



April 1, 2021  
USG 5022

Dr. Steven Cliff  
Acting Administrator  
National Highway Traffic Safety Administration  
1200 New Jersey Avenue, S.E.  
Washington, D.C. 20590

RE: NHTSA Docket 2020-0106; ANPRM on a Framework for Automated Driving System Safety

Dear Dr. Cliff:

General Motors LLC and Cruise LLC (“GM/Cruise”) appreciate the opportunity to provide comments addressing NHTSA’s Advance Notice of Proposed Rulemaking (“ANPRM”) on developing a framework for Automated Driving System (“ADS”) safety.

### **Executive Summary**

GM/Cruise commends NHTSA for its thoughtful leadership in advancing policies to promote the testing, evaluation, and ultimate deployment of ADS and vehicles equipped with ADS. This ANPRM is an important step in obtaining stakeholder input about the best approach to ensure the safety of ADS in the short-term and the long-term. GM/Cruise believes that public acceptance of ADS will depend on public perception of its safety and on public confidence in an appropriate level of regulatory oversight.

Overall, GM/Cruise’s view is that it is premature to consider standards or regulations to govern the safety of the ADS at this time. Currently, there is insufficient data about ADS performance in the real world to inform reasonable standard-setting, and there has not been a demonstrated safety need for such regulation.

The guidance announced through the Federal AV Policy statements (*i.e.*, FAVP 1.0 through 4.0), and the newest Automated Vehicle Comprehensive Plan, is working. Responsible AV developers are filing Voluntary Safety Self-Assessment letters with NHTSA pursuant to these FAVPs to provide transparency to their safety strategies. On-road testing continues to take place safely, and the judicious use of the agency’s exemption authorities should be very helpful in expanding the testing and early deployment that can take place. The leaders in this industry appreciate that the success or failure of AVs depend on public acceptance of their safety, and each is developing its own approach to accomplish a consistently higher level of safety and meet those expectations. Allowing that process to develop will produce a range of innovative solutions that collectively will improve the quality of AV safety beyond what any one company

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will likely achieve. Providing time for this process to mature will both improve the quality and variety of safety solutions and will ensure that regulations encourage innovation rather than potentially limit the industry's safety ambitions.

As the Agency's knowledge base increases and the ADS in the market matures, there will be time to assess how performance-based standards for some aspects of ADS performance may advance these efforts towards optimal performance and public assurance. For now, GM/Cruise urges NHTSA to ensure that any contemplated standards are developed with the following principles in mind:

- The standards must be performance-based, consistent with the Vehicle Safety Act's requirements.
- Manufacturers must be able to self-certify compliance with any future standards. The Agency should resist any calls for establishing a type-approval process for verifying compliance.
- NHTSA should resist efforts to regulate ADS performance through the application of Functional Safety principles. Functional Safety principles are valuable for ADS developers to aid in thinking about how to develop, among other things, fallback conditions, but Functional Safety metrics and mandates do not always translate to AV systems. Moreover, Functional Safety is a concept related to the process of product development, an area that is not within NHTSA's current rulemaking authority.

Finally, in all aspects of policy development for ADS, we encourage NHTSA to continue and enhance its efforts to work with industry, through programs like the AV TEST initiative, to build public understanding of ADS through education, experience with ADS, and a shared commitment to safety above all. We further encourage NHTSA, as appropriate, to work with Congress to increase the cap on exemptions under 49 USC § 30113 for AV systems, which, as previously noted, may help provide valuable data to inform NHTSA on how to best address ADS safety through sensible and thoughtful regulation in the future.

### **Specific ANPRM Topics for Comment**

GM/Cruise will now turn to the specific topics on which NHTSA sought responses. For convenience, GM/Cruise will paraphrase each topic before each response.

*Question 1:* Describe your conception of a Federal safety framework for ADS that encompasses the process and engineering measures described in this notice and explain your rationale for its design.

*GM/Cruise Response:* GM/Cruise envisions the continuation of a voluntary framework for ADS safety that was started with AV 1.0 and was further developed with AV 2.0 through the 12-point Voluntary Safety Self-Assessment process, and then further developed through subsequent policies 3.0 and 4.0, and the latest AVCP. NHTSA should continue to expect ADS developers and manufacturers of ADS-equipped vehicles to file VSSAs and supplement them, as appropriate.

