

November 26, 2019

Docket Management Facility  
U.S. Department of Transportation  
1200 New Jersey Avenue, SE  
West Building, Ground Floor, Room W12-140  
Washington, DC 20590-0001

**Re: Docket NHTSA-2019-0093  
Advance Notice of Proposed Rulemaking to Amend Federal Motor Vehicle  
Safety Standard No. 208 – Occupant Crash Protection**

Enclosed are the comments of the Association of Global Automakers, Inc., with regard to NHTSA's September 27, 2019, Advance Notice of Proposed Rulemaking to amend to Federal Motor Vehicle Safety Standard No. 208 - Occupant Crash Protection -- to require a seat belt use warning system for rear seats. If you have any questions on this matter, please contact me.

Sincerely,



Paul Scullion  
Senior Manager, Vehicle Safety and Connected Automation

Enclosure

**COMMENTS OF THE ASSOCIATION OF GLOBAL AUTOMAKERS, INC.,  
REGARDING NHTSA'S SEPTEMBER 27, 2019,  
ADVANCE NOTICE OF PROPOSED RULEMAKING TO UPDATE  
FEDERAL MOTOR VEHICLE STANDARD No .208 TO REQUIRE  
REAR SEAT BELT REMINDER SYSTEMS**

**DOCKET NO. NHTSA-2019-0093**

The Association of Global Automakers, Inc. ("Global Automakers")<sup>1</sup> appreciates the opportunity to provide comments to NHTSA in response to the September 27, 2019, Advance Notice of Proposed Rulemaking ("ANPRM") to amend Federal Motor Vehicle Safety Standard No. 208 to require a seat belt use warning system for rear seats. These comments are intended to address the agency's questions regarding technical specifications and regulatory considerations on the inclusion of rear seat reminder system requirements within FMVSS, as well as the NHTSA proposal to remove the upper limit for the audible signal duration of the driver's seat belt warning.

## **1 Technical Specifications**

The following section discusses several key issues identified by NHTSA regarding the development of additional performance requirements for FMVSS 208.

### **1.1 Rear Seat Belt Warning**

In general, Global Automakers recommends that NHTSA adopt the technical specifications for rear seat belt reminder systems included in the updated version of the United Nations Economic Commission for Europe (UNECE) Regulation No. 16 (R16).<sup>2</sup> These regulations provide a robust framework for implementing rear seat belt reminders while also ensuring flexibility for continued innovation beyond the baseline requirements. In addition, ensuring greater harmonization can help minimize the cost and regulatory burden on manufacturers that are often associated with developing different systems for different markets, with potentially no added benefit to the consumer.

### **1.2 Triggering Conditions**

We encourage NHTSA to remain consistent with the requirements of UNECE R16 with respect to the triggering conditions for rear seat belt warning systems. The R16 requirements establish appropriate threshold criteria for warning activation, while also ensuring flexibility for manufacturers in the implementation of reminder triggers - based on either vehicle speed, time duration, or distance driven.

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<sup>1</sup> The Association of Global Automakers represents the U.S. operations of international motor vehicle manufacturers, original equipment suppliers, and other automotive-related trade associations. Global Automakers works with industry leaders, legislators, regulators, and other stakeholders in the United States to create public policies that improve motor vehicle safety, encourage technological innovation and addresses environmental needs. Our goal is to foster an open and competitive automotive marketplace that encourages investment, job growth, and development of vehicles that can enhance Americans' quality of life. Our members' account for 40 percent of all U.S. production and international automakers account for 47 percent of all U.S. sales of passenger vehicles and light trucks. For more information, visit [www.globalautomakers.org](http://www.globalautomakers.org).

<sup>2</sup> [Regulation No 16 of the Economic Commission for Europe of the United Nations \(UNECE\)](#) -- Official Journal of the European Union, L 109, 27 April 2018

We strongly urge the agency to avoid unnecessary deviation with R16 as this will likely limit manufacturers' ability to harmonize global research, development, and production processes, and will likely increase the cost of implementation in the United States. A non-harmonized approach may also require the redesign of certain seat belt reminder systems currently being deployed in the U.S. ahead of regulation.

### **1.3 Alternative Warning Systems**

NHTSA should ensure that any baseline FMVSS No. 208 requirements regarding rear seat warning systems remain consistent with the those of R16 and should avoid establishing prescriptive design criteria (e.g. haptic feedback, mechanical sounds, etc.). The UNECE regulation provides sufficient flexibility for manufacturers and allows for a technology neutral approach for how systems are designed and implemented.

