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Docket Management Facility
U.S. Department of Transportation
1200 New Jersey Avenue S.E.
West Building Ground Floor, Room W12-140
Washington, D.C. 20590

Submitted via www.regulations.gov.

**Comments of Consumer Reports to the
U.S. Department of Transportation on the Guidance: *Preparing for the Future of
Transportation: Automated Vehicles 3.0*; Request for Comments
Docket No. DOT-OST-2018-0149**

Consumer Reports,¹ the independent, nonprofit member organization that works side by side with consumers to create a fairer, safer, and healthier world, welcomes the opportunity to comment on the most up-to-date voluntary guidance on automated vehicles (AVs) developed by the U.S. Department of Transportation (DOT) and the National Highway Traffic Safety Administration (NHTSA), the newest part of which is titled *Preparing for the Future of Transportation: Automated Vehicles 3.0*.

Self-driving cars have enormous potential to make our roads safer by significantly reducing crashes attributable to driver error.² To realize this promise, safety truly must be the number one priority, as the Department has indicated it is.³ As automated vehicles improve mobility for millions of consumers, including seniors, underserved populations, and people with disabilities, companies and policymakers should not be satisfied with vehicles being equally safe as traditional vehicles or merely marginally safer. They should set a higher bar, in the form of a

¹ Founded in 1936, Consumer Reports has the largest nonprofit educational and consumer product testing center in the world, and uses its dozens of labs, auto test center, and survey research center to rate thousands of products and services annually. CR's premier magazine Consumer Reports has more than 3.6 million subscribers, and the award-winning CR.org has 2.9 million paying members and more than 15 million unique visitors monthly, on average.

² We refer to "self-driving" motor vehicles as those with Level 4 or Level 5 driving automation, as defined by SAE International. These levels include only vehicles for which the automated driving system must perform the driving task even if the human driver does not respond appropriately to a request to intervene. "Automated driving system" refers to SAE Level 3, 4, or 5 driving automation, where Level 3 ("conditional") automation indicates that a human driver does not have to monitor the environment, but does need to be present and ready to take control of the driving task at any time, if notified to do so. Surface Vehicle Recommended Practice, SAE J3016, Taxonomy and Definitions for Terms Related to Automated Driving Systems, issued Jan. 2014, revised Sept. 2016.

³ U.S. Department of Transportation, *Preparing for the Future of Transportation: Automated Vehicles 3.0* (Oct. 4, 2018) (online at www.transportation.gov/sites/dot.gov/files/docs/policy-initiatives/automated-vehicles/320711/preparing-future-transportation-automated-vehicle-30.pdf) (hereinafter "AV 3.0") at iv.

clear expectation that these systems should significantly improve safety and continually build on previous safety gains.

To demonstrate that they are meeting this expectation, companies should show the public—not just tell them—the safety benefits of their automated driving systems. They should share safety data, explain how they are accounting for various elements of safety, and generally present clear, accurate, and unbiased information about automated driving systems, including in marketing and in-car notifications. Companies should not undermine safety by deploying automated driving technologies in an irresponsible manner, by overselling these technologies’ capabilities or failing to appropriately communicate their limitations, or by neglecting to design systems with appropriate checks on foreseeable use and misuse. Such missteps can, and have already, cost lives.

DOT and NHTSA’s guidance includes voluntary best practices for automated vehicle systems, outlining safety elements that companies are encouraged to consider and report on in safety self-assessments disclosed to the public and available to NHTSA. The guidance also includes technical assistance for states, such as best practices for state legislatures and state highway safety officials considering how to properly regulate these systems. This guidance—which, according to NHTSA, reflects a “non-regulatory means to advance the integration of automation technologies into the transportation system”⁴—should be bolstered by the agency and supported by additional tools and resources from Congress that would help NHTSA fully perform its statutory mission: to reduce traffic deaths and injuries by prescribing motor vehicle safety standards and carrying out needed safety research and development.⁵

Self-driving vehicles would represent the single biggest change in the relationship between cars and their occupants since the invention of the motor vehicle itself, and warrant diligent oversight at every step of their development to ensure that they are safe. In November 2017, we submitted comments to DOT and NHTSA to provide detailed feedback on the second version of automated driving system guidance (ADS 2.0). We commented on components of the document that give companies and states appropriate guidance, as well as areas that we recommended be stronger in order to better safeguard all consumers on our roads. We urged entities developing automated driving systems to implement, follow, and surpass NHTSA’s guidance, and not treat it as voluntary. We are very concerned that those comments, and similar ones from other organizations, have not been measurably incorporated into the newest guidance.

