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U.S. Department of Transportation
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Submitted via www.regulations.gov

**Comments of Consumer Reports to the
National Highway Traffic Safety Administration on the
Advance Notice of Proposed Rulemaking on
“Removing Regulatory Barriers for Vehicles with Automated Driving Systems”
Docket No. NHTSA-2019-0036**

Consumer Reports, the independent, non-profit member organization,¹ welcomes the opportunity to submit comments to the National Highway Traffic Safety Administration (NHTSA) regarding the development of Automated Driving System-Dedicated Vehicles (ADS-DVs). We recognize the immense benefit these vehicles may offer if they are rolled out responsibly—in terms of both improved safety and mobility—and thus appreciate NHTSA’s careful consideration of stakeholder comments on this issue.

As NHTSA noted in the advance notice of proposed rulemaking (ANPRM), there are no barriers in existing federal motor vehicle safety standards (FMVSSs) which address “the self-driving capability of an ADS” or “prohibit inclusion of ADS components on a vehicle,” and current FMVSSs do not pose “testing or certification challenges for vehicles with ADSs so long as the vehicles have means of manual control and conventional seating, and otherwise meet the performance requirements of the FMVSSs.” Accordingly, we urge NHTSA not to dedicate undue time or resources to addressing supposed regulatory barriers, and to remain focused on its statutory mission. NHTSA should accelerate its critical role in reducing traffic deaths and injuries by prescribing new motor vehicle safety standards and carrying out needed safety research and development to ensure that both self-driving cars and human-driven cars are safe.²

¹ Founded in 1936, Consumer Reports uses its dozens of labs, auto test center, and survey research center to rate thousands of products and services annually. CR works together with its more than 6 million members for a fairer, safer, and healthier world, and reaches nearly 20 million people each month across our print and digital media properties.

² 49 U.S.C. 30101.

NHTSA must follow through on needed safety standards, including those already mandated

Before addressing specific areas of inquiry posed by NHTSA, we comment more generally on the agency's lack of aggressive, public progress in service of its prescribed mission as a safety agency. In short: for NHTSA to save lives and prevent injuries, there are more important subjects the agency should be focusing on than "removing regulatory barriers," especially given the robust pace of industry innovation in many areas today.

Researching, drafting, and finalizing federal motor vehicle safety standards takes significant time and resources, and NHTSA is chronically underfunded and understaffed, so it is all the more important that progress on strong safety standards remain at the center of NHTSA's work because they are proven to save lives. According to NHTSA's most recent report on the subject, from 1960 to 2012, more than 600,000 lives were saved by vehicle safety technologies like seat belts, airbags, child safety seats, electronic stability control, and their associated federal standards.³ However, while safety standards have undoubtedly saved lives, there is still significant progress to be made. In 2017, 37,133 people died in motor vehicle crashes, and while this number is slightly lower than the previous year, motor vehicle fatalities are no lower than they were a decade ago.⁴ Given the pronounced need for increased safety on our roads, it is unclear why NHTSA is devoting a share of its limited time and resources toward supposed regulatory barriers, at least some of which, by the agency's own admittance, are not barriers at all.

Instead, we urge NHTSA to spend its time and resources on numerous proposed safety initiatives with documented life-saving potential. These include requirements for rear seat belt reminders,⁵ stronger testing to protect children,⁶ advanced driver assistance safety features,⁷ vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2X) communications systems,⁸ and

³ NHTSA, "Lives Saved by Vehicle Safety Technologies and Associated Federal Motor Vehicle Safety Standards, 1960 to 2012" (Jan. 2015) (online at: crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812069).

⁴ NHTSA "U.S. DOT Announces 2017 Roadway Fatalities Down" (Oct. 2018) (online at: www.nhtsa.gov/press-releases/us-dot-announces-2017-roadway-fatalities-down).

⁵ See Janette Fennell et al., *The Center and KidsAndCars.org Sue DOT/NHTSA to Force Action on Rear Seat Belt Reminder Rule*, CENTER FOR AUTO SAFETY (Aug. 16, 2017), www.autosafety.org/cas-kidsandcars-org-sue-dotnhtsa-force-action-rear-seat-belt-reminder-rule; see also 49 U.S.C. § 30127 (2018).

⁶ See, e.g., www.reginfo.gov/public/do/eAgendaViewRule?pubId=201904&RIN=2127-AL34, www.reginfo.gov/public/do/eAgendaViewRule?pubId=201904&RIN=2127-AK95, www.reginfo.gov/public/do/eAgendaViewRule?pubId=201904&RIN=2127-AL04

⁷ *Real-World Benefits of Crash Avoidance Technologies*, IIHS (May 2018), www.iihs.org/media/3b08af57-8257-4630-ba14-3d92d554c2de/mYL9rg/QAs/Automation%20and%20crash%20avoidance/IIHS-real-world-CA-benefits-0518.pdf; *Driver Assistance Technologies*, NHTSA, www.nhtsa.gov/equipment/driver-assistance-technologies

⁸ Federal Motor Vehicle Safety Standards and V2V Communications, 82 Fed. Reg. 3,854 (Jan. 12, 2017).

on-board systems to detect drunk drivers,⁹ as well as guidelines to help prevent distracted driving.¹⁰ On top of all these are standards that could help reduce the growing toll of lives lost due to heavy vehicles, such as trailer underride guards, AEB for trucks, and tools to stop 18-wheelers from speeding. NHTSA should do everything in its power to keep people safe on our roads, and any further delay on these issues will cost lives.