There is insufficient field data to support the development of regulations at this time. Moreover, premature regulation could risk inhibiting technological developments.

As NHTSA noted in the preamble to the ANPRM:

NHTSA has no desire to issue regulations that would needlessly prevent the deployment of any ADS-equipped vehicle, as this could inhibit the development of a promising technology that has the potential to result in an unprecedented increase in safety. Any regulatory approach must have well-founded supporting data indicating safety needs. An ill-conceived standard may fail to meet the need for motor vehicle safety and needlessly stifle innovation. Worse yet, issuing premature regulations could even increase safety risk with unintended consequences. 85 Fed. Reg. at 78062.

GM/Cruise agrees.

It is also inappropriate for NHTSA to regulate Functional Safety. Functional Safety as described in ISO 26262 relates to the process of designing a motor vehicle product. It is not a performance-based approach. Traditional Functional Safety metrics and mandates do not always translate to AV systems. Moreover, the focus of Functional Safety is ensuring that potential software or hardware failures are anticipated and either avoided or mitigated during the design process. Functional Safety does not address the core question of whether or how the ADS is performing and acting as intended. NHTSA's statutory authority for FMVSSs reaches the performance of a motor vehicle or motor vehicle equipment, but does not encompass regulating the vehicle design process directly as ISO 26262 does.

As NHTSA has noted on many occasions, its safety defect enforcement authority extends fully to ADS that are operated on public roads. This authority, which NHTSA has already exercised to stop unsafe ADS designs in the market, is sufficient to protect the public from unreasonable safety risks from ADS at this time.

*Question 2:* In consideration of optimum use of NHTSA's resources, on which aspects of a manufacturer's comprehensive demonstration of the safety of its ADS should the Agency place a priority and focus its monitoring and safety oversight efforts and why?

*GM/Cruise Response:* GM/Cruise urges NHTSA to continue to focus on the 12 ADS safety elements identified in AV 2.0. A testament to how effective these safety elements have been to AV developers are the millions of miles of successful road tests in AVs without any serious incidents involving AVs with properly trained safety operators. These safety elements outline salient and appropriate considerations for evaluating the safety of the ADS.

NHTSA should also focus on obtaining data about the public road safety record of AVs driving in their intended ODD. Timely reviewing and acting on AV-related Part 555 exemption petitions should be a helpful means for NHTSA to gather such data (*e.g.*, through reporting conditions placed on granted exemptions, like those placed on Nuro).<sup>1</sup> In addition to Part 555 exemptions, exemptions granted under 49 USC § 30114 could similarly provide rich field-data for NHTSA. With regard to exemptions under 49 USC § 30114, NHTSA should complete its review of the Request for Comment on *Exemptions for Domestically Produced Vehicles and*

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<sup>1</sup> See 85 Fed. Reg. 7826, 7840.

*Equipment for Research, Investigations, Demonstrations, or Training*, NHTSA Docket 2020-0122 (“Demonstration Exemption Program”) that was released in January 2021, but not yet published in the Federal Register. The Demonstration Exemption Program has promising potential to assist NHTSA in collecting and developing additional field data by expanding the pool of entities seeking to test AVs. Approving the Demonstration Exemption Program would further expand the pool of entities applying for exemptions and thereby increase the AV field-data NHTSA can access for purposes of future ADS-related rulemaking. Data collected from exempted entities, whether under Part 555 or 49 USC § 30114,<sup>2</sup> can provide NHTSA the field data it needs to determine how best to address ADS safety.

In addition to the Demonstration Exemption Program, NHTSA could look more broadly at unlocking the potential that 49 USC § 30114. If NHTSA allowed domestic manufacturers, including legacy and non-legacy manufacturers, to utilize 49 USC § 30114 with respect to Box 7, it could offer NHTSA a significant source of AV field-performance data. Specifically, NHTSA could further the original “pilot program” it proposed in 2018<sup>3</sup> and use 49 USC § 30114 to provide exemptions to domestic manufacturers/developers for commercial purposes under conditions to be set by NHTSA (*e.g.*, data reporting requirements).<sup>4</sup> In addition to being able to collect much-needed ADS data, NHTSA would be providing parity between foreign and domestic manufacturers by allowing domestic entities to seek exemptions under 49 USC § 30114 and use the exempted vehicles for commercial purposes.

*Question 3:* How would your conception of such a framework ensure that manufacturers assess and assure each core element of safety effectively?

