

# FHWA EDC-6 NextGen Traffic Incident Management

Talking TIM Webinar September, 23, 2020

Hosted by Paul Jodoin and Jim Austrich, FHWA



U.S. Department of Transportation  
**Federal Highway Administration**



# What is Every Day Counts?

State- and local-based model that identifies and rapidly deploys proven, yet underutilized innovations to:



**Shorten Project Delivery**



**Enhance Roadway Safety**



**Reduce Traffic Congestion**



**Integrate Automation**

**AID Demo**  
Accelerated Innovation Deployment



HIT THE  
GROUND  
RUNNING



# How do Agencies Fund Change?

- The State's STIC Committee has funding to use across the varied innovations (\$100K/year).
- States can apply for an AID Grant application (up to \$1M funding).
- The Innovation Program supports outreach, education, and technical guidance.
- State investment or other creative mechanisms.



# NextGen TIM: The Menu

-  **Item 1: Collaboration** – The Local, Regional, and State TIM Committee
-  **Item 2: Technology** – Integrated CAD, Unmanned Aircraft Systems (UAS), and more
-  **Item 3: Using Data** – crowdsourced and other data for better decisions
-  **Item 4: Responder and broader TIM training** – safety, the first-priority
-  **Item 5: Arterial and Local TIM Program expansion**

# Other Technology Considerations

- Queue Detection and Back of Queue Alerts
- Emergency Vehicle Lighting Systems
- Safety Service Patrol Technology and Equipment
- Video Capture and Sharing
- Responder Vehicle AVL

# Benefits of CAD-TMC Integration

## TRANSPORTATION BENEFITS

- Quicker incident response and traveler information.
- Better data for improving operations.

## LAW ENFORCEMENT BENEFITS

- Reduced workload
- Improved incident scene safety

## PUBLIC BENEFITS

- Improve road user safety
- Improved travel reliability

# Business Case for CAD-TMC Integration

*Fire CAD informs TMC of 90% or more of arterial incidents.*

– Maricopa County, AZ

*30% reduction in incident response time.*

– Oregon DOT

*34% reduction in incident clearance time.*

– Maryland DOT

*Benefit-cost analysis using CAD justified freeway service patrol funding.*

–Minnesota DOT



# UAS Benefits: Crash Reconstruction and Situational Awareness



**Detour Route Monitoring – Queue Detection and Monitoring – Disaster Response  
Incident Verification – Secondary Crash Detection – Response Vehicle Routing**



# Business Case for UAS

*80% reduction in road closure time for an economic savings of over \$4 million.*

*—Washington State Patrol Pilot Test*

*60% reduction in scene investigation time using UAS.*

*— Tippecanoe Sheriff's Office, IN*

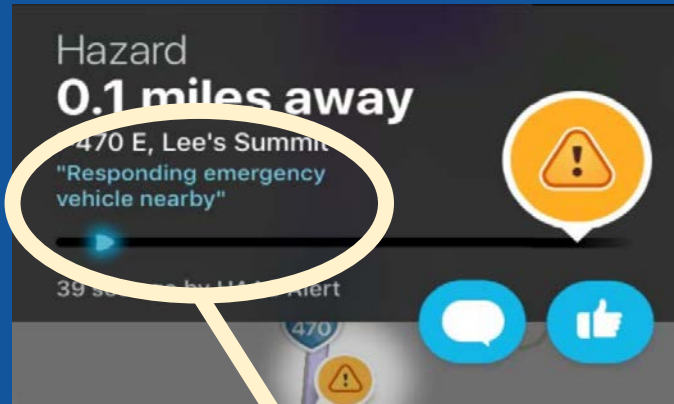
*Data gathering time across 20 crashes averaged 24 minutes for UAS, 92 minutes for robotic station, and 170 minutes for manual total station.*

*—Illinois State Police*



Source: Puerto Rico Police Academy

# Crowdsourcing Benefits



Source: Missouri DOT

***“Responding emergency vehicle nearby”***

## Crowdsourcing offers tremendous value:

- Eliminates geographic gaps in incident detection
- Improves incident detection timeliness
- Reducing operator workload through event notifications.
- Improves Intelligent Transportation Systems (ITS) cost-effectiveness.
- Improves TIM program management by analyzing archived crowdsourced data.
- *Improves responder and traveler safety by making both parties aware of activity in their vicinity through navigation applications.*

# Business Case for Crowdsourcing

- Tennessee DOT can identify back of queues 1.1 minutes faster on average and detect queues on more roads through free Waze<sup>®</sup> data.