Any revisions to federal motor vehicle safety standards must put safety first

When NHTSA chooses to revise federal safety rules, it should ensure that safety itself is always the primary consideration—for the sake of both the well-being of consumers and the success of companies’ technologies. There is a great deal of excitement within the auto and tech industries around the potential market for vehicles with ADSs, and competition is fierce. But the competitive push must not overwhelm the importance of safety. If NHTSA were to lower the bar for safety, it could all too easily increase the chance of a backlash to automated driving technologies that would slow down the pace of progress for everyone.

At the same time, we recognize that in order for ADS-DVs to realize their potential, they must be able to comply with FMVSSs and be subject to specific testing protocols that ensure the standards are met. In this ANPRM, NHTSA has focused on two categories of standards, both within the 100-series reserved for crash avoidance: standards that require a manual control, and standards specifying how the agency will use a manual control in a test procedure. The agency also has laid out a general approach to tackling issues in the first category, and six different potential approaches to tackle issues arising from the second category. We alert NHTSA to the following concerns regarding its potential approaches:

- In the general four-pronged approach laid out for standards that currently require a manual control, NHTSA offers language such as “if the required control is necessary for motor vehicle safety” and “if the required control is still necessary for motor vehicle safety for traditional vehicles, but not necessary for the safety of ADS-DVs without traditional manual controls,” but does not make clear by who and by what method these controls would be deemed either necessary for safety or not. For instance, in the example given by the agency of FMVSS No. 135, a “foot control” may initially seem unnecessary for the safety of ADS-DVs, but what if an ADS-DV has a software malfunction and user intervention is required? Revising these standards, and particularly removing certain components of the standards, could have severe safety impacts if too much trust is placed in the capabilities of ADS-DVs before they are proven. Further, just as the agency noted that some equipment mandated under current FMVSSs provide safety benefits beyond what the agency had originally contemplated, the removal of any equipment from the standards could have unforeseen consequences.

⁹ NHTSA, *Research on Seatbelt Interlock and Alcohol Detection Technologies*, 17 (Feb. 1, 2018), www.gsa.gov/cdnstatic/NHTSA's%20Research%20on%20Seatbelt%20Interlock%20and%20Alcohol%20Detection%20Technologies.pdf

¹⁰ Visual-Manual NHTSA Driver Distraction Guidelines for Portable and Aftermarket Devices, 81 Fed. Reg. 87,656 (Dec. 5, 2016).

- In addressing the second category of FMVSSs discussed in this document, those that specify the use of a manual control in the testing procedure, NHTSA has proposed a list of potential approaches. While we appreciate the effort to engage stakeholders in evaluating each method, we are concerned that many of the proposed approaches are intended to help cut manufacturer compliance costs without guaranteeing that the safety and performance requirements of FMVSSs are met. For example, forgoing testing in lieu of OEM technical documentation for system design and or/performance would not guarantee a minimum performance requirement for vehicles on the road. We urge the agency not to undermine safety in any way as it determines how to proceed.

To best promote the safety of vehicles with automated driving systems, NHTSA should shift the time, energy, and resources spent on deregulation to several key priorities

In developing and rolling out vehicles that include driving automation features, safety truly must be the number one priority, and all other considerations must be secondary. To that end, we provide several examples of areas to which NHTSA should devote its focus rather than on supposed barriers.

First, NHTSA should promptly implement the National Transportation Safety Board's (NTSB) recommendations related to vehicles with partial or conditional driving automation. These include standardizing data parameters and crash reporting so that investigators can better understand driver and vehicle performance before and during a crash, and developing a method to verify that manufacturers of these vehicles incorporate system safeguards that limit use of driving automation to those conditions for which they were designed.

There are demonstrated safety hazards associated with foreseeable use and foreseeable misuse of these systems, which contain automated steering, braking, and or acceleration functions but require the driver to remain engaged and monitor the environment at all times. These hazards were documented by the NTSB in its findings that Tesla's "Autopilot" driver-assist system played a major role in the May 2016 fatal crash of a Model S in Florida,¹¹ the March 2018 fatal crash of a Model X in California,¹² and most recently the March 2019 fatal crash of a Model 3 in Florida.¹³ Incidents like these indicate consumer confusion about the capabilities and limitations of these systems.

