

March 9, 2010

Honorable David Strickland, Administrator
National Highway Traffic Safety Administration
1200 New Jersey Avenue, SE
Washington, D.C. 20590

PETITION FOR RULEMAKING

The National Coalition for School Bus Safety (NCSBS), Center for Auto Safety (CAS), Public Citizen (PC), Consumers for Auto Reliability and Safety (CARS), Consumers Union (CU), KidsandCars.org, Advocates for Highway and Auto Safety, Consumer Federation of America (CFA), SafetyBeltSafe U.S.A., the Trauma Foundation, the American Academy of Pediatrics, the American Association of Orthopaedic Surgeons, the Orthopaedic Trauma Association, 2safeschools.org, Safe Ride News, the Advocacy Institute for Children, Belt Up School Kids, the Coalition for Child Safety, Nancy Bauder, Lynn Brown, Norm Cherkis, Ruth Spaulding, and Rhea Vogel petition the National Highway Traffic Safety Administration (NHTSA) pursuant to 49 C.F.R. 552 to initiate rulemaking for the purpose of amending Federal Motor Vehicle Safety Standard 222 (FMVSS 222) to protect children from death and injury in school bus crashes.

This petition seeks action by NHTSA to promptly mandate the three-point-belt requirement for all seating positions on all school buses. School bus crashes are an important public health concern. A 2001-2003 study conducted by the National Electronic Injury Surveillance System revealed that 42% of 51,000 school bus-related injuries were associated with school bus crashes. (McGeehan et al. 2006). Another recent study conducted from 2003-2004 by the Center for Injury Research and Policy at Columbus Children's Hospital found that in Ohio alone 20,800 children younger than 18 years were occupants on a school bus involved in a crash.

The urgency of this petition is underscored by recent school bus crashes in which restrained children were protected from severe injury and, in contrast, unrestrained children suffered fatal or severe injuries. The action requested by this petition is consistent with that recommended by the National Transportation Safety Board.

Connecticut Crash

At about 8:00 AM on Saturday, January 9, 2010, on Interstate Route 84 in Hartford, Connecticut, a school bus carrying 16 gifted math students and two adults to a science competition collided with a station wagon. The bus driver lost control, and the school bus crashed through a roadside guardrail, plummeted down a 20-foot drop-off, and ended in the ravine below. One child was killed, and fifteen were injured. Several suffered broken bones and severe bruising as they fell on top of one another as the bus came to a crashing halt.

The bus was not equipped with seat belts for any of the passengers.

According to press accounts, one student reported, "All of a sudden, we were just airborne. We were all airborne." A parent recounted what his daughter told him, "'One of her friends flew over two seats and got a gash from that. There were a number of people with broken ankles and broken wrists, and an adult with broken ribs and maybe a broken wrist.'"¹

Three out of four Connecticut residents support requiring seat belts on school buses, according to a Quinnipiac University poll released January 21st.

It did not take long for state Representative Antonio Guerrero, D-Rocky Hill, co-chairman of the Connecticut legislature's transportation committee, to announce on the very next day that he would immediately submit legislation that calls for seat belts on school buses.²

According to the *Hartford Courant*, this would not be the first time that a Connecticut lawmaker has called for seat belts on school buses. Twenty-three bills that would have required the devices have been introduced by lawmakers over the past 20 years, but they never made it out of committee.

National leadership is essential, and is needed now.

Recently, the highly respected National Transportation Safety Board (NTSB) reported on a severe Milton, Florida large school bus crash (see below) in which all the child passengers were wearing seat belts. The Board found that compared to another similar high force incident such as the Hartford crash, the children were effectively restrained and remained in their seating area. As a result, fatalities and injuries were substantially reduced. In a very similar crash that resulted in multi-fatalities accompanied by many serious injuries, the youngsters were not so lucky.

NHTSA's Failure to Act

In spite of continuing real-world demonstrations of the need for seat belts on school buses, the urgings of other responsible Federal authorities, national and local safety and medical

¹ Courant.com available at <http://www.courant.com/news/connecticut/hc-bus-crash-0110.artjan10,0,2968971.print.story> accessed January 10, 2010.

