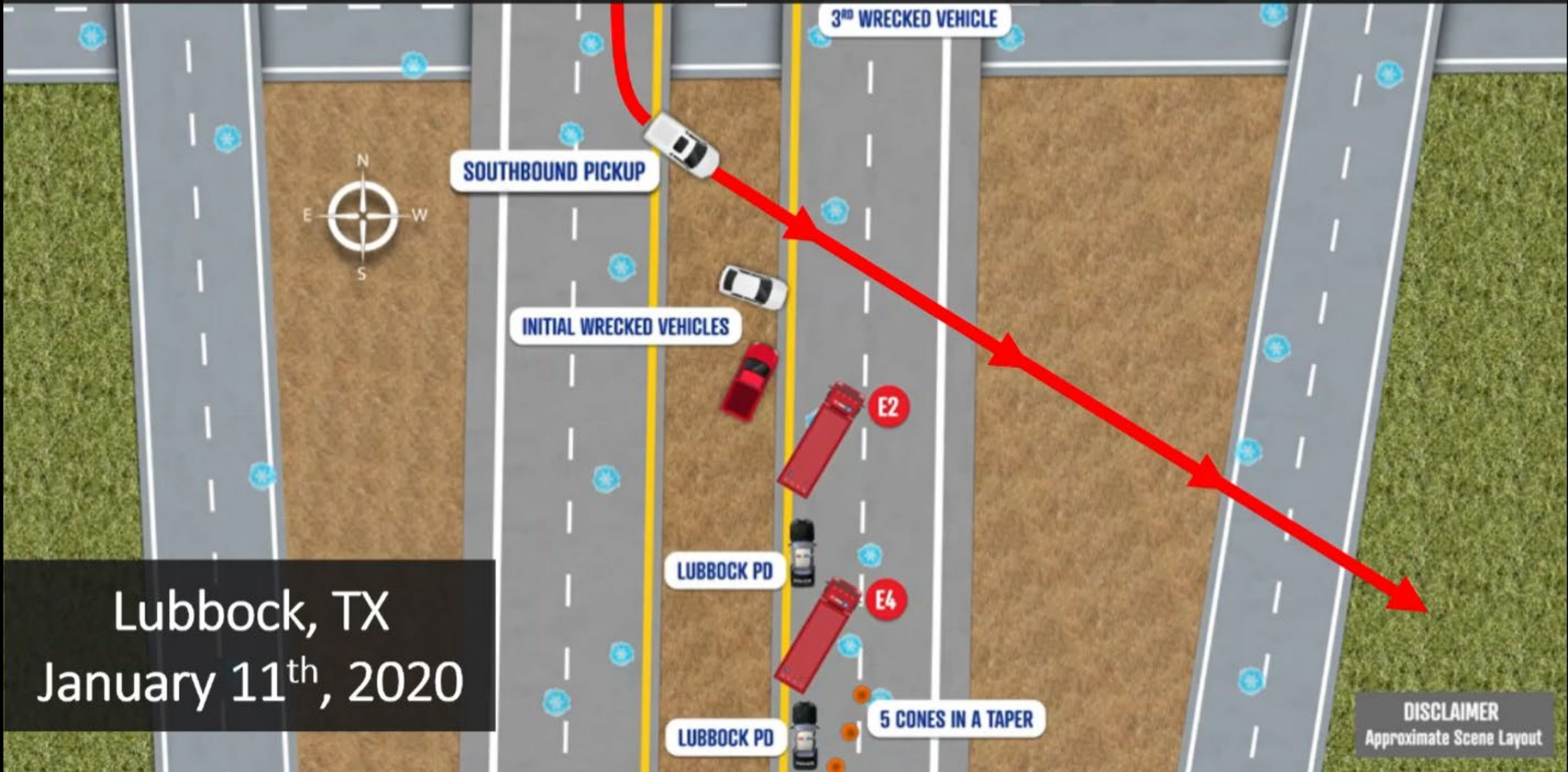


# What's your head worth?



Brady Robinette  
Wolfforth Fire & EMS

# Opposing Lane – Struck by



Lubbock, TX  
January 11<sup>th</sup>, 2020



SPEED  
LIMIT  
55



POLICE

BLACKSTON  
BLISS OFF CALIFORNIA  
BEHIND BEHIND  
THAT BEHIND



EXIT





# Engineering Fire Engineering

...TS FOR ROADWAY INCIDENTS | ENGINE...