In addition, NHTSA should require manufacturers to include a system to verify driver engagement and responsiveness (such as driver monitoring cameras or eye tracking devices) that

¹¹ National Transportation Safety Board, Collision Between a Car Operating with Automated Vehicle Control Systems and a Tractor-Semitrailer Truck Near Williston, Florida May 7, 2016 (Sept. 12, 2017) (online at www.nts.gov/investigations/AccidentReports/Pages/HAR1702.aspx).

¹² National Transportation Safety Board, Preliminary Report: Crash and Post-crash Fire of Electric-powered Passenger Vehicle (June 7, 2018) (online at www.nts.gov/investigations/AccidentReports/Pages/HWY18FH011-preliminary.aspx).

¹³ National Transportation Safety Board, Highway Preliminary Report: HWY19FH008 (May 16, 2019) (online at www.nts.gov/investigations/AccidentReports/Pages/HWY19FH008-preliminary-report.aspx).

meets minimum performance standards enforced by the agency. Vehicles with partial or conditional driving automation rely largely on human drivers to prevent a potential crash. Yet, these vehicles are the ones in which human drivers are the most likely to place undue faith in the capabilities of an automated system, and to therefore be foreseeably inattentive or nonresponsive in a scenario that leads to a crash. Such systems should also be required for the testing of highly automated vehicles with a backup driver, as well as new cars, light trucks, and heavy-duty vehicles up to level 3 automation.

Further, NHTSA should set binding minimum electronics system and cybersecurity standards for manufacturers. Cars and motor vehicle equipment have increasingly complex electronics systems and are increasingly networked, and can have major performance or cybersecurity vulnerabilities just as a computer or a mobile device can—but with potentially life or-death consequences if safety-critical systems are compromised.

If NHTSA moves forward with efforts to amend current standards or test procedures to remove or alter references to a steering wheel, brake, accelerator, emergency brake, rearview mirrors, or other critical safety systems associated with a human driver—which could be appropriate for self-driving cars if limited and undertaken with care to ensure the changes improve safety—the agency should also develop new standards to ensure such vehicles can still pass all existing FMVSS associated with those functions. Furthermore, NHTSA should ensure that any accommodations made for removing the steering wheel or altering seating positions include airbags and other occupant protection measures that deliver performance at least equal to whichever is the most protective among driver or front passenger requirements. NHTSA also should quickly move forward with research and development related to cybersecurity, driver engagement, a “Vision Test,” and a functional safety standard for these vehicles.

Finally, NHTSA should develop clear expectations and procedures related to over-the-air (OTA) vehicle software updates. Last year’s incident involving Fiat Chrysler vehicles—in which an over-the-air update caused many cars’ user interfaces, including backup cameras and emergency response systems, to endlessly restart and lose functionality—shows the need for NHTSA to account fully for these updates in order to keep consumers safe.¹⁴ OTA updates may be effective tools to implement certain recalls or improve the function of a vehicle, but they can also be vectors for new, life-threatening defects, which could be especially dangerous in vehicles that are operated exclusively by software and artificial intelligence.

Conclusion

Creating and revising safety standards is a very resource-intensive process, and NHTSA has significant resource constraints. At every possible opportunity, we at Consumer Reports share our view that the agency’s capabilities should be strengthened significantly through both increased funding and authority. NHTSA should be empowered to protect consumers against new hazards that may emerge, and to ensure ADS-DVs work as they are supposed to without

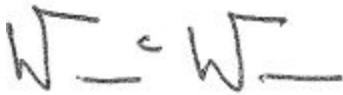
¹⁴ “Fiat Chrysler sent an over-the-air update that is causing Uconnect to endlessly reboot,” The Verge (Feb. 13, 2018) (online at: www.theverge.com/2018/2/13/17007332/fiat-chrysler-uconnect-update-reboot-problem-broken).

placing consumers at risk. The agency should be able to do this without being forced to divert resources from critical efforts it already undertakes to prevent crashes and save lives. For NHTSA to be the kind of watchdog consumers deserve, Congress should give the agency more funding and personnel, as well as a greater practical ability to get unsafe cars off the road quickly.

In the meantime, we encourage NHTSA to focus its energies on carrying out its statutory mission: reducing traffic deaths and injuries. While there is a portion of this work that may involve adjusting current federal requirements to account for ADS-DVs, there are far greater, and more urgent problems to tackle—such as the numerous outstanding rulemakings which would have tangible lifesaving impacts, estimated to be in the thousands annually.

Thank you for considering our comments. We look forward to continuing to work with NHTSA as it seeks to reduce traffic deaths and injuries as directed by statute: by prescribing motor vehicle safety standards and carrying out needed safety research and development.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'W. Wallace'.

William Wallace
Manager, Home & Safety Policy

A handwritten signature in black ink, appearing to read 'Ethan Douglas'.

Ethan Douglas
Senior Policy Analyst