

# Advanced Collision Prevention

DIGITAL ALERTING, REAL-TIME CONNECTED SAFETY  
FOR INFRASTRUCTURE MAINTENANCE CREWS



**SAFETY  
CLOUD<sup>®</sup>**

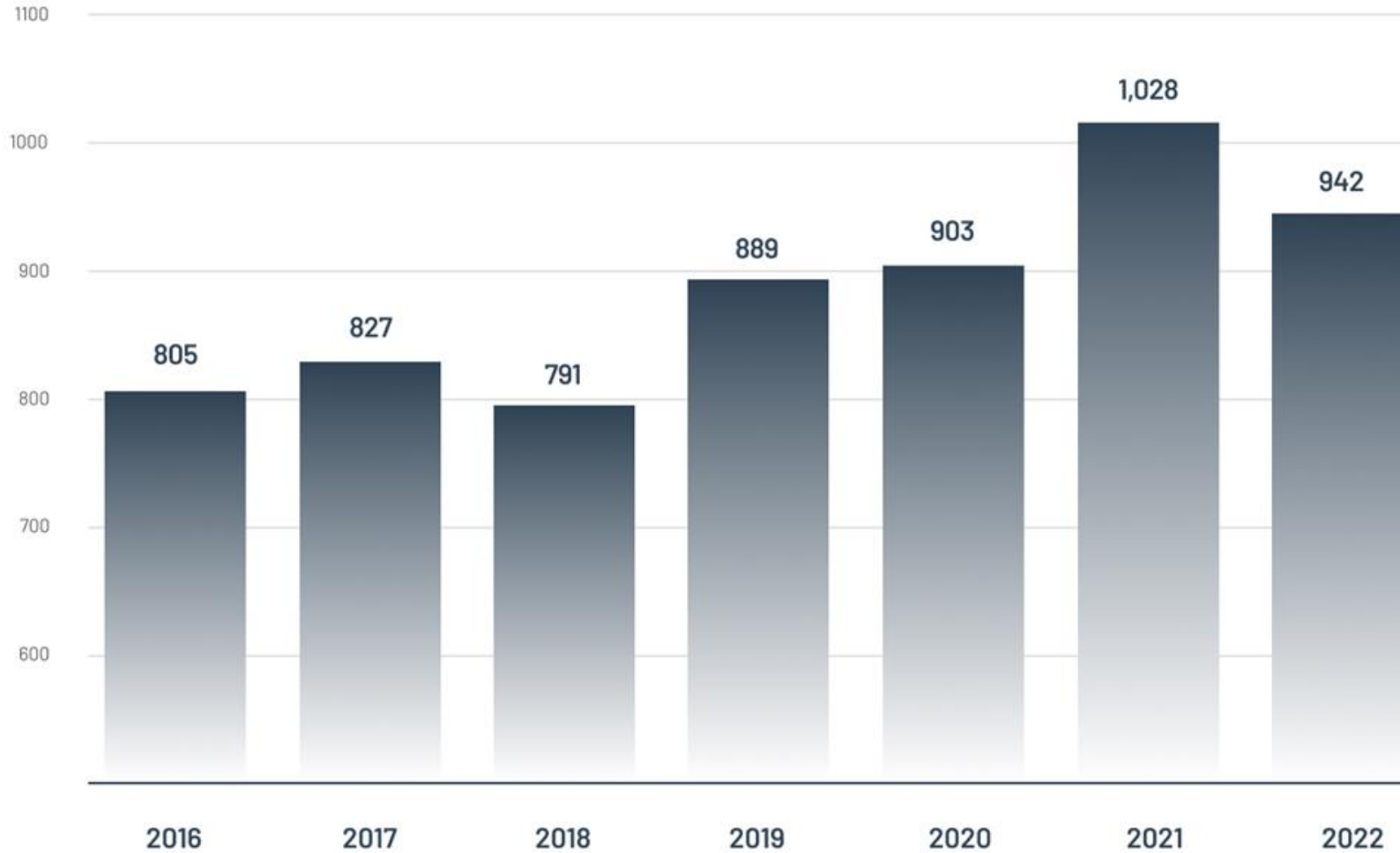
POWERED BY HAAS ALERT

## AGENDA

- Introduction
- Understanding the Problem
- Why Safety Cloud
- Q&A
- Next Steps

## Responder and Work Zone Fatalities

Source: National Safety Council, NHTSA



Traffic fatalities

UP  
25%

from a decade earlier.