RAPID INTERVENTION | VEHICLE...

TRAINING THE FIRE SERVICE FOR

TRAINING THE FIRE SERVICE FOR 143 YEARS

OCTOBER 2020

...other Car Fire



full PPE with SCBA, and appreciate the many associated dangers. Remember, it's NOT just another vehicle fire! ■

### REFERENCES

1. "U.S. Vehicle Fire Problem by Type of Vehicle 2006-2010 Annual Averages." Marty Ahrens, National Fire Protection Association, January 2013. <https://bit.ly/2XOKRmq>.
2. "Patterns of Firefighter Fireground Injuries." Richard Campbell, National Fire Protection Association, December 2016. <https://bit.ly/3g8ixGf>.
3. "Resources." Emergency Responder Safety Institute. <https://bit.ly/3g8ixGf>.
4. "Traffic Incident Management Safety Guidelines for Emergency Responders Version 3." State of New Jersey Office of the Attorney General, Department of Law and Public Safety, August 1, 2016. file:///C:/Users/robertm/Downloads/Statewide%20Guidelines%20Ver%203%20Final%20with%20OAG%20Cover%20Letter.pdf.
5. "Polyurethane for the Automotive Industry." American Council. <https://bit.ly/2EpM000>.

## Roadway Incident Operations: What Is the Right Helmet for the Job?

BY BRADY ROBINETTE

**T**HE IMPETUS FOR THIS ARTICLE WAS the deaths and injuries of members of my department while working an emergency on a roadway last January and the questions that have haunted me ever since: "If they were wearing helmets constructed according to standards designed to protect their heads against the impacts they experienced, would the results have been different? Would the head injuries have been less serious?"

### Limitations of a Fire Helmet at Roadway Incidents

On January 11, 2020, in Lubbock, Texas, a driver from the opposing lane of travel crossed the median while emergency crews were working the scene of an accident. Firefighter Lieutenant Eric Hill and Police Officer Nicholas Reyna were killed. Firefighter/Paramedic Matthew Dawson is still recovering from injuries he sustained at this crash. He suffered many broken bones across his legs, arms, and torso; a cracked skull along with multiple orbital fractures; and a traumatic brain injury (TBI). Months

protection likely would not have the outcome, the autopsy finding just how dangerous and frequent injuries are at struck-by incidents. All struck-by incidents will be regardless of the level of protection, but this should not stop us from our personal protective equipment. Give us the best chance