*GM/Cruise Response:* The VSSA process has worked well since it was initiated several years ago. More than 25 companies have provided VSSAs to NHTSA, and NHTSA has posted them on its website. One benefit of posting the VSSAs on the website is that the public is given a transparent window into the safety assessments conducted by the manufacturers of AVs and ADS equipment, and this helps build public confidence in these vehicles and systems.

NHTSA should view safety assessments of ADS holistically rather than as a collection of assessments of individual core elements. High performance on an individual metric/component, or even a series of metrics/components, may not translate into a safe vehicle ecosystem. Rather, NHTSA should allow developers flexibility in establishing safety performance goals and standards that reflect desirable performance even if such goals and standards are not tethered to core elements such as sensing or perception.

*Question 4:* How would your framework assist NHTSA in engaging with ADS development in a manner that helps address safety, but without unnecessarily hampering innovation?

*GM/Cruise Response:* GM/Cruise supports the current voluntary framework that has proven successful as explained above. GM/Cruise also supports Exemption Programs as a

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<sup>2</sup> For ease of reference in these comments, GM/Cruise will refer to exemptions under both 49 USC §§ 30113 and 30114 collectively as the Exemption Programs.

<sup>3</sup> See 83 Fed. Reg. 50872)

<sup>4</sup> See Comment from General Motors and Cruise, December 10, 2018 (USG 4798), Docket No. NHTSA-2018-0092.

means for NHTSA to collect valuable data that will document the performance of the ADS in multiple environments, which will either confirm that the safety assessment was adequate, or provide early warning of issues that need to be addressed promptly. The Exemption Programs will be particularly useful to spur innovation in a responsible, controlled, and supervised manner.

*Question 5:* How could the Agency best assess whether each manufacturer had adequately demonstrated the extent of its ADS' ability to meet each prioritized element of safety?

*GM/Cruise Response:* The VSSA framework can serve this purpose. Each of the 12 safety elements identified by NHTSA in 2017 is addressed in the VSSA, providing NHTSA and the public with useful information about the manufacturer's approach to safety. Under the current framework, each manufacturer must still self-certify to applicable standards or obtain an exemption from NHTSA, either through the Part 555 process or under the Demonstration Exemption Program. This process assures the safety of the vehicle systems that are already regulated.

As to the performance of the ADS itself in an otherwise compliant (or exempted) vehicle, each manufacturer will have to make a judgment that the ADS in its vehicles is ready to share public roads with other vehicles, bicycles, and pedestrians. To ensure that manufacturers make reasonable judgments to deploy their ADS-equipped vehicles, NHTSA has the authority to investigate potential safety defects and, if necessary, obtain recalls to remedy such defects in order to protect the public safety, and even order such vehicles off the road entirely.

*Question 6:* Do you agree or disagree with the core elements (*i.e.*, "sensing," "perception," "planning" and "control") described in this notice? Please explain why.

*GM/Cruise Response:* GM/Cruise agrees that sensing, planning, perception, and control are all important considerations for an AV developer in creating an ADS system. However, it is the safety of the overall system rather than these individual elements that is determinative. A highly perceptive system, for example, does not necessarily translate into a safe one.

*Question 7:* Can you suggest any other core element(s) that NHTSA should consider in developing a safety framework for ADS? Please provide the basis of your suggestion.

*GM/Cruise Response:* Not at this time.

*Question 8:* At this early point in the development of ADS, how should NHTSA determine whether regulation is actually needed versus theoretically desirable? Can it be done effectively at this early stage and would it yield a safety outcome outweighing the associated risk of delaying or distorting paths of technological development in ways that might result in forgone safety benefits and/or increased costs?

*GM/Cruise Response:* As previously stated, rulemaking by NHTSA is premature at this time. NHTSA needs to continue its research and its collection of field data to determine what new regulatory requirements might be warranted.

NHTSA’s approval of exemptions—both pursuant to Part 555 and, if finalized, the new Demonstration Exemption Program—will be very helpful in generating the necessary data to support rulemaking in the long-term. These Exemption Programs have huge potential to generate the predicate data NHTSA needs to begin assessing both whether there is an identifiable safety need and, to the extent there is, whether objective and appropriate performance requirements for the ADS would address that need.

