

# Advanced Collision Prevention

DIGITAL ALERTING, REAL-TIME CONNECTED SAFETY  
FOR CREWS & FLEETS



**⚠ CAUTION**

**Emergency Vehicle  
On Scene**

Please slow down and move over

Car stopped  
**0.2 mi. away**  
Broad St, Philadelphia  
Construction vehicle on scene

1 min ago by HAAS Alert

**SAFETY  
CLOUD®**

The central graphic features a large orange circle with a white cloud icon containing a double-headed arrow. Below the cloud, the text 'SAFETY CLOUD' is written in a bold, white, sans-serif font. Surrounding this central circle is a ring of various white icons representing different types of vehicles and infrastructure, including a fire truck, ambulance, tow truck, construction truck, bus, train, car, truck, and traffic lights. The background of the central graphic is a light gray grid pattern.

Car stopped  
**0.5 mi. away**  
Jackson Road, Ann Arbor  
Maintenance vehicle on scene

1 min ago by HAAS Alert

**⚠ CAUTION**

**Tow Truck On Scene**

Please slow down and move over

**Solution: Safety Cloud® Digital Alerting**



**⚠ CAUTION**

**Emergency Vehicle Approaching**

Please slow down and move over

OK CANCEL



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## Problem: Current State

### Total Incident and Work Zone Fatalities



### Annual Estimated Collisions

<b>Fire</b>	<b>16,000</b>
<b>EMS</b>	<b>4,500</b>
Law Enforcement	30,000
Towing	110,000
Buses	24,000
Work Zones	115,000
<b>TOTAL</b>	<b>299,500</b>

## Problem: Emergency Roadside Response is More Dangerous Than Ever



 **Safer Cars, Deadlier Roads...**



 **Brighter and Flashier Is Not Helping...**



### **Distracted Driving**

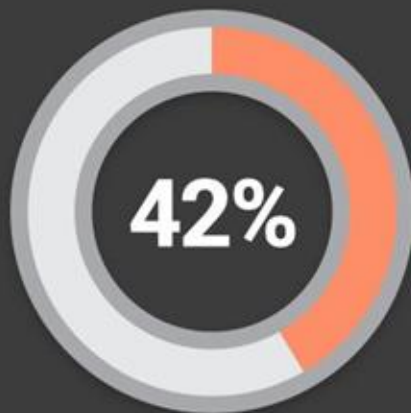
The leading cause of collisions with responders, roadway personnel, and fleet vehicles

## Problem: Current State



**90% of drivers** are confident they know the details of Move Over laws.

Source: National Safety Council



**42% of drivers** thought that **NOT** complying with Move Over laws at all times was somewhat or not dangerous at all to roadside emergency workers.

Source: National Safety Council



Every 60 seconds, **27 responders are at risk.** 38,800 per day.

Source: NHTSA



Every 7 minutes, on US roads, **a disabled motorist is struck** by an oncoming driver.