### **1.4 Occupant Detection Technology**

As noted in the ANPRM, occupant detection systems can present both technical and use challenges that can often vary based on implementation. In addition, rear seats are sometimes used in unexpected ways that can increase the complexity of design including removal and storage. We therefore strongly recommend that any proposal to require occupant detection be excluded from consideration due to the additional burden and impact on the cost of compliance. The standards should not prohibit innovation however, and manufacturers should be provided with the necessary flexibility to incorporate these systems within the vehicle.

### **1.5 Enhanced Warning Systems**

Global Automakers again encourages NHTSA to remain consistent with the requirements of R16 with respect to rear seat warning systems. We agree with the agency research suggesting the need to balance effectiveness and acceptability, and any requirement that goes beyond the UNECE requirements (such as the Euro NCAP) should carefully consider potential public acceptance issues that may arise as a result of prolonged warnings established within the standard. To the extent the agency seeks to advance the deployment of enhanced rear seat belt warning systems, we would urge NHTSA to first consider updates to the US NCAP program as opposed to requiring enhanced warnings through regulation. This approach would also help minimize regulatory burden, ensure greater global harmonization, and provide a market-based incentive for manufacturers to implement systems above and beyond FMVSS.

### **1.6 Belt Use Criteria**

We encourage NHTSA to remain consistent with the requirements of R16 which allows for a not in use (i.e. seat belt not fastened) to be determined (at the option of the manufacturer) by either the seat belt buckle of any occupant not being engaged, or the belt being extended less than the length required to buckle an unoccupied seat for a given rear seating position.<sup>3</sup> This optionality should be provided regardless of whether a "positive only" (how many or which seat belts are in use) or "negative only" (how many seat belts are not in use) system is implemented by the manufacturer. In our view, there is no discernable benefit to revising these criteria, and it is important to provide greater technology flexibility for vehicles that may have different characteristics with respect to rear row seating positions. For example, for rear seats that can be removed from a vehicle, providing an option whereby *belt spooling* can be used as an alternative to *buckle latching* may reduce challenges associated with any electrical connections that might be otherwise needed to provide functionality.

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<sup>3</sup> See UNECE R16 Section 2.46

### **1.7 Seat Occupancy Criteria**

NHTSA should ensure that the use of occupant detection is appropriately considered as it seeks to develop additional compliance options for rear seat reminder systems. We therefore urge the agency to ensure consistency with UNECE R16.

NHTSA has also requested input on how the agency should consider whether the system should be required to register small children that would presumably be placed in a child restraint system, or if seat occupancy criteria should consider the presence of a Child Restraint System (CRS).

- **Booster Seats** – For children seated in booster seats or high-back boosters (with belt positioning guides), the CRS often directly utilizes the belt restraint system provided in the vehicle. In these cases, a rear belt reminder system may be useful for reminding the driver to ensure the child seated in that seating position is either restrained or providing an alert that the restraint status has changed during a trip (i.e. belt is unbuckled). The presence or absence of booster seats therefore does not require special consideration by the agency, and consistency with UNECE R16 should ensure this issue is adequately addressed.
- **Rear-Facing, Convertible, Combination (5-point), or All-in-one (5-Point)** – There are several types of child restraint system where the actual occupant restraint use is independent of the rear seat belt system integrated within the vehicle. These CRS only use the belt system (or LATCH) to secure the child seat within the vehicle, with a separate belt system used to restrain the child within the CRS (e.g. five point belt). If the FMVSS were to require integration between the vehicle and CRS, it would likely add significant complexity given the lack of consistent standards and differences in CRS design and implementation. The agency should therefore consider notification by the vehicle on the status of a secondary restraint system to be out of scope for this rulemaking.

### **1.8 Intentional or Inadvertent Misuse**

The UNECE R16 requirements include reasonable safeguards to address intentional or inadvertent misuse and we encourage NHTSA to harmonize with this approach. While the agency discusses three scenarios related to intentional misuse, developing use-case-specific requirements to address these could result in significant increases in the complexity and cost of designing and implementing countermeasures. This notwithstanding the additional design changes that would need to be made to accommodate normal use conditions that may meet the “misuse” criteria defined in the ANPRM – e.g. CRS installed using the belt system would register as having the seat-belt buckled with webbing spooled out more than a predetermined length. The agency should instead focus on ensuring flexibility for manufacturers in implementing systems that both meet and exceed any standards established through FMVSS.

It is also important to note that while the establishment of rear seat belt reminder standards are intended to increase rear seat belt use using a vehicle technology based approach, there is also a continued need for strong laws and enforcement to address driver and passenger behavior and discourage intentional misuse. We strongly encourage NHTSA to continue its efforts in this regard.

### **1.9 Remote Engine Start**

The agency also seeks comment on how to address use of “remote engine starter,” where it is suggested that the initial warning might activate before the driver (and perhaps rear seat occupants) are in the vehicle. Similar

to our previous comments, adopting the requirements of UNECE R16 should help address this issue, as warnings must be provided when the ignition switch (or master control switch) is activated (i.e. capable of being driven). Indeed, to the extent to which this issue is already being addressed in FMVSS No. 208 (i.e. warning is provided beginning when the vehicle ignition switch is moved to the “on” or the “start” position), no special accommodations are required for rear belt reminder systems that reference to remote engine start.

