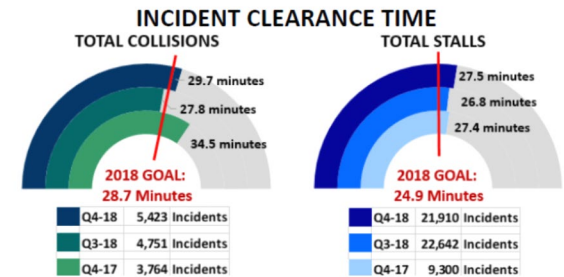


# Talking TIM (Traffic Incident Management) Webinar Series (TIM)



Top Photos: Enforcement Engineering, Inc.



## New Business Case Concepts for Traffic Incident Management

Paul Jodoin and James Austrich  
FHWA TIM Program Managers

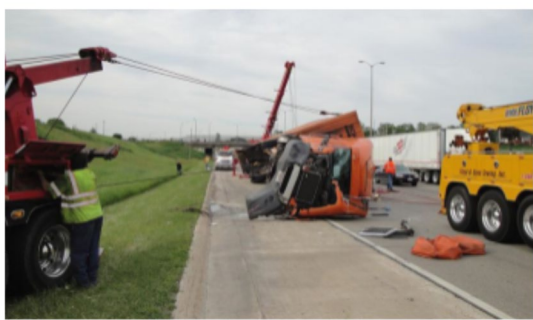


Photo: National TIM Responder Training Program



# Traffic Incidents are a Common and Significant Problem



Traffic incidents include just about anything that affects or disrupts traffic.



*Photo: Enforcement Engineering, Inc.*

Traffic incidents may block travel lanes, but even when on the shoulder, they cause driver distraction and congestion that impact commerce and safety.



*Photo: Enforcement Engineering, Inc.*

# Traffic Incidents Impact...



## LIVES



- Deaths and Injuries.
- Responders Struck.
- Secondary Crashes.
- Motorists and others Involved.

## TIME



- Delays.
- Travel Time Reliability.
- Quality of Life.

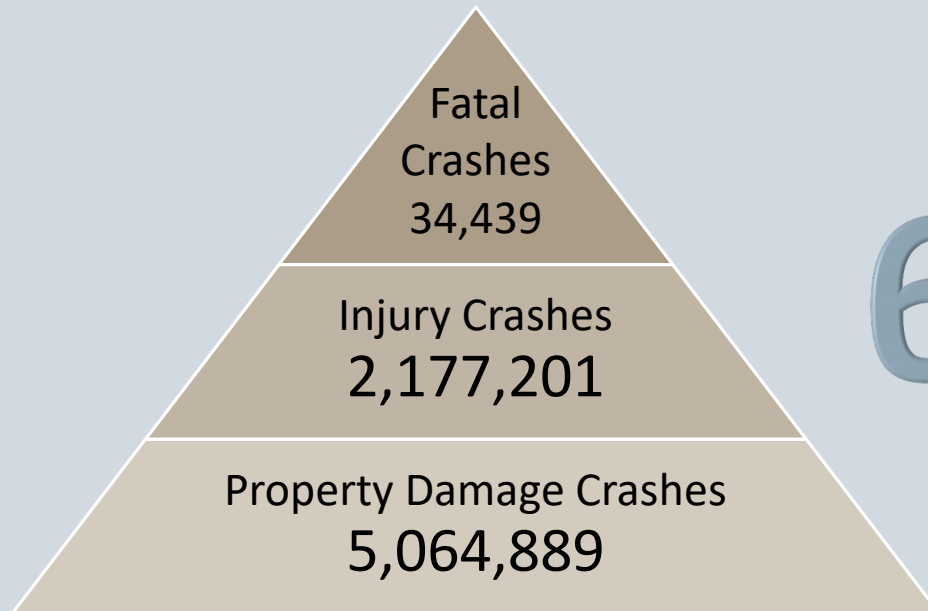
## MONEY



- Congestion.
- Lost Productivity.
- Wasted Fuel.
- Air Quality.
- Freight and Commerce.



