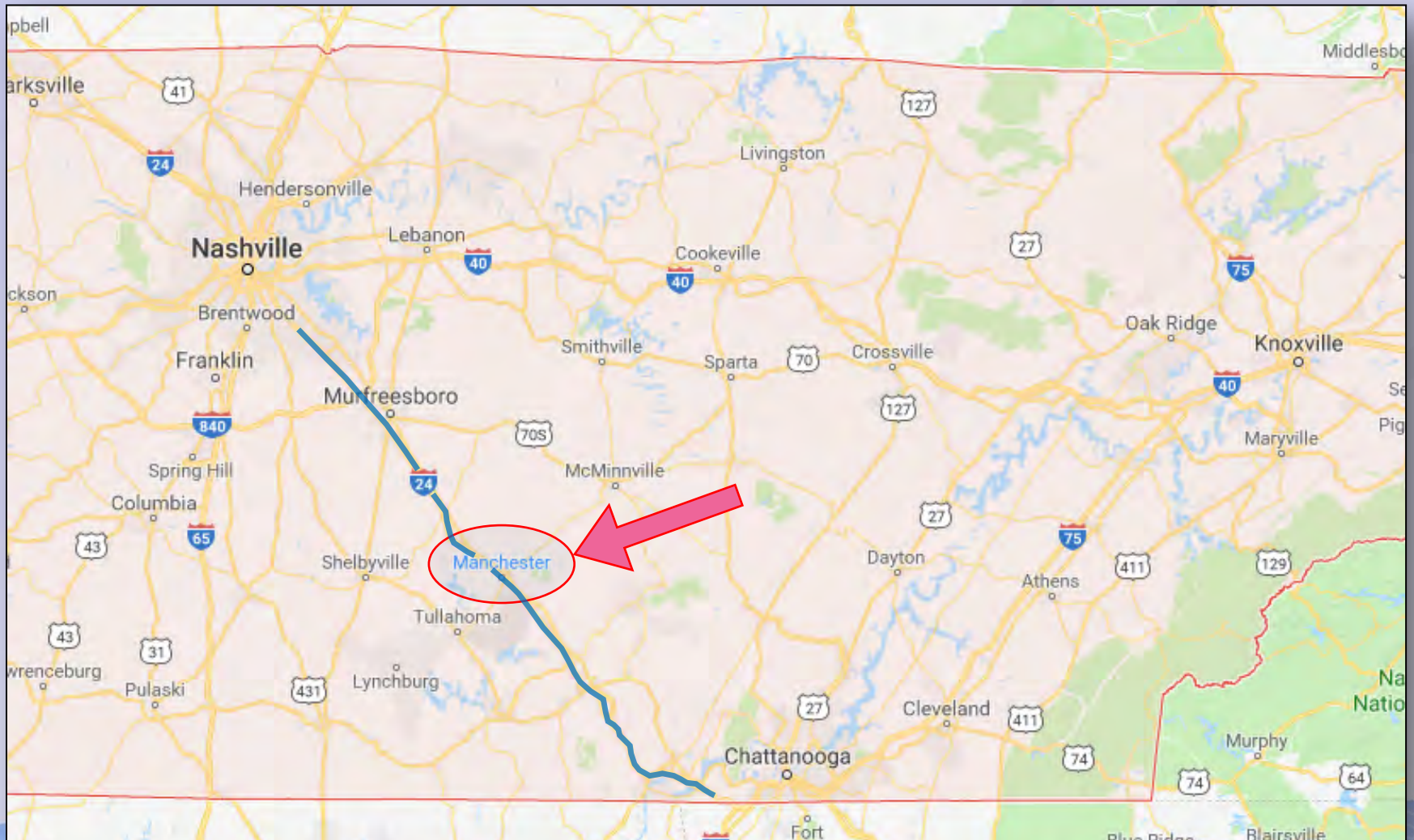
**Population of Manchester During Bonnaroo**

