

Adventures in Crowdsourcing:

Business Case for Crowdsourced Data to Improve IM and MORE

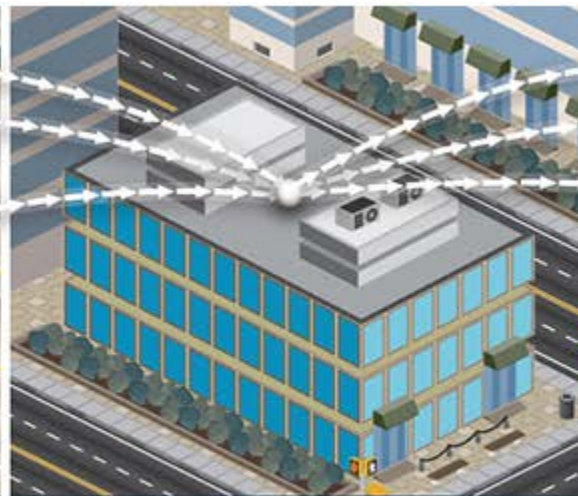
Ashley Buechter

MoDOT, Traffic Liaison Engineer

October 22, 2020



Traffic Incident



Traffic Operation Center



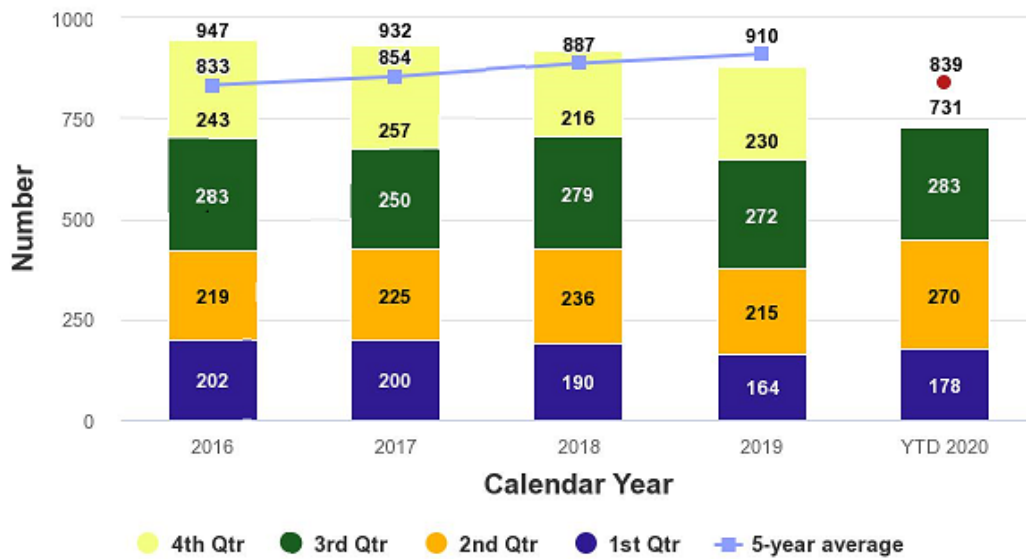
Real-time Driver Data

The Story...