*Question 9:* If NHTSA were to develop standards before an ADS-equipped vehicle or an ADS that the Agency could test is widely available, how could NHTSA validate the appropriateness of its standards? How would such a standard impact future ADS development and design? How would such standards be consistent with NHTSA’s legal obligations?

*GM/Cruise Response:* NHTSA has historically adopted standards only after establishing the safety need through field data and demonstrating through research that the safety performance demanded by the standard actually addresses the documented safety need. NHTSA also needs to be able to test actual vehicles in order to demonstrate that the safety performance demanded by a standard can be practicably met, and that the objective requirements of the standard are capable of being evaluated by test procedures that are repeatable and reproducible. These are the minimum requirements of the Safety Act for motor vehicle safety standards.<sup>5</sup>

For these reasons, in the absence of field data, there is no reasonable way for NHTSA to develop safety standards for ADS. NHTSA should work with manufacturers to identify and collect field data through the Exemption Programs and otherwise, to help identify the need for, and scope of, new safety standards for ADS.

GM/Cruise also notes that premature standards may hinder innovation by “locking down” certain approaches to safety and unintentionally preclude alternative strategies to achieve safe ADS performance.

*Question 10:* Which safety standards would be considered the most effective as improving safety and consumer confidence and should therefore be given priority over other possible standards? What about other administrative mechanisms available to NHTSA?

*GM/Cruise Response:* This is difficult to answer without understanding the primary areas of consumer concerns regarding ADS safety. An alternative might be to determine areas of primary public concern about ADS safety and develop research to collect data to address those concerns. The use of Exemption Programs could also be helpful in building consumer confidence in the safe operation of AVs as consumers see them operating safely in their communities. For example, commercial AV ride-hailing services operating safely in communities could further build consumer confidence.

NHTSA should stay the course of issuing new standards only when the data supports the safety need, the practicability of the desired performance requirements (including consumer

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<sup>5</sup> See 49 U.S.C. § 30111(a).

acceptance) and the ability to craft objective test procedures to measure those performance requirements.

*Question 11:* What rule-based and statistical methodologies are best suited for assessing the extent to which an ADS meets the core functions of ADS safety performance? Please explain the basis for your answers. Rule-based assessment involves the definition of a comprehensive set of rules that define precisely what it means to function safely, and which vehicles can be empirically tested against. Statistical approaches track the performance of vehicles over millions of miles of real-world operation and calculate their probability of safe operation as an extrapolation of their observed frequency of safety violations. If there are other types of methodologies that would be suitable, please identify and discuss them. Please explain the basis for your answers.

*GM/Cruise Response:* In the future, there could be a place for both rule-based and statistical methodologies, but in the short-term, neither are appropriate for mandatory rules. To be sure, there are strengths and limitations with both methodologies. For example, in the longer-term, some rule-based methodologies may be desirable to create certainty and confer preemption. An issue with rule-based methodologies, at least in the short term, is that while they can prove certain vehicle behaviors, they cannot guarantee safety or account for every possible ODD or behavior the ADS will encounter in a given ODD. Rules define certain behaviors in a given circumstance, which, while valuable, are not themselves determinative of safety, as they by definition cannot account for the breadth of all on-road activity. Statistical methods, on the other hand, can be focused on the overall driving performance within a specific ODD and the scenarios the ADS will encounter in that ODD. Statistical methods also need not be limited to analysis of performance of vehicles over millions of miles of real-world operation. In the case of non-traditional vehicles, manufacturers may also rely heavily on analysis of vehicle behavior in simulation. Statistical methods developed and used by the manufacturer/developer can capture a wide range of possible scenarios and events over time and may prove to be a better predictor of safe ADS behaviors for a given ODD.

*Question 12:* What types and quanta of evidence would be necessary for reliable demonstrations of the level of performance achieved for the core elements of ADS safety performance?

*GM/Cruise Response:* While statistical evidence from exposure testing and augmentation via simulation might be an appropriate methodology for demonstrating performance to identified core elements, we are concerned about focusing on core elements and support a more holistic approach to safety. Therefore, the focus should be on overall system safety performance rather than core safety elements.

*Question 13:* What types and amount of argumentation would be necessary for reliable and persuasive demonstrations of the level of performance achieved for the core functions of ADS safety performance?

*GM/Cruise Response:* Core function demonstration is not required if overall performance is shown. This is a derived requirement, and can show robustness, but is only a good auxiliary demonstration.

