

## EMERGENCY RESPONSE: THE POST-CRASH ROAD to ZERO – Dia Gainor Comments, TRB 2018

A unique subset of vehicles regularly (and legally) use roads and highways in ways that are completely different than the rest of the travelling public, and often in ways and at speeds for which the roads were not designed. These include ambulances, police cars, fire trucks, towers, highway incident response, and roadway assist services. These vehicles and their lights, and in some cases sirens, are deployed to protect the public and make clearance of traffic incidents safe and quick, in the most unusual and hazardous work zones. Most also have a dependency on the use of roadways for response to a universe of other emergencies. Their research needs are not exclusive to traffic incident management however; most of these sectors suffer a disproportionately high rate of line of duty deaths from transportation related incidents, and concerns persist about them as a cause of secondary or “wake effect” collisions.

The scope of consideration includes incident detection, prediction of injury severity, 9-1-1 and other dispatch/transportation management operations centers, emergency response resource capabilities, emergency vehicle operations enroute to the scene, incident management on scene, emergency responder safety, vehicle extrication, scene clearance, performance measures specific to emergency response, road closures related to medical helicopter use, transportation of roadway incident trauma victims, and avoidance of secondary crashes and emergency responder injuries and deaths.

Emerging technology may be making these organizations more efficient but also more distracted, new infrastructure designs aimed at reducing crashes among roadway users at large may impede their work, and they have connected vehicle needs that may be the opposite of what is expected among conventional and commercial vehicles. Isolated promising practices have been identified but rarely documented or replicated, and no forum exists for generating transportation specific emergency response related research needs and problem statements that include day-to-day needs in addition to mass casualty or disaster scenarios. Other issues include vehicle design (to include crash worthiness of emergency response vehicles and restraint systems for occupants, especially in the back of an ambulance, for which few crash test and design standards exist), weather related complications and risks, and standardization of evidence based practices. The oasis of zero deaths can only be achieved if the practices of emergency response agencies are optimized for their own safety and preventing deaths among roadway users in the post-crash phase.