National Association
of State Directors
of Pupil Transportation Services

NASDPTS POSITION PAPER
LAP/SHOULDER BELTS IN SCHOOL BUSES
May 2020

Introduction

The National Association of State Directors of Pupil Transportation Services (NASDPTS) was established in 1968. The membership represents state government school transportation leaders from all 50 states. The purpose of the association is to provide leadership, assistance and motivation to the nation's student transportation community with the goal of providing safe, secure, efficient, economical, and high-quality transportation to school children on their trips to and from school and school-related activities.

This paper states the position of NASDPTS regarding the equipping and use of passenger lap/shoulder belts in school buses. A number of states and local jurisdictions already require passenger lap/shoulder belts in their new school buses.[1] Other states, school districts, school bus contractors, charter schools, and private schools across the nation are considering decisions to require passenger lap/shoulder belts in their new school buses. This position paper provides guidance and assistance to professionals and policy makers charged with making that important decision.

[1] See the NASDPTS Fact Sheet, "State Laws on School Bus Passenger Safety Restraints" for more information.

Position Statement

As an association with a primary leadership role in issues relating to student transportation safety, environmental responsibility, and access to education, NASDPTS fully supports requiring the installation and use of lap/shoulder belts in all new school buses. States and local jurisdictions must have policies requiring that all students use the belts and must train them on how to use the belts properly.

Training must include proper use and adjustment of passenger restraints, and all transported students must participate in regular evacuation drills that include unbuckling exercises. Prior to every field or activity trip, the school bus driver or other designated personnel must provide a safety briefing to all students and adult passengers that includes the required use of the belts, the location and use of emergency exits, and the location of emergency equipment. Jurisdictions must adopt and implement related policies, notices, training, and appropriate enforcement.[2]

While NASDPTS does not recommend generally that existing school buses be retrofitted with lap/shoulder belts, the Association does support the authority of local school districts to make that decision when they have thoroughly researched the issue and determined that it is safe and feasible. Many older buses can only be equipped with lap/shoulder belts by replacing each entire seat. Newer seats equipped from the manufacturer with lap/shoulder belts have a special frame structure to comply with federal standards for occupant protection due to the installation of the belts. Many later model buses not equipped with lap/shoulder belts are equipped with "convertible" seats. The existing seat backs of convertible seats can be replaced with new backs equipped with lap/shoulder belts, without requiring replacement of the entire seat. When retrofitting is being considered, NASDPTS strongly recommends that local jurisdictions research all the issues relating to compatibility with the bus and its existing equipment, recommended and proper installation, feasibility, and potential liability. Advisers in these matters should include school bus dealers and manufacturers, seating manufacturers, local, state and federal regulators, the jurisdiction's risk management personnel, and legal counsel.

[2] Infographics and other training resources and recommendations on proper use of lap/shoulder belts in school buses can be found in the National School Transportation Specifications and Procedures, published by the National Congress on School Transportation (www.NCSTOnline.org).

Background

In the School Bus Safety Amendments of 1974, Congress stated that school transportation should be held to the highest level of safety, since such transportation involves the nation's most precious resource—children, who represent our future. Since its founding in 1968, NASDPTS has supported federal, state, and local actions to continuously improve safety for school bus passengers and drivers. NASDPTS has previously addressed the subject of equipping and using passenger restraints in school buses.

In August, 2002, NASDPTS published a position paper, "Enhancing School Bus Safety and Pupil Transportation Safety." Since then, significant changes have occurred in the technology, development, regulatory adoption, overall experience, and body of knowledge regarding lap/shoulder belts in school buses.

On July 11, 2007, the National Highway Traffic Safety Administration, (NHTSA) conducted a public forum to seek information related to lap/shoulder belts in school buses. NASDPTS' executive director and two state directors were among industry representatives chosen to testify. Information gained from this forum and from previous years of research conducted by NHTSA led to the publication in the Federal Register on November 21, 2007 of a Notice of Proposed Rule Making (NPRM) for lap/shoulder belts in school buses (Docket No. NHTSA–2007–0014).

In the 2007 NPRM, NHTSA proposed design and performance standards for lap/shoulder belts in school buses. NHTSA proposed school buses with a Gross Vehicle Weight Rating (GVWR) of 10,000 pounds or less be equipped with three-point lap/shoulder belts instead of the existing requirement at that time for two-point lap belts. NHTSA proposed that the decision to equip lap/shoulder belts in school buses over 10,000 pounds GVWR be left to the discretion of state and local districts. NHTSA stated, "The agency's school bus research results indicated that lap/shoulder belts could enhance the safety of large school buses," and, "We would recommend that pupil transportation providers consider installing lap/shoulder belts on large school buses because of the enhancements that lap/shoulder belts could make to school buses."