The *ADS 2.0* version of the guidance, pertaining mainly to passenger vehicles, remains operative: it is supplemented by the newest *AV 3.0* guidance, but is not replaced by it.⁶ We therefore use this comment opportunity to reinforce several key points from the feedback provided to NHTSA last year, and to strongly urge DOT leadership and the agency to address—or explain why they are not addressing—these issues. The points include:

⁴ *Id.* at viii.

⁵ 49 U.S.C. 30101.

⁶ *Id.* at viii.

- Submission of the safety self-assessment should be required, and NHTSA should take steps to ensure it gets the detailed safety data needed to protect consumers;
- NHTSA should make its AV guidance more robust—not take steps backward;
- NHTSA should more strongly emphasize independent, third-party validation of automated driving systems;
- The guidance to states is generally appropriate, and should be expanded; and
- The proposed information collection is necessary, but inadequate for the agency to properly perform its functions.

We urge the agency to revisit our November 2017 comments and review that submission in full.⁷ We attach those comments to our submission today and include them in the new docket.

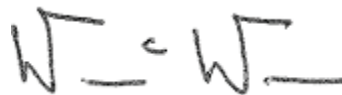
Self-driving cars have enormous potential to greatly improve mobility and make our roads safer by significantly reducing crashes attributable to driver error—but to realize this promise, safety truly must be the top priority. With 37,133 people losing their lives just last year from motor vehicle crashes, companies and policymakers should recognize that it is not an option for automated vehicles to just meet the current level of safety or achieve mere marginal gains. Instead, there must be an expectation that these systems should significantly improve safety and continually build on previous safety gains. To meet this expectation, companies should show consumers these systems’ safety benefits—not just tell them.

DOT and NHTSA’s AV guidance provides a starting point for entities developing automated driving systems. As we encourage companies to implement, follow, and surpass this guidance, we urge NHTSA to incorporate our feedback into its ongoing activities and any future version of the guidance. We look forward to working with the agency and all stakeholders to help automated vehicles meet their potential to improve consumers’ quality of life, prevent crashes, and save lives.

Respectfully submitted,



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⁷ See Comments of Consumers Union, the advocacy division of Consumer Reports, to the National Highway Traffic Safety Administration on the Guidance: *Automated Driving Systems – A Vision for Safety* (Nov. 14, 2017) (online at advocacy.consumerreports.org/wp-content/uploads/2017/11/CU-comments-to-NHTSA-on-ADS-guidance-11-14-2017.pdf).



POLICY & ACTION FROM CONSUMER REPORTS

November 14, 2017

Docket Management Facility
U.S. Department of Transportation
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Submitted via www.regulations.gov.

**Comments of Consumers Union to the
National Highway Traffic Safety Administration on the Guidance: *Automated Driving Systems – A Vision for Safety*; Notice of Public Availability, Modification of a Currently Approved Information Collection, and Requests for Comment
Docket Nos. NHTSA-2017-0082 and NHTSA-2017-0083**

Consumers Union, the policy division of Consumer Reports,¹ welcomes the opportunity to comment on the latest voluntary guidance on automated driving systems (ADSs) developed by the Department of Transportation and the National Highway Traffic Safety Administration (NHTSA), titled *Automated Driving Systems: A Vision for Safety (ADS 2.0)*. We also welcome the opportunity to comment on the related information collection notice identified above.

Self-driving cars have enormous potential to make our roads safer by significantly reducing crashes attributable to driver error.² To realize this promise, safety truly must be the number one priority, as the Department has indicated it is.³ As automated driving systems improve mobility for millions of consumers, including seniors, underserved populations, and people with disabilities, companies and policymakers should not be satisfied with vehicles being equally safe as traditional vehicles or merely marginally safer. They should set a higher bar, in

¹ Consumer Reports is an independent, nonprofit organization that works side by side with consumers to create a fairer, safer, and healthier world. As the world's largest independent product-testing organization, Consumer Reports uses its more than 50 labs, auto test center, and survey research center to rate thousands of products and services annually. Founded in 1936, Consumer Reports has over 7 million subscribers to its magazine, website, and other publications.

² We refer to "self-driving" motor vehicles as those with Level 4 or Level 5 driving automation, as defined by SAE International. These levels include only vehicles for which the automated driving system must perform the driving task even if the human driver does not respond appropriately to a request to intervene. "Automated driving system" refers to SAE Level 3, 4, or 5 driving automation, where Level 3 ("conditional") automation indicates that a human driver does not have to monitor the environment, but does need to be present and ready to take control of the driving task at any time, if notified to do so. Surface Vehicle Recommended Practice, SAE J3016, Taxonomy and Definitions for Terms Related to Automated Driving Systems, issued Jan. 2014, revised Sept. 2016.