#### **1.10 Electrical Connection Requirements**

Global Automakers urges the agency to avoid the prescriptive design requirements related to the wired (or wireless) connection between the vehicle and any removeable, folding, rotating, or stowable seats. It is important that NHTSA provide flexibility with respect to advanced seating systems, not just for conventional vehicles, but also to ensure regulations do not adversely impact automated vehicle design by inadvertently establishing barriers to deployment or adding additional cost where more effective solutions might be available.

If the agency chooses to regulate this aspect of design, which we do not recommend, the rules must provide for a robust set of alternative compliance options to avoid further need for exemptions for new technology. Additionally, in the absence of clear standards and test procedures for how warnings are provided where electrical connectivity issues might exist, efforts to incorporate this issue will only further delay issuance of a final rule with limited benefits given the relatively small number of vehicles affected.

#### **1.11 Owner’s Manual Requirements**

Global Automakers is not opposed to providing additional information in owner’s manual, but we encourage NHTSA provide flexibility for how manufacturers describe the functionality of system, which may vary based on the design and implementation. Information required to be included in an owner’s manual could reasonably include (1) information on the seating positions where a rear-seat reminder is provided, (2) a description of the visual and audible warning(s) provided, (3) an indication of whether the system incorporates driver monitoring (including any limitations), (4) instructions for deactivating or cancelling any warning(s), and (5) any limitations related to CRS. As discussed above, it could also include information related to the connection of removable, folding, rotating, or stowable seats (where the connection is not automatic), where applicable, as well any malfunction warnings that may be provided.

#### **1.12 Interaction with Other Vehicle Warnings**

Global Automakers recommends that NHTSA provide flexibility within the regulation that allows for rear-seat reminder system alerts (or aspects of the alert) to be temporarily suppressed or paused where it is necessary to alert or redirect the drivers attention to a warning related to the operation of the vehicle or a potential safety risk within the external roadway environment – such as an alert provided by an ADAS crash avoidance system or ADS request to intervene.

#### **1.13 Harmonization**

As discussed extensively throughout this comment, we strongly encourage NHTSA should ensure consistency with UNECE Regulation No. 16, where possible. This regulation provides a robust framework and baseline for rear seat belt reminder systems, while also providing manufacturers with the ability to exceed the requirements of the standard depending on how technology is implemented.

#### **1.14 Visual Warning Location**

At this time, we encourage NHTSA to avoid the inclusion of additional references to the driver within FMVSS No. 208. Instead we recommend that any rear seat belt reminder telltales or indicators required by the standard be provided consistent with the general location requirements of FMVSS No. 101. This is to help avoid introducing any further barriers within FMVSS No. 208 that may impact the deployment of automated driving systems.

#### **1.15 Structure of Warning Information**

NHTSA should ensure consistency with UNECE R16 and provide flexibility in terms of the type of information that is required to be communicated by the reminder system. It is important that for manufacturers deploying systems that exceed baseline performance standards, that sufficient compliance options be provided to allow for a range of implementations, including positive-only, negative-only, and full-status systems, with consideration for both occupant-detection and non-occupant-detection centric approaches. Based on the definitions provided within the ANPRM, the baseline standard for R16 could be met through a non-occupant detection, positive only system, but would not prohibit additional technology features to provide additional functionality.

#### **1.16 Telltale Characteristics**

At this time, we recommend that NHTSA ensure consistency with the general requirements of UNECE R16, which provides flexibility with respect to the characteristics of the telltale. While the tell-tale symbol for the “seat belt unfastened telltale” has already been defined within FMVSS 101, additional research is needed to determine which approaches may be most effective in communicating reminder status for a particular row or specific designated seating position. We therefore urge the agency to defer regulatory action on the establishment of a specific symbol and simply require that any telltale provided be communicated in the owner’s manual.

#### **1.17 Minimum Duration**

NHTSA should ensure FMVSS No. 208 is consistent with the UNECE R16 requirements with respect to the rear seat belt reminder warnings and duration. As discussed previously in Section 1.5 of these comments, NHTSA must carefully balance issues of effectiveness and consumer acceptance. We would encourage the agency not to adopt the Euro NCAP thresholds (i.e. 90 seconds) as a requirement in within the rule, but instead consider these requirements for inclusion as part of an Enhanced Belt Reminder System recognition within US NCAP.