# Traffic Incidents Impact...Lives



6X

Increased  
crash risk  
when there  
is an earlier  
crash

10,874

Drunk Driving Deaths  
in 2017

3,450

Distracted Driving  
Deaths in 2017



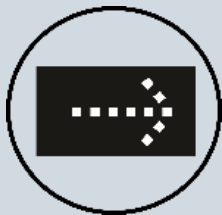
# Traffic Incidents Impact...Lives



## Annual Line of Duty Deaths (LODD) DEATHS

- 4 Fire/EMS workers.
- 10 police officers.
- 40-60 tow operators.

**Of the 136 worker fatalities in work zones in 2015, 24 were pedestrians struck by vehicles.**



14 service patrol operators have been killed at incidents since 1999 (20 yrs.)

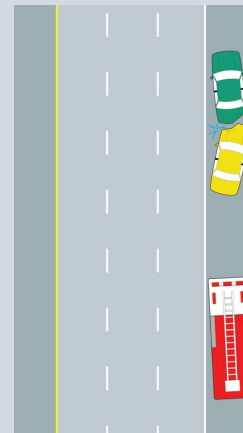
# Traffic Incidents Impact...Time



Incidents Cause  
About **25%** of All  
Congestion.

On average, Americans lost about 97 hours a year due to congestion, costing them nearly \$87 billion in 2018, an average of \$1,348 per driver.

The Texas Transportation Institute (TTI) estimates that between **53%** and **58%** of delay in urban areas is attributed to incidents.

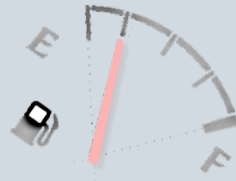


Even a crash  
isolated to the  
shoulder reduces  
the roadway  
capacity by **17%**.

# Traffic Incidents Impact...Money



If averaged across the U.S. population, motor vehicle crashes cost nearly **\$784 per person** in 2010.



24 gallons of fuel for every driver annually, per a 2011 report

**\$836 Billion**  
Total Estimated economic damage associated with crashes in 2010.

## 2015 Trucking Industry:

- 996 million hours of delay or lost productivity associated with congestion.
- Equivalent of 362,243 commercial truck drivers sitting idle for an entire year!



# Traffic Incident Management

*Saves Time, Saves Lives, and Saves Money*



Photo: Enforcement Engineering, Inc.

TIM consists of a planned and coordinated multi-disciplinary process to detect, respond to, and clear traffic incidents so that traffic flow may be restored as safely and quickly as possible.

Effective TIM reduces the duration and impacts of traffic incidents and improves the safety of motorists, crash victims, and emergency responders.





# Sample TIM Strategies



- TIM partnerships and programs.
- Multidisciplinary TIM training.
- Goals for performance.
- TIM technology.
- TIM policies.
- Awareness and education partnerships.
- Recommended practices.
- Move over laws.
- Driver training and awareness.
- Multidisciplinary TIM procedures.
- Response and clearance goals.
- 24/7 availability.
- Communications practices and procedures.
- Prompt reliable notification.
- Interoperable voice and data networks.
- Broadband communications systems.
- Prompt, reliable traveler information systems.
- Partnerships with news media.