² Courant.com available at <http://www.courant.com/news/connecticut/hc-proposed-bill-seat-belts-buses-0110,0,4936126.print.story> accessed January 10, 2010.

organizations, and concerned individuals, NHTSA has yet to require seat belts on all newly manufactured large yellow school buses. This inaction allows manufacturers, dealers, contract operators, and school districts to avoid installing seat belts. In so doing, they imperil all the children who are transported back and forth to school every school day and to school-related activities, such as occurred in the Hartford crash.

Starting about the middle of the last century, around the world, there was an increasing awareness of the important role that seat belts have in reducing fatalities and mitigating injuries in automotive crashes. Car manufacturers began offering seat belts as an option. Safety, engineering, and medical organizations studied crashes, made recommendations, and raised public interest in seat belt installation and use. Finally, effective January 1, 1968, seat belts were required in new cars, nationwide, by federal law.

At about the same time, researchers at UCLA conducted a series of school bus crash tests using full size, yellow school buses, lifelike child dummies, and high-speed film to dramatically depict what happens to youngsters in major crashes. The shocking pictures were widely distributed and caused significant interest among concerned parents. Most expected a federal order similar to what had occurred with automobiles, but it did not come to pass.

After extensive hearings on school bus safety, Congress passed the Motor Vehicle and School Bus Safety Amendments of 1974, Pub. Law No. 93-492, which required NHTSA to promulgate new safety standards for school buses including "interior protection for occupants." Finally, in 1977, NHTSA promulgated FMVSS 222 "School Bus Passenger Seating and Occupant Protection." A requirement for seat belts on the large buses was not included.

Instead, children who ride on large school buses manufactured after that date have been forced to rely on compartmentalization between high-back, well-padded, and securely anchored seats for crash protection. Since that time, agencies, departments, and representatives of federal, state, and local governments, school district officials, school bus manufacturers, pupil transportation directors, and the operators of school buses have confidently and persistently assured parents and their children that compartmentalization provided the optimal school bus safety system by containing child passengers within their seating compartment during crashes. They insisted that because of compartmentalization, crash forces would be effectively attenuated by the padded surroundings, and injuries and fatalities would be mitigated and/or prevented. Parents and their children have accepted and placed their trust in this advice advanced by these transportation officials.

The Hartford, Connecticut, crash represents a tragic demonstration that the concept of "compartmentalization" provides inadequate protection for our school children. In fact, during a July 11, 2007 public meeting addressing the National Highway Traffic Safety Administration standards for school bus passenger protection Dr. Agran, Chair of the American Academy of Pediatrics Section on Injury, Violence and Poison Prevention even stated that "[q]uite bluntly, compartmentalization is an antiquated system. Even as major advances have been made in

protecting the occupants of other motor vehicles, school buses have remained a determined dinosaur in terms of technology, design and innovation.”³

A 2002 NHTSA report to Congress also calls into question the effectiveness of the “compartmentalization” concept on school buses. NHTSA’s report to Congress on school bus crashworthiness determined that lap/shoulder belts on school buses performed best in dummy crash testing compared with unbelted occupants, compartmentalization, and lap belts. Head injury measurements were significantly lower for lap/shoulder belts than for compartmentalization or lap belts. In crash tests, the lap/shoulder belt restraint systems effectively kept the dummies in their seats. However, these findings still underestimate the need for lap-shoulder belts to prevent school bus-related injuries because, as NHTSA noted, the crash test dummies did not simulate the behavior of child passengers in “real life” conditions where children turn around, sit sideways, kneel on the seats, etc.