*Question 14:* What additional research would best support the creation of a safety framework? In what sequence should the additional research be conducted and why? What tools are necessary to perform such research?

*GM/Cruise Response:* See response to Q10.

GM/Cruise also recommends that NHTSA work with stakeholders to develop a standard severity framework for the safety critical elements of ADS, similar to the risk matrices that NHTSA has developed for conventional vehicle defect investigations. The release of the results of NHTSA's research into standard human benchmark targets—like the Strategic Highway Research Program 2 data—would also be helpful.

*Question 15:* Discuss the administrative mechanisms described in this document in terms of how well they meet the selection criteria in this document.

*GM/Cruise Response:* NHTSA identified several administrative mechanisms in the notice. GM/Cruise will address each in turn.

#### A. Voluntary Mechanisms

##### 1. Safety Self-Assessment and Other Disclosure and Reporting

GM/Cruise favors this mechanism as striking the best balance between promoting safety and not inhibiting innovation. GM/Cruise supports the continued use of the VSSA tool to collect relevant data about how manufacturers prioritize safety. GM/Cruise also encourages NHTSA to work with stakeholders on voluntary ADS standards and other voluntary incentives to provide data to NHTSA, such as through Exemption Programs.

NHTSA discussed the possibility of issuing guidance to encourage the development of a safety case by manufacturers, and providing incentives to manufacturers to disclose to NHTSA and/or the public some or all of their safety cases. GM/Cruise supports the development of such guidance by NHTSA.

##### 2. New Car Assessment Program (NCAP)

NHTSA raised the possibility of rating ADS competency in the NCAP system. GM/Cruise does not believe that this is a useful option or good use of NHTSA resources, at least at this time. NCAP is intended to aid the purchase or lease of new or late-model used cars by consumers. At least at first, AVs are not likely to be purchased or leased by individuals. It is far more likely that they will be operated by fleets, perhaps with ownership retained by the OEM or an entity with an OEM partner.

On the consumer facing side, consumers riding in taxis or ride-sharing platforms do not use NCAP to select which vehicle they will hire for their ride, and are unlikely to do so when these platforms begin deploying AVs.



### 3. Operational Guidance

The ANPRM discussed whether it should continue to develop guidance on engineering and process measures for ADS and ADS-equipped vehicles. As mentioned above, functional safety and other internal safety processes that manufacturers use to design and validate the safety of the ADS are outside the scope of what NHTSA can regulate under the Safety Act. To the extent any operation guidance is voluntary guidance, GM/Cruise supports this approach.

#### B. Regulatory Mechanisms

##### 1. Mandatory Reporting and/or Disclosure

The notice discussed steps NHTSA has taken to require mandatory reporting from companies who are granted exemptions, either under Part 555 or through the process for authorizing temporary importation of noncompliant vehicles from locations outside the United States. GM/Cruise has no objection to NHTSA's use of its exemption authority to require a reasonable amount of reporting from manufacturers who are granted such exemptions or other permissions. NHTSA needs data about ADS performance in order to understand ADS, build public trust and confidence in ADS safety, and decide whether and how to regulate ADS safety at an appropriate point in the future. Collecting data through conditions placed on FMVSS exemptions may be a promising mechanism for NHTSA to obtain such data.

##### 2. NHTSA's FMVSS Setting Authority

As NHTSA stated in the notice, “[i]n most instances, when NHTSA has mandated the installation of a technology by way of performance standards, it has not done so until the technology is fully developed and mature ...”. As ADS technology is not yet “fully developed and mature,” GM/Cruise believes that FMVSSs for ADS performance are premature.

##### 3. Applying the Established FMVSS Framework to ADS Safety Principles

NHTSA asked whether it would be appropriate to regulate through an FMVSS the relationship between the safety of an ADS's design and the vehicle's decision-making system. For example, NHTSA discussed whether it would be appropriate to require that an ADS-equipped vehicle on which one or more sensors became non-functional revert to manual mode or operate automatically in a reduced (“limp home”) mode only.

While GM/Cruise believes that discussions of the relationship between the safety of an ADS's design and the vehicle decision-making system are healthy, it is premature to conceive of regulations in this area.