³ NHTSA, *Automated Driving Systems: A Vision for Safety* (Sept. 12, 2017) (online at www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/13069a-ads2.0_090617_v9a_tag.pdf) (hereinafter "ADS 2.0") at ii.

the form of a clear expectation that these systems should significantly improve safety and continually build on previous safety gains.

To demonstrate that they are meeting this expectation, companies should show the public—not just tell them—the safety benefits of their automated driving systems. They should share safety data, explain how they are accounting for various elements of safety, and generally present clear, accurate, and unbiased information about automated driving systems, including in marketing and in-car notifications. Companies should not undermine safety by deploying automated driving technologies in an irresponsible manner, by overselling these technologies’ capabilities or failing to appropriately communicate their limitations, or by neglecting to design systems with appropriate checks on foreseeable use and misuse. Such missteps can cost lives.

The *ADS 2.0* document produced by the Department of Transportation and NHTSA provides a starting point for entities developing automated driving systems. It includes voluntary guidance for these systems, outlining safety elements that companies are encouraged to consider and report on in safety self-assessments disclosed to the public and available to NHTSA. *ADS 2.0* also includes technical assistance for states, such as best practices for state legislatures and state highway safety officials considering how to properly regulate these systems. This document—which, according to NHTSA, reflects a “nonregulatory approach” to automated driving safety⁴—should be bolstered by the agency and supported by additional tools and resources from Congress that would help NHTSA fully perform its statutory mission: to reduce traffic deaths and injuries by prescribing motor vehicle safety standards and carrying out needed safety research and development.⁵

Self-driving vehicles would represent the single biggest change in the relationship between cars and their occupants since the invention of the motor vehicle itself, and warrant diligent oversight at every step of their development to ensure that they are safe. In the following comments, we provide feedback to NHTSA on components of the *ADS 2.0* document that give companies and states appropriate guidance, as well as areas that we recommend be stronger in order to better safeguard all consumers on our roads. We urge the agency to incorporate this feedback into its ongoing activities and the next version of the guidance that it intends to release in 2018. In the meantime, entities developing automated driving systems should implement, follow, and surpass NHTSA’s guidance reflected in *ADS 2.0*, and not treat it as voluntary.

- I. Submission of the Safety Self-Assessment Should Be Required, and NHTSA Should Take Steps to Ensure It Gets the Detailed Safety Data Needed to Protect Consumers
- II. NHTSA Should Make Its ADS Guidance More Robust—Not Take Steps Backward
- III. NHTSA Should More Strongly Emphasize Independent, Third-Party Validation of ADSs
- IV. The Guidance to States Is Generally Appropriate, and Should Be Expanded
- V. The Proposed Information Collection Is Necessary, but Likely Inadequate for the Agency to Properly Perform Its Functions

⁴ *Id.*

⁵ 49 U.S.C. 30101.

I. Submission of the Safety Self-Assessment Should Be Required, and NHTSA Should Take Steps to Ensure It Gets the Detailed Safety Data Needed to Protect Consumers

The core of *ADS 2.0* is the Voluntary Guidance for Automated Driving Systems, which includes 12 priority safety design elements for companies to consider in the design of their systems. NHTSA also encourages companies to have a self-documented process for assessment, testing, and validation of these elements, and to disclose voluntary safety self-assessments demonstrating their approaches to achieving safety in the testing and deployment of ADSs.⁶ While the list of design elements is not exhaustive, those that NHTSA includes in *ADS 2.0* represent crucial concepts for companies designing ADSs for use on public roads.

Much like the idea of the safety assessment letter included in the previous Federal Automated Vehicles Policy document released in September 2016,⁷ the safety-self assessment under *ADS 2.0* represents one of the main existing ways for NHTSA and the public to assess how entities developing and testing ADSs are addressing safety. Accordingly, to help ensure that NHTSA receives the information it needs to oversee vehicle safety, we urge the agency to eschew its voluntary approach and instead require companies to submit safety self-assessments and make them public. Under a voluntary approach, companies designing ADSs for public roads would be under no legal duty to report completely and accurately. It is critical that NHTSA obtain safety information from companies that it truly can rely on.

Congress may separately choose to require the submission of safety assessments,⁸ but we nonetheless urge NHTSA, at the earliest practicable date, to start a rulemaking that would require submission of the safety self-assessment and its public disclosure by manufacturers. In the meantime, despite the fact that NHTSA will consider the assessment voluntary, submitting and making public a safety self-assessment should not be considered voluntary for companies as they seek to build consumer trust. Manufacturers and other entities should submit and make public the assessments, and go beyond what is listed in the guidance to include meaningful evaluation of all factors that could affect the safe functioning of an ADS, including those addressed in the remainder of these comments.