NTSB Recommendations Ignored

The faith in “compartmentalization” had already been shattered a decade ago when on September 21, 1999, the NTSB reported a special investigation of bus crashworthiness and concluded, “Current compartmentalization is incomplete in that it does not protect school bus passengers during lateral impacts with vehicles of large mass and in rollovers, because in such accidents, passengers do not always remain completely within the seating compartment.” The Board went on to point out that passengers who were propelled from the compartment during collisions were more likely to be injured.⁴

For the protection of school bus occupants, the NTSB then went on to recommend that NHTSA act as follows:

In 2 years, develop performance standards for school bus occupant protection systems that account for frontal impact collisions, side impact collisions, rear impact collisions, and rollovers. (H-99-45)

Once pertinent standards have been developed for school bus occupant protection systems, require newly manufactured school buses to have an occupant crash protection system that meets the newly developed performance standards and retains passengers, including those in child safety restraint systems, within the seating compartment throughout the accident sequence for all accident scenarios. (H-99-46)

³ Testimony of Dr. Phyllis Agran, Chair of the American Academy of Pediatrics Section on Injury, Violence and Poison Prevention, Public Meeting: Federal Motor Vehicle Safety Standards for School Bus Passenger, Panel IV: Seat Belt Usage – Experience, Education and Enforcement, NHTSA (July 11, 2007).

⁴ National Transportation Safety Board, Highway Special Investigation, NTSB/SIR-99/04, Washington D.C., September 21, 1999.

NHTSA Has Not Acted on NTSB 1999 Recommendations

With the lives of more than 25 million children who ride the school bus every school day imperiled, NHTSA has been painfully slow in acting on the NTSB's recommendations. It was not until **fully nine years later**, on October 28, 2008 that NHTSA finally promulgated its rule entitled "Federal Motor Vehicle Safety Standards; Seating Systems, Occupant Crash Protection, Seat Belt Assembly Anchorages, School Bus Passenger Seating and Crash Protection."⁵

Unfortunately, the long-awaited final NHTSA rule falls far short of addressing the NTSB's recommendations.

The final rule requires installation of lap-shoulder belts only on newly manufactured small school buses, and merely *suggests* their voluntary placement on new large buses, which does very little to improve rider safety.

The NHTSA 2008 rule requires all new small school buses of 4,536 kilograms (10,000 pounds) or less gross vehicle weight rating (GVWR) to have installed lap-shoulder belts. For the familiar, large, yellow school buses with gross vehicle weight ratings (GVWR) greater than 4,536 kilograms (kg) (10,000 pounds), the rule provides only guidance to State and local jurisdictions on the subject of placement of seat belts. There is no requirement that lap-shoulder belts be installed. NHTSA merely "encourages providers to consider lap-shoulder belts on large school buses."

History has demonstrated that when safety upgrading is suggested for school buses, voluntary implementations by school authorities are extremely rare unless the vehicular construction improvement is required by law or regulatory standard at time of manufacture. When the original bus standards went into effect in 1977, NHTSA made the same distinction regarding lap belts: installation at time of manufacture on the small buses, voluntary and at local discretion for the larger buses. Less than a tenth of one percent of school districts took the initiative to order buses with belts.

By September of 1985, the National Coalition for School Bus Safety reported 59 school districts in 16 states were operating large school buses with seat belts. Responding to parental calls for action, New York was the first state to require lap belt installation on all school new buses in 1986. They were then followed by New Jersey in 1992, Louisiana, Florida and California in 1999, and finally Texas in 2007. Both California and Texas specify three-point belts. It took 15 years for the first state to require lap belts on newly manufactured buses and now, more than 30 years later, only four states currently mandate belts on new buses. Louisiana and Texas have yet to fund and enforce their laws, even though they were passed in 1999 and 2007, respectively. (Table A is a list of school bus seat belt laws by state.)

⁵ Department of Transportation, National Highway Traffic Safety Administration, 49 CFR Part 571, Federal Motor Vehicle Safety Standards; Seating Systems, Occupant Crash Protection, Seat Belt Assembly Anchorages, School Bus Passenger Seating and Crash Protection; Final Rule, *Federal Register*, vol. 73, no. 204 (October 21, 2008), pp. 62750 and 62752

Table A – State School Bus Seat Belt Laws

State	Statute	Year	Notes
California	Cal. Vehicle Code § 27316	1999	Requires 3-point belts
Florida	F.S.A. § 316.6145	1999	
New Jersey	N.J.S.A. 39:3B-11	1992	
New York	Vehicle and Traffic Law § 383	1986	
Louisiana	LSA-R.S. 17:164.2	1999	Unfunded mandate, not currently enforced
Texas	V.T.C.A., Transportation Code §547.701	2007	Requires 3-point belts, Not effective until 9/1/2010, contingent on funding

School Buses under 10,000 pounds

Since 1977, small buses have been required by NHTSA to be manufactured with a lap belt restraint system that functions to keep child passengers in the compartment during lateral and rollover crashes. Therefore, the NTSB’s 1999 concerns for child lateral and rollover restraint have already been in effect only in the in the small buses for the past 30 years. As a result, the new requirement adds almost nothing to bus safety in the real world.

