

## **APPENDIX D**

The National Association of State Directors of Pupil Transportation Services (NASDPTS) drafted the Position Papers included in this Appendix.

The National Association of State Directors of Pupil Transportation Services was established in 1968. The membership represents all 50 states and several U. S. territories. The purpose of the association is to provide leadership, assistance and motivation to the Nation's school transportation industry with the goal of providing safe, efficient, economical, and high-quality transportation to school children on their trips to and from school and school-related activities.

The association works closely with federal organizations that can influence school transportation, such as:

- United States Congress
- Department of Transportation
- National Transportation Safety Board

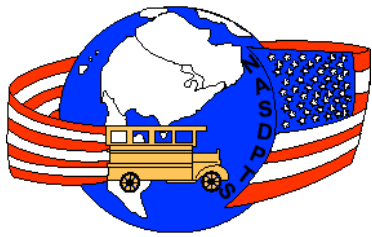
Additionally, the Association interacts with other organizations and associations at the state and national levels that have an interest in school transportation.

Examples of other organizations and associations include:

- National Safety Council
- National Association for Pupil Transportation
- National School Transportation Association

Position Papers included in Appendix D are:

- History of School Bus Safety
- Safety Recalls Involving School Buses
- Passenger Crash Protection in School Buses
- School Bus Seat Capacity
- School Bus Drivers – Their Importance and Training
- Vans Used for School Transportation
- School Buses versus Transit Buses
- Speed Limits for School Buses
- Advertising on School Buses



## National Association of State Directors of Pupil Transportation Services

### **History of School Bus Safety -- Why Are School Buses Built as They Are?**

In the earliest days of our Nation, education was mostly provided through churches. Public education started in the mid 1600's, but pupil transportation was not provided until the late 1800's. By 1910, thirty states had pupil transportation programs in place. The first "vehicles" used to transport students were nothing more than horse-drawn carts which were borrowed from local farmers. With the development of automobiles and trucks with gasoline-powered engines, the school "wagon" was replaced with the school "truck." During the 1920's and 1930's, the Nation's roadway system was expanding, especially in rural communities. This led to a greater need for vehicles to transport school children and the formation of an industry of manufacturers of school buses.

As the number of school buses operating on the roadways increased, there came the inevitable problems. Several serious tragedies occurred involving school buses which caused school officials to think seriously about developing safety guidelines or standards. In 1939, representatives from 48 states gathered to develop standards and recommendations for school buses. Since that time, there have been a total of 12 National Conferences on School Transportation where representatives from each state gather to revise existing and establish new safety standards for school buses and operating procedures for the safe transportation of school children, including those with disabilities.

In addition to the requirements developed by the school transportation community itself, there are Federal standards that apply to school buses. As a result of the passage of the National Traffic and Motor Vehicle Safety Act of 1966 and the School Bus Safety Amendments of 1974, the National Highway Traffic Safety Administration, an agency of the U.S. Department of Transportation, has issued 34 Federal motor vehicle safety standards which apply to school buses. These standards cover a wide range of components and systems, e.g., brakes, steering, glazing, lights, fuel system integrity, mirrors, heaters/defrosters, compressed natural gas containers, etc., and apply to all types of motor vehicles. Many of these Federal standards have unique requirements for school buses, e.g., outside mirrors to provide the seated driver with a view in front of and along both sides of the bus; amber and red warning lights when the bus is stopped to load or unload passengers; emergency exits; and fuel system integrity. In addition, four of the standards are unique to school buses. These are:

1. "School Bus Rollover Protection," which specifies the minimum structural strength of buses in rollover-type accidents;
2. "School Bus Body Joint Strength," which specifies the minimum strength of the joints between panels that comprise the bus body and the body structure;

3. "School Bus Passenger Seating and Crash Protection," which establishes requirements for school bus seating systems for all sizes of school buses, and provides minimum performance requirements for wheelchair securement/occupant restraint devices and establishes a requirement that wheelchair locations be forward facing; and
4. "School Bus Pedestrian Safety Devices," which requires school buses be equipped with an automatic stop signal arm on the left side of the bus to help alert motorists that they should stop their vehicles because children are boarding or leaving a stopped school bus.

The design and construction of today's school buses is a direct result of both the Federal motor vehicle safety standards that apply to school buses and the standards adopted by the National Conferences on School Transportation, as well as some requirements that are unique to particular state or local school districts. While some may argue that today's school buses do not look much different than their predecessors of 30-40 years ago, they are dramatically different. The improvements made to school buses in the past decades, as well as improvements in driver training, school bus maintenance, and school bus operating procedures, have been responsible for the outstanding safety record of school transportation. Many crashes are actually avoided by well-trained school bus drivers.

