Connected Safety Birds of a Feather Working Group

Working Session
March 7, 2024

COVESA

Accelerating the future of connected vehicles

Hosted by:

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Chief Product Officer

Emergency Safety Solutions

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LiDAR Saving Lives Public Safety Coalition

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Today's Agenda

- Welcome and Introductions (Tim & Scott)
- BoF and Journey Map Recap (Tim)
- Roadside Crashes (Andrew)
- Upcoming Meetings (Tim)
- Next Steps and Close

Connected Safety BoF Recap

Connected Safety BoaF Goal & Strategies

Bring together public safety, automotive, commercial transportation, and government to make our roadways safer for everyone:

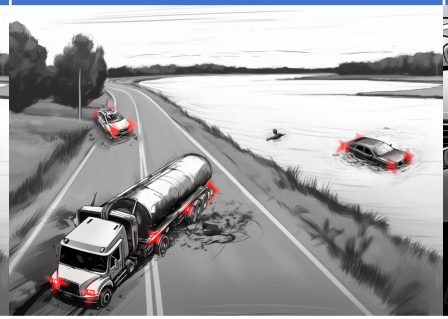
- Define comprehensive stakeholder-based safety-related scenarios and value propositions
- Collaborate with COVESA members and others safety-related organizations to develop safety expertise and community within COVESA
- Develop integrated safety system prototypes and references implementations
- Publish white papers on key findings, best practices, and implementation recommendations

Connected Safety BoaF Result

Accelerate delivery of connected technologies to benefit everyone that shares, protects, and maintains our roadways. Examples:

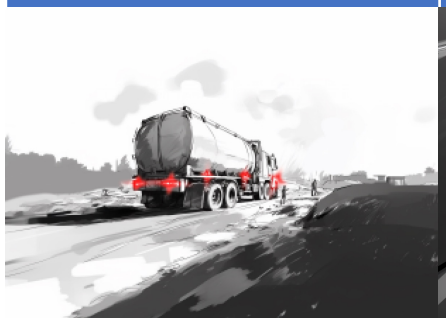
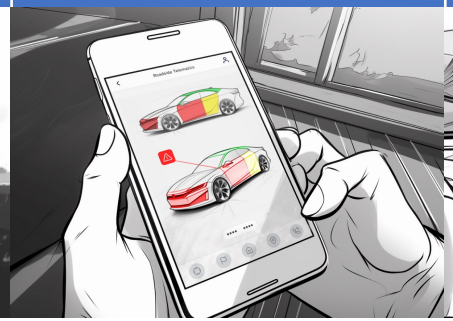
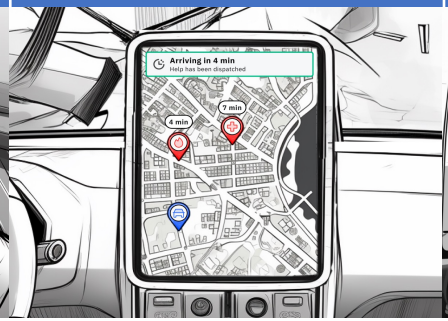
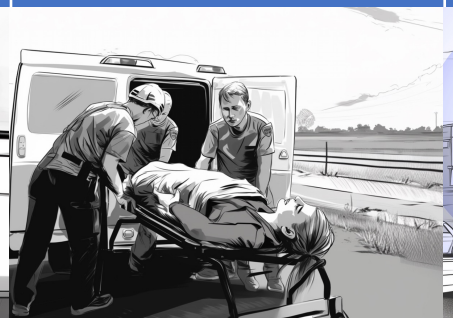
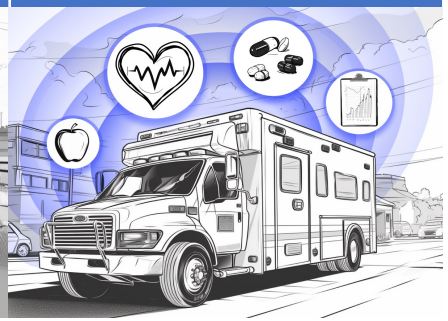
- Protect and give aid to vulnerable vehicles and occupants stranded along roadways
- Reduce response time and secondary collision risk for motorists involved in a crash
- Provide 911 Public Safety organizations with critical information so that they dispatch the right personnel and equipment to the scene
- Mitigate liability and lost productivity for commercial vehicles involved in roadway crashes

