

LEGISLATIVE REPORT

- SUBJECT:** Seat Belts in School Buses
- REFERENCE:** H.C.R. No. 71, HD 2, and H.R. 62, HD2 (2008)
- ACTION REQUESTED:** Compile data on school bus accidents in the State in the past five years and analyze the DOE's current policy toward seat belt use on school buses. Submit a report of findings and recommendations regarding school bus safety, including issues related to seat belt use and any proposed legislation.

DOE REPORT:
Introduction:

In the United States, it is approximated that 25% of student transportation to school are made on school buses. About 25.1 million students are transported on school buses daily. Within the State of Hawaii - Department of Education (DOE), nearly 40,000 students or 23% of all enrolled students were provided with school bus transportation services for the school year 2007-2008.

School buses are one of the safest forms of student transportation and have the lowest death rate of any mode of transporting students to school in the United States. A study in 2002 found that out of the 815 school-related transportation fatalities reported in the United States, 2% were school bus-related, 22% were due to walking or bicycling, and 75% were from automobile accidents.

School bus safety and seat belt requirements for school buses were of interest to Congress for many years. In 1974, Congress directed the National Highway Traffic Safety Administration (NHTSA) to issue regulations for school bus safety, including protection for occupants. At that time, the NHTSA decided not to require seat belts on large school buses.

In 1977, the NHTSA issued a Federal Motor Vehicle Safety Standard (FMVSS) that required "lap" seat belts only on buses having a gross vehicle weight rating (GVWR) of less than 10,000 pounds. These

smaller buses are known as “Type-II” buses and mainly utilized to transport students with special needs. Larger school buses are categorized as “Type I” having a GVWR of more than 10,000 pounds.

Today, the DOE contracts 299 Type-II and 531 Type-I school buses to transport students throughout the State of Hawaii. In addition, the department leases 14 Type-I school buses to provide services in the West Hawaii district. Since public school bus transportation services began for the State in 1965, there were no report of student fatalities as a result of school bus accidents.

The DOE spent approximately \$45 million for school bus transportation services in fiscal 2008 and projects an expenditure of \$55 million for school bus servicing contracts in fiscal 2009. New school bus servicing contracts, annual fuel cost adjustments and wage increases attributed to the projected increase. Economic hardship, bus driver retention, and minimal bidding competition are factors for the increase as well.

NEW NHTSA RULING:

49 CFR PART 571

The Department of Transportation NHTSA recently published a “final rule” that modifies existing rules and regulations for school bus passenger crash protection. This final rule requires lap/shoulder belts for new school buses having a GVWR of less than 10,000 pounds; known as Type-II school buses. The final rule also sets standards for seat belts voluntarily installed on large school buses having a GVWR of more than 10,000 pounds; known as Type-I school buses. Although not mandated, the rule states that each State have the option to require seat belts in larger school buses (GVWR greater than 10,000 pounds). The final rule also requires all new school buses to have seat backs of 24 inches. Currently, the standard height for seat backs is 20 inches. In addition, the ruling requires seat bottom cushions to be securely latched, preventing the ability to lift seat-bottom cushions without tools. Seat-bottom cushions are currently unsecured for the purpose of providing easy access to clean under seats.

The requirement for lap/shoulder belts on Type-II (GVWR of less than 10,000 pounds) applies to school buses manufactured on or after three years of the ruling publication within the Federal Register. This schedule also pertains to voluntarily-installed seat belts in Type-I (GVWR of more than 10,000 pounds) buses. The requirement for 24-inch seat backs and self-latching seat bottom cushions applies to school buses manufactured on or after one year of the ruling publication within the Federal Register.

SCHOOL BUS COMPARTMENTALIZATION

Prior to the issuance of the 1977 Federal Motor Vehicle Safety Standards No. 222 (Compartmentalization), NHTSA investigators found that school bus seats were a significant factor in causing injury as a result of a bus crash. Investigators discovered that the seats were too weak, low, and hostile. As a result of this, NHTSA developed requirements for compartmentalization.

Compartmentalization minimizes injuries by containing and cushioning the occupant within their seating area in the event of an impact. The high-backed padded seats are designed to absorb energy from impacts and passengers are seated in closely spaced rows to reduce travel upon impact. Compartmentalization minimizes hostility of the crash environment.

NHTSA has analyzed whether seat belts should be required on large school buses (Type-I) on numerous occasions and has repeatedly determined that compartmentalization provides a high-level of protection. Furthermore, the NHTSA is aware that requiring seat belts in large buses would impact student transportation costs. The NHTSA concluded that the costs should not be imposed on all purchasers of large school buses when they are extremely safe.

IMPACTS:

Financial

The NHTSA recognizes that the demand for student transportation services has not been equally met by the availability of funds. Alternate expenditure options

to improve student transportation safety should be considered such as acquiring additional school buses to reduce risks of students transported through other means such as by automobile, bicycling, or by walking. Thomas Built Buses estimates that buses equipped with lap/shoulder belts will cost \$10,000 more than buses with traditional seats. The DOE can assume that school bus contractors will pass on the increase in costs to the State through bids for new contracts.

