



May 29, 2020

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

Re: Docket No. NHTSA–2020--0014;  
Comments by IMMI on NHTSA NPRM: Occupant Protection for Automated Driving  
Systems

Dear Sirs:

IMMI would like to thank the National Highway Traffic Safety Administration (NHTSA) for this opportunity to comment on the agency's consideration of rulemaking to address the near- and long-term challenges of testing and verifying compliance with the Federal Motor Vehicle Safety Standards (FMVSS) for vehicles equipped with Automated Driving Systems (ADS). This proposal addresses the amendment of 11 Safety Standards of the 200 series. The agency's Notice of Proposed Rulemaking (NPRM) and its proposed guidance was published at Fed. Reg. Volume 85, Number 61 (March 30, 2020). Our comment is specific to the proposed amendment of FMVSS No. 208, Occupant Crash Protection, as related to the school bus.

IMMI is a leading manufacturer of occupant restraint components and systems for commercial vehicle, off road vehicles, and child passenger systems. These products are used for a wide range of vehicle types. In addition, IMMI also manufactures seating systems for school buses under the SafeGuard brand name. The company has been performing research related to school bus crashworthiness for approximately 25 years, including full-scale barrier crashes, hundreds of dynamic sled tests, and countless tests using the procedures specified in FMVSS No. 208, No. 210, No. 222 and No. 225. This work was done in addition to occupant protection research in truck and other vehicles as well as for child passenger safety.

IMMI supports NHTSA in this effort to address the near and long-term challenges of testing and verifying compliance with the FMVSS's in vehicles equipped with ADS but which are otherwise traditional vehicles with typical seating configurations. These standards are necessary in the development of this technology.

IMMI also concurs with the limitations on scope and guiding principles defined by NHTSA in this NPRM as it applies to most vehicles covered by this proposed legislation. They are necessary as a foundation for defining design and testing procedures that will be performed. 208; “Occupant Crash Protection”, the consideration of buses and specifically school buses is addressed in item 7.i. Although the focus of this section is on the driver’s designated seating position (DSP), NHTSA also addresses the subject of passenger protection in school buses with a GVWR of more than 10,000 lbs. While acknowledging current regulations have no requirement for Type 1 or 2 seat belts for these seating positions, the Agency is seeking comment on the requirement of the driver and all front row positions to have seat belts and on the requirements for passenger protection beyond compartmentalization as a barrier to ejection.

Lap-shoulder belts are a proven protection device in all types of crashes for all vehicle types which they have been installed. In the large school bus, the protection requirement for passengers since 1977 is compartmentalization. This technology offers minimal to no side impact or rollover protection for passengers. Research by NHTSA and IMMI along with crash investigations by the NTSB all have concluded the need to enhance compartmentalization protection with lap-shoulder belts. NHTSA supported this with the 2008 publication of regulations that established design and performance standards for voluntary installation of belt systems in school buses. This NHTSA support for lap shoulder belts in school buses was solidified in 2015 when NHTSA Administrator Dr. Mark Rosekind publicly stated, “NHTSA’s policy is that every child on every school bus should have a three-point seat belt”. NHTSA activity continues to research and provide materials to school districts on their implementation.

This same support for the need of lap-shoulder belts in school buses was addressed by the National Transportation Safety Board (NTSB) in 2018 in their Chattanooga crash investigation report. Board Chair Robert Sumwalt issued safety recommendations to all governors of states without school bus lap shoulder belt requirements that they enact legislation requiring all new large school buses to be equipped with passenger lap-shoulder belts. The NTSB reaffirmed this position in 2020 seeking response from states on their recommendation.

Other agencies and associations have also taken public positions in support of lap-shoulder belts. Included are the largest school transportation leadership associations: NASDPTS, the National Association of State Directors of Pupil Transportation Services and the NAPT, the National Association for Pupil Transportation. Support for lap-shoulder belts in school buses also comes from the National Safety Council, Safe Kids Worldwide, American Academy of Pediatrics, and the National Parents Teacher Association.

It is also important to consider additional benefits provided by lap-shoulder belts in school bus applications. Even with ADS, school buses will be subject to performing evasive maneuvers and road inconsistencies such as bumps and pot holes that can easily result in accelerated movements of unrestrained children from their seating positions. These shifts can result in various injuries depending on what interior item the child impacts.

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Furthermore, required use of lap-shoulder belts on school buses also results in behavioral improvements of students compared to when the same students are seated in buses without lap-shoulder belt systems. Some school districts are currently opting to equip school buses with these safety devices just for the benefits resulting from the behavioral improvements.

IMMI asks of NHTSA: As NHTSA is entering the next phase of vehicle transportation technology, ADS, should this vehicle advancement not also include basic advancement in safety and occupant protection? Since NHTSA has already taken the position that lap shoulder belts on school buses are needed to enhance compartmentalization protection and this position is supported by the NTSB and other associations and organizations, why is NHTSA not using this opportunity that defines basics of the next level of occupant protection to implement this needed improvement in school bus occupant protection? Is there an assumption that with ADS, a school bus will never crash?

The next question IMMI asks of NHTSA then applies to the driver seat and potential other front row seats and their need for lap shoulder belts. Current occupant protection for the school bus driver DSP utilizes lap-shoulder belt safety. If a lap-shoulder belt system is not installed, what alternate option will be provided for that front row passenger? Does NHTSA assume there is not to be adult supervision in a school bus equipped with ADS? With the proven experience of numerous districts that lap-shoulder belt use has been a successful behavioral management tool, does not the implementation of lap shoulder belts in an ADS school bus become even more of a necessity?

### **Conclusion**

IMMI supports NHTSA's efforts to establish standards necessary to guide the industry in the development and application of ADS technology. IMMI also recognizes and supports of NHTSA, NTSB, and other leading safety minded associations that current school bus passenger compartmentalization protection needs the enhancement of lap shoulder belts to provide more complete occupant protection. Revising the standard for the next generation of vehicle safety technology must also include a necessary update for the protection of our children as they travel in school buses. It is time to mandate lap shoulder belts in large school buses.

Sincerely Yours,



Charles Vits  
Regulatory Affairs Manager  
IMMI