### New Tests and Standards Needed

Structural fire conditions at a scene and standards

# Roadway Workers

Fire  
Police

Towing/  
Recovery

Law  
Enforcement

Mobile  
Vehicle  
Maintenance

Department of  
Transportation

Safety  
Service  
Patrols

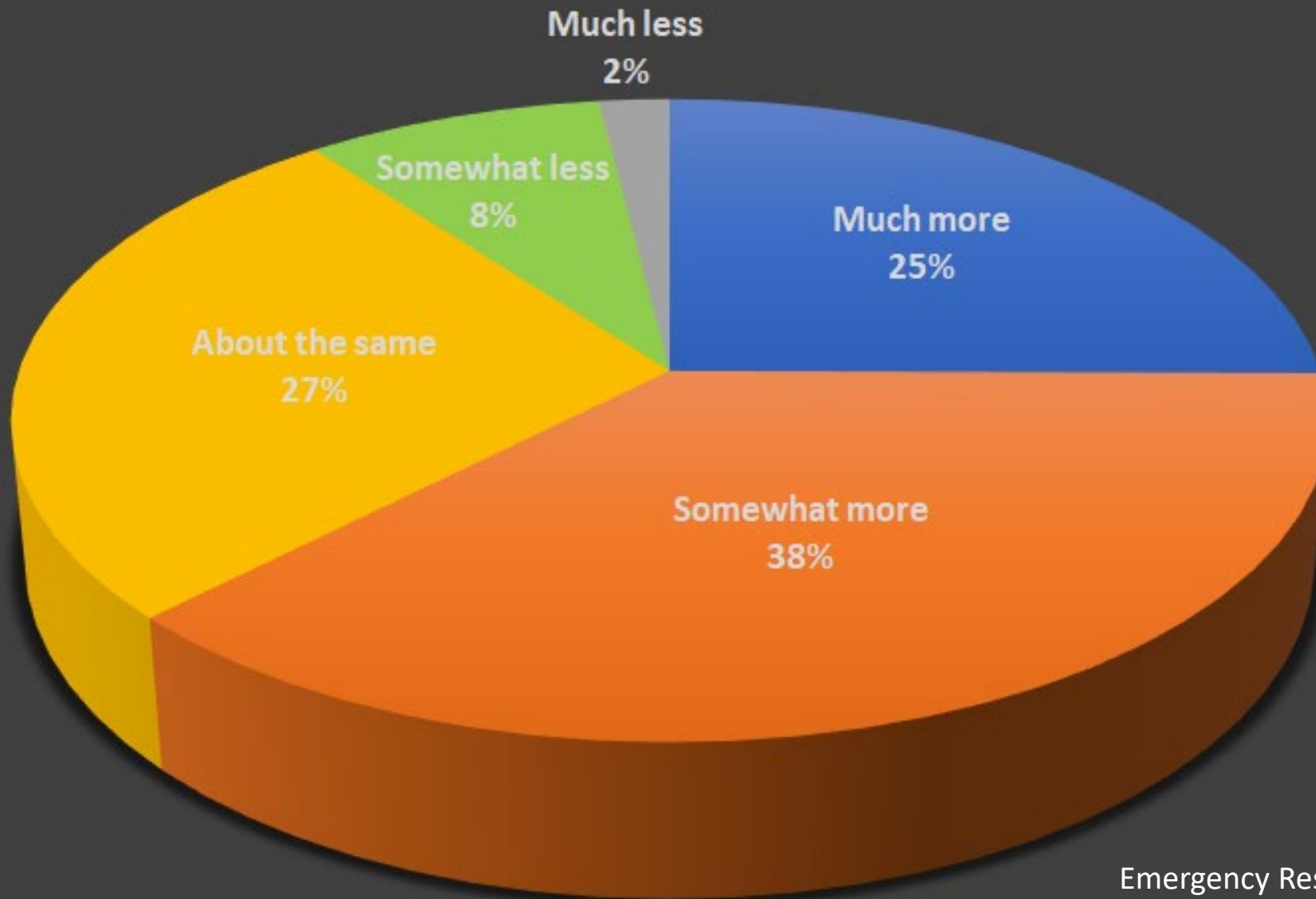