##### 4. Reforming How NHTSA Drafts New FMVSS To Keep Pace With Rapidly Evolving Technology

This discussion in the ANPRM seemed more inwardly directed at how NHTSA writes FMVSS going forward, and noted that it could take an approach of writing new standards with an eye on ADS, and consciously avoiding potential obstacles to the extension of the new

standard to ADS-equipped vehicles (such as avoiding the term “driver” or “hand-operated control.”)

GM/Cruise supports this idea and urges NHTSA to implement it going forward.

## 5. Examples of Regulatory Approaches

NHTSA requested comment on several regulatory approaches, such as writing an FMVSS to require obstacle course-based validation in variable scenarios, or requiring vehicles to be programmed to drive defensively in a risk-minimizing scenario within their ODD.

Even while seeking comment on these options, NHTSA noted that it is unlikely that any set of regulatory scenarios would be adequate to test ADS competency. GM/Cruise agrees. Moreover, NHTSA is required by statute to ensure that its FMVSSs are objective and practicable, which precludes the sort of “variable test procedure” that some advocates have sought.<sup>6</sup>

As to the concept of requiring vehicles to be programmed to drive defensively, GM/Cruise does not support this concept. More specifically, GM/Cruise does not understand how an FMVSS could be written to do this, consistent with the Safety Act’s requirements for FMVSSs.<sup>7</sup>

GM/Cruise commends NHTSA for noting and discussing the challenges to NHTSA’s traditional approach to standard setting that are posed by the likelihood of different ADS having different sensors, systems, and ODDs. NHTSA’s traditional approach to standard setting is aimed at regulating the safety of a motor vehicle that can be purchased anywhere in the U.S. and driven anywhere in the U.S. The concept of uniform, national standards has been an animating spirit of the FMVSSs for more than 50 years. For the foreseeable future, however, ADS-equipped vehicles will not fit this model. They will not be capable of being driven anywhere in the U.S., at least not in ADS mode. They will be limited to their ODDs and their decision-making functions will be optimized for that ODD. This poses tremendous, if not insurmountable, challenges for NHTSA in trying to write a single set of FMVSSs with national applicability.

### D.<sup>8</sup> Timing and Phasing of FMVSS Development and Implementation

See response to Question 9.

### E. Critical Factors Considered in Designing, Assessing and Selecting Administrative Mechanisms

The ANPRM identified a set of critical factors that NHTSA will weigh in exploring the advantages and disadvantages of the identified administrative mechanisms. These include the

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<sup>6</sup> See 49 U.S.C. § 30111(a).

<sup>7</sup> See *id.*

<sup>8</sup> Note that there was no section “C” in this part of the NPRM for GM/Cruise to address.

need for consistent and reliable assurance of safety, technology neutrality, predictability, transparency, efficiency, equity, consistency with market-based innovation and rational deployment of resources.

GM/Cruise supports these factors as useful aids in deciding how the Agency should approach the oversight of ADS safety. At least in the near term, GM/Cruise submits that these factors support the voluntary approaches identified in Question 15.A., above.

*Question 16:* Of the administrative mechanisms described in this document, which single mechanism or combination of mechanisms would best enable the Agency to carry out its safety mission, and why? If you believe that any of the mechanisms described in this document should not be considered, please explain why.

*GM/Cruise Response:* GM/Cruise supports a combination of the mechanisms described in Question 15.A, for the reasons discussed above.

*Question 17:* Which mechanisms could be implemented in the near term or are the easiest and quickest to implement, and why?

*GM/Cruise Response:* The mechanisms described in Question 15.A, above, can be implemented without rulemaking, and can support deployment of AVs, which, in turn, can generate the data that NHTSA needs to decide whether more formal steps, such as standard setting, are desirable.

This is similar to the pattern of NHTSA efforts to encourage electronic stability control (now enshrined in an FMVSS), rear seat safety belt use reminders and automatic emergency braking.

*Question 18:* Which mechanisms might not be implementable until the mid or long term but might be a logical next step to those mechanisms that could be implemented in the near term, and why?

*GM/Cruise Response:* Rulemaking should not, and cannot, proceed until a safety need has been established and quantified. This will require additional research and field data. Consequently, this should be longer term. The voluntary mechanisms described in response to Question 15.A above can help serve as a bridge to longer term rulemaking.

*Question 19:* What additional mechanisms should be considered, and why?

*GM/Cruise Response:* GM/Cruise has no additional mechanisms to recommend at this time.

*Question 20:* What are the pros and cons of incorporating the elements of the framework in new FMVSS or alternative compliance pathways?