Journey Map Example (1 of 2)

	Set-up	Scene 1	Scene 2	Scene 3	Scene 4
Imagery Cartoons, animated presentations, or demonstrations that bring storyline to life					
Storyline Overall story that we're bring to life	Sophia is a 24-year-old professional that is commuting to work in her new EV.	A tanker truck abruptly changes lanes, collides into Sophia's car, and forces the driver of a rental car to swerve into a nearby lake. The embedded vehicular emergency sensor triggers the submersion escape system in the rental car and instantaneous IP notification for emergency services in all vehicles. [1]	Recognizing that a collision has occurred, all three vehicles automatically flash hazard and other vehicle lights at a faster rate so that other drivers have more time to react, and Emergency Responders can see them. .	In parallel, on-coming drivers receive an alert in their in-dash system so that they have even more time to react to the upcoming crash scene.	The nearby E911 center is notified and dispatches a police car, fire truck, and ambulance to the scene.
Value Proposition The value that each company and technology brings to this story		• Automated submersion system enables rental car occupants to escape quickly. • Instantaneous IP notification enables accurate and prompt implementation of rescue services and start of emergency response.	• Conspicuous lighting protects scene, gives other motorists time to slow down and move over, and helps locate vehicles that has left the roadway.	• Digital alerts work in tandem with lighting alerts to protect the scene and give motorists time to slow down and move over.	• Timely notification of vulnerable vehicle location reduces response time and further collision risk.

1. Separate Journey Maps can be used to capture the stories for the tanker truck and rental car occupants since they unlock different solutions and value propositions. The following scenes will focus on Sophia.

Journey Map Example (1 of 2)

	Scene 5	Scene 6	Scene 7	Scene 8	Scene 9
Imagery Cartoons, animated presentations, or demonstrations that bring storyline to life					
Storyline Overall story that we're bring to life	The E911 Dispatcher sees that the tanker truck has leaked potentially hazardous materials onto the road.	Fire responders are provided a VIN-specific extrication guide for Sophia's EV.	Sophia see a map indicating her location with icons for the responding vehicle location and their projected ETA. In parallel, family/emergency contacts are notified and provided the same map. .	Responders arrive on scene and safely remove Sophia from her vehicle.	Sophia seems OK but is taken to the hospital for further medical evaluation. Vital health parameters are transmitted to the hospital while in transit. Family/emergency contacts are updated.
Value Proposition The value that each company and technology brings to this story	•LiDAR/radar/camera 3D point cloud let's E911 Dispatcher assess scene and better inform emergency & incident responders what to expect •Point Cloud image protects privacy since no identifying information is visible.	•Emergency Responders can safely extract victims without compromising the vehicle's power wiring or battery system that may lead to fire or hazardous materials being spilled into environment.	•Piece of mind that someone is on their way and when they will arrive. •Awareness that a loved one is in danger, but help is on the way.	•Reduced response time decreases risk of secondary collision. •Proper on-scene care minimizes complications.	•Sophia is safe and can focus on recovery. •Sophia's family knows that she's OK and where to meet her.

Andrew Coetzee

Chief Safety Advocate,
Emergency Safety Solutions

EMERGENCY
SAFETY
SOLUTIONS

Disabled Vehicle Crashes

We Can’t Ignore them Any Longer

EMERGENCY
SAFETY
SOLUTIONS

How big is this problem?