NHTSA's guidance on each of the 12 priority safety design elements provides companies with a framework they can build on, and theoretically could use to assess the safety of their systems, bolster safety claims with detailed data, and foster public trust. The guidance for each included element is generally appropriate at a high level,⁹ and provides the potential for

⁶ *ADS 2.0* at 1. The 12 elements are system safety, operational design domain, object and event detection and response, fallback (minimal risk condition), validation methods, human machine interface, vehicle cybersecurity, crashworthiness, post-crash ADS behavior, data recording, consumer education and training, and federal, state, and local laws.

⁷ NHTSA, *Federal Automated Vehicles Policy* (Sept. 20, 2016) (online at www.nhtsa.gov/nhtsa/av/pdf/Federal_Automated_Vehicles_Policy.pdf) (hereinafter "FAVP 2016").

⁸ See H.R. 3388 and S. 1885.

⁹ We note that the guidance for some design elements is more open-ended than for others. The discrepancy may reflect differences in the current level of understanding regarding safe practices within given design elements; if so, we would look forward to working with industry and NHTSA to identify pressing research gaps and the steps that can be taken to help address them. For research priorities, NHTSA should encourage voluntary submissions by

companies to help develop best practices for safety—but only if they exceed the minimum actions discussed in the guidance and implement *ADS 2.0* in a robust manner.

We are concerned that companies will choose to submit only the bare minimum of information to NHTSA—which would be of little use to consumers and would not necessarily provide the agency with the data it needs to independently assess the safety of ADSs.¹⁰ We encourage the agency to do all it can to foster sufficiently robust responses and keep entities from simply “checking the boxes.” An expectation should be set for companies to frequently and routinely provide detailed ADS safety data to NHTSA and relevant state governments reflecting assessment, testing, and validation of a system. High-level descriptions of a company’s systems and activities are no substitute.

The development of a common template by industry for voluntary safety self-assessments, which NHTSA has been helping facilitate, could help ensure that safety regulators and the public find the assessments useful in understanding the steps a company has taken to evaluate the safety of an ADS. Companies, together with NHTSA and other stakeholders as part of an open process, should identify what kind of data would be critical to provide in order to assure safety with regard to each element in the guidance. They should agree on a standard for regularly and rapidly updating assessments, given the fast pace of change in the industry. Altogether, this effort would help ensure that NHTSA, states, researchers, and consumers have the information they need to verify that ADSs are safe. For consumers to benefit, it would be particularly important for NHTSA to ensure there is a functioning online repository for the assessments and appropriate education for consumers about the data’s availability.

This exercise to implement NHTSA’s guidance also could help identify an appropriately narrow scope for information related to ADSs that constitute trade secrets. We strongly encourage caution on what information related to ADSs must be kept confidential by NHTSA. While NHTSA certainly should protect true trade secrets, as well as personally identifiable information, provisions on the treatment of confidential business information should not inhibit the release of information that could keep consumers safe from a hazard that may emerge in an ADS or that would demonstrate the system’s safety. Fierce competition in the industry should not overwhelm the importance of transparency and cooperation for safety. One of the most damaging developments for automated driving technologies would be if a defect, or pattern of irresponsible behavior by a company, became widespread and led to consumer harm. Such circumstances could significantly set back public trust in ADSs and slow the technology’s progress. Also of concern is the possibility for more general consumer misunderstanding of the capabilities and limitations of a system. If consumer understanding is low as a result of a lack of useful information, public trust could be further eroded.

II. NHTSA Should Make Its ADS Guidance More Robust—Not Take Steps Backward

companies to the agency, and when necessary and appropriate, use its general and special order authority under 49 U.S.C. 30166(g) to gather additional data.