**110,261**

# Bonnaroo



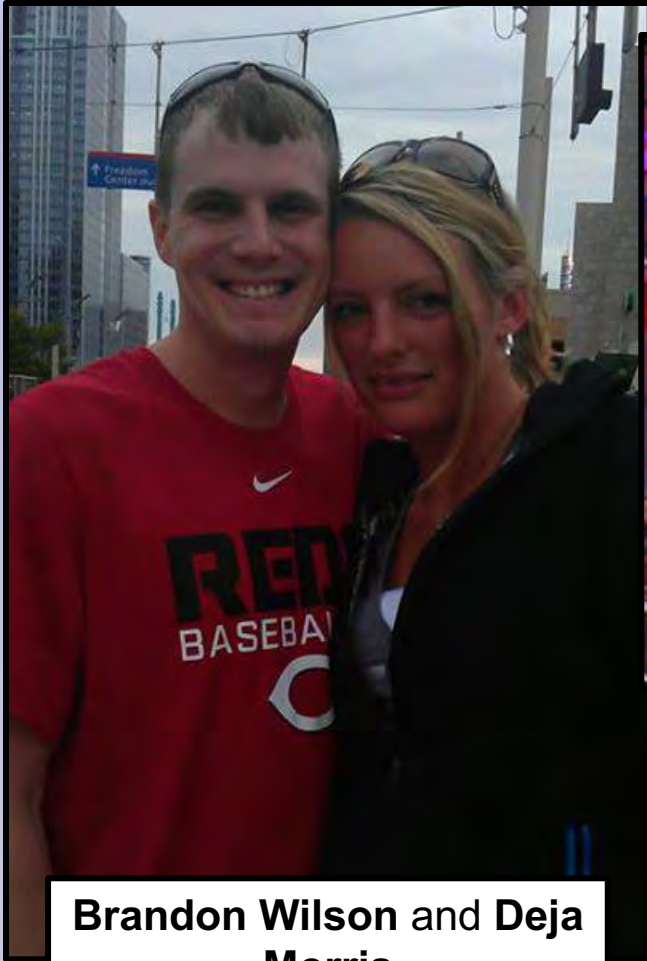
# Bonnaroo



# Bonnaroo



# Bonnaroo



**Brandon Wilson and Deja  
Morris**



**Both** were killed when a tractor trailer driver hit their vehicle on Interstate 24 in Murfreesboro during the early morning hours of June 13, 2013.



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# Secondary Accidents as a Result of Traffic Queuing



# Secondary Accidents as a Result of Traffic Queuing



# Summary of the Project



# Change of Focus



**PROTECT THE  
QUEUE!**  



# Change of Focus



**PROTECT THE  
QUEUE!**  

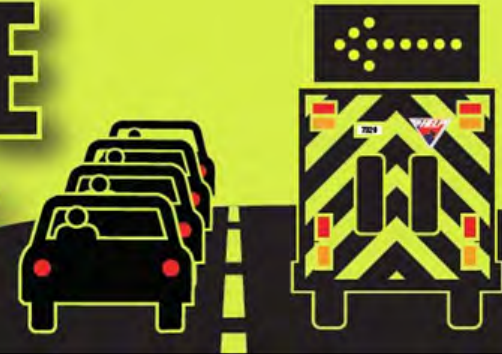
# Change of Focus



**PROTECT THE  
QUEUE!**  

# Protect the Queue Initiative

# PROTECT THE QUEUE!



#1 - What is a QUEUE?

#2 - Why is it so Important?

#3 - What Can I Do to Protect It?