NHTSA

IIHS HLDI

Insurance Institute for Highway Safety
Highway Loss Data Institute

DEPARTMENT OF TRANSPORTATION
UNITED STATES OF AMERICA

NO DATA

On Disabled Vehicle Collisions

19,000

Commuters at

PEOPLE

8%

Annually

PER YEAR

Killed or Injured


An appalling reality
hiding in plain sight

During our call today (60-minute meeting) at least **12 people will be involved in disabled vehicle collisions**

How can we better protect stranded motorists on our roadways?

Build Awareness

Education/Training

Regulatory Solutions

Leverage Technology

Today's vehicles are exponentially safer and more connected than ever

Drivers will do the right thing – if we let them know!

Hazard Lights:
NO INNOVATION

70+ Years!

Providing Advanced Notice

Lighting Alerts:

Accelerated Emergency Flash rate

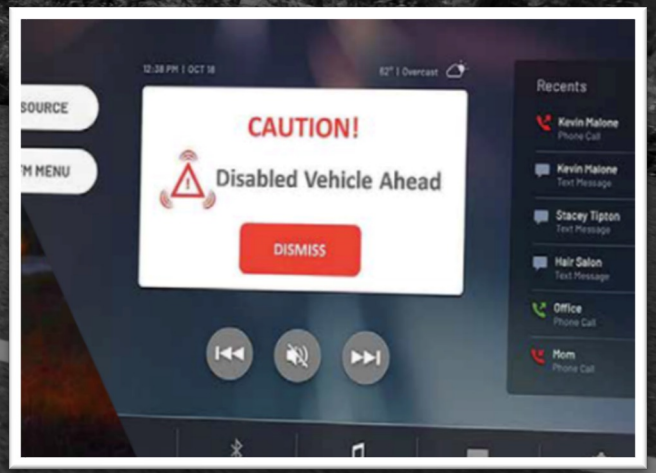
Software Controlled

Digital Alerts:

Advanced warning to motorists

Delivered via Navigation apps and in-cabin alerts

Connecting isolated OEM clouds



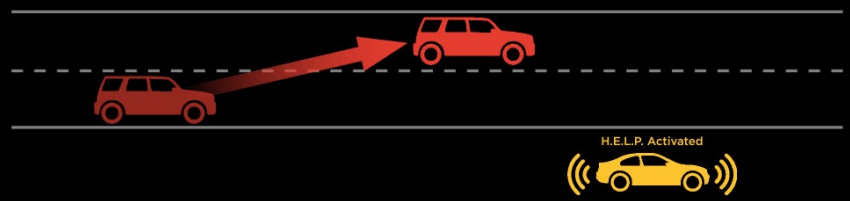

4:39
Car stopped
100 feet away
Marigold St, Houston
"Caution - disabled vehicle ahead"
4 min ago by HAAS Alert
Where to?
My Waze

Proven Effective

SLOW DOWN

Oncoming drivers slowed down an average of 7% in response to H.E.L.P.® Lighting Alerts

MOVE OVER



LEFT LANE OCCUPANCY: 30% without H.E.L.P.
87% with H.E.L.P.® Activated

EARLIER

Oncoming drivers observed slowing down and moving over 360 meters (at least 12 seconds) from vehicle equipped with H.E.L.P.® Lighting Alerts

REDUCE

H.E.L.P.® Digital Alerts reduce collision risk by 90% and hard braking events by 80%

Sources: *Virginia Tech Transportation Institute, May 2022; University of Minnesota, December 2013; Purdue University, 2021*

We cannot ignore disabled vehicle crashes any longer!

EMERGENCY SAFETY SOLUTIONS

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More Information

- COVESA Connected Safety BoaF wiki page

https://wiki.covesa.global/display/WIK4/Connected+Safety+Birds+of+a+Feather

- Register at following link to join mailing list:

https://docs.google.com/forms/d/12jd9LGtOkQXjeiabIy2pdAli9RD1DBqJQxvGiKDSDNo/edit