

HONDA

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August 28, 2019

Deputy Administrator
National Highway Traffic Safety Administration
West Building, Ground Floor, Room W12-140
1200 New Jersey Avenue SE, Washington, DC 20590

**Re: Docket No. NHTSA-2019-0036
Federal Register: 84 FR 24433 (May 28, 2019)
Advanced Notice of Proposed Rulemaking (ANPRM)
Removing Regulatory Barriers for Vehicles with ADS**

Dear Deputy Administrator:

Enclosed are the comments of American Honda Motor Co., Inc. regarding the above referenced docket and Federal Register notice.

We thank you for this opportunity to provide our comments. If you have any questions, require additional data or further clarification, please contact David Liu, Manager of Regulatory Safety Affairs, at 202-661-4408 or david_liu@ahm.honda.com.

Sincerely,

American Honda Motor Co., Inc.



John Turley
Senior Manager
Product Regulatory Office

JET:dl

American Honda Motor, Co., Inc.

Comments on Removing Regulatory Barriers for Vehicles with ADS

[Docket No. NHTSA-2019-0036]

[Federal Register: 84 FR 24433 (May 28, 2019)]

[Submitted August 28, 2019]

Honda appreciates this opportunity to provide comments to NHTSA's RFC on removing regulatory barriers for Automated Driving Systems (ADS). Honda believes that ADS vehicles hold enormous potential to realize our dream of a collision-free society where all road users can safely enjoy the freedom of mobility. We commend NHTSA's continued efforts to promote regulatory pathways for ADS development and deployment. Honda supports NHTSA's efforts in this ANPRM and we remain an engaged industry stakeholder in the related research being conducted by the Virginia Tech Transportation Institute. In addition to the comments submitted by Global Automakers, which Honda supports, Honda wishes to provide additional comments herein.

We agree with NHTSA's initial approach to address barriers in this ANPRM for 100-series Crash Avoidance FMVSS, in addition to the subsequent ANPRMs to address barriers in the 200 series Crashworthiness FMVSS, and barriers regarding Telltales, Indicators, and Warnings. Honda recommends that NHTSA utilize the public comments solicited from these documents to further develop a strategic approach for removing these regulatory barriers. The agency should not necessarily limit the approach of subsequent rulemaking actions based upon the initial organization of these three ANPRM documents. While each FMVSS may present unique challenges for certifying compliance with an ADS vehicle, many cross-cutting themes have already been identified. We recommend that the agency evaluate the extent to which **multiple FMVSS can be addressed simultaneously in a rulemaking** to ensure that the barriers can be addressed as expeditiously as possible.

Honda also recommends that the agency consider the development of a **specific vehicle class for ADS equipped vehicles**, which may be executed in a fashion similar to the existing Low-speed vehicles class. Such an ADS equipped vehicle class could provide greater flexibility and clarity in the implementation of FMVSS amendments, optional alternative test procedures, and the general applicability of FMVSSs themselves. In the future, this vehicle class could also facilitate the development of new requirements for ADS equipped vehicles that seek to set standards for additional performance specific to Automated Driving Systems, and beyond existing FMVSS. However, Honda strongly urges that the scope of these three ANPRM documents must remain limited to interpreting the original safety intent of the FMVSS. Failing to do so will certainly jeopardize the urgency of these initial ADS barrier regulatory efforts.

We also wish to highlight that the barriers presented in the existing **U.S. Part 581 Bumper Standard** are not apparently included in the scope of these three rulemaking documents. While the agency intends to update the U.S. Part 581 Bumper Standard in a separate rulemaking, we ask the agency to address this barrier with urgency similar to this ADS barriers ANPRM to avoid unwarranted compromises to the effective location of ADS sensors along the perimeter of the vehicle.

Honda agrees that the possible approaches to revise existing test procedures generally fall within the six categories outlined by the agency. Acknowledging the complexity of the questions raised by NHTSA, we provide comments below, including potential merits and limitations of each of the approaches:

- **Normal ADS-DV operation** – While merit may exist for a limited set of candidate vehicles and FMVSSs, Honda anticipates that this option should generally be considered “higher hanging fruit.” Testing an ADS-DV in normal operation may provide a more accurate representation of the vehicle performance in the real world, but this should likely be considered in the next step of developing new requirements specific to ADS vehicles.
- **Test Mode with Pre-Programmed Execution (TMPE)** – See below.
- **Test Mode with External Control (TMEC)** – We believe that the TMPE and TMEC approaches, while different, have many distinct similarities. Depending upon the FMVSS, this approach may allow for a feasible conversion of an existing test procedure. One such example may include FMVSS 126 ESC where a steering wheel robot is already implemented and could be feasibly converted.
- **Simulation** – Simulation has matured in leaps in bounds in many aspects of vehicle development. However, we are not aware of existing efforts to verify compliance solely using simulation. That being said, simulation may play a significant complementary role for certifying compliance, in addition to other tools or approaches.
- **Use of Surrogate Vehicle with Human Controls** – This approach is highly dependent upon the vehicle design, manufacturer, and FMVSS in question. In those certain cases however (e.g. ADS-DV is built completely off a common make/model platform with variations that include manual controls) this could be a very feasible and mature approach option.
- **Technical Documentation for System Design and/or Performance Approach** – This is most unlike the approaches above in that there is not necessarily an approach specified. Rather, this is a very general option which may allow verification of compliance by leveraging a combination of the above options, or accommodating other options that have not yet been identified. This may prove to be an appropriate method for early certification efforts where distinct and alternative approaches have not been well defined yet. It is critical though that the agency consider how this approach might be adopted while not allowing subjective judgement of vehicle performance that could be inconsistently applied.