# Traffic Incident Management

*Saves Lives, Saves Time, and Saves Money*



# Traffic Incident Management

***Saves Lives**, Saves Time, and Saves Money*



Photo: FHWA

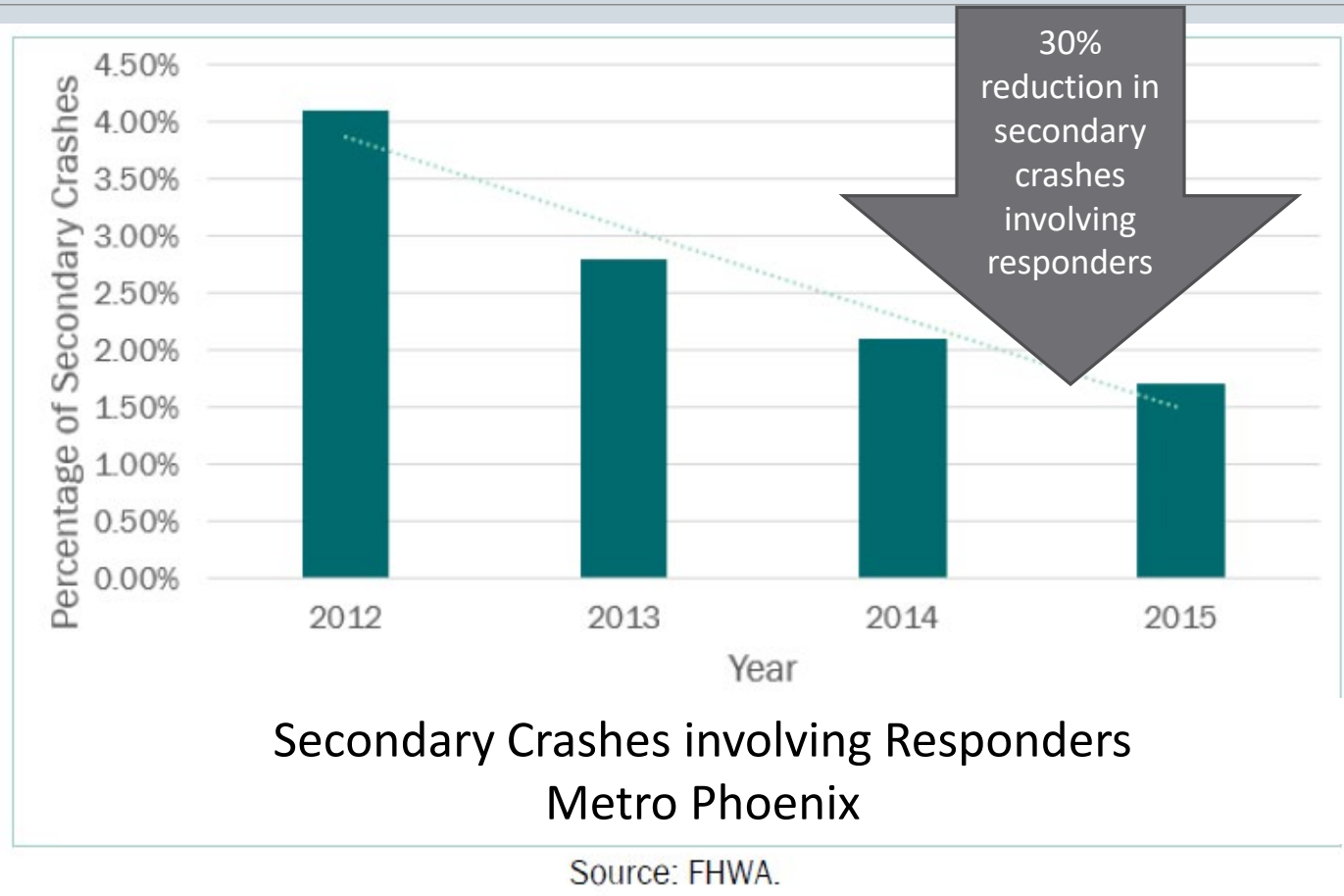
In surveys, **78%** of responder supervisors rated personnel who attended TIM training as “more safe” as a result.

4 out of 5 Florida drivers “move over” for stopped responder vehicles according to observational surveys, attributed to active enforcement (20,000 citations annually).



# Traffic Incident Management

*Saves Lives, Saves Time, and Saves Money*





# Traffic Incident Management

***Saves Lives**, Saves Time, and Saves Money*

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## Tennessee Back of the Queue Program