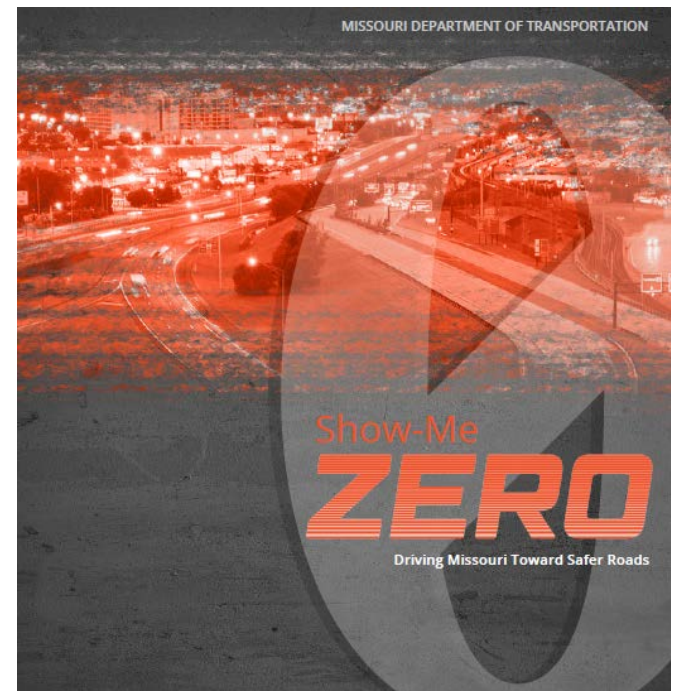
In the last five years, perhaps no behavior on our roadways has become more alarming than distracted driving. Distracted driving is anything that diverts the driver's attention from the task of driving. Cellphone-related crashes in particular are one of the fastest growing causes of traffic crashes in Missouri, increasing by more than 30%. Furthermore, we know this behavior is under-reported in traffic crashes, thus contributing to even more crashes than the data suggests.

Even though the number of reported distracted driving fatalities in Missouri has declined during the last five years, there remains much work to do in this area. A recent survey of Missourians indicated distracted driving is the most commonly observed risky behavior on Missouri roadways, a scenario many encounter on a daily basis.

Number of Fatalities



Target: 839



The Story, continued...

- Continuous effort to improve the safety of employees and motorists.
- Desire to provide advance notifications to everyone, every time.
- No obstacles (curves, hills, etc.) stand in the way.



Real Time Digital Warning



The Tool...

HOW IT WORKS



When an emergency response operator activates their lights, digital warnings are immediately sent.



Nearby motorists are automatically alerted to the incidents via in-car systems and apps on a phone. MoDOT's Traffic Management Center is alerted through their software system.



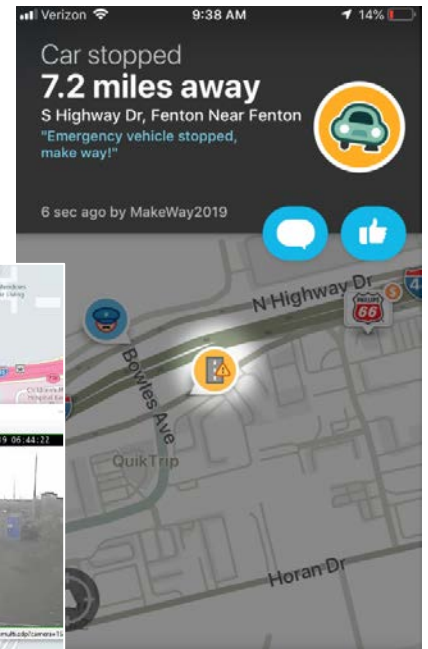
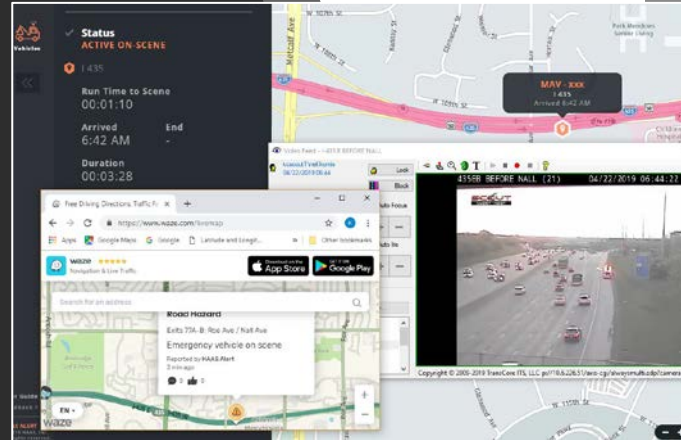
IMPROVES SAFETY, SAVES TIME, SAVES MONEY, SIMPLIFIES WORK