NASDPTS submitted comments to the NPRM on January 18, 2008. The comments included the following statement: "NASDPTS recommends that NHTSA require lap/shoulder belts on all newly manufactured large school buses as a Federal Motor Vehicle Safety Standard, starting with the date of implementation of the Final Rule, and that dedicated funding commensurate with the requirement be provided." NASDPTS has consistently maintained its position of support for lap/shoulder belts.

NASDPTS articulated its position regarding two-point lap belts in school buses when it stated in the 2008 comments, "NASDPTS recommends that NHTSA reconsider the position taken in the NPRM that there is no need to prohibit lap belts on school buses," and, "NASDPTS recommends that NHTSA support lap/shoulder belts as the only seat belt system acceptable in school buses." For many years leading up to the 2008 rulemaking two-point lap belts were the only available

passenger crash protection technology to supplement the passive passenger crash protection system required in 222, commonly known as "compartmentalization."

Around the time the 2007 NPRM was introduced, school bus seat manufacturers were introducing "flexible seating technology" that enabled school bus seats with lap/shoulder belts to maintain the full capacity of three small children or two large children on a school bus seat. Combined with thinner seatbacks and footprints identical to current FMVSS 222 seating, school buses equipped with the new seats could then maintain capacity, if equipped with lap/shoulder belts. NASDPTS' comments to NHTSA, recommending that lap/shoulder belts should be the only seat belt system available, recognized that two-point seat belts had become an obsolete technology. Over the four prior decades, lap belts were superseded by lap/shoulder belts in smaller vehicles sold in the United States as the required crash protection system for most passenger seating positions.

On October 21, 2008 NHTSA published in the Federal Register the final rule that included standards for lap/shoulder belts in school buses (Docket No. NHTSA–2008–0163). Among its other requirements, this rule regulated design and performance standards for lap/shoulder belts when voluntarily installed in large school buses and included provisions for flexible seating technology. Effective October 21, 2011, new school buses with a gross vehicle weight rating (GVWR) of 10,000 pounds or less were required to have lap/shoulder belts. School buses over 10,000 pounds GVWR were required to meet the new standards, if equipped with lap/shoulder belts. In addition, effective October 21, 2009, this rule required all seatback heights be increased and all hinging seat cushions to be self-latching.

On July 23, 2013, the National Transportation Safety Board (NTSB) reported its findings and recommendations on two school bus crashes--Chesterfield, New Jersey (February 16, 2012) and Port St. Lucie, Florida (March 26, 2012). The report emphasized NTSB's concern for proper usage of occupant restraints when available in school buses. NASDPTS and other organizations were specifically charged to:

> Develop guidelines and include them in the next update of the National School Transportation Specifications and Procedures to assist schools in training bus drivers, students, and parents on the importance and proper use of school bus seat belts, including manual lap belts, adjustable lap and shoulder-belts, and flexible seating systems. (H–13-35) and,
>
> Provide your members with educational materials on lap and shoulder belts providing the highest level of protection for school bus passengers, and advise states or school districts to consider this added safety benefit when purchasing seat belt-equipped school buses. (H–13-36)

On December 6, 2013, NASDPTS responded to NTSB in full support of the requests made in Safety Recommendations H–13-35 and H–13-36.

On October 20, 2013, the NASDPTS Board of Directors agreed it would reiterate its full support for the installation and use of lap/shoulder belts in school buses, and a new position paper formalizing the Board's position would be published. In February 2014 NASDPTS released a position paper, "The Equipping and Use of Passenger Lap/Shoulder Belts in School Buses." The paper expressed full support for requirements by state and local jurisdictions that all new school buses be equipped with lap/shoulder belts for all passengers, and that students should be trained in their required use.

On November 8, 2015, in joint remarks to attendees at the annual conferences of NASDPTS and the National Association for Pupil Transportation (NAPT), Dr. Mark R. Rosekind, then NHTSA Administrator, updated the agency's position on equipping new school buses with three-point lap/shoulder safety belts. In his remarks Dr. Rosekind stated, "The position of the National Highway Traffic Safety Administration is that seat belts save lives. That is true whether in a passenger car or in a big yellow bus. And saving lives is what we are about. So NHTSA's policy is that every child on every school bus should have a three-point seat belt."

