

Paper No.19-0260-O

Driver Alcohol Detection System For Safety (DADSS) – A Non-Regulatory Approach In The Research And Development Of Vehicle Safety Technology To Reduce Alcohol-Impaired Driving – A Status Update.

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Abstract

Alcohol-impaired driving continues to exact a significant toll among road users both in the United States and around the world. In 2017, in the U.S. alone, alcohol-impaired motor vehicle fatalities totaled almost 11,000 – a number that has seen very little change since 2009. To better address this ongoing problem, in 2008 the National Highway Traffic Safety Administration (NHTSA) and the Automotive Coalition for Traffic Safety (ACTS) formed a cooperative research partnership to explore the feasibility, the potential benefits of, and the public policy challenges associated with the widespread use of non-invasive technology to prevent alcohol-impaired driving. This partnership, known as the Driver Alcohol Detection System for Safety (DADSS) Program has made great strides forward in the development of in-vehicle technologies that will measure blood or breath alcohol and prevent alcohol-impaired drivers from driving their vehicles. Exploratory research in Phases I and II established the feasibility of two sensor approaches, breath- and touch-based, for in- vehicle use. In Phase III, the sensors have become increasingly refined, in terms of both hardware and software, as the program strives to meet the very high standards required for unobtrusive and reliable alcohol measurement. Numerous parallel research programs are currently underway including sensor development, development of calibration processes, materials and instrumentation that will verify the technologies are meeting these elevated standards, human subject testing in conditions that replicate those likely to be experienced in the real world, and real-world pilot field operational trials in diverse settings. At the completion of this effort a determination will be made as to whether the DADSS technologies can ultimately be commercialized. This paper will outline the technological approaches and the status of the various DADSS research programs.