¹⁰ The NHTSA guidance asks entities that create ADSs show how they have accounted for a number of key factors inherent to the safety of these systems, but does not currently specify what level of detail the entities should include or what additional data should be submitted to the agency. *Id.*

NHTSA appropriately wants its ADS policy guidance to change along with the developing technology; indeed, the *ADS 2.0* guidance follows the Federal Automated Vehicles Policy document released in September 2016. In comments about this previous guidance, Consumers Union praised certain elements as appropriate, while also indicating ways in which NHTSA's approach to its oversight of ADSs should be more robust. Generally, we urged NHTSA to ensure that the guidance would serve as an initial regulatory framework—a floor, not a ceiling—for the regulation of automated systems, and that it would help build toward strong federal standards that would protect all road users, based on adequate research and a dedication to the public interest. To achieve these goals, we made several recommendations for how the agency could strengthen the guidance, which we still consider appropriate and relevant. We are resubmitting these comments to the docket and we urge you to review them in full.¹¹

ADS 2.0 made several significant changes to the 2016 guidance.¹² Unfortunately, the Department and NHTSA removed components of the previous guidance that are important to consumer safety or trust in self-driving technologies; therefore, in key ways, *ADS 2.0* represents a step backward. To remedy the gaps created by these omissions, we urge NHTSA to:

- Take prompt action to protect safety in vehicles with Level 2 partial automation. Unlike the previous guidance, *ADS 2.0* focuses solely on Level 3 through Level 5 ADSs. Given the demonstrated safety hazards associated with foreseeable use and misuse of Level 2 driving automation systems—which contain combined automated functions, like acceleration and steering, but require the driver to remain engaged and monitor the environment at all times—we do not support this change. These hazards recently were documented by the National Transportation Safety Board (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.¹³ Incidents like this and our own survey data indicate consumer confusion about the capabilities and limitations of Level 2 systems and how they differ from Level 3 systems.¹⁴ It appears that some consumers are foreseeably operating some Level 2 vehicles as if they were actually Level 3, reinforcing the need for consumer protection for these vehicles.

NHTSA should incorporate Level 2 systems into the guidance. However, if NHTSA proceeds with ADS guidance that does not focus on these systems, it is critical that the agency promptly implement the NTSB's recommendations separately. Generally, these include: (1) standardizing data parameters and crash reporting so that investigators can better understand driver and vehicle performance before and during a crash; (2)

¹¹ Comments of Consumer Reports and Consumers Union (CR-CU) to NHTSA on the Federal Automated Vehicles Policy (Nov. 22, 2016) (online at consumersunion.org/research/federalavpolicycomments) (Docket No. NHTSA-2016-0090-10069).

¹² NHTSA, "Information for Manufacturers: Automated Driving Systems" (Sept. 2017) (online at www.nhtsa.gov/manufacturers/automated-driving-systems) (hereinafter "NHTSA, Information for Manufacturers").

¹³ NTSB, *Abstract: Collision between a Car Operating with Automated Vehicle Control Systems and a Tractor-Semitrailer Truck; Williston, FL; May 7, 2016* (Sept. 12, 2017) (online at www.nts.gov/news/events/Documents/2017-HWY16FH018-BMG-abstract.pdf) (hereinafter "NTSB").

¹⁴ Consumer Reports, "The Positive Impact of Advanced Safety Systems for Cars" (June 29, 2017) (online at www.consumerreports.org/car-safety/positive-impact-of-advanced-safety-systems-for-cars) (unpublished data).

developing a method to verify that manufacturers of Level 2 vehicles incorporate system safeguards that limit use of driving automation to those conditions for which they were designed; and (3) develop minimum performance standards for connected vehicle technology and make them binding.¹⁵

- Reinstate the recommendation for companies to develop a plan for data sharing, including the sharing of event reconstruction and other information with other covered entities. While we understand that industry has significant concerns with the sharing of proprietary intellectual property information and that there also are some concerns around which safety metrics to share,¹⁶ these challenges should not be insurmountable in light of the lives that could be saved from the sharing of safety data related to ADSs. Data sharing among companies involved with the development of ADSs has great potential to accelerate innovation and amplify the safety benefits of the technology for consumers. It would be a missed opportunity for companies and NHTSA to put data sharing efforts on hold, and we urge their restoration as a priority in the guidance for companies.
- Work closely with the Federal Trade Commission (FTC) to establish baseline, enforceable privacy standards for cars. Consumers should be able to know what data their car is collecting and transmitting, and who has access to this information. They should be able to trust that companies are legally obligated to protect their privacy and the security of their data. This trust is important not just for consumers themselves, but also for the broader acceptance and successful deployment of active safety and ADSs across the marketplace. We understand, as NHTSA notes,¹⁷ that it is the FTC, and not NHTSA, that generally is charged with protecting consumer privacy. However, given the particularly sensitive data generated by self-driving vehicles and NHTSA's general competence over vehicle safety,¹⁸ we believe abandoning privacy as a priority element in *ADS 2.0* is counterproductive. Certainly, other government agencies besides the FTC enforce privacy protections as part of their general mandate, including the Department of Health and Human Services and the Consumer Financial Protection Bureau. In the absence of a recommendation for ADS companies to address privacy as part of a voluntary self-assessment, it is all the more important for NHTSA to play a convening role and help advance binding, enforceable, and universal privacy standards for motor vehicles, including allowances for appropriate access to safety-related data for purposes of crash and defect investigations.
- Assemble an expert working group on ethics standards. We agree with NHTSA that there currently "is no consensus around acceptable ethical decision-making" related to automated driving.¹⁹ The lack of such a consensus is all the more reason for automakers

¹⁵ NTSB, *supra*.

