

# Leveraging AI & In-Vehicle Data For Crash Prevention

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# Crash Statistics in the US



**37,000** traffic deaths occur in the US annually



Each fatal crash costs an average of **\$9.6 Million**\*



Minor/Potential injuries cost **\$28,800**\*\* - **\$63,900**\*\*\*

\*: As reported in the 2018 USDOT ["Benefit-Cost Analysis Guidance for Discretionary Grant Programs"](#) and in the [FHWA Crash Cost for Highway Safety Analysis](#)

\*\* : MAIS reports minor injuries to cost \$28,800

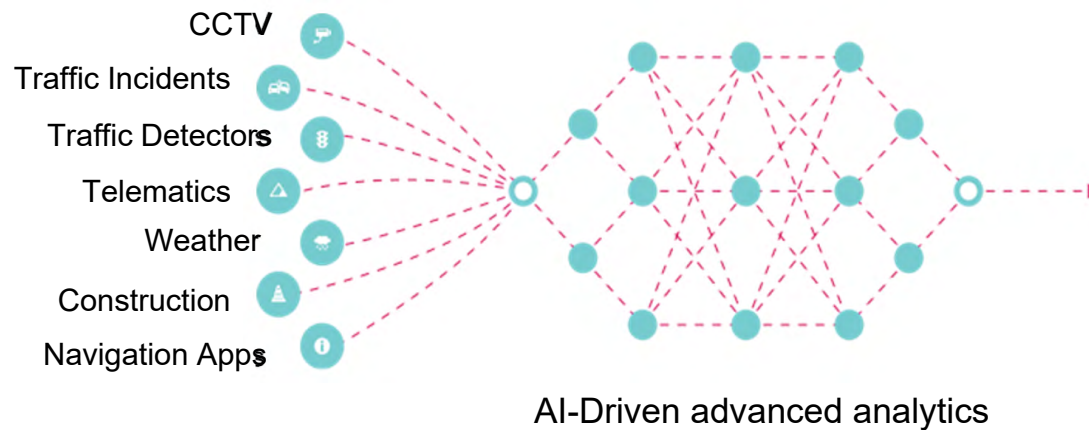
\*\*\* : KABCO reports Possible injuries at \$63,900

# Waycare and Southern Nevada Agency Partnerships





# AI Can Help Unlock Key Insights to Improve Traffic Safety



- Mobility Solutions
- Optimized transit services
- Proactive incident management
- Dynamic traffic signal optimization
- Intersection malfunctions
- Pothole detection
- Predictive analytics
- Road surface conditions
- Event management





# Cloud-Based Operational Tool Enables Interagency Collaboration

The screenshot displays the Waycare operational tool interface. The main map area shows a geographic region with various data points and overlays. Three callout boxes highlight specific features: 'Law Enforcement' (top left), 'Emergency Services' (middle left), and 'In-Vehicle Behavior' (bottom center). On the right side, there is a 'CCTV' callout box pointing to a video feed of a street scene. Below the map, a list of incidents is visible, including '215/DECATUR ROAD HAZARD PSS WB', '1-15 NB/SR573-Craig Hazard major', '215/WINDMILL TRAFFIC STOP PS, EB...', 'US-95 NB/Galleria Debris major', 'US-95 NB/Auto Show Drive Debris ma...', and 'US-95 NB/604 HWY Hazard major'. The interface includes a search bar, navigation controls, and a sidebar with tabs for 'INCIDENTS', 'TRAFFIC', and 'IN PROGRESS'.

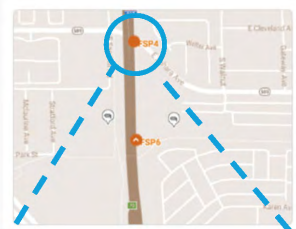




# How Were These Insights Used?



**Automated Incident Identification**



**US-95 S Hazard on shoulder car stopp...**  
32 minutes ago

**Freeway Service Patrol Dispatch/Response Platform**



**Outward public API feed to communicate with drivers**



**Irregular congestion identification for traffic flow optimization**





# Initial Results



**>12 min** average  
**faster response** time  
by law enforcement



**20% increase** in  
incidents identified



**180% increase** in  
public outreach





# How do we leverage prediction for crash prevention?

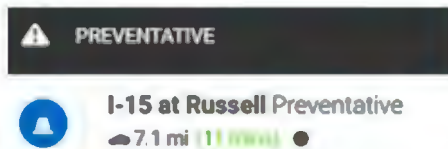




# How It Works: Proactive Risk Mitigation



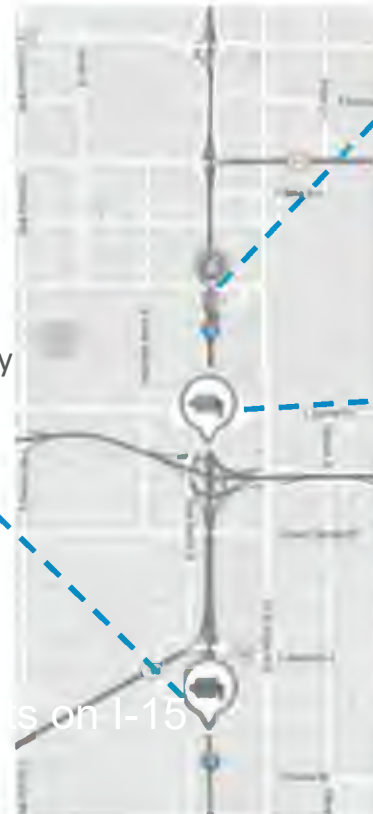
- 1 Waycare alerts of required action



- 2 DMS updated with preliminary warning



Map of Crash Incidents on I-15



- 3 Police proactively positioned



- 4



Awarded 2019 National Safety Innovation grant recipient to expand program across all of Southern Nevada



# STMS Site





# Driver Impact



**17% reduction**  
in primary crashes  
[Reduction reflects  
an average of 37  
crashes prevented]



**91%** of speeding driver  
**slowed down** to 65 mph  
after preventative site





# Cost Impact



## Investment

- \$5,000 investment for construction of STMS platform
- 126 hours of activation time (manned and unmanned) = \$4,561.20

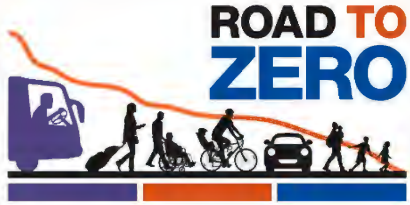


## Savings

- \$28,800 to 63,900 x 37 crashes = \$1,065,600 to \$2,364,300



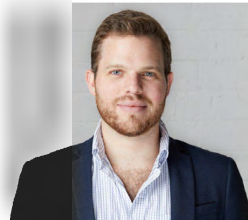
# Expansion



Awarded 2019 National Safety Innovation grant recipient to expand program across all of Southern Nevada



# Questions?



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