Fire  
Service

Emergency  
Medical  
Services

Roadway  
Construction



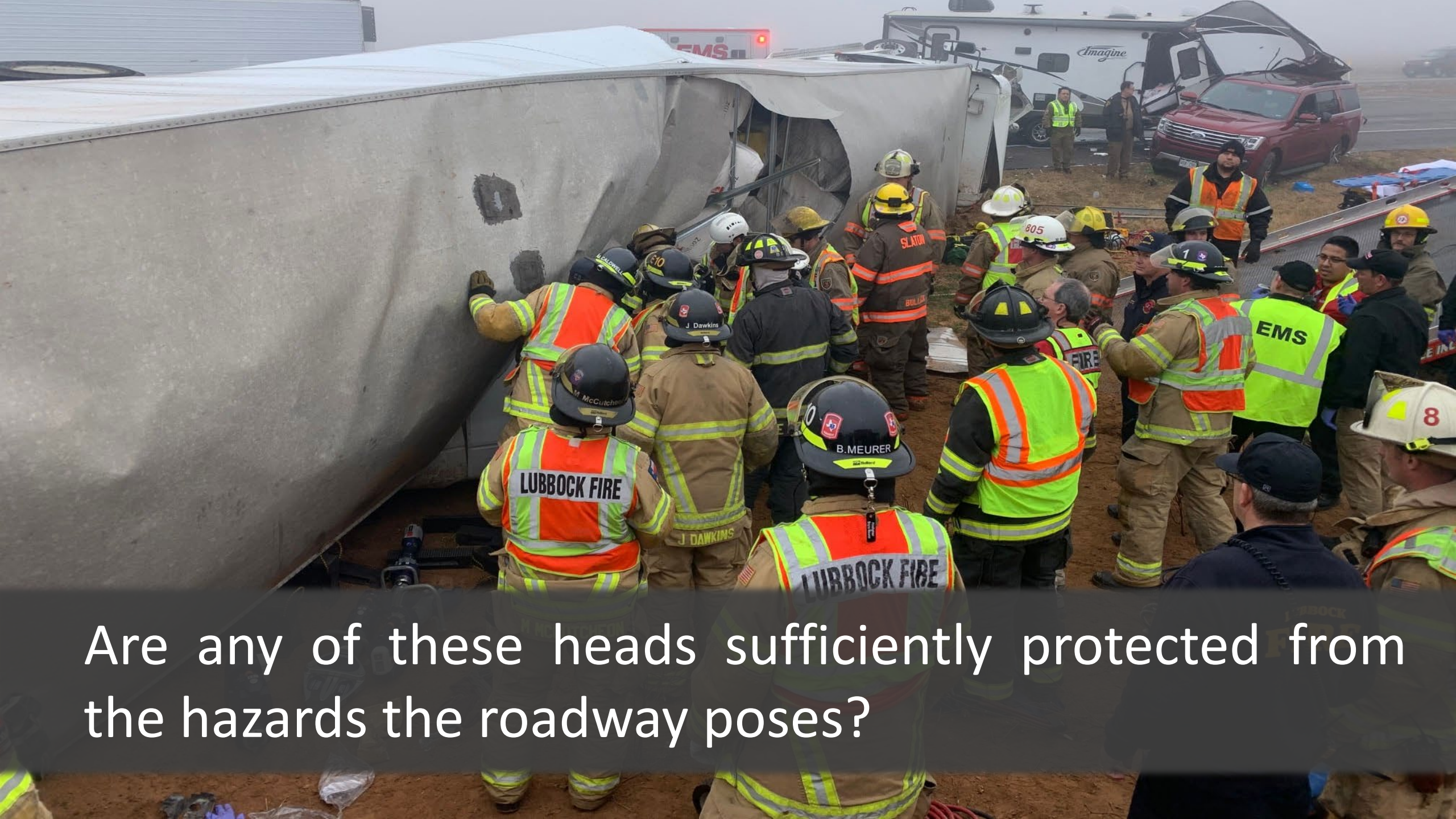
# Overall, the life-safety hazard of roadway incidents compared to that of structure fires











Are any of these heads sufficiently protected from the hazards the roadway poses?