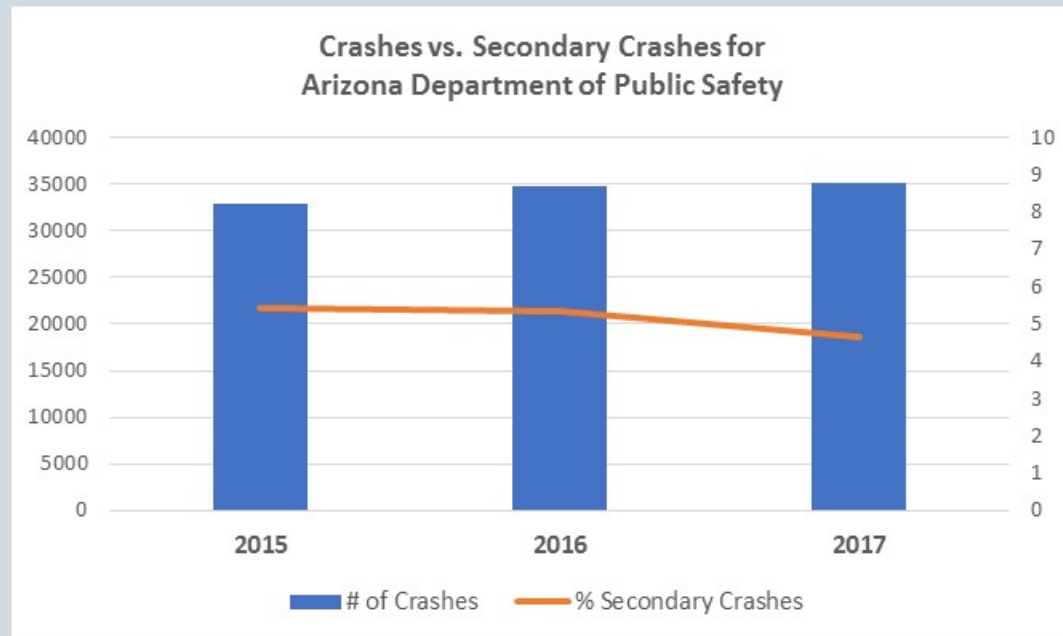
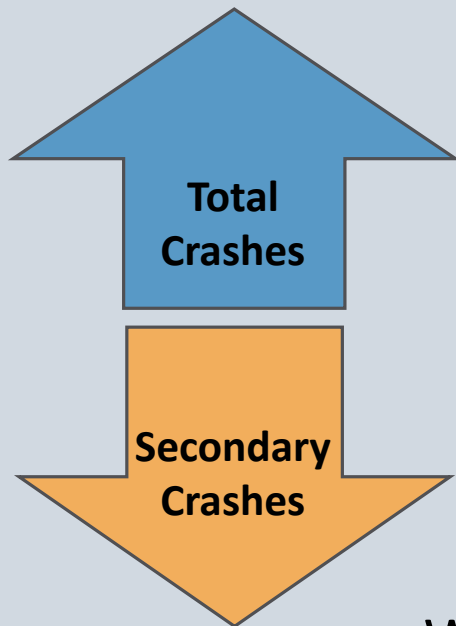
*Photo: Tennessee Department of Transportation*

From July 2013 to December 2013 shows a **19% reduction** in secondary crashes over the same period in 2012.



# Traffic Incident Management

*Saves Lives, Saves Time, and Saves Money*



While total crashes have increased in Arizona, the number of secondary crashes has decreased due to TIM training and practices among responders.



# Traffic Incident Management

*Saves Lives, Saves Time, and Saves Money*



Photo: Enforcement Engineering, Inc.

The Houston Fire Department saw a **40 percent** reduction in scene time which led to a **25%** reduction in fire apparatus struck at incident scenes in the year after training.

The Florida Road Ranger annual survey of incident responders reveals that **9 in 10** of the 251 responders feel that service patrols make it easier for them to do their job and **93%** believe they improve scene safety.



Photo: Enforcement Engineering, Inc.

# Traffic Incident Management

*Saves Lives , **Saves Time** , and Saves Money*



Computer Aided Dispatch (CAD) integration has helped states like Minnesota and Florida detect, verify, and respond to incidents more quickly. More than **72%** of Minnesota incidents and **42%** of Florida crashes are attributed to State police CAD integration in Traffic Management Center (TMC) systems.



Photo: Enforcement Engineering, Inc.

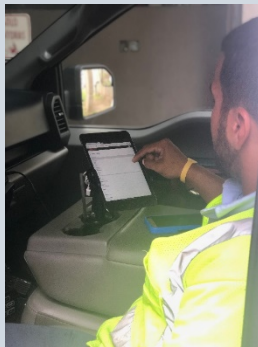


Photo: PRTHA

Many jurisdictions now use smart devices among safety service patrols to expedite incident detection and response. The Puerto Rico Highway Transportation Authority (PRTHA) is an example of the innovation.



