Work Zone Safety – Intrusion Mitigation

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Product Position
Asphalt No. 1
RMC No. 1 - 2
Aggregates No. 2
Americas Materials

How you know Us......
What's the risk?

According to the National Highway Traffic Safety Administration (NHTSA), 80% of accidents and 60% of highway deaths are the result of distracted drivers. Vehicle Intrusions are the leading cause of worker fatalities with the road construction industry. These are the primary reasons for our journey.
What’s the risk?

- According to the National Highway Traffic Safety Administration (NHTSA), 80% of accidents and 60% of highway deaths are the result of distracted drivers.
- Vehicle Intrusions are the leading cause of worker fatalities with the road construction industry.
- These are the primary reasons for our journey.
You can control this risk!

How?
The Journey begins…….

The **STATS**:

- According to the National Highway Traffic Safety Administration (NHTSA), 80% of accidents and 60% of highway deaths are the result of distracted drivers.
- Vehicle Intrusions are the leading cause of worker fatalities with the road construction industry.
- These are the primary reasons for our journey.

Frank  Bubba  Marshall  Ronaldo  Chet
Mitigating the Risk

- National Efforts
  - Legislation
  - Public Education
  - Trade Associations

- Local Efforts
  - Training
  - Innovation
  - State associations and DOT’s
  - Compliance (only?)
  - Best Practices
Beyond Compliance

- Management – Traffic Control Supervisors, Local Management Engagement, DOT Partnering
- Risk Assessment – Job site/equipment evaluation, Pre-shift/Pre-task crew meetings
- Safe Work Practices – Personal positioning, equipment staging
- Personal Protective Equipment (PPE) - Hard hat, High-vis apparel, Illumination
- Equipment for Intrusion Prevention – attenuators, work zone lighting
- Maintenance of Traffic - Manual on Uniform Temporary Traffic Control (MUTCD), Internal Traffic Control Plan
- Beyond Compliance – temporary rumble strips, law enforcement, safety signage

http://www.workzonesafety.org/data-resources/wz-intrusion-prevention/
Something was missing – we were still losing family members

We found out that “Best Practices” were not enough. we had to think outside the box…………….
3 Basic Applications

- **Stationary Situation** – Flagging Station, Maintenance Crews, Lone Worker

- **Merge** – MOT (cone) Trucks, Striping Operations, Sweeping Operations, Road Rangers, School Buses

- **Active Work Zones** – Paving, Milling, or Construction Operations within (non-protected) lane closure
AWARE Road Map

1st/2nd Generations

- May 2013: Project Begins
- May - Dec 2015: Pilot Alert TTI Testing

2nd Generations

- Sept 2015: CRH Board Demo

3rd Generation

- May - Dec 2016: Large Pilot Performance TTI Testing
- June 2017: Sentry Deployment
- Dec 2017: Debug/Test

4th Generation

- 2018: System improvements Manufacturing
- 2019: 200 Unit Deployment

Tested in 14 States / 40 Crews

- System Works
- Lessons Learned
- Needs to be easy to use/install
- Needs to provide feedback

Texas A&M Transportation Institute

CRH
Lane Intrusion Detection

NY Thruway
AWARE SENTRY (Flagger Cart)

Muscle Shoals, Alabama
AWARE SENTRY

- Lighten the Weight (>50lbs)
- Increase light height and visibility
- Smaller more portable case
- Quick easy Set Up
- 15 Hours Battery Life

Proof of Concept

Prototype

New SENTRY
AWARE BASE STATION
Mobile, Web App & Database

- Easy log in and UI on iOS or Android phone or tablet
- Real Time Event Data and Alerts
- Easy event rating
- Near time visualizations tools
- Performance Metrics and Protected Zone Overview
- Mapping with Status and location updates
Next Steps

- Final Testing
- Broader Oldcastle Deployment
- Sentry Unit Crash Testing
- MnDOT Lane Intrusion Pilot
- Colorado DOT Specifications
- 2020 Product Launch
Thank you!

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