Fatal and serious  
crashes cost nearly

\$1.9  
TRILLION

## Annual Estimated Collisions

Towing 110,000

Fire 16,000


EMS 4,500

Law Enforcement 30,000

Buses 24,000

**Work Zones 115,000**





## Current State

**90%**

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

Source: National Safety Council

**315**

Every day there are 315 collisions in our roadway work zones.

Source: National Safety Council, NHTSA

**110**

Every day there are 110 injuries to crew members working in roadway work zones.

Source: AASHTO

**3**

Every day 3 crew members are killed working on the roadway in a work zone.

Source: AASHTO

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



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











## **Collisions:** The Biggest Risk We Face When Working and Maintaining Highway Infrastructure

- Leading causes of preventable collisions are Inattentive/Distracted Driving and Speeding
- It is our responsibility to ensure the safety and well-being of employees, and protect the future of our organization.

### **A Single Collision:**

- Can injure or even take the life of our employee(s)
- Negatively impacts our reputation
- Can cost the company millions of dollars (even for only 1 incident)
- Can put expensive equipment out of service for months, or need replacement
- We will be litigated regardless of fault (even if motorist-on-motorist)

**⚠ 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

The central graphic is a large white circle containing an orange circle with the 'SAFETY CLOUD' logo. The logo consists of a white cloud shape with an upward-pointing arrow. Surrounding the central circle are various icons representing different types of vehicles and traffic scenarios, including fire trucks, ambulances, construction vehicles, tow trucks, and cars with wireless signals.

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



# Safety Cloud Digital Alerting

When on scene with your flashing lights activated, Safety Cloud alerts approaching drivers to warn them of your work zone ahead.



 WORK ZONE AHEAD



Drivers receive digital alerts **up to 30 seconds in advance** before intersecting with your work zone.



Construction

**0.4 mi. away**

I-70 E Castle Rock Valley

Maintenance vehicle ahead,  
**SLOW DOWN and MOVE OVER**



21 sec ago by HAAS Alert



Crystal Valley



waze 

**Solution:** Safety Cloud® Digital Alerting





**Solution: Safety Cloud® Digital Alerting**



**CAUTION**

**Road Maintenance Ahead**

OK CANCEL

A digital alert notification box is displayed over the infotainment screen. The box has a red header with a white warning triangle icon and the word "CAUTION" in white. The main body of the box is white with the text "Road Maintenance Ahead" in black. At the bottom, there are two grey buttons labeled "OK" and "CANCEL".

**Solution: Safety Cloud® Digital Alerting**

4:45

53°out.