Reduction in Rider Capacity

The installment of seat belts in large buses will reduce the seating capacity for buses utilized to transport elementary school students. Currently, a large school bus is capable of transporting three elementary school students per bench or 72 students per bus. Assuming that only two sets of lap/shoulder belts will be installed per bench, a large school bus would only be able to transport 48 elementary school students; a reduction of 24 seating positions. Based on this change, outfitting two large buses with lap/shoulder seat belts will require one additional bus to accommodate the same number of students. By this account, we can assume that each large bus equipped with seat belts, transporting elementary school students, would increase costs by 33% to maintain services for existing bus-riders.

Affecting Rapid Evacuation

The use of seat belts in large buses may affect a student's ability to rapidly evacuate a bus after an accident. Occupants of the bus may not be able to release their seat belts in time to escape a deadly situation. An incident had occurred in Greensboro, North Carolina involving a school bus that was totally engulfed in flames within seconds after the occupants noticed the smell of smoke. The bus driver was commended for quickly evacuating 35 children right before the entire bus was engulfed with smoke and flames. A similar incident occurred in Atlanta on March 27, 2008. Forty students of Sarah Smith Elementary School escaped a smoke-filled bus before it burst into flames. The driver was commended for his quick action. There may have been a difference in the outcome if the children were strapped in seat

belts. Similarly, the opportunity for action would be reduced if a school bus rolled into a water-filled ditch or lake.

COMMENTS BY VARIOUS AGENCIES

National Transportation Safety Board (NTSB), 1987. The NTSB studied forty-three school bus crashes and concluded that most fatalities and injuries in school bus crashes were related to the seating position of victims. The victims were seated directly in line with the crash and concluded that seat belts would not have prevented those injuries and fatalities.

National Academy of Sciences (NAS), 1989. The NAS concluded that the overall benefits of requiring seat belts in large buses were insufficient to justify Federal ruling. They have stated that funds used to purchase seat belts could be better spent on other school bus safety programs to save lives and reduce injury.

National Transportation Safety Board (NTSB), 1999. NTSB found that compartmentalization is an effective means of protecting students. However investigations on six school bus accidents involving fatalities and serious injuries concluded that other means of protection should be examined.

National Academy of Science (NAS), 2002. NAS conducted a study on various modes of student transportation. They have found that out of approximately 815 school transportation fatalities per year, 2% were bus related, 22% were due to walking or biking, and 75% were from automobile accidents. They have stated that any change to one mode of transportation may lead to dramatic changes in the overall risk to the student population. Based on this study, the agency determined that school bus transportation is the safest means of transporting students to/from home to school and all efforts should be made to get as many students as possible on school buses.

National Highway Traffic Safety Administration (NHTSA), 2002-2007. The NHTSA launched an extensive bus safety project in 2002 called the “2002

School Bus Safety Study.” In addition, the agency provided additional analysis on the testing data in 2007. As a result of this study, the NHTSA proposed to improve compartmentalization for all school buses by requiring an increase in seat back height from 20” to 24”, the installment of self-latching mechanisms to secure seat bottom cushions, and the requirement of lap/shoulder belts in Type-II (GVWR of less than 10,000 pounds) school buses. Furthermore, requiring lap/shoulder belts in Type-I (GVWR of more than 10,000 pounds) school buses would be at the discretion of applicable States.

ACCIDENTS

For the period Fiscal '03 through '08

CONTRACTOR	No. of Accidents	Students Injured	Fatalities
Akina Bus Svc	2	0	0
Akita Enterprises	4	0	0
Dudoit Bus Service	0	0	0
Gomes School Bus Svc	0	0	0
Ground Transport	3	0	0
Molokai Transportation	0	0	0
Okumura Bus Service	0	0	0
Randolph Castro	0	0	0
Robert's Hawaii	30	0	0
Spencer Bus Service	0	0	0
Tomasa Bus Co.	6	15	0
Yamaguchi Bus Svc	1	0	0

FINDINGS AND RECOMMENDATIONS:

The DOE acknowledges the new DOT NHTSA Ruling, 49 CFR Part 571 that requires lap/shoulder belts in new school buses having a GVWR of less than 10,000 pounds (Type-II) purchased on or after November 2011. The DOE also acknowledges the requirement for all new buses to have seat backs of at least 24 inches and secured seat bottom cushions purchased on or after November 2009.

The DOE would support a State decision to require lap/shoulder belts in new school buses having a GVWR of more than 10,000 pounds (Type-I) purchased on or after November 2011; aligned with the new DOT NHTSA Ruling, 49 CFR Part 571, for Type-II vehicles. A two-year lead time would provide

for contracts and bus purchases/leases currently in process to be concluded without disruption.

Mandating seat belts in large school buses will result in a reduction of seating capacity and will require additional legislative appropriations. The additional cost of a bus equipped with seat belts is approximately \$10,000. The reduction in seating capacity for elementary students will require additional buses and will increase the operating cost of the school bus system.

A recently released federal study of seat belts on school buses estimated that mandatory lap/shoulder belts on large school buses would reduce student fatalities by only two per year, nationally. There have been no student deaths resulting from school bus accidents in Hawaii since the inception of service in 1964.