Source: ESS-Help

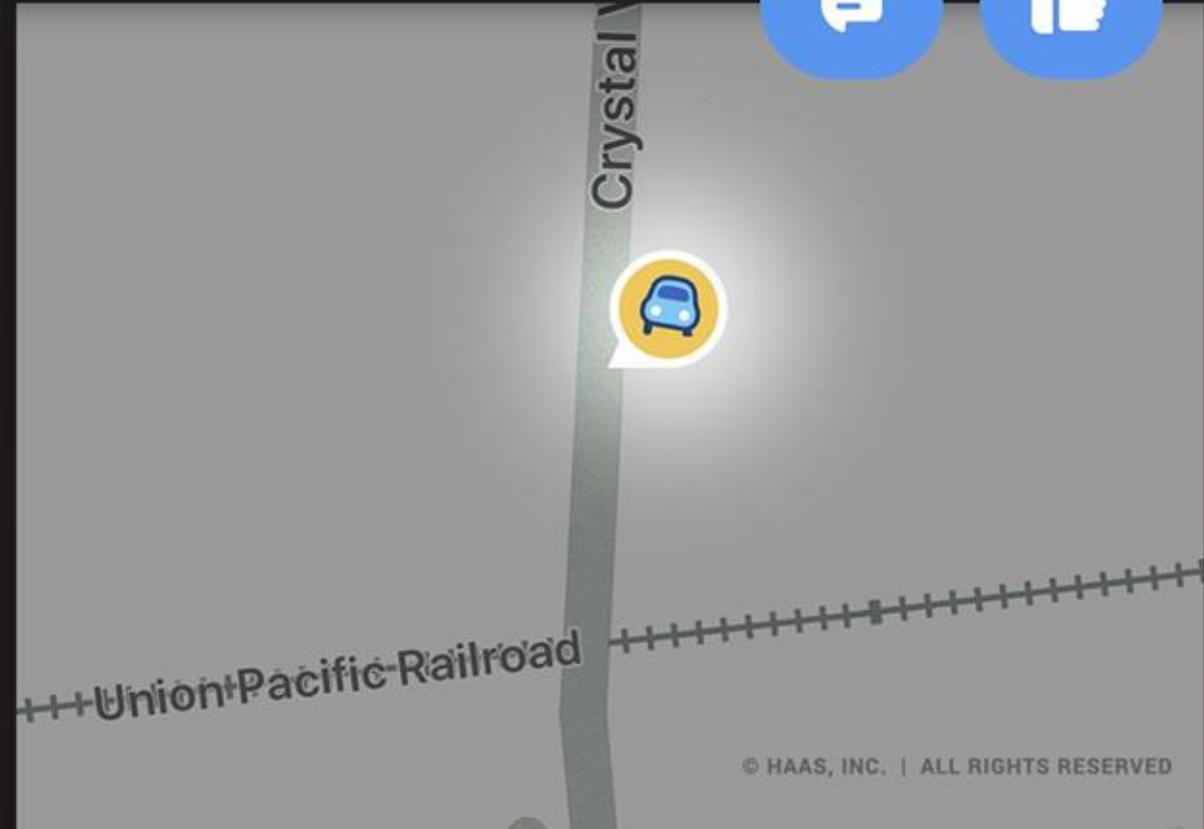


# Car stopped 0.4 miles away

Crystal Valley Rd, Crystal Valley  
"Emergency vehicle on scene"



1 min ago by HAAS Alert



**Solution:** Safety Cloud® Digital Alerting





**Solution: Safety Cloud® Digital Alerting**



**⚠ CAUTION**

**Emergency Vehicle Approaching**

Please slow down and move over

OK CANCEL



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**Solution: Safety Cloud® Digital Alerting**





**Without Safety Cloud<sup>®</sup>**

Drivers rely on lights and sirens to know when to move over, putting responders at risk of injury and death.



**With Safety Cloud<sup>®</sup>**

Drivers receive digital alerts inside their vehicles and have more time to slow down and comply with move over laws.



The odds of a crash were **up to 90% lower** when drivers received an advance alert.

Source: Drucker CJ, "An epidemiological approach to emergency vehicle advanced warning system development: A two-phase study", University of Minnesota, Dec 2013.



Digital alerting helped to reduce hard-braking events on the interstate **by 80%.**

Source: Purdue University, Evaluation of the Impact of Queue Trucks with Navigation Alerts, 2021.



Analysis showed a **25% reduction in speed seconds** after an alert.

Source: NHTSA HAAS Alert Study, 2021.



## Solution: Equipping Your Fleet



### **R2V™ (Responder-to-Vehicle)**

Delivers real-time digital alerts to motorists and connected cars when responders are en-route and on-scene.



### **R2R™ (Responder-to-Responder)**

Delivers real-time digital alerts to responders when other emergency vehicles are responding nearby.

## HA-7

TRANSPONDER



### Connects Any Fleet Vehicle

External antenna option also available  
(Cellular/GPS)

Dimensions: 4.3" x 5.3" x 1.4"

