



# International Association of Fire Chiefs

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November 30, 2018

Ms. Heidi King  
Deputy Administrator  
National Highway Traffic Safety Administration  
1200 New Jersey Avenue SE  
Washington, DC 20590-0001

Re: Pilot Program for Collaborative Research on Motor Vehicles with High or Full Driving Automation (NHTSA-2018-0092)

Dear Deputy Administrator King:

The International Association of Fire Chiefs (IAFC), on behalf of its more than 12,000 members, submits these comments in response to the National Highway Traffic Safety Administration's (NHTSA) Advance Notice of Proposed Rulemaking seeking comment on matters related to the challenges of Automated Driving Systems (ADS) testing, development, and deployment.

Our nation's fire and emergency service is the first on scene in the event of a vehicular accident. As companies begin testing Automated Driving Systems on the public roadways, the fire and emergency service will face the challenge of interacting with these systems and conducting their work with ADSs in the vicinity.

While developing the Pilot Program for Collaborative Research on Motor Vehicles with High or Full Driving Automation, the IAFC thinks it appropriate for the agency to consider the following: Automated Driving Systems should be engineered in a manner to allow a first responder to disable the system. Once disabled, the ADS should not spontaneously restart or move in any way as this would pose a significant risk to responders. It must be possible for fire and EMS personnel to stabilize the ADS in preparation for the extrication of a passenger as if it were a normal vehicle.

The IAFC is concerned with the potential security ramifications of ADS vehicles. It would be appropriate for NHTSA to test the hackability of the vehicles. It should consider ways to ensure that the vehicles are used in a safe and appropriate manner and cannot be used in acts of terrorism or otherwise weaponized.

The fire and emergency service has a vested interest in promoting public safety. In order to operate in the uncertain environment of a highway, interstate, or inner-city roadway, the IAFC would like to see ADSs equipped with the capacity to:

Recognize lanes in poor road conditions; react appropriately in active weather conditions such as sleet, rain, snow and hail; detect flooding and black ice; recognize and react to flares; recognize and react to cone tapers of five cones or less; recognize temporary traffic control signs, detour signs, and emergency lane signs; pull over or move out of the path of responding emergency vehicles and law enforcement; recognize hand signals given by emergency responders and law enforcement personnel; recognize

pedestrians; and send location information to the appropriate entity or system in the case of a passenger emergency (e.g. heart attack).

NHTSA should assess whether ADS vehicles can successfully fulfill the above criteria before granting an individual exemption petition. If a vehicle cannot immediately demonstrate success in all the above categories per the terms and conditions of the exemption, the vehicle manufacturer should be required to incorporate all capabilities within a year. The agency should also include the above criteria in its development of the Pilot Program for the Safe Testing and Deployment of Vehicles with High and Full Driving Automation.

The Pilot Program should require companies to conduct outreach to fire departments where they will be deploying ADSs. As a part of this outreach, companies should provide ADS specifications, safety information and training materials, and information about the limitations of the vehicle's technologies to the fire leadership in the given city, county, or town. Prior experience in San Francisco, CA, Chandler, AZ, and other jurisdictions has shown that this outreach on behalf of the ADS companies enhances the safety and public acceptance of these vehicles. The outreach effort effectively establishes a dialogue between public safety professionals and the ADS companies such that, in the case of an emergency, an open and established line of communication exists. ADS company outreach also benefits the local responders because it makes them aware of the specifications of the vehicles on the road and how to best treat them during incident management or in the event of an accident.

NHTSA should work to standardize the existing Manual Hand Signals in the MUTCD to ensure that first responders are giving signals that the ADS vehicles can register. The ability of ADS vehicles to react to malfunctioning traffic signals and missing or damaged traffic signs should be another factor considered in the Pilot Program.

The IAFC is eager to see a world with less accidents, fewer fatalities, and less congestion. As autonomous vehicles continue to be deployed on the nation's roadways, the IAFC seeks to ensure that this progress is made in a way that is safe for passengers, pedestrians, and first responders. The rigorous testing of ADS systems, company collaboration with public safety stakeholders, and carefully issued exemptions are what is required to make the eventual adoption of autonomous vehicles possible.

Sincerely,



Fire Chief Dan Eggleston, EFO, CFO, CMO  
President and Chairman of the Board

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