Every year, approximately 390,000 public school buses travel about 4.2 billion miles to transport 23 million children to and from school and school-related activities. While catastrophic school bus crashes have occurred, they are rare events. Most school bus crashes are minor, and in most crashes involving passenger cars and light trucks, the school bus has the advantage of its larger size and weight. As a result, many more people are killed or injured each year in vehicles that crash into school buses than are killed or injured in the school buses. It is difficult, if not impossible, to develop ways to protect school bus occupants in catastrophic crashes, such as those involving trains and heavy trucks. The crash forces in those accidents are so great that any reasonable structural design cannot maintain the integrity of the vehicle, which is one critical component of occupant crash protection.

The safety of pupil transportation is the highest priority of the National Association of State Directors of Pupil Transportation Services. The Association continues its active involvement with Federal, state, and local governments to establish standards and programs that will continue to safeguard the future generations of America.

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## **Position Paper School Bus Seat Capacity**

### **Background:**

School buses transport passengers in a wide range sizes (height and weight). Accordingly, it is not possible to define the absolute capacity of a school bus under all conditions. The typical school bus seat is 39 inches wide and generally is considered to have a maximum seating capacity of three. This capacity rating is not meant to be a measure of the absolute capacity of the school bus seat for all sizes of passengers. Rather, it is the “rated maximum capacity” as determined by the school bus body manufacturer and specified on the vehicle. This rated capacity is determined by dividing the width of the seat by the number “13,” which represents the 12.8-inch hip breadth of a 5<sup>th</sup> percentile adult female test dummy as specified in Federal Motor Vehicle Safety Standard 208, “Occupant Crash Protection.”

[A 5<sup>th</sup> percentile adult female dummy is approximately 4-feet 11-inches tall and weighs 102 pounds.]

### **Discussion:**

The 1995 National Conference on School Transportation discussed guidelines for school transportation operations which are designed to “ensure safe and efficient student transportation.” For example, it is suggested that a local pupil transportation director route and schedule school buses “for safe, efficient and economical transportation service.” An integral part of providing “safe” transportation in a school bus, or any other type motor vehicle, is that the passengers be properly seated. From a safety perspective, a person who is either standing or improperly seated in a school bus, or any other type of motor vehicle, is not afforded the benefits of the safety protection designed into the vehicle and is in increased jeopardy of injury in the event of a crash or extreme sudden driving maneuver.

Additionally, there must be sufficient space on the school bus seat for each passenger’s body to be completely within the seat compartment. In the event of a crash or sudden driving maneuver, students that are not properly seated within the seat compartment, may not benefit from the passenger crash protection systems built into the school bus under Federal and State regulations.

In practice, school buses transport students of various sizes, typically from pre-schoolers to 12<sup>th</sup> graders. While a 39-inch seat may safely accommodate three pre-schoolers and/or primary school-aged children, it may not safely accommodate the same number of older children. Since the size of growing children varies, the number of pupils that can safely occupy a school bus seat also changes. Consequently, the “in use” capacity of a school bus varies depending on the size of the pupils transported. The use of a child safety seat for an infant or toddler, or special equipment needed for a child with disabilities, may further impact the “in-use” capacity of a school bus.

It is important to consider the size of the passengers on each school bus route when determining the “in-use” capacity of a school bus. It is recognized that at certain times, for example at the beginning of a school year, it may not be possible to know exactly how many students will arrive at the school bus stops on a route seeking transportation to and from school. For that reason, there may be instances where overcrowding exists temporarily on some school buses. In such situations, efforts should be made to provide safe seating to all school bus passengers in a timely and efficient manner, so that during regular operations all passengers are safely seated.

Highway Safety Guideline #17, “Pupil Transportation Safety,” as issued by the National Highway Traffic Safety Administration, states:

- “(1) Standing while school buses and school-charter buses are in motion should not be permitted. Routing and seating plans should be coordinated so as to eliminate passengers standing when a school bus or school-charter bus is in motion.
- (2) Due to variations in sizes of children of different ages, States and school districts should exercise judgment in deciding how many students are actually transported in a school bus or school-charter bus.
- (3) There should be no auxiliary seating accommodations, such as temporary or folding jump seats in school buses.”

### **Conclusions:**

The National Association of State Directors of Pupil Transportation Services believes all children riding in school buses, or other buses used to transport pupils to and