## HA-D

DIRECT

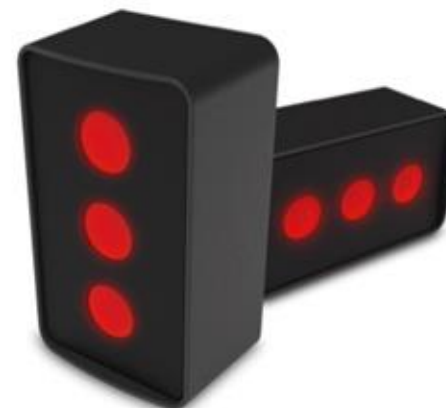


### Backend System Integration

For larger fleets with compatible  
cloud-to-cloud systems

## R2R

INDICATOR KIT



### Responder-to-Responder

Dash LED(s) flashes when other Safety  
Cloud equipped vehicles are responding

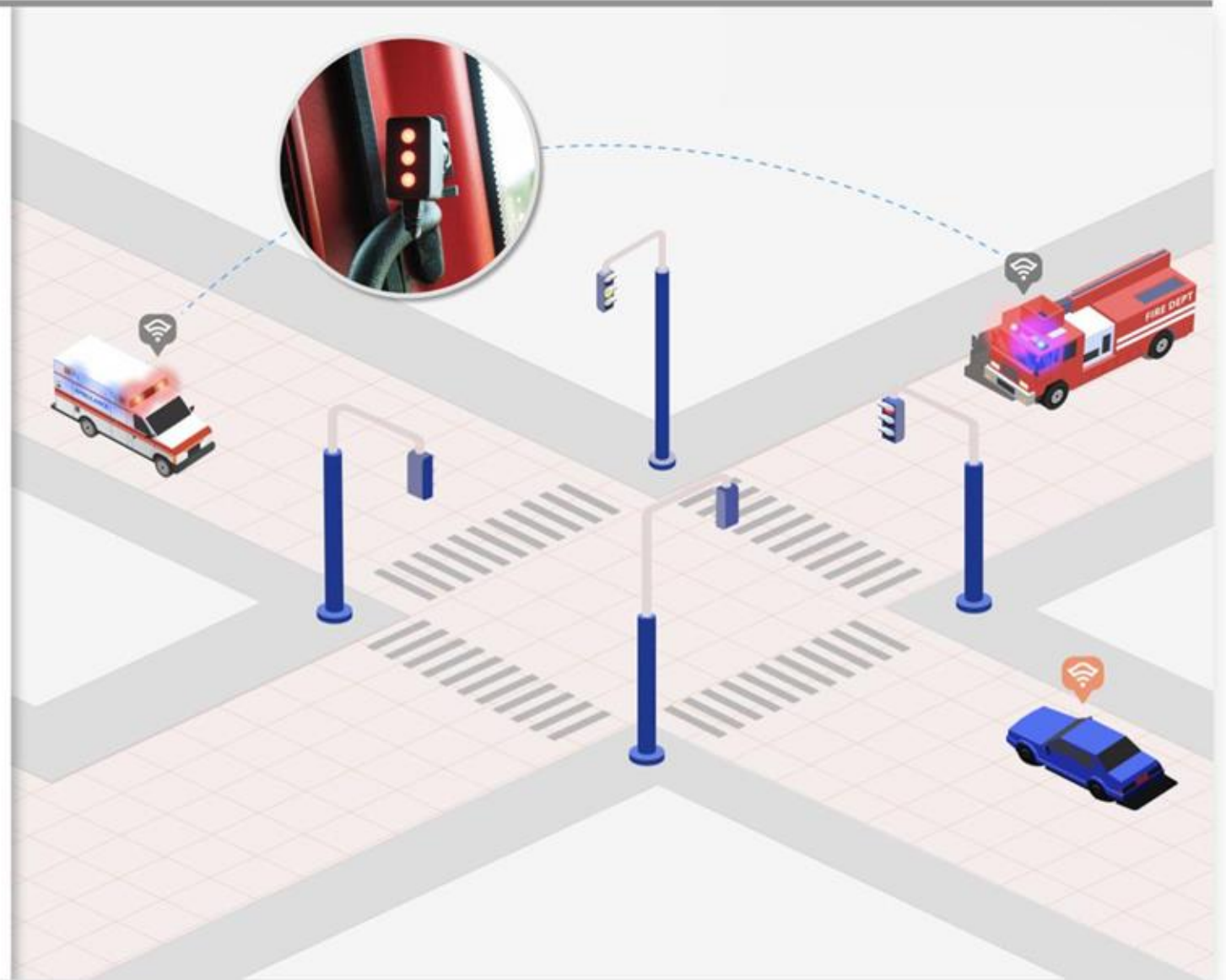
Dimensions: 2.28" x 1.33" x .95"



### R2R (Responder-to-Responder)

Delivers real-time digital alerts to responders when other emergency vehicles are responding nearby.

When the R2R LEDs flash, it means that another emergency vehicle connected to Safety Cloud is approaching your vehicle from the left, right, or ahead.



