



TOYOTA MOTOR NORTH AMERICA, INC.
Product Regulatory Affairs
325 Seventh Street, NW #1000 Washington, DC 20004

June 1, 2020

Mr. James Owens
Deputy Administrator
National Highway Traffic Safety Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: Occupant Protection for Automated Driving Systems; Notice of Proposed Rulemaking, U.S. DOT – National Highway Traffic Safety Administration [Docket No. NHTSA-2020-0014]

Dear Mr. Owens:

Toyota Motor North America, Inc., on behalf of Toyota Motor Corporation (collectively, “Toyota”), is pleased to provide these comments on the March 30, 2020 *Federal Register* notice of proposed rulemaking (NPRM) on occupant protection standards as they apply to vehicles with automated driving systems (ADS). Toyota applauds NHTSA for taking a critical look at how the existing occupant protection standards can be adjusted to better accommodate vehicles where manual driving controls are not used in an automated vehicle. These regulatory updates are relatively “low-hanging fruit” that can help support the safe deployment of automated vehicles (AVs).

Toyota recognizes the potential for significant safety, mobility, societal, and environmental benefits from AVs and AV technology, which is why we have made significant investments in research and development and in partnerships to move this work forward. Toyota supports mobility-for-all and ADS technology can help improve accessibility and mobility, particularly for those who are unable to drive. FMVSSs were developed at a time when only humans were expected to operate motor vehicles, so adjustments to the current regulations are appropriate. We support NHTSA’s continued effort to review the FMVSSs and their safety intent and adjust them as needed to support the safe deployment of AVs.

Decades of research and technology advancements in occupant protection have made cars safer than ever and we support NHTSA’s goal to maintain the safety performance we have achieved to date. We understand at this time NHTSA is limiting the scope of this review of the occupant protection FMVSS to traditional seating configurations. However, Toyota would like to provide additional perspectives for NHTSA to consider as it determines what future rulemaking activities may be appropriate.

Below, you will find Toyota’s high-level comments to the NPRM. Toyota also contributed to and supports the comments submitted by the Alliance for Automotive Innovation.

Questions and Requests for Comment in the NPRM

Toyota supports the general approach NHTSA has taken regarding occupantless trucks and recognizing that the current occupant protection standards need not apply to trucks with no designated seating positions (DSPs). We also support the application of the front right-side occupant protection standards to be applied to the front left passenger seat when traditional steering controls are not in place in front of that occupant. Below, we offer several comments in response to specific points raised by the Agency in the NPRM.

“While NHTSA has decided not to modify the definition of “driver” with this notice, it is considering doing so for future notices. Thus, the agency requests comment on various approaches that could be utilized in a holistic manner (i.e., are there definitions the agency should consider that would properly cover the four types of uses of “driver” and derivatives of “driver” throughout the FMVSS.”

As NHTSA suggested in the NPRM, it may be more appropriate to define “ADS” in the future rather than attempt to update the definition of “driver” to encompass ADS. We agree with limiting “driver” to occupant- and spatial-based references in this NPRM, but defining “ADS” in the future, especially in relation to vehicle operation, will minimize ambiguity and the need for unnecessary interpretations. Defining “ADS” as vehicle equipment would also provide clarity on regulatory authority.

“We seek comment on our proposals for new, modified, and relocated definitions, as well as the general approach and options described in this section. We also seek comment on whether the changes proposed in this section would create any definitional conflicts within the FMVSSs, such as causing additional, unintended confusion for manufacturers certifying to other FMVSSs not covered by this notice.”

The term “steering control system” used in some standards assumes the system will be in front of the driver, likely based on the current definition of “driver” as noted in the NPRM. The updated applicability of FMVSS 203 and 204 to not apply to vehicles without steering controls assumes that if there are steering controls they would always be in front of the driver. We simply note that unique steering control designs and placement may prompt interpretation requests or exemptions if not addressed in future rulemakings.

“We also seek comment on whether modifying the text below [Table VI-6] to reference only the front row, even in cases where a school bus has a driver’s DSP, is a viable option without any significant negative effect.”

In the future, it may be helpful to further qualify and establish criteria for what exactly would be considered the “front row” in the proposal in Table VI-6. NHTSA could include additional qualifiers like forward distance from an instrument panel or windshield. Novel vehicle designs may require additional clarity if the occupant protection standards for “front row” passengers are not appropriate for a certain vehicle’s first row.

Future Rulemaking

We recognize that NHTSA has limited the scope of these regulatory updates to traditional vehicle designs and seating configurations. When NHTSA addresses novel vehicle designs and seating configurations in future rulemaking, further clarification and/or amendments to the current proposals may be needed.

NHTSA proposed language amendments to clarify the applicability of certain criteria for passenger vehicles and certain DSPs, as well as new definitions to provide additional clarity. However, more clarity may be warranted in the future. For example, NHTSA refers to the “front row” numerous times in the NPRM for different safety requirements. While NHTSA does describe the front row in the traditional vehicle sense, at this point it is unclear how this could be qualified in a non-traditional configuration. For example, if the first and only row of a vehicle is towards the back or the vehicle is bi-directional, additional qualifiers may be required. To ensure the safety of passengers in DSPs that are not within reasonable distance to a structure in front of them, current “front row” crash protection criteria may not be appropriate.

In the NPRM, NHTSA assumes that the steering control system will always be placed in front of the driver’s seat. This may or may not be the case. However, it is not infeasible to design a vehicle with different control designs that may challenge the assumptions made in this NPRM. FMVSS Nos. 203 and 204 perhaps should not apply if there is no steering control system or column in front of the driver. For example, if the steering control was in the form of a joystick it could be placed in front of the driver or it could be placed to the side of the driver. If the joystick control (or other design) are in place or position but not in front of the driver, the same occupant protection criteria may not be appropriate, or may be applied/tested in a different manner. Dummy placement in certain compliance tests also rely on the steering control.

Toyota appreciates the opportunity to provide comments to this rulemaking activity and we look forward to the upcoming rulemaking actions anticipated by the agency. Should you and/or your staff have any questions please contact me or Jade Hill of my staff at jade.s.hill@toyota.com or 202-775-1700.

Sincerely,



Tom Stricker
Vice President
Product Regulatory Affairs