¹⁶ NHTSA, Information for Manufacturers, *supra*.

¹⁷ *Id.*

¹⁸ See, e.g., U.S. Senator Ed Markey, "Tracking & Hacking: Security & Privacy Gaps Put American Drivers at Risk" (Feb. 2015) (online at: www.markey.senate.gov/imo/media/doc/2015-02-06_MarkeyReport-Tracking_Hacking_Car_Security%202.pdf).

¹⁹ NHTSA, Information for Manufacturers, *supra*.

to be transparent about the ethical approaches and tradeoffs they are taking. We appreciate that NHTSA plans to further research the establishment of an industry framework for ethical considerations and collaborate with industry to develop standard test and simulation scenarios, but still believe these considerations should be part of the guidance. We also continue to suggest that NHTSA convene an expert working group on ethics standards, in order to maximize subject-area expertise and help prevent companies from reaching conflicting or divergent conclusions on their own.

- Use all current regulatory tools in a manner consistent with the Safety Act. While not fully incorporated into *ADS 2.0*, and instead included as a separate resource on NHTSA’s website, we appreciate NHTSA’s reassurance that it intends to use its current regulatory tools, as appropriate, in the ADS realm. All regulatory interpretations, exemptions from standards, and rule changes should be consistent with NHTSA’s statutory mandate under the National Traffic and Motor Vehicle Safety Act, as well as with narrower regulatory procedures associated with these authorities. As DOT and NHTSA have indicated, safety must be the top priority, and the agency should be aggressive in using these tools.

With regard to exemptions, NHTSA’s governing statute requires, among other things, that the agency may grant only those exemptions that are “consistent with the public interest” and with 49 U.S.C. Chapter 301. To comply with these requirements, exemptions should be limited to vehicles with regard to equipment where the sensors or actuators of an ADS can fully, effectively, and safely replace a human driver’s observations and actions related to a particular driving task or motor vehicle safety standard. Only under such circumstances could the vehicle’s manufacturer show that it is not necessary for the vehicle to meet a federal performance standard for a part of the car that has been replaced because the human driver never needs to use it.²⁰ Because a vehicle should provide crash protection regardless of whether it is driven by a human driver or automated system—and because exemptions must be consistent with the public interest—no exemptions should be provided for vehicles with regard to equipment required for crashworthiness or occupant protection in automated vehicles. Sadly, these vehicles, like traditional vehicles, will continue to be involved in crashes.

Also, to determine appropriate statistical backing and whether exemptions truly are justified by the body of the evidence, NHTSA should define a specific process and criteria for granting exemptions for automated vehicles using official notice-and-comment procedure. This process and criteria should be followed by manufacturers in seeking exemptions, and by the agency in determining whether to grant them. Developing a formalized process would not only make the agency’s review of exemptions more robust, but also ensure that ADSs only receive exemptions from motor vehicle safety standards appropriately, when they would not risk the protection to consumers that the relevant standards are intended to provide. Such a process likely also would enhance consumer confidence in the safety of any exempted vehicles, and promote business certainty compared to an exemption process that operates more on a case-by-case basis.

²⁰ For this reason, we are skeptical that there are any appropriate automation-related motor vehicle safety standard exemptions that could be granted to vehicles with driving automation systems of only Level 3 or lower, since these cars require fallback performance by a human driver.

On the enforcement side, NHTSA made clear in a September 2016 Enforcement Guidance Bulletin that it has the authority to deem reasonably foreseeable automated system risks to be safety-related defects.²¹ As ADSs advance, NHTSA should employ an agile, timely, and vigorous approach to defect investigation and enforcement action, and should use this authority whenever warranted by a threat to the public. However, in practice, the agency's ability to get unsafe cars off the road quickly is limited. We continue to urge Congress to grant NHTSA imminent hazard authority, improvements to the Early Warning Reporting program, and additional monetary and personnel resources to help ensure the agency is the kind of watchdog that consumers deserve.