On July 20, 2016, NTSB reported its findings and recommendations on a 2014 crash of a school bus equipped with lap/shoulder belts in Anaheim, California (NTSB/HAB-16/06). Due to driver impairment, the bus left a roadway and struck a tree, causing significant intrusion into the side of the bus. The NTSB concluded that the properly worn lap/shoulder belts reduced passenger motion toward the intruding tree, which probably reduced the severity of the injuries sustained.

On July 9, 2016, the NTSB reported on a 2014 crash in which a small sport utility vehicle collided head on with a school bus in Centerville, Louisiana. The school bus was not equipped with passenger lap or lap/shoulder belts. Dr. Kristin Poland, a biomechanical engineer and Deputy Director of NTSB's Office of Highway Safety, with several other experts, conducted a subsequent study of possible concussions to the school bus passengers as a result of impact forces. As part of their athletic program, the bus passengers were participants in an ongoing sports concussion assessment program prior to the crash. Using data from this concussion program, the authors determined 16 of 30 athletes in the crash had significant post-crash cognitive changes, which were suggestive of a concussion, some of which took months to improve. Further, installation and proper use of passenger lap/shoulder belts may reduce the risk of occupant-to-occupant and occupant-to-interior impacts (NTSB 2013) and thereby decrease the risk of these significant post-crash cognitive changes suggestive of a concussion.

On May 22, 2018, NTSB adopted the Special Investigation Report, "Selective Issues in School Bus Transportation Safety: Crashes in Baltimore, Maryland, and Chattanooga, Tennessee" (NTSB/SIR-18/02). The SIR contained findings of a school bus crash in Baltimore on November 1, 2016 and Chattanooga on November 21, 2016, and related safety recommendations. Six students died as a result of injuries from the crash in Chattanooga. NTSB concluded that in the Chattanooga crash, "properly worn lap/shoulder belts would have reduced exposure to the intruding tree and eliminated the risk of ejection." Pursuant to the SIR, NTSB issued recommendations to the states that they pass legislation to require passenger lap/shoulder belts in

all new school buses (Safety Recommendations H-18-09 and H-18-10).

Position Statement Supporting Points

The following points support NASDPTS' position on equipping and usage of lap/shoulder belts in school buses:

1. **Lap/shoulder belts reduce the number and severity of injuries to students who use them properly in school buses that are so equipped.**
   NHTSA and NTSB, as the two federal agencies with primary responsibility for school bus safety standards and recommendations, respectively, have stated that lap/shoulder belts augment compartmentalization and improve safety for school bus riders, especially in severe crashes involving side impacts and rollovers. In NHTSA's Final Regulatory Evaluation, published with the 2008 final rule amending FMVSS 222, the agency concluded there would be 1,898 fewer injuries and 2.13 fewer fatalities annually if all large school buses were equipped with lap/shoulder belts and the belts were worn properly. As previously stated, in 2018 NTSB issued recommendations to the remaining states that do not have requirements for passenger lap/shoulder belts in new school buses. NTSB recommended the states, including those that require only two-point lap belts, pass legislation to require lap/shoulder belts in new school buses. (Safety Recommendations H-18-09 and H-18-10).

2. **NHTSA has approved technical standards for equipping and using lap/shoulder belts.**
   NHTSA has crash tested seats with lap/shoulder belts and has found that they supplement the high level of safety already provided by compartmentalization and provide the best protection for students in school buses. NHTSA first reported this to Congress in an April, 2002 study. NHTSA reaffirmed these findings in the November 2007 NPRM when they stated, "We would recommend that pupil transportation providers consider installing lap/shoulder belts on large school buses because of the enhancements that lap/shoulder belts could make to school buses." NHTSA's new regulations allowing lap/shoulder belts in large school buses and providing standards for their installation demonstrated the agency's approval of this safety device in this type of vehicle.

3. **Compartmentalization alone has limits for protection; lap/shoulder belts enhance protection.**
   Compartmentalization offers protection in frontal and in rear crashes, assuming passengers are properly seated, but offers limited protection in rollovers, side impacts, or secondary collisions. Passengers restrained by lap/shoulder belts are retained in the seating compartment, thus minimizing upper body flailing and injury caused by body impact to surroundings.

