



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

November 27, 2019

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

**RE: Federal Motor Vehicle Safety Standards; Occupant Crash Protection
Advance notice of proposed rulemaking, National Highway Traffic Safety
Administration, Department of Transportation [Docket No. NHTSA-2019-0093]**

Dear Mr. Owens:

Toyota Motor North America, Inc., on behalf of Toyota Motor Corporation (collectively, “Toyota”), appreciates the opportunity to provide comments in response to the September 27, 2019 Advance Notice of Proposed Rulemaking (ANPRM) to Federal Motor Vehicle Safety Standard (FMVSS) 208 – Occupant Crash Protection on a variety of issues related to a potential requirement for a rear seat belt warning system. Toyota introduced the rear seat belt reminder (SBR) in the U.S. market in model year 2017 and currently remains committed to the inclusion of the systems in Toyota/Lexus vehicles.

Toyota agrees with NHTSA that using a seat belt is one of the most effective actions a motor vehicle occupant can take to prevent death and injury in a crash. The prevalence of seat belt reminders in the front row seating positions, as required by regulation and adopted through a voluntary commitment¹ to install “enhanced” seat belt reminders, makes “reminders” a commonplace feature to the current consumer.

Extending the seat belt reminder to the rear row provides the opportunity to remind the rear seat occupants to buckle-up and/or alert the driver if a rear row passenger becomes unbuckled during the course of a trip.

In addition to the comments provided, Toyota also supports the comments submitted by the Alliance of Automobile Manufacturers (“Alliance”) and the Association of Global Automakers (“Global Automakers”). Toyota is pleased to provide comments on select topics and questions that were raised in the notice, as categorized below.

¹ On February 25, 2002, NHTSA Administrator Jeffrey Runge through individual letters to OEMs urged automakers to voluntarily install enhanced seat belt reminder systems, which included features that exceeded the regulatory requirements, in the front row of passenger vehicles.

Should the warning be visual-only, audible-only, or audio-visual?

A visual warning, such as a telltale, should exist as an initial warning, and a combination of audio and visual warnings could exist as a “second-level” warning, as described in the triggering conditions. The visual part of the warning is important so that the message is clear to the driver, as the visual telltale can differentiate the seating rows and/or positions, while the audio warning may not if the same audio warning is used for all seat belt reminder-equipped seating positions.

Triggering conditions

The initial warning of a visual-only warning could occur when the ignition is “on.” A second-level warning consisting of a combination of audio and visual (telltale) warnings could occur when a rear occupant becomes unbuckled (i.e. a “change-of-status”). In the case of a “change-of-status” warning, we would recommend harmonization with the UNECE R16-07 requirements. Regarding occupant detection, due to the nature of the rear row environment, an occupant detection system would need to account for the multiple uses of the rear row (e.g. discriminating between child restraint systems, booster seats, pets, cargo, etc.). This situation could also affect consumer acceptance if there are false-positive outcomes of detection that yield a warning. In the case of a “change-of-status” system that does not rely on occupant detection but a belt-unbuckling detection, the driver will likely know there is an occupant in the rear seat and would be able to react to the audio/visual warnings.

Alternative warning systems

The rear seat belt reminder does not necessarily need to be different from the audio-visual seat belt reminder warning that is defined for the driver. It may be the same sound and same telltale symbol, but a typical approach is including a separate area on the instrument panel for separate telltale(s) for the rear seating position. These telltales could be specific to the actual seating position to inform the driver the actual position that is buckled or unbuckled. The audio warning in a “change-of-status” situation could be the same as there is benefit in using a “familiar” warning to notify of an unbelted situation.

Occupant detection technology

We support having the option to include an occupant detection system to meet warning system requirements, but the requirements should not necessitate an occupant detection system due to the nature of the rear row environment, as described prior. There are certain technical challenges to account for some different use cases to reduce false positives (i.e. weight-based system may not differentiate a heavy pet from a human); there is little data available to demonstrate that occupant detection would improve the effectiveness of the technology because the system without occupant detection is coupled with the driver’s knowledge of the number of occupants in his/her vehicle; and this system would lead to increased costs without data to show where there would be corresponding safety benefits. For these reasons, we think that occupant detection should not be prohibited by the regulation but it also should not be required.

Enhanced warning system

The reminder system should use existing audio/visual warning patterns because the driving public likely would be able to understand those more easily. Any deviation from this should use careful consideration as to whether the new warning method would be confusing.

Belt use criteria

We agree that NHTSA should retain the current criteria of the driver's belt warning requirements, which specify that a belt is "not in use" when, at the option of the manufacturer, either the seat belt latch mechanism is not fastened, or the belt is not extended at least 10.16 centimeters (cm) (4 inches (in)) from its stowed position. We also note that this also means if the seat belt is used to attach a child restraint system (CRS), then it is considered "in use" and the warning should not be triggered.

Seat occupancy criteria

We expect the rear seat to be occupied by all age ranges and sizes of occupants, including children in CRSs. This poses a challenge to occupant detection systems, which would need to account for all of the different uses of the rear seat. We do not want to give a false warning in the case of a child occupant properly restrained in a CRS that is attached using the LATCH system and thus would never be "buckled-in" using the seat belt. A false-positive warning on a child properly restrained using the LATCH system could discourage the consumer from using LATCH.

Interaction with other vehicle warnings

In our view, we do not think that there would be a conflict if the audio warning is accompanied by a visual warning. The inclusion of the visual warning is important to provide an "association" with the audio warning and the telltale indicator in itself is distinguished from other in-vehicle warnings.

Harmonization with regulatory requirements or new car assessment programs in other markets

As noted, other assessment programs such as Euro NCAP and also the Insurance Institute for Highway Safety (IIHS) are considering rear seat belt reminders and we encourage NHTSA to communicate with those parties to ensure there is no conflict between potential regulations and assessment protocols.

Applicability

We recommend that the seat belt reminder is not required to be installed on folding seats (seats which are normally folded, and which are designed for occasional use), seats fitted with S-type belts or harness belts, and removable seats integral with the seat belt. We also recommend that rear seat belt reminders are also not required for "ambulances, hearses, and motor-caravans as well as for vehicles used for the transport of disabled persons, vehicles intended for use by the armed services, civil defense, fire services and forces maintaining public order." These recommendations are in-line with the provisions of UNECE R16-07.

Consumer Acceptance

We agree there should be a balance of the sound level so that consumers would accept and react positively to the warning.

In conclusion, Toyota is supportive of seat belt reminders/warning systems and extending the application of this proven feature to the rear row(s). A proposed regulation should also take into consideration other global regulatory requirements and other industry assessment programs (e.g., IIHS, Euro NCAP, etc.) to ensure there are no conflicts. Toyota supports harmonization to UNECE R16-07 as much as possible if the provisions also meet the legal requirements for a Federal motor vehicle safety standard in the U.S. On the topics of visual warning, type of information the warning should convey, telltale characteristics, minimum duration (and duration upper limit) of audible/visual warnings, and electrical connection requirements, we recommend NHTSA harmonize any future FMVSS requirements with UNECE R16-07. Finally, continued efforts to promote seat belt use should also be supported such as educational efforts, enforcement, consumer awareness campaigns, etc.

Should you and/or your staff have any questions, please contact me or Dan Robertson of my staff at (202) 775-1700.

Sincerely,



Tom Stricker
Vice President
Product Regulatory Affairs