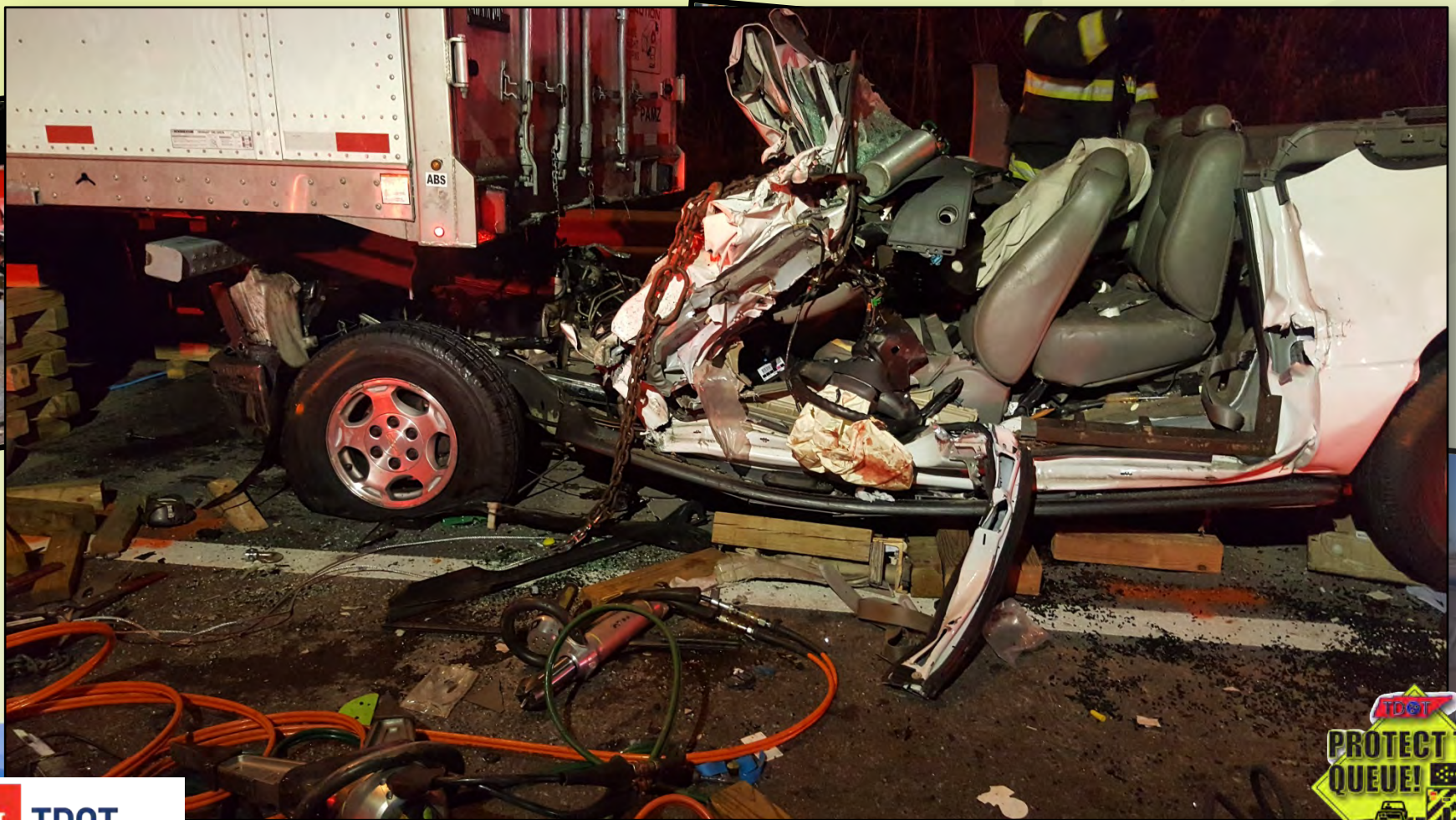


# Secondary Accidents as a Result of Traffic Queuing

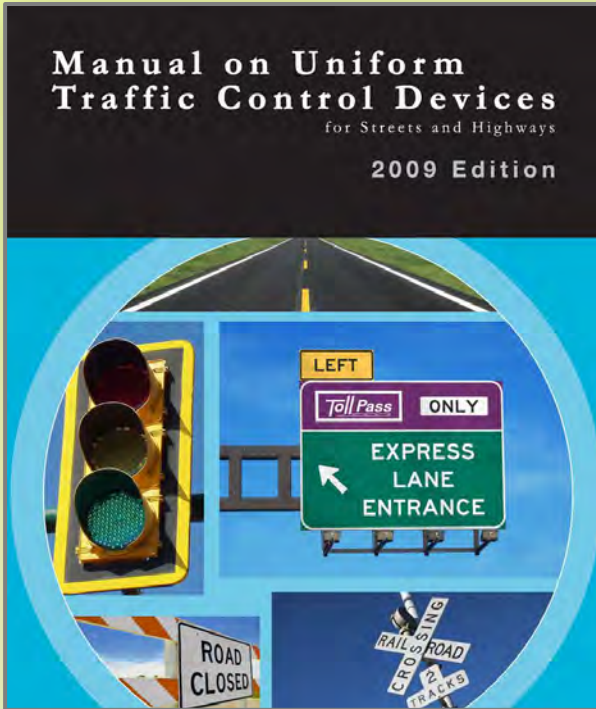
## As Defined by the Latest TIM Training Material:

- Secondary Crashes are crashes that occur within the incident scene or within the queue or backup, including the opposite direction, resulting from an original incident
- For Each Minute that traffic is blocked, it typically takes it 4 Minutes to recover.