*GM/Cruise Response:* GM/Cruise supports a framework for safety that is based on the 12 safety elements identified in AV 2.0 and implemented through the VSSAs. This framework

provides a comprehensive base from which to develop future voluntary agreements and, eventually, potential safety standards.

For reasons discussed elsewhere in these comments, GM/Cruise believes that it is premature to discuss new FMVSSs for ADS performance in more detail at this time.

*Question 21:* Should NHTSA consider an alternative regulatory path, with a parallel path for compliance verification testing, that could allow for flexible demonstrations of competence with respect to the core functions of ADS safety performance? If so, what are the pros and cons of such alternative regulatory path? What are the pros and cons of an alternative pathway that would allow a vehicle to comply with either applicable FMVSS or with novel demonstrations, or a combination of both, as is appropriate for the vehicle design and its intended operation? Under what authority could such an approach be developed?

*GM/Cruise Response:* Given that the Vehicle Safety Act has a core principle of manufacturer self-certification to FMVSSs, GM/Cruise believes that the concept of “flexible demonstrations” of compliance already exists within the law. This principle was recently reaffirmed by NHTSA in the notice that revised the so-called Google interpretation on test procedures.

However, the notion of calling for “compliance verification testing” of ADS safety performance presupposes that there is an FMVSS on ADS safety performance that needs a compliance verification test. There are no such safety standards regulating the ADS,<sup>9</sup> and for all the reasons discussed in this comment, GM/Cruise believes that it is premature to attempt to regulate ADS safety performance through an FMVSS.

*Question 22:* Discuss how each element of the framework would interact with NHTSA’s rulemaking, enforcement, and other authority under the Vehicle Safety Act.

*GM/Cruise Response:* Under GM/Cruise’s recommended framework for the near-term that is based on the VSSAs and the 12 Safety Elements identified in AV 2.0, NHTSA would interact with the manufacturer primarily through the enforcement authority exercised by the Office of Defects Investigation if on-road safety issues began to emerge.

*Question 23:* Discuss how each element of the framework would interact with Department of Transportation Rules concerning rulemaking, enforcement, and guidance.

*GM/Cruise Response:* GM/Cruise’s recommended framework does not involve rulemaking at this time. As to the rules concerning enforcement, GM/Cruise believes that the DOT rules regarding fairness to the regulated industry, including providing reasonable notice of regulated conduct, should apply equally to manufacturers of ADS-equipped vehicles as they do to manufacturers of conventional vehicles. Likewise, the DOT rules on guidance, including clarifying that the guidance is not binding, should also apply equally to manufacturers of ADS-equipped vehicles and manufacturers of conventional vehicles.

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<sup>9</sup> NHTSA drew the same conclusion as recently as February 2020, when it granted Nuro’s Part 555 exemption petition and declined to directly assess the safety of the ADS at least in part because there are no FMVSSs that regulate the safety of the ADS. See 85 FR 7826, 7838.

*Question 24:* If your comment supports the Agency taking actions that you believe may fall outside its existing rulemaking or enforcement authority, please explain your reasons for that belief and describe what additional authority might be needed.

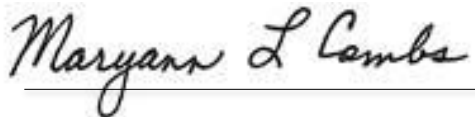
*GM/Cruise Response:* This question does not apply to GM/Cruise's comment.

*Question 25:* If you believe that any of the administrative mechanisms described in this document falls outside the Agency's existing rulemaking or enforcement authority under the Vehicle Safety Act or Department of Transportation regulations, please explain the reasons for that belief.

*GM/Cruise Response:* GM/Cruise believes that most of the administrative mechanisms identified in Question 15, above, are within NHTSA's authority; however, GM/Cruise submits that NHTSA does not have the authority to adopt an FMVSS with infinitely variable test procedures. (NHTSA did not claim such authority, but it is implied by some of the discussion accompanying Question 15.B.5.)

GM/Cruise appreciates this opportunity to participate in this proceeding, and would be happy to provide any additional information that NHTSA would find useful as it considers these comments. Please feel free to contact Matthew Jerinsky of our Washington, D.C. office at (matthew.jerinsky@gm.com) with any questions you might have.

Sincerely,



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Maryann L. Combs  
Vice President  
Global Vehicle Safety