#### **1.18 Other Audible Signal Characteristics;**

Global Automakers argues that defining the audible warning characteristics at this time, is both unnecessary, and would add further complexity to the rulemaking process in trying to ensure an objective test procedure. FMVSS 208 does not currently require specific audible warning characteristics for front seat reminders and manufacturers have already begun implementing innovative solutions, including voice based systems, to alert drivers to situations such as a right-front passenger being unbuckled.

## 2 Additional Policy Considerations

### 2.1 *Effectiveness and Consumer Acceptance*

Global Automakers agrees with NHTSA on the importance of balancing consumer acceptance and effectiveness of rear belt reminder systems. While there is limited data available on the effectiveness of rear belt reminder systems, prior reports by the agency have shown a generally positive increase in use rates.<sup>4,5,6</sup> As the agency considers inclusion of rear seat reminder systems in FMVSS No. 208, we again urge consistency with UNECE R16 to provide the baseline performance for rear seatbelt reminder systems, which provides flexibility for manufacturers to innovate and implement more effective and consumer friendly solutions as technology evolves.

### 2.2 *Technological and Economic Feasibility*

There are likely differences in the technological complexity and associated costs depending upon the way in which a system is implemented. NHTSA should therefore seek to establish a baseline performance standard for providing a reminder with compliance options for those that seek to implement systems with more advanced characteristics. It is essential that any requirements ensure flexibility and do not seek to mandate specific indicators or display characteristics at this time.

### 2.3 *Benefits and Costs*

In considering the benefits and cost of regulation, Global Automakers strongly urges NHTSA to avoid any deviation from the requirements of UNECE R16. Increase harmonization helps minimize regulatory burden and reduces the cost for manufacturers and supplier in having to develop U.S. specific components without any established benefit. A number of manufacturers already provide systems, globally, and by ensuring appropriate flexibility, it allows for increased innovation to help drive market-based demand for new technologies with greater acceptance and potential effectiveness.

### 2.4 *Safety Act Criteria*

If NHTSA is to require a seat belt warning system, it is important that the proposal meet the overall requirements of the Safety Act. We believe harmonization with UNECE R16 provides the agency with the most opportunity to ensure an objective and practical approach that meets the need for safety, while also minimizing regulatory burden. As discussed above, additional compliance options should be provided to prevent regulatory barriers for those systems that may be more complex and subsequently may not be otherwise considered reasonable, practicable, or appropriate under 49 USC 30111. For example, if NHTSA does not require occupant detection (or if the regulation defines a requirement for a baseline non-occupant detection, positive only system), the regulation should still provide accommodation for advanced technologies, including provisions such as the ability to suppress a warning if the occupancy status of the rear seat is known.

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<sup>4</sup> The Effectiveness of Enhanced Seat Belt Reminder Systems: Observational Field Data Collection Methodology and Findings, U.S. Department of Transportation, December 2007, DOT HS 810 844

<sup>5</sup> Effectiveness and Acceptance of Enhanced Seat Belt Reminder Systems: Characteristics of Optimal Reminder Systems, U.S. Department of Transportation, February 2009, DOT HS 811 097

<sup>6</sup> Survey of Principal Drivers of Vehicles with a Rear Seat Belt Reminder System, NHTSA, 2015



### 3 Removing the Driver's Seat Belt Warning Audible Signal Duration Upper Limit

Global Automakers is supportive of efforts by the agency to modernize FMVSS No. 208 with respect to the driver's seat belt warning audible signal duration, and we recommend the agency adopt a multifaceted approach in addressing this issue.

#### 3.1 *Signal Duration Upper Limit*

- NHTSA should update the rule to remove the 8 second limitation on the signal provided when the warning system is activated. This provides manufacturers with greater regulatory certainty in deploying enhanced seat belt reminder systems that exceed certain aspects if the requirement to encourage drivers to fasten their seatbelt.
- For the purposes of meeting the standard, however, there needs to be an upper bound on the duration of the required warning to ensure an objective and repeatable test for the purposes of vehicle certification. We therefore recommend that the agency maintain the current 4- to 8-second warning thresholds defined in Table 4 of the test procedure for FMVSS No. 208.<sup>7</sup>
- To the extent the agency seeks to encourage enhanced seat belt reminders that provide driver warnings beyond the 8-seconds required by the test procedure, we recommend that the agency incorporate the Enhanced Seat Belt Reminder requirements from Euro NCAP when considering updates to US NCAP.

#### 3.2 *Additional Considerations*

- NHTSA should also consider updates to the driver seat belt reminder system to include additional trigger thresholds beyond the vehicle ignition switch being moved to the "on" or "start" position. Advances in vehicle sensor technology enable warnings to be provided for a range of conditions, such as, when the vehicle speed reaches a certain limit, or when the transmission is moved from the park position. We urge the agency to update the standard to allow for these alternatives to be provided.

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<sup>7</sup> TP208-13