# Secondary Accidents as a Result of Traffic Queuing



# Seconds Count



**55 MPH = 80 Feet in 1 second**

**65 MPH = 95 Feet in 1 second**

**75 MPH = 110 Feet in 1 second**

**Table 6C-2. Stopping Sight Distance as a Function of Speed**

Speed*	Distance
20 mph	115 feet
25 mph	155 feet
30 mph	200 feet
35 mph	250 feet
40 mph	305 feet
45 mph	360 feet
50 mph	425 feet
55 mph	495 feet
60 mph	570 feet
65 mph	645 feet
70 mph	730 feet
75 mph	820 feet

\* Posted speed, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed

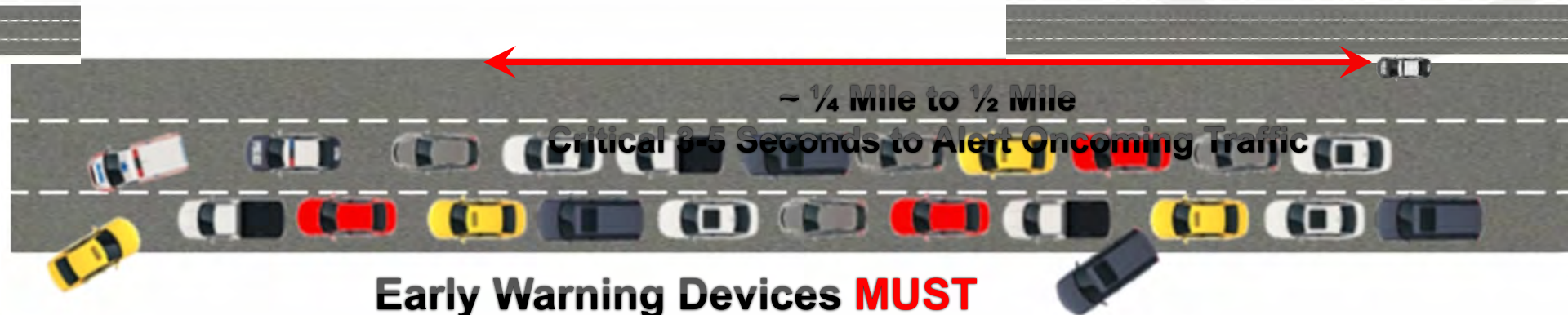


# Seconds Count



# Seconds Count

To Effectively Protect the Queue,  
We have to Provide Warning  
**BEFORE** the Traffic Backup



Early Warning Devices **MUST**  
Be Deployed **AHEAD** of the  
Backup or "Queue" to be of any Value



# Tools Used to Protect the Queue



# Troopers and Uniformed Officers



# Queue Trucks



# Queue Trucks



# Queue Trucks



# HELP Trucks

## Knoxville falls to No. 9 on the safe drivers list



Traffic is backed up while law enforcement works the scene of a car wreck and fire. A TDOT Help Truck was hit while working the truck fire with the Knoxville Fire Department on Thursday June 14, 2012 on Interstate 640 in the West bound lanes. The TDOT Help Truck driver was injured and transported by ambulance. (J. Miles Cary/News Sentinel)