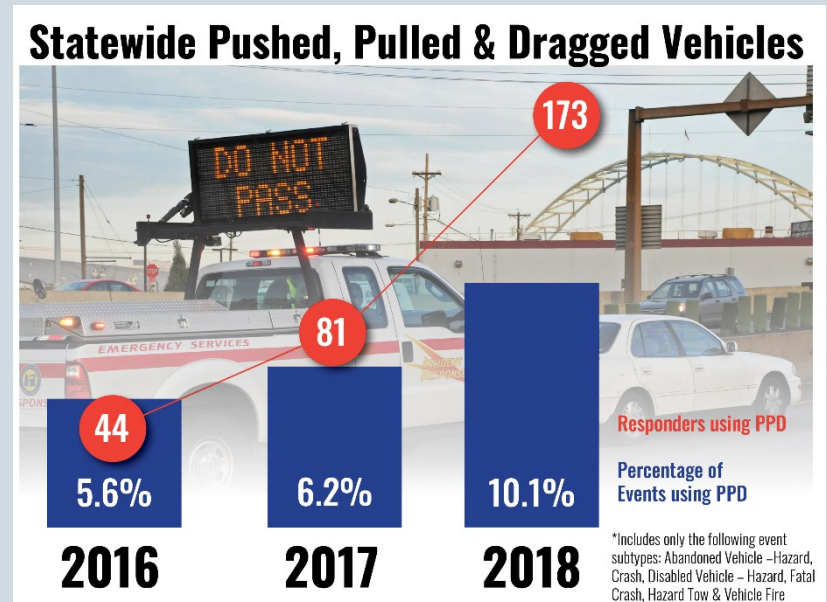


# Traffic Incident Management

*Saves Lives , **Saves Time** , and Saves Money*



Driver removal and authority removal TIM laws are enhanced by agency policies such as “Push, Pull, Drag, or Drive.” Oregon experienced nearly a **4-fold increase** in push, pull, or drag (PPD) events after they emphasized the concept in training.



\*Includes: abandoned vehicle - hazard, crash, disabled vehicle - hazard, fatal crash, hazard tow, and vehicle fire events

**Clearance times reduced 35% when PPD used.**



# Traffic Incident Management

*Saves Lives , **Saves Time** , and Saves Money*



Photo: Georgia Department of Transportation

After implementation of Georgia's Towing and Recovery Incentive Program (TRIP), commercial vehicle crashes in metro Atlanta were cleared **60% faster**, from an average of 269 minutes in 2007 to an average of 108 minutes in 2017.

After training all personnel in TIM, the Houston Fire Department experienced a **40% reduction** in on-scene time for motor vehicle incidents.

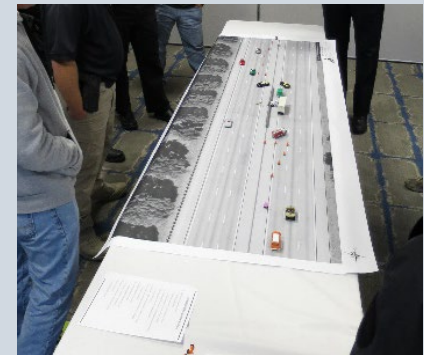


Photo: Enforcement Engineering, Inc.



# Traffic Incident Management

*Saves Lives , **Saves Time** , and Saves Money*



TIM training in Virginia reduced average RCT to 56 minutes, a **41-minute reduction** from 2017 to 2018. Average incident clearance time (ICT) was reduced by **31%**.



*Photo: Enforcement Engineering, Inc.*

When the Maryland's Coordinated Highways Action Response Team (CHART) is involved in incident response, average incident clearance time (ICT) are **31% shorter**.



# Traffic Incident Management

*Saves Lives , **Saves Time** , and Saves Money*



The Oro Valley, Arizona Police Department found that when officers became focused on TIM practices and time was tracked in Computer Aided Dispatch (CAD), RCT and ICT were **reduced by 32%** during the first 6 months of 2018.