- Keep an open mind, and an open dialogue, regarding modern regulatory tools. While its current regulatory tools give NHTSA significant capabilities, others identified by the agency in the Modern Regulatory Tools section of the 2016 Federal Automated Vehicles Policy offer great potential to help NHTSA sufficiently protect consumers as ADSs are developed and deployed—and this section should have been retained in *ADS 2.0*. For example, the idea of NHTSA assessing software changes after the point of sale, which the agency typically has not done but can undertake under its existing authority, is a promising way for the agency to ensure that vehicles are not just built to be safe, but remain safe if altered by software updates.²² This tool would be critical for the agency. As more companies employ over-the-air updates to vehicles, NHTSA could seek information on any changes addressed in the update to determine if they affect the vehicle's safety, then take any actions it might need to take on behalf of consumers. Another modern tool, imminent hazard authority (or “cease-and-desist” authority), would enable the agency to take immediate action on an unsafe condition or practice that causes emergency situation involving an imminent hazard of death, personal injury, or significant harm.²³ While NHTSA states that the Modern Regulatory Tools section was “[r]eplaced with the Department’s governance approach to removing barriers to ADS and maintaining NHTSA’s self-certification and defect and recall authorities,”²⁴ NHTSA’s statutory purpose remains the same, and it would be inappropriate to dismiss promising tools that would help “reduce traffic accidents and deaths and injuries resulting from traffic accidents.”²⁵

III. NHTSA Should More Strongly Emphasize Independent, Third-Party Validation of ADSs

²¹ NHTSA, *NHTSA Enforcement Guidance Bulletin 2016-02: Safety-Related Defects and Automated Safety Technologies*, 81 Fed. Reg. 65705 (Sept. 23, 2016).

²² FAVP 2016 at 76-77.

²³ FAVP 2016 at 75.

²⁴ NHTSA, Information for Manufacturers, *supra*.

²⁵ 49 U.S.C. 30101.

Currently, several measures indicate that majorities of consumers are hesitant to trust self-driving vehicles.²⁶ For example, preliminary survey results released by MIT AgeLab in May 2017 indicated that only 13% of respondents would be comfortable with a fully autonomous car, which represented more than a ten percentage point drop from a similar survey the previous year. The researchers pointed out that the declining trust in automation was particularly notable among younger respondents.²⁷ Consumers will be more likely to embrace potentially life-saving automated systems if ensuring safety in these cars goes above and beyond the self-certification that now occurs for compliance with federal safety standards. Therefore, we strongly support the idea of third-party testing and certification of ADSs by expert, independent entities,²⁸ provided that companies covered by the guidance also carefully test and certify the safety of their vehicles. While the section on validation methods in NHTSA's Performance Guidance already mentions that testing "could also be performed by an independent third party" in addition to the company making the ADS,²⁹ NHTSA should more strongly encourage such independent testing in the guidance and through interactions with industry. It would benefit safety not just by adding a layer of validation, but also by reducing the potential for safety compromises driven by conflicts of interest.

IV. The Guidance to States Is Generally Appropriate, and Should Be Expanded

With technology rapidly advancing, it is appropriate to clearly describe and delineate federal and state roles in regulating ADSs. As the agency undertakes this task, NHTSA makes clear that "the goal of state policies in this realm need not be uniformity or identical laws and regulations across all states" but "rather, the aim should be sufficient consistency of laws and policies."³⁰ With that in mind, we caution against going too far in the name of avoiding a "patchwork." NHTSA and the states are critical partners in ensuring consumer safety on our roads, and this partnership needs to continue and get stronger as automated driving technologies advance. Their knowledge and skills can be complementary, with NHTSA and states each providing support in areas in which the other may lack adequate expertise. Measures unduly restricting the ability of states to protect safety on public roads—particularly in the absence of a strong federal safety standard on a given subject—could lead to a vacuum that would put consumers at risk.

²⁶ See, e.g., "Deloitte Study: Fact, Fiction and Fear Cloud Future of Autonomous Vehicles in the Minds of Consumers," Deloitte (Jan. 17, 2017) (online at www2.deloitte.com/us/en/pages/about-deloitte/articles/press-releases/deloitte-study-future-of-autonomous-vehicles-in-minds-of-consumers.html); "Americans Feel Unsafe Sharing the Road with Fully Self-Driving Cars," AAA (Mar. 7, 2017) (online at newsroom.aaa.com/2017/03/americans-feel-unsafe-sharing-road-fully-self-driving-cars); Pew Research Center, "Americans' attitudes toward driverless vehicles" (Oct. 4, 2017) (online at www.pewinternet.org/2017/10/04/americans-attitudes-toward-driverless-vehicles).