XXXXXXXXX Department  
Safety Cloud® Report

**Driver Totals**  
Drivers Alerted  
**30,127**

YTD 107,213  
TOTAL 248,480



**Incident Totals**  
Total Incidents  
**387**

YTD 4,802  
TOTAL 7,474

**Avg Time On-Scene**  
**12.5 min**

YTD 4,802 min  
TOTAL 13.6 min

**Run Totals**  
Total Runs  
**412**

YTD 5,189  
TOTAL 11,102

**Total Responding Time**  
**1,524 min**

YTD 14,419 min  
TOTAL 20,939 min

**Avg Time-to-Scene**  
**3.7 min**

YTD 3.8 min  
TOTAL 4.2 min

**Safety Cloud Dashboard**

- Real-time fleet location, status
- Incident/Event statistics, history
- Customize vehicles, groups, and users
- Create and manage lane closures
- Sharing, interoperability with other agencies
- Available on any device

← **Monthly Safety Cloud Reports**



Fleet Manufacturers (OEM)



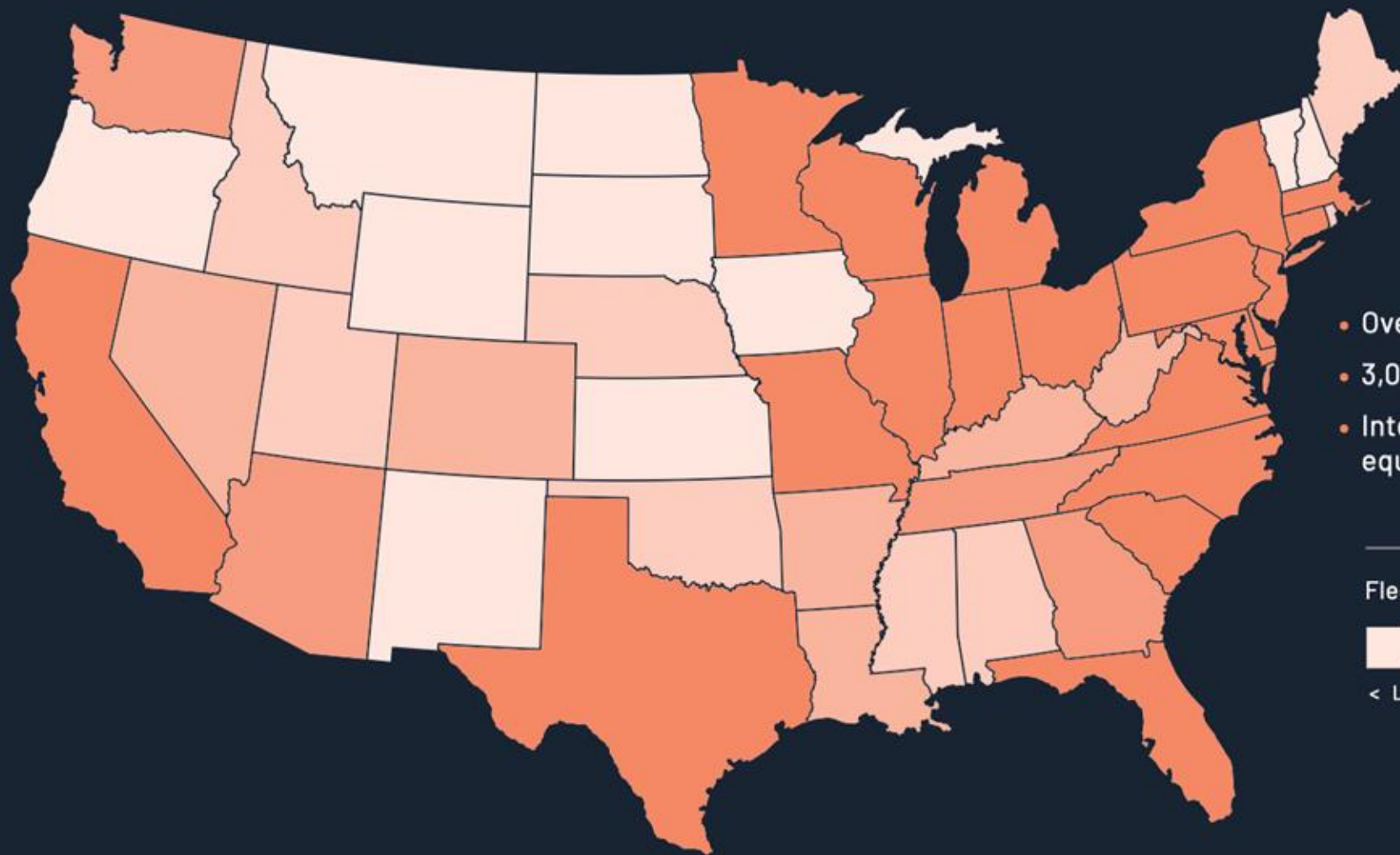
Direct Telematics Solutions



Gov



2020 Vehicle-to-Vehicle Company of the Year - Autotech Breakthrough Awards



- Over 4 Billion Alerts Processed
- 3,000+ Fleets / Agencies (U.S. & Canada)
- Interoperable with all Safety Cloud equipped fleets