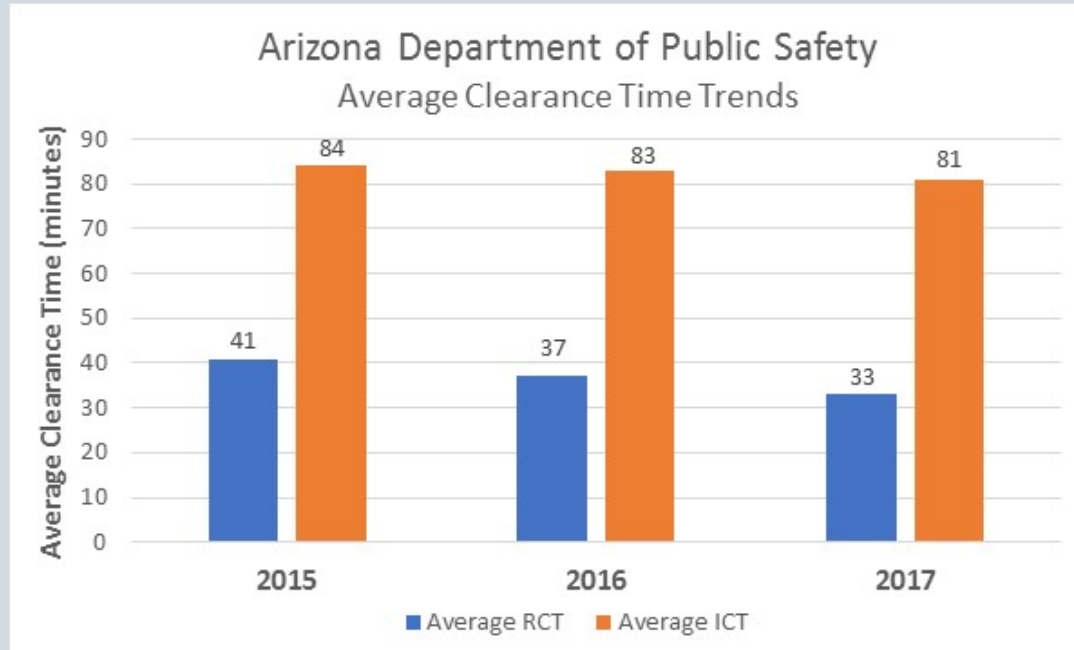
	Before	After	Change
RCT	28	19	-32%
ICT	38	26	-32%



Photo: Enforcement Engineering, Inc.

# Traffic Incident Management

*Saves Lives , **Saves Time** , and Saves Money*



The Arizona Department of Public Safety (DPS) has reduced statewide average RCT by **20%** and statewide average ICT by **4%**.



# Traffic Incident Management

*Saves Lives , Saves Time, and **Saves Money***



With millions of traffic incidents annually in the U.S., saving just minutes on the scene aggregates to thousands of hours available for other types of work for police, fire, EMS (emergency medical services), transportation, and towing agencies.

From 2010 to 2011, the Arizona DPS effort to clear incidents using TIM has resulted in a **3% increase** in unobligated patrol time for **44,565 hours or about 25 FTEs (full time equivalents)!**





# Traffic Incident Management

*Saves Lives , Saves Time, and **Saves Money***

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- As a result of reducing average clearance times by **5%** across 17,500 incidents, Utah made the business case to double their incident management team (from 12 to 24 employees).
- Houston Fire Department case study on a crash involving HAZMAT recovery shows the value of quick clearance – the cargo was worth \$150,00 but the estimated impacts were over \$2 million because the recovery spanned the entire day and two rush hour periods with attempts to recover the product.



# Traffic Incident Management

*Saves Lives , Saves Time, and **Saves Money***



- Overall, the delay reduction due to CHART's services in 2017 was estimated at 38.62 million vehicle-hours, which equates to more than **\$1.4 million** in benefits (delay times, fuel consumptions, and emissions).
- Oregon's incident response program has reduced scene time in Portland by 30 seconds per incident, translating into delay savings that equate to the program cost.





# Traffic Incident Management

*Saves Lives , Saves Time, and **Saves Money***



Program	Benefits-Cost Ratio
Michigan TIM-oriented Intelligent Transportation System program	3.16:1
Georgia's HERO and NaviGator TIM activities	4.4:1
Hampton Roads, Virginia Service Patrols	4.71:1
Phoenix emergency response crews	6.4:1
Expansion of St. Louis Motorist Assist program	38.25:1
Knoxville, Tennessee TIM Activities	8.5:1



# Traffic Incident Management

## *Typical benefits from TIM strategies*

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- Improved safety for responders and the traveling public.
- Reduced secondary crashes.
- Improved efficiency and mobility of the roadway system.
- Reduced economic impact due to the delay of commercial goods.
- Reduced environmental impacts and energy use (less air pollution and wasted fuel).
- Minimized delay of commercial goods.



# FHWA

## Office of Operations

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Paul Jodoin  
TIM Program Manager  
[Paul.Jodoin@dot.gov](mailto:Paul.Jodoin@dot.gov)  
(202) 366-5465

James G. Austrich  
SHRP 2 TIM Responder Training Program Manager  
[James.austrich@dot.gov](mailto:James.austrich@dot.gov)  
202-366-0731