Struck-by-vehicle Videos

# Flying Roadway Debris



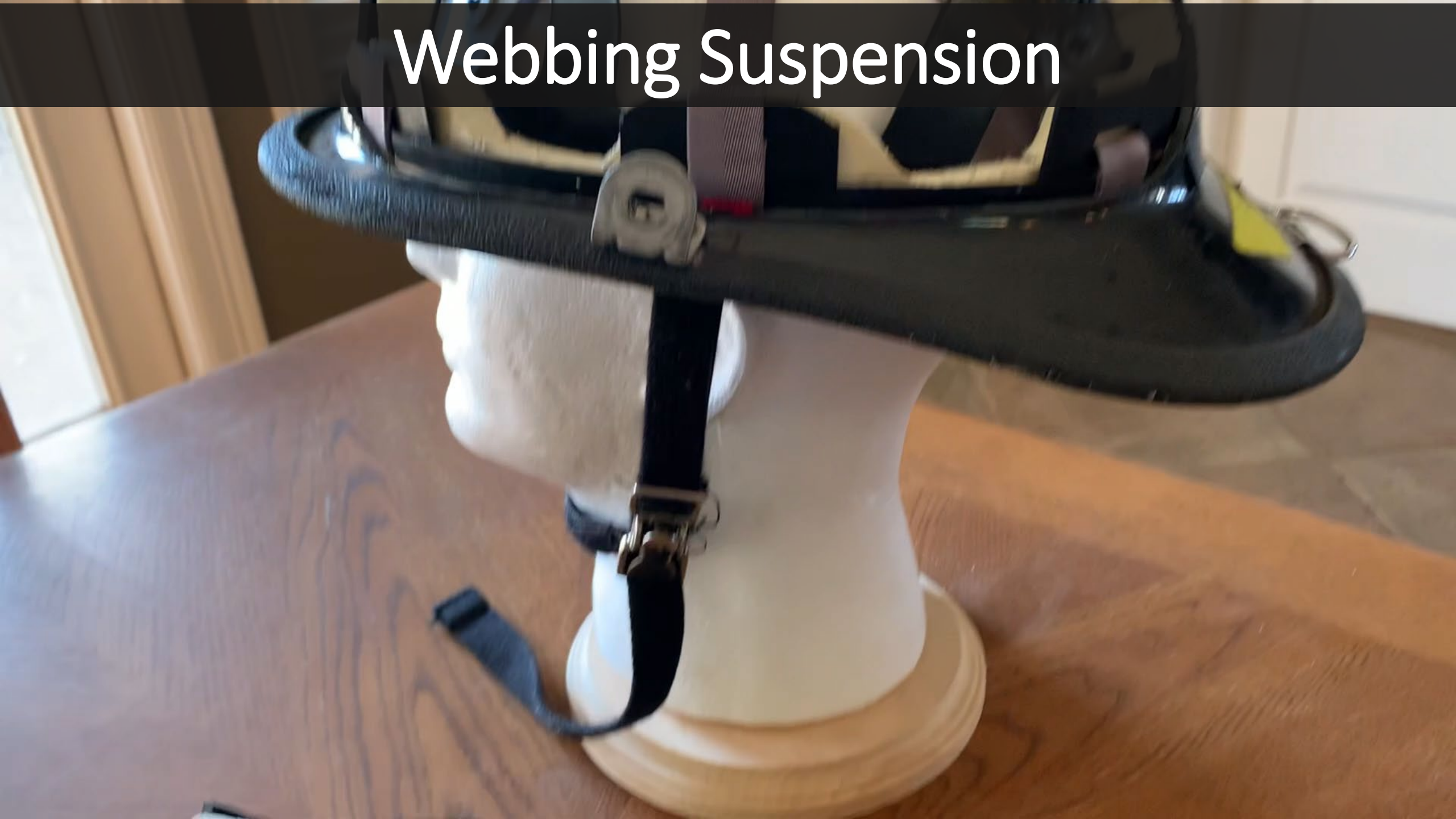
Kansas Highway Patrol Troop C



Mid-Piatt Fire Protection District



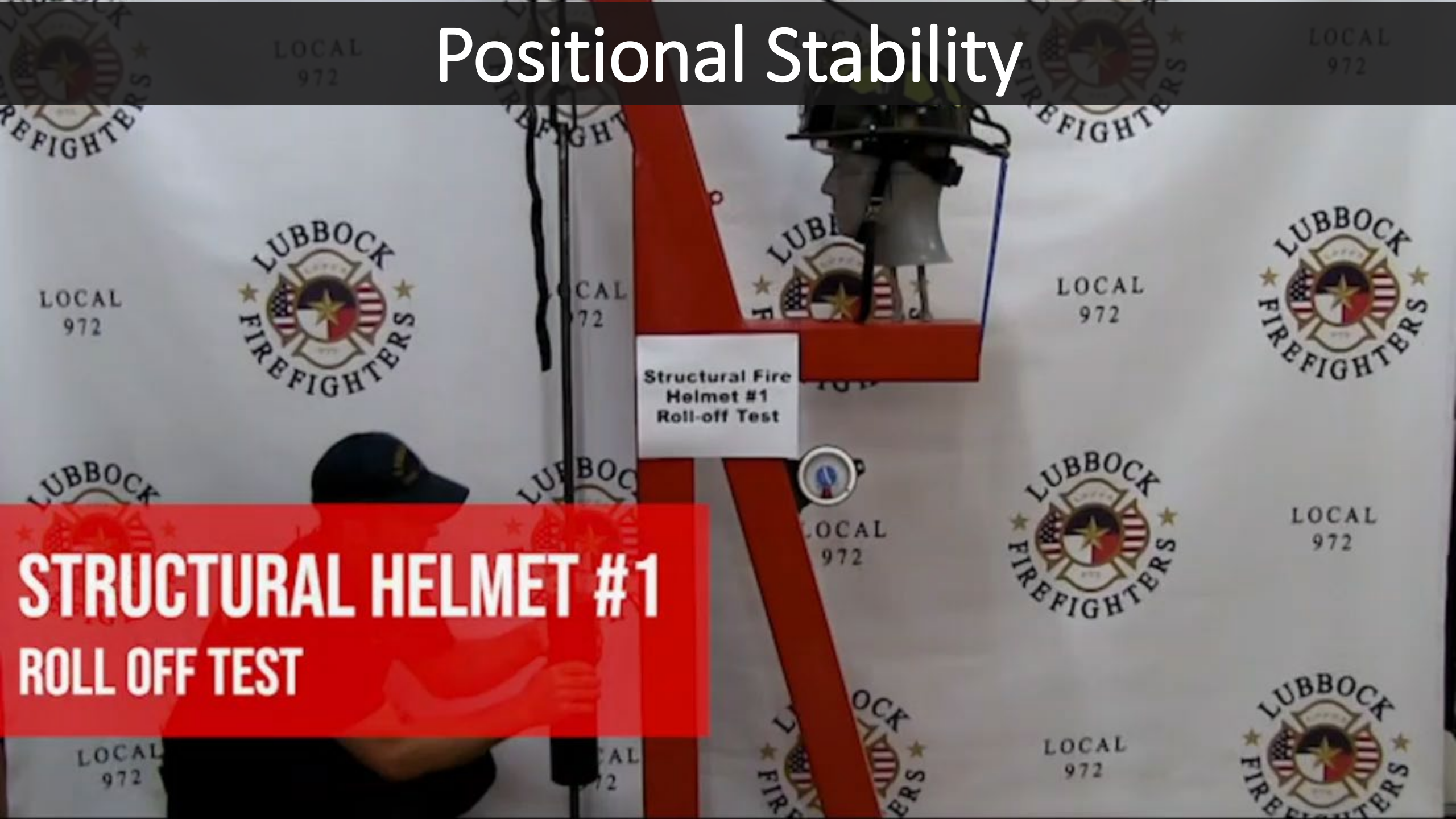
# Webbing Suspension



# Positional Stability

Structural Fire  
Helmet #1  
Roll-off Test

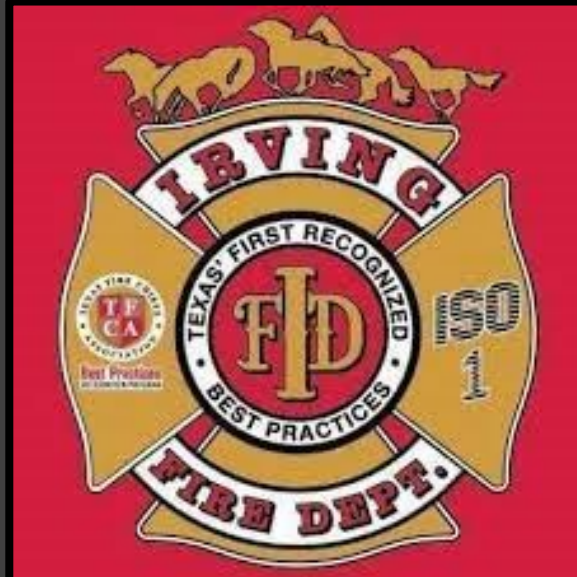
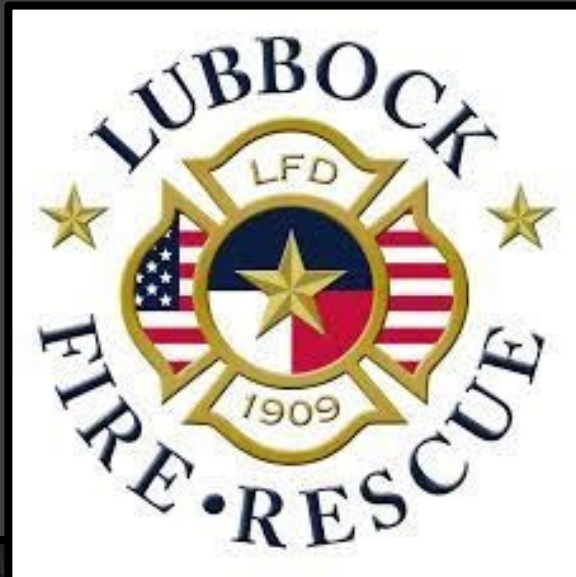
**STRUCTURAL HELMET #1  
ROLL OFF TEST**







# Other Agencies



# Other Agencies



## Head protection leaps into 21st century

Construction firms, DOTs move to bike-style helmets for broader protection

symbol. But it protects than on their

protecting from models square-head—are far

ing truck, by by roadway risks ections