School Buses over 10,000 pounds

Although NHTSA’s final rule acknowledged, “... in terms of the optimum passenger crash protection that can be afforded an individual passenger on a large school bus, a lap-shoulder belt system, together with compartmentalization, would afford that optimum protection,” the new requirement fails to mandate these lap-shoulder belts on all but the smallest school buses.

The exclusion of the larger buses effectively denies protection to the overwhelming majority of children during lateral and rollover crashes and disregards the NTSB’s concern.

According to NHTSA, U.S. school bus sales for the sales years 2001-2005 averaged about 40,000 school buses produced per year. Of the 40,000 school buses manufactured each year, 2,500 of them were 10,000 pounds GVWR or under. The other 37,500 school buses were over 10,000 pounds GVWR⁶.

Based on these figures, assuming 16 small bus and 66 large bus seating positions to be lap-shoulder belted, only 1.6% of seats installed for the student ridership would have belts available while 98.5% would ride unprotected under NHTSA’s October 2008 rule.⁷

⁶ *School Bus Fleet 2007 Fact Book.*

⁷ 2500 x 16 = 40,000 seating positions, small bus
 37,500 x 66 = 2,475, 000 seating positions, large bus
 40,000 is 1.6% of 2,475,000

The unwarranted exemption of large buses, coupled with the demonstrated, thirty-year history of failure by school districts and states to voluntarily install belts on large buses argues strongly for NHTSA to require all newly manufactured school buses to be equipped with lap-shoulder belts.

Children transported on large buses should not be denied the protection of lap-shoulder belts.

2009 NTSB Report

This embarrassingly minimal effort by NHTSA and tragic omission for America's children has been recognized anew by the NTSB. In their just released Highway Accident Brief (NTSB/HAB-09/03) on a school bus accident near Milton, FL that took place on May 28, 2008, the Board expressed its dissatisfaction with NHTSA's actions. Because Florida Law requires seat belt installation and lap belts were being used by all riders in this collision/multiple roll over crash, passengers satisfactorily rode through the crash. The Board pointed out that, in stark contrast to an extremely similar rollover crash in Flagstaff, AZ there were multiple ejections and lifetime, crippling injuries.

The Flagstaff school bus was not equipped with any form of passenger restraints; the driver's position was equipped with a lap belt. During the overturn sequence, five passengers were ejected from the bus. Of these ejected occupants, one suffered a severe head injury requiring long-term care and another sustained a cervical spine injury resulting in quadriplegia. In total, the driver and four passengers sustained serious injuries. The remaining passengers sustained minor or no injuries.

In the Milton accident, only one passenger (who may have slipped out of a loosely worn belt) and the driver sustained serious injuries, and these injuries are unlikely to require long-term care. No passengers were ejected from the bus during the Milton overturn sequence.⁸

As a result, the Board found that NHTSA had not mandated an occupant protection system that would maintain all school bus occupants in their seating area in real-world crashes, such as rollovers. The NTSB classified NHTSA's response to its Safety Recommendation as "unacceptable."

Petitioners heartily agree. The laws of physics are not repealed because one bus is longer than another. In their studies of crash profiles, fatalities, and severe injuries on school buses that exceed 10,000 lbs. GVW, the NTSB has convincingly determined that three-point belts are needed to protect children on all newly manufactured school buses.

⁸ *Highway Accident Brief, School Bus Loss of Control and Rollover, Interstate 10, Near Milton, Florida May 28, 2008, NTSB/HAB-09/03*

Conclusion

Petitioners urge that FMVSS Standard 222 be promptly amended to mandate the three-point belt requirement for all seating positions on all school buses.

Respectfully submitted,

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