August 23, 2019

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

Re: Docket NHTSA-2019-0036, Removing Regulatory Barriers for Vehicles with Automated Driving Systems

Dear Deputy Administrator King:

The Iowa Department of Transportation (Iowa DOT) is pleased to provide comments on the National Highway Traffic Safety Administration (NHTSA) Advanced Notice of Proposed Rulemaking: on "Removing Regulatory Barriers for Vehicles with Automated Driving Systems" (Docket NHTSA-2019-0036). Iowa DOT is eager to support the advancement of automated driving systems to improve safety, mobility, and reliability of the transportation system.

NHTSA is seeking comment on possible approaches to revising crash avoidance test procedures to ensure they address the performance of vehicles equipped with automated driving systems (ADS) and also perhaps address vehicles with no human operator on board. The Iowa DOT agrees with the various concepts and ideas presented in section V, "Addressing Barriers in the FMVSS." In addition, Iowa's geography, climate, and rural nature lead us to suggest that NHTSA carefully construct its crash avoidance test procedures with the following "real-world operating conditions" in mind:

- ADS equipped vehicles should be carefully tested for crash avoidance in various weather conditions common to Iowa and many states in the upper Midwest. This would include heat, thunderstorms, flooding, wind, rain, snow, ice and a variety of other conditions. It will be essential for NHTSA and users to be aware of climate or weather scenarios that are particularly challenging for ADS operation or that might lead states to prohibit use of ADS under certain conditions.

- Iowa has a wide range of wildlife of various sizes along with domesticated animals. Vehicle crashes with animals represent a significant portion of all crashes in Iowa and throughout the Midwest. NHTSA should ensure that ADS equipped vehicles have appropriate crash avoidance for animals of a variety of sizes, shapes and movement capabilities.

- Iowa often experiences windy conditions. We advise NHTSA to develop testing protocols to ensure that ADS operations can identify and avoid windblown debris but also identify when such debris is truly not a risk to the vehicle. For example, a human driver can easily identify a wind-blown trash bag, determine that there is little risk to the vehicle, and decide against braking suddenly to avoid such debris. An ADS vehicle may not be able to recognize that the debris does not present a major risk and could brake suddenly, causing more safety concerns than if the vehicle had simply hit the bag.

- As an agricultural state, Iowa's public roadways are utilized by a variety of slow-moving vehicles including, but not limited to: combine harvesters, tractors, sprayers, and school buses. The size, speed differential, and potential for frequent stops of these slow-moving vehicles relative to most vehicles traveling at or near posted speeds are testing scenarios to be considered, given the severity of these potential crashes. This is especially true when considering the potential for driver distraction.

- Most importantly, NHTSA will need to evaluate whether ADS operations can be programmed with any type of risk-recognition and decision-making hierarchy for crash avoidance. For example, a human driver in congested situations may not brake for a small wild animal, such as a raccoon – if the driver believes there is a good chance of being hit by a following vehicle. However, that same driver will almost always brake suddenly for a small dog of the same size as a raccoon since the driver recognizes the dog as a domestic animal. It is not uncommon in Midwest states to see traffic held up as drivers allow families of ducks with ducklings to cross the road. While these scenarios are whimsical, they represent the real-world operating conditions described in the docket that must be properly navigated by ADS vehicles.

- We also suggest that NHSTA consider different types of roadway surfaces. Compared with the rest of the country, the Midwest has a high percentage of public gravel roads, along with many miles of paved county roads with lane markings that are limited or even absent altogether. The performance of these automated driving systems should be tested on these types of roadways if they are to be used in Iowa.

We urge consideration to the items identified above. Iowa DOT appreciates the opportunity to contribute to the federal rulemaking process.

Best regards,

Mark Lowe
Director