

NHTSA-2018-0092-0001 (Pilot Program for Collaborative Research on Motor Vehicles with High or Full Driving Automation)

Ms. King,

As an automotive and tech enthusiast, I feel it is my duty to weigh in on the topics outlined in NHTSA-2018-0092-0001. As highlighted in the ANPRM, I would ask that the agency provide guidance to auto manufacturers and autonomous vehicle (“AV”) testers/operators to display a standardized Indicator on all AVs, Level 3<sup>1</sup> and up, that would indicate to drivers when the AV is in its autonomous mode. Ideally, this Indicator would be visible from the front, rear, and sides of the vehicle so that motorists and pedestrians approaching from any direction could quickly identify an AV in its autonomous mode.

A major limitation with current autonomous technology and the public’s understanding of that technology is that it behaves in ways that the average driver may not. Wired Magazine published an article, “Why People Keep Rear-Ending Self-Driving Cars”, which explains that in 22 of the 28 reported rear end collisions encountered by AVs occurred when the autonomous technology was in control of the vehicle. The article goes on to consider that drivers aren’t able to predict the actions of an AV since they occasionally make sudden stops and maneuvers the average driver in a similar circumstance would not have otherwise made. What’s unclear from the article is whether the drivers involved in the collisions were aware that the vehicle was operating as an AV at the time of the incident, or if they were even aware of the AV’s ability to drive autonomously. This highlights the importance of a clear Indicator to other drivers that an AV is operating autonomously.

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<sup>1</sup> As indicated in Section I of ANPRM NHTSA-2018-0092-0001

The Indicator proposed should be a small light that is distinct in color from other lights currently in use by motor vehicles, and distanced enough from the head and taillights that it would not be confused as either. I propose that NHTSA require that the light be an LED, OLED, or MicroLED panel capable of displaying a distinct and uniform color bright enough to be seen in all natural and road lighting conditions. The color and shape displayed should be uniform across all AVs, regardless of company, and should be required to meet certain height and visibility similar to that of head and taillights, albeit not as stringent. Due to wide implementation of indication lights, the remaining color choices are somewhat limited; colors not commonly seen on vehicles, or on the roadways, are pink, purple, orange (not amber), and teal, and thusly, these should be considered.

While my research, knowledge, and experiences are limited, I feel that the average driver would materially benefit from a standardized, external indicator on AVs that are operating independent (or with limited assistance) of a driver. Lighting seems to be the most obvious and direct route to accomplishing this goal. The binary of illumination reduces the learning curve and second-guessing drivers already engage in while following vehicles with AV capabilities such as radar-guided cruise control and more advanced systems like Cadillac Super Cruise and Tesla Autopilot. Thank you for taking the time to read my comment, and I hope it may be of some use in making our roads and vehicles safer.

Sincerely,

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