4. **Capacity remains essentially the same with lap/shoulder belts.**
   Flexible seating technology and improved seatback thickness design resolved most of the former issue in which lap/shoulder belt installation reduced passenger capacity. School buses with lap/shoulder belts generally have the same capacity as school buses without belts.

5. **The evacuation process can be aided with lap/shoulder belts.**
   A properly restrained child is less likely to be injured and is, therefore, more capable of being evacuated or self-evacuating quickly. An unbelted child is more likely to be injured or rendered unconscious, slowing down their ability to evacuate the bus. Buckles are designed and tested to easily unlatch even under load, as required in Federal Motor Vehicle Safety Standard (FMVSS) 209.

6. **Lap/shoulder belt design minimizes the possibility of the belt being used as a weapon.**
   Current lap/shoulder belt designs use a lightweight latch plate on a retractable web system. The buckle is attached to the seat with little or no webbing so it cannot be swung and used as a weapon.

7. **Students will wear them.**
   Children are taught early to use safety belts and expect to have belts available in any moving vehicle, including school buses. School districts with lap/shoulder belt equipped school buses that have established usage requirements as part of their school bus riding policies have confirmed high compliance rates.

8. **Equipping school buses with lap/shoulder belts can reduce school district and driver liability for student protection.**
   The addition of lap/shoulder belts to a school bus is a proactive measure by a school district to further enhance the safety of the students it is responsible for transporting. This measure goes beyond the minimum level of expectation for safe student transportation.

9. **Lap/shoulder belt equipped school buses with usage policies have resulted in improved student behavior and create an environment that has less potential for driver distraction.**
   States and school districts with defined and enforced lap/shoulder belt usage policies report notable improvements in student behavior and reduced behavioral incident write-ups. Jurisdictions where students use lap/shoulder belts in school buses report that school bus drivers are less distracted by incidents of student misbehavior, allowing for greater attentiveness to driving matters.

10. **Lap/shoulder belts may result in increased ridership due to parent preference that children be properly secured with lap/shoulder belts when riding in school buses.**
    Today's generation of parents were raised during a time in which safety restraints have always been required in their personal vehicles. They believe their children will be safer in a school bus that has seat belts. Studies by the American School Bus Council revealed that a notable percentage of parents had concerns about the safety of their children in yellow school buses. With lap/shoulder belts installed in school buses, and with policies and practices that encourage their use, parents may feel more confident about having their children ride in the school bus.

11. **School districts and their employees have not been found liable for issues relating to the belts when they have adopted and implemented reasonable policies for their use.**
    School bus drivers who do not yet have lap/shoulder belts in their buses sometimes express concern that if their buses had belts they might be held liable if not every student wears them or if students misuse the belts. States and school districts where lap/shoulder belt equipped buses have been in place for some time report that these concerns are unfounded. Drivers are only expected to make reasonable efforts to inform students and enforce belt use consistent with existing school district discipline procedures.

12. **Costs for equipping school buses with lap/shoulder belts are reasonable. Prioritization of means to provide the greatest overall safety for students is necessary.**
    Lap/shoulder belts have become an affordable option considering the overall cost of the bus, other available options, and the average life of the bus. When considering lap/shoulder belts or other safety measures, including the ability to buy sufficient buses to meet service demands, states and local school districts must prioritize available funding to provide greatest safety for all students.

Conclusions

NASDPTS fully supports required installation and use of lap/shoulder belts in new school buses. When school buses are equipped with lap/shoulder belts, a mandatory usage policy must also be in place, along with necessary training of employees and students on the importance of wearing and using the belts properly. Training and procedures must include effective evacuation training and drills.

State directors of pupil transportation and leaders of state pupil transportation associations should work in concert to ensure that legislators and other state policy makers are educated on the existing safety record of school buses. Their discussions should emphasize the added safety benefits provided by lap/shoulder belts and the need to ensure that funding levels and service

requirements support the availability of school buses to serve parents' and students' needs.[3]

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3 The National School Transportation Specifications and Procedures, Revised 2015, of the National Congress on School Transportation, emphasizes the need to provide school bus transportation as follows: "Transportation is critical to the education process, and the school bus is the safest form of transportation; therefore, transportation to and from school on a school bus shall be offered to all eligible students."

This paper is intended as a guide, not a legal document. Readers are encouraged to review the listed links and resources and consult others for complete information on this topic. NASDPTS encourages questions and comments.

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