Kansas City
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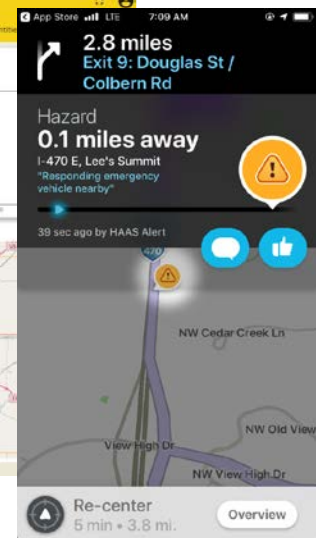
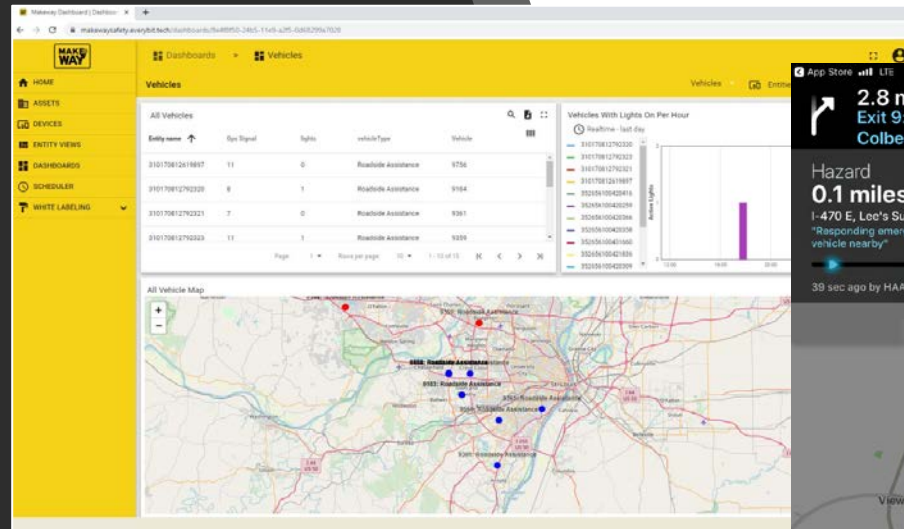


THE DETAILS...

- **KC District/KDOT HAAS Alert Pilot**
33 devices on MoDOT ER and MT and KDOT/KHP Motorist Assist.



- **St. Louis District Makeway Pilot**
22 devices with 20 additional coming for MT
20 ER, 1 Striper, 1 Auger



BENEFITS

Improves Safety

This advance notification of ER vehicles and personnel will help nearby motorists be alert, prepare to move over, and reduce the likelihood of secondary crashes.

Every second counts for those working on our busy highways.

Saves Money

Lesser reliance on external signs (e.g., Dynamic Message Signs) as more motorists use in-car navigation and are alerted of nearby ER operators.

Potentially lesser ER vehicle damage / out of service due to secondary crashes.

Saves Work/Time

No additional efforts need to be made by either the ER or TMC operator to send real time digital alerts to the traveling motorists.

ER operator can focus on safety at the incident scene and not extra steps to send this vital safety information to nearby motorists.

CHALLENGES

Not knowing exactly how many motorists are alerted as compared with general driving public volume.

Getting additional devices installed due to workload, COVID restrictions, and Shared Work that took place over the summer.

Results & Next Steps

- 40% reduction in SL
- Innovations Winner
- Future expansion

ER Vehicle Collisions by Third Parties

1-year Prior to Deployment	1-year After Deployment of MWS
5	3

*Full Deployment of MWS devices in ER vehicles in Aug 2019

Director's Awards

Director's Safety Award: Real-Time Digital Warnings - Central Office Highway Safety and Traffic



Innovations Challenge

Tools and Equipment | Projects | Productivity

Thank you!



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