# Queue Protection



# Queue Protection





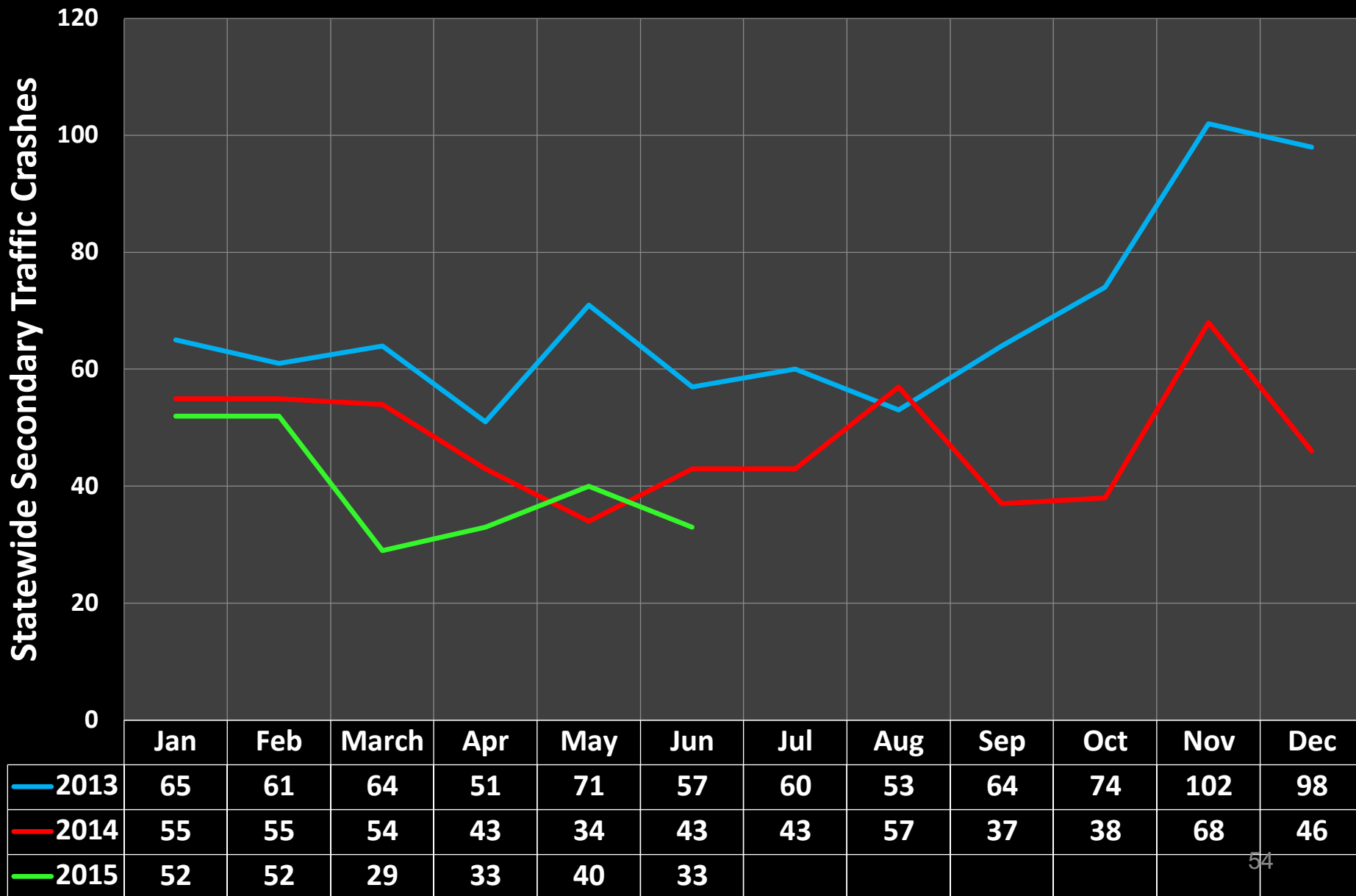
# Queue Trucks



# Queue Trucks



# Protect the Queue Results



# Secondary Crashes By the Numbers

June 2015  
Compared = **25%**  
with 2014... Reduction

June 2015  
Compared = **48%**  
with 2013... Reduction

**Over  
7.3 MILLION Traffic  
Accidents Per Year!!**

**2016 – 2.2**



**1 Accident  
Every 5 Seconds**

**2016 Roadway  
Fatalities  
37,461**

**1 Accident with Injury  
Every 13 Seconds**

**1 Fatality  
Every 15 Minutes**



# Contact Information

## Questions?



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<https://www.tn.gov/tdot/ohs-home.html>

**THANK  
YOU**

