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Assessing System Implementation Readiness of the Driver Alcohol Assessing System Implementation Readiness of the Driver Alcohol Detection System For Safety (DADSS) To Reduce Alcohol-Impaired Driving in a Real-World Driving Pilot Deployment Project.

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Abstract

The Driver Alcohol Detection System for Safety Program – a joint effort of the National Highway Traffic Safety Administration and the Automotive Coalition for Traffic Safety - has been developing unique, in-vehicle alcohol detection systems to more effectively address the problem of alcohol-impaired driving. These technologies, both breath-and touch-based, are intended to be seamless with the driving task, non-intrusive, accurate, fast, reliable, durable, and require little or no maintenance. Now in Phase III of development, the breath- based technology is ready for real-world road testing in a naturalistic setting in the State of Virginia, U.S.A. The Driven to Protect Powered by DADSS initiative, is a partnership with the Virginia Department of Motor Vehicles Highway Safety Office and the Automotive Coalition for Traffic Safety. As the technical and program management lead, KEA Technologies, Inc. has instrumented and deployed a small fleet of pilot test vehicles to examine the data from breath-based prototype sensors under various environmental, driver/user interaction, and user demographics conditions. The alcohol detection system is known to be accurate, precise, reliable, and maintainable based on laboratory and controlled test results. This pilot program seeks to obtain data from naturalistic, uncontrolled test conditions. The pilot program will determine if: a) the system is generally accepted by drivers, b) there are any technical modifications required to significantly improve the system, and c) the system is ready for wider implementation in fleet, privately-owned, commercial, or other vehicles. Four 2015 Ford Flex “For Hire” commercial livery service vehicles have been instrumented with in-vehicle breath- based alcohol detection sensors including supporting data collection and transmission systems. The Pilot Deployment Project is ongoing with a goal of collecting at least 15,000 data points from the sensors. Lessons learned will be used to refine the performance specifications, sensor technology, and data acquisition systems for future on-road vehicle testing.