FM 104.3 HD

**SAFETY CLOUD®**  
POWERED BY HAAS ALERT

CAUTION  
Work Zone Ahead

Dismiss

Not There

66°

66°

**Jeep®**

**DODGE**

**RAM**

**CHRYSLER**

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5:34



A/C OFF



76

SYNC

CAUTION



Accident Ahead

Okay



App-Connect



Sound



Help



Settings



5:34




A/C OFF



76 SYNC

CAUTION

 Emergency Vehicle Ahead

Okay



App-Connect



Sound



Help

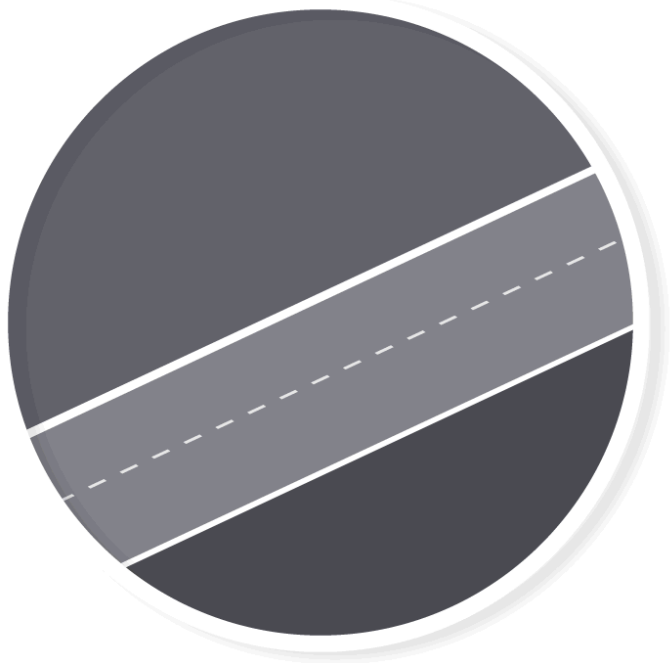


Settings



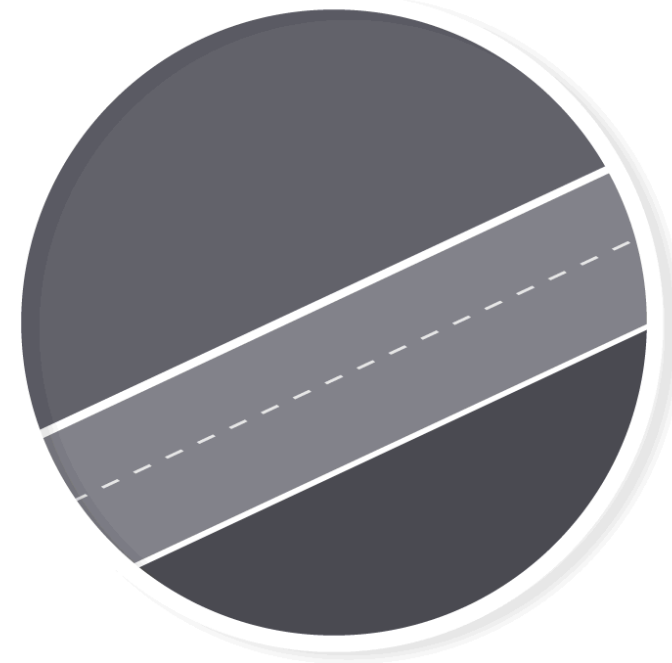
**Solution: Safety Cloud® Digital Alerting**





**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.

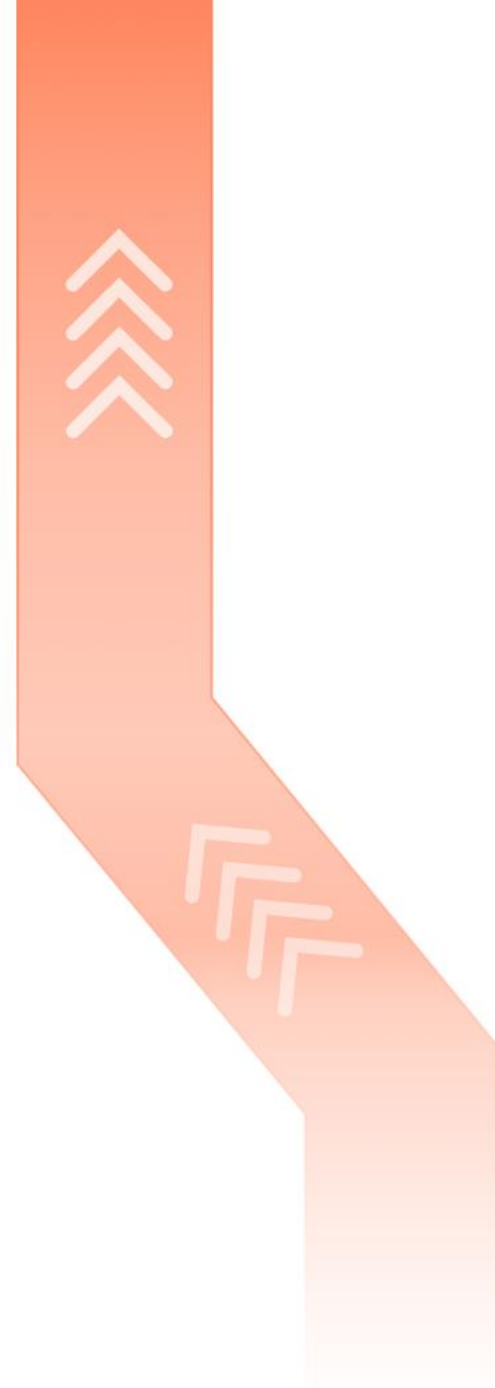
Source: NHTSA HAAS Alert Study, 2021.



# 97%

of drivers who received  
a digital alert **slowed  
down and moved over**

Source: DIG Insights study of 1,516 licensed Ontario drivers





## 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



GEOTAB



azūga™



“

We need to continue to find ways to keep people from dying. Technology like HAAS Alert is how we will do that.

**Haley Norman**

Co-Owner, Direct Traffic Control



“

People working in work zones and drivers on the highway need to know what's coming. Connectivity is a way that we can do that – we now can warn people what's coming.

**Frank Zucco**

Director of ITS, Wanco



**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**