Fleet Coverage By State



< LESS ----- MORE >

# Communities love to talk about Digital Alerting

## Tulsa Fire Department to rollout software to increase first responder safety on roadways

By Savannah Jordan, KTUL Staff | Tuesday, February 21st 2023



PHOTO: Tulsa Fire Department truck via KTUL

## Rock Springs Fire Department to Use Saf Cloud® Alert System



## NEWS New technology helps Lincoln Fire Protection District respond to calls safely

By Amanda Ryan  
Posted: Jan 26, 2022  
Updated: Jan 16, 2024



LOCAL NEWS

## Champaign Fire adding new trucks to its fleet

## Largo Fire Rescue launches new safety alert system for drivers

By NewsCenter 1 | Published: Nov 13, 2022 | Updated: Nov 13, 2022



Markets Edge

DI The Daily Item

## Milton fire truck ushered in by firefighters

The new truck has a lot of safety factors, including rollover protection and HAAS Alert's Safety Cloud service that detects other responding...

Nov 13, 2022

## Milton fire truck comes with an alert system



## Kansas and Missouri DOTs Adopt HAAS Alert to Increase Driver Awareness of Emergency Response Vehicles



## New Portage fire trucks alert when an emergency vehicle is nearby

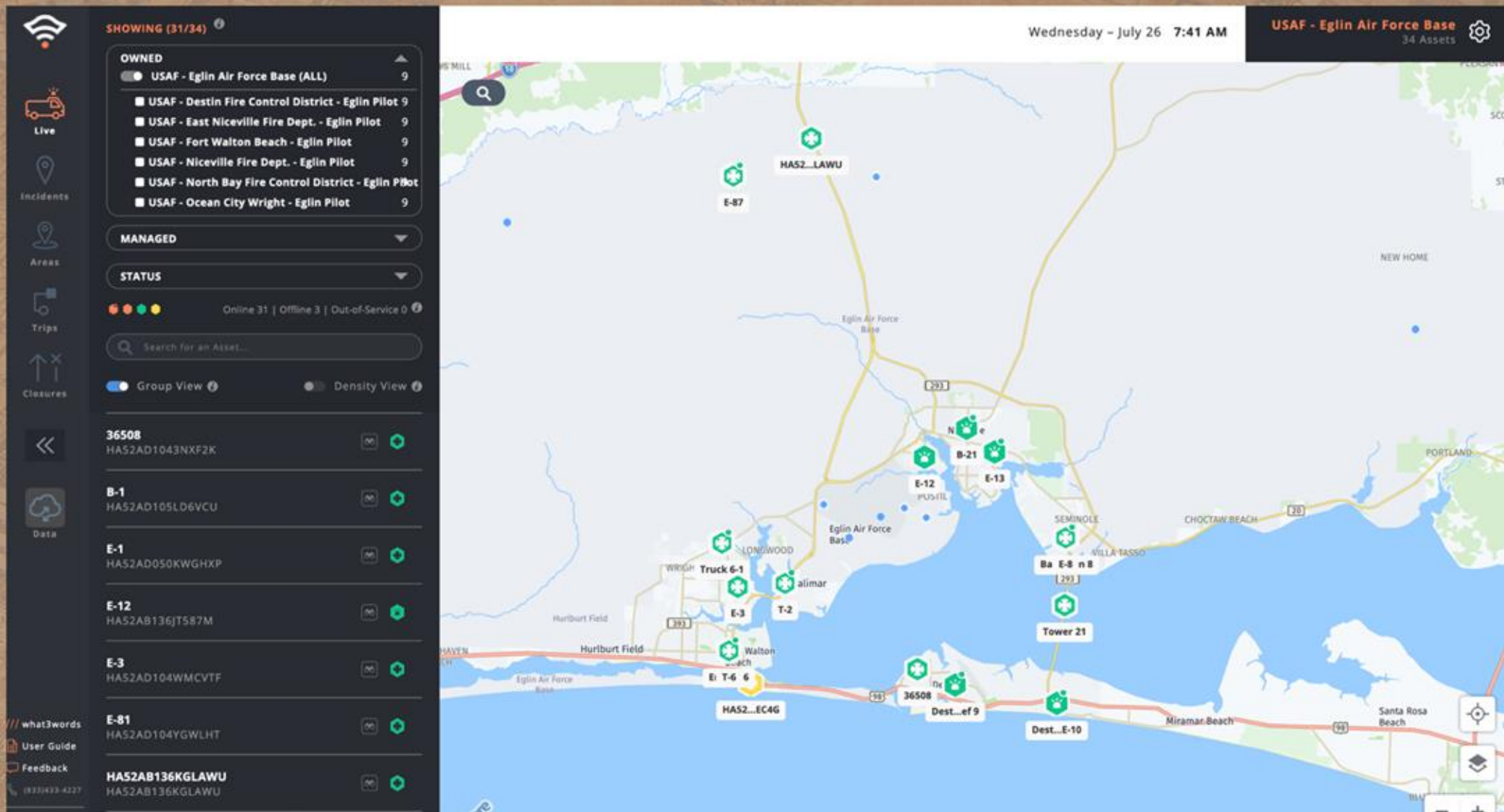


LACKAWANNA COUNTY

## New technology to increase safety for first responders

Fire crews in Scranton have some new technology on board to let drivers know they're on the scene of an emergency.