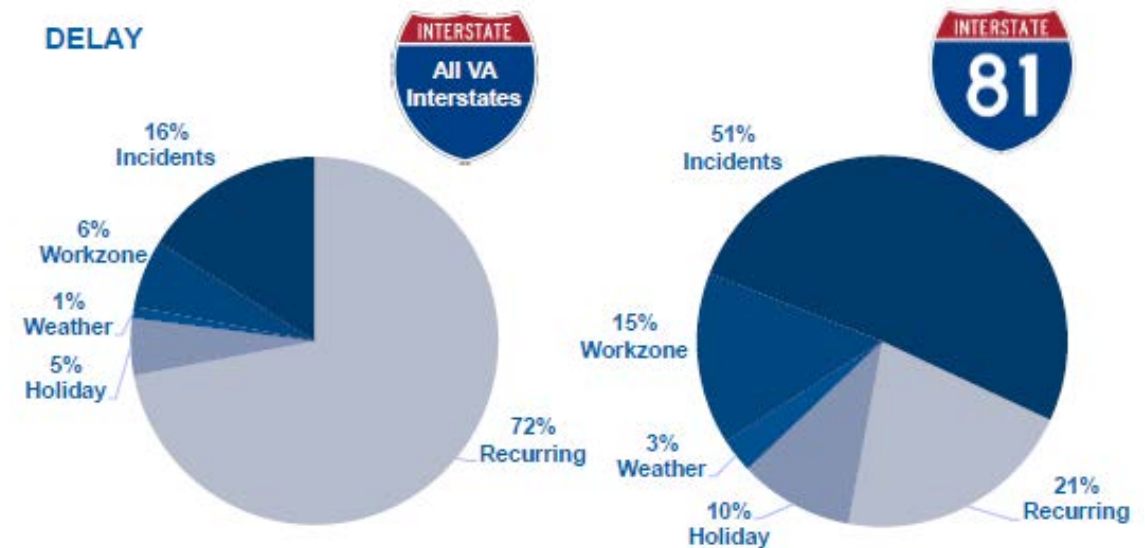
Source: Tennessee Department of Transportation

- Iowa DOT is first aware of incidents 24% of the time through Waze.<sup>®</sup>
- Virginia DOT found Waze<sup>®</sup> first detected crashes 38% of the time.

# Benefits from Using Data to Improve TIM

- Understand current operator and response performance.
- Identify opportunities for improvement.
- Estimate program or improvement benefits.
- Demonstrate program effectiveness.
- Justify future funding and planning.
- Support reporting requirements.

## Virginia DOT used data to justify TIM investment along I-81.



Source: Virginia DOT



# Data Collection & Analysis Makes the Business Case for TIM

- *Utah doubled their incident management team* (from 12 to 24 employees).
- Georgia *reduced clearance times by 82% for commercial vehicle crashes.*
- The Arizona Department of Public Safety increase unobligated patrol time by 3% through TIM, *saving 25 full time equivalent staff.*



Source: Pixabay

# Benefits of National TIM Responder Training

- The safety of incident responders
- The safety of all road users
- Congestion mitigation and commerce

## New and Improved E-learning Options:

- FHWA National Highway Institute options offers CEUs  
[bit.ly/TIMWebTraining](https://bit.ly/TIMWebTraining)
- Emergency Responder Safety Institute equivalent 10-module training: <https://learning.respondersafety.com/>



National Traffic Incident Management Responder Training Program

### Train-the-Trainer Guide

VERSION 3.1 | August 2019



U.S. Department of Transportation  
Federal Highway Administration

SHRP2 SOLUTIONS  
STRATEGIC HIGHWAY RESEARCH PROGRAM



Source: SHRP2 Responder Training Program

# Institutionalizing National TIM Responder Training



Source: Florida Department of Transportation

- Institutionalized means there are laws, administrative rules, or policies that require National TIM Responder Training.
- Institutionalization addresses the need for continued focus, retraining, and potential refresher of the TIM training product.
- 150+ law enforcement, fire, and EMS training academies also include TIM training in their curriculum.



# Business Case for NextGen TIM

- Doing more with less.
- Keeping critical responders and the traveling public safe.
- Growing regional and national economies through more reliable travel.



Photo Source: Pixabay

# What Support Can Agencies Expect?

**By choosing this innovation, a State, regional, or local agency:**

- Will receive training materials and case studies.
- Will receive invitation to attend topical webinars.
- May participate in peer exchanges.
- May request virtual or on-site technical assistance.
- May request a tailored workshop to identify the right technology, data, or training and collaborate to develop an implementation plan.

# How Can You Participate? How Can You Help?

- Each State Transportation Innovation Council (STIC) will choose the EDC-6 innovations the State will “adopt.”
- Express to your State’s STIC that NextGen TIM is an innovation worth “adopting.”
- Additionally:
  - Tell us if you want to take part in NextGen TIM.
  - Tell local peers about NextGen TIM.
  - Tell us whom to invite for the upcoming EDC-6 NextGen TIM virtual summits.



Source: Unsplash

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# Be sure to attend the NextGen TIM Summit

## Thank you!

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