²⁷ H. Abraham, et al., "Consumer Interest in Automation: Preliminary Observations Exploring a Year's Change" at 6 (Figure 4), White Paper (2017-2), Massachusetts Institute of Technology, AgeLab (May 25, 2017) (online at agelab.mit.edu/sites/default/files/MIT%20-%20NEMPA%20White%20Paper%20FINAL.pdf).

²⁸ ADS 2.0 at 8.

²⁹ FAVP 2016 at 31.

³⁰ ADS 2.0 at 20.

NHTSA's Technical Assistance to States includes appropriate guidance on subjects where state regulation of the testing, deployment, and operation of ADSs benefits consumer safety. These include issues related to requirements for drivers of deployed vehicles, registration and titling of these vehicles, law enforcement considerations, liability, and insurance. Of particular importance are best practices for states regarding the applications that companies would submit and the permissions they would need to receive in order to put vehicles with ADSs on public roads. While some states already have grappled with the details of these applications and permissions, others have not. It is appropriate for NHTSA to include these best practices in the guidance, as these kinds of sensible state requirements would provide an important layer of corporate accountability to consumers and help assure state officials that testing and deployment will be done responsibly.

However, there are additional steps that NHTSA should recommend the states take. NHTSA should recommend that states require dealers, rental companies, and other retailers to clearly communicate the capabilities and limitations of automated systems to consumers, to help prevent driver confusion over ADS capabilities that could lead to crashes, particularly of cars with the Level 2 and Level 3 systems whose capabilities can most readily be confused or overstated. In addition, NHTSA should recommend that states prohibit the operation of vehicles' ADSs if needed equipment has been significantly damaged and not repaired. Other appropriate steps for the states to take likely will be identified through a forthcoming working group report reflecting the collaborative work of NHTSA, the American Association of Motor Vehicle Administrators (AAMVA), and other stakeholders.³¹ We look forward to reviewing the working group's findings and recommendations.

V. The Proposed Information Collection Is Necessary, but Likely Inadequate for the Agency to Properly Perform Its Functions

In its notice indicating modifications to the currently approved information collection for automated vehicle performance guidance,³² NHTSA proposes to change its burden calculations to reflect the differences between the 2016 Federal Automated Vehicle Policy and *ADS 2.0*. Consumers Union supports efforts by federal agencies to ensure that policies developed in the past are still achieving their purposes in the most effective manner, and are strengthened or revised as warranted with that goal in mind. Compliance burdens and costs should be carefully weighed against the primary objective of ensuring that policies effectively carry out statutory and regulatory imperatives to protect consumers.

NHTSA's present information collection request is necessary for the agency to implement the *ADS 2.0* policy guidance. We support the implementation of *ADS 2.0* as a starting point for companies designing ADSs to assess the safety of their systems, and urge companies to implement the guidance and ultimately use it as a framework for sharing safety data with regulators and consumers and building public trust. Information sharing leads to transparency, which leads to public trust, and should be a clear part of a duty and responsibility to advance the safety of vehicles.

³¹ ADS 2.0 at 19.

³² OMB Control No. 2127-0723.

We also consider the proposed modified information collection request to be likely inadequate for the agency to properly perform its functions related to the safety of ADSs. As we have commented, there is much beyond what is outlined in *ADS 2.0* that NHTSA should undertake to support consumer safety and trust with regard to ADSs. These include several actions that reflect elements previously considered as a part of the existing approved information collection, but are no longer included meaningfully in *ADS 2.0*, such as Level 2 driving automation, data sharing, privacy, and ethical considerations.

VI. Conclusion

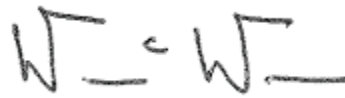
Self-driving cars have enormous potential to greatly improve mobility and make our roads safer by significantly reducing crashes attributable to driver error—but to realize this promise, safety truly must be the top priority. With 37,461 people losing their lives just last year from motor vehicle crashes, companies and policymakers should recognize that it is not an option for automated driving systems to just meet the current level of safety or achieve mere marginal gains. Instead, there must be an expectation that these systems should significantly improve safety and continually build on previous safety gains. To meet this expectation, companies should show consumers these systems' safety benefits—not just tell them.

The Department of Transportation and NHTSA's *ADS 2.0* document provides a starting point for entities developing automated driving systems. Components of *ADS 2.0* give companies and states useful guidance, while other areas should be stronger to better safeguard consumers on our roads. As we encourage companies to implement, follow, and surpass *ADS 2.0*, we urge NHTSA to incorporate our feedback into its ongoing activities and the next version of the guidance to come in 2018. We look forward to working with the agency and all stakeholders to help automated driving systems meet their potential to improve consumers' quality of life, prevent crashes, and save lives.

Respectfully submitted,



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