# Interoperable Cross Jurisdictional Situational Awareness for Mutual Aid



# Digital Alerting Regulatory and Federal



## Once in a lifetime infrastructure law

- Digital Alerting defined in law with grant funding - 405h
- Digital Alerting as fundable safety for roadway
- 2023 - NHTSA changed definition of Digital Alerting to *all* roadway vehicles

## Omnibus bill

- Mandate from congress to NHTSA to pursue Digital Alerting in Omnibus Bill

## Digital Alerting Contracts

- 5 Digital Alert Contracts - US DOT, DOD, NOAA, & DHS
- NHTSA: "Digital Alert" funding
- DHS recently requested specific emergency alerts in-vehicle
- Wildfire/Flood DHS/IPAWS Project Phase III

- Now in NFPA1900

# A New Phase of Wildland Urban Interface (WUI) Emergency Alerting: What is the WUI Phase 2 Demonstration?



Science and  
Technology

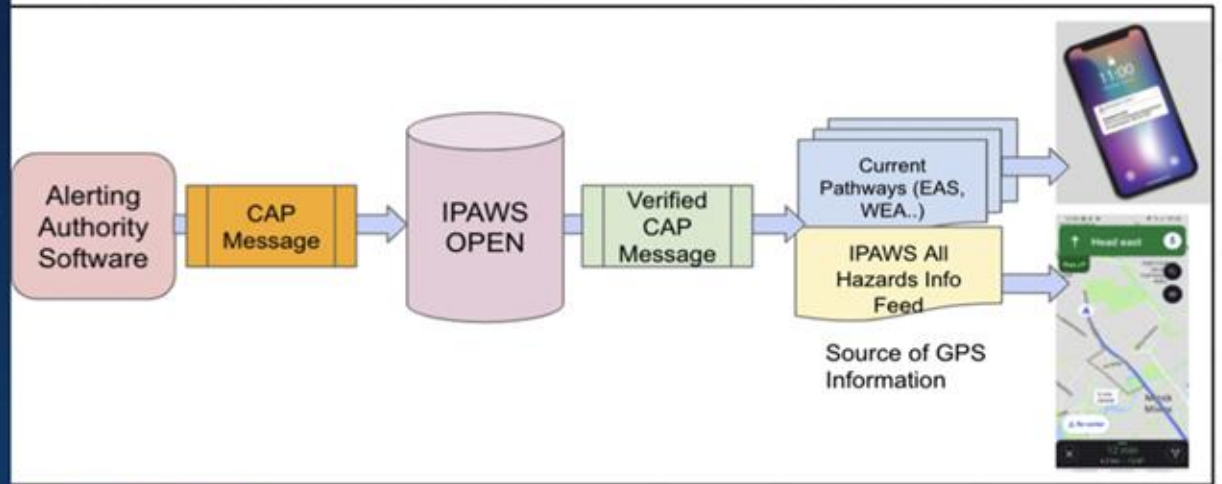


**FEMA**

**Norman Speicher**  
DHS & S&T Program Manager  
March 28, 2023



Courtesy: Associated Press | Images of the Dixie fire raging in Northern California.



## Science and Technology







**OUR MISSION**

*Building lifesaving mobility solutions  
to make roads safer and smarter*

**OUR VISION**

*A connected, collision-free world  
where everyone gets home safely*



**SAFETY  
CLOUD<sup>®</sup>**  
POWERED BY HAAS ALERT