These kinds of risks drove the concrete division of Bethesda, Md.-based Clark Construction—which performs work in public roadways and requires its flaggers and other traffic control workers to be ATSSA-trained—to require all of its employees to trade hard hats for safety helmets five years ago.

“Hard hats do an excellent job of protecting against falling objects,” said Seth Randall, safety director for Clark’s concrete division. “We have come to find out it’s falling employees that need protecting as well.”

A growing number of general contractors and some of the nation’s transportation departments are seeing a mismatch between the hard hats their workers have worn for decades and the true injury risks their employees face on job sites.

As a result, they are replacing hard hats with safety helmets, which have foam padding to protect the head against impacts from multiple directions, and chin straps to keep the helmet in place if a worker falls or gets hit by an object.

The Virginia Department of Transportation (VDOT) is among the public agencies making the switch. As of this summer, VDOT had field-tested the safety helmets, and was awaiting delivery on its first order of 500, according to VDOT spokesperson Emily Wade.

**OVERDUE FOR REDESIGN**  
George Stallings, a manufacturer representative in the commercial construction and industrial safety markets and a partner in Martinsburg, W.Va.-based

# NCDOT | NOW





ASTM  
INTERNATIONAL

E54 Committee on Homeland Security Applications

Specification for Protective Helmets

Worn by Pedestrian Roadway

Workers

My goal is mass nationwide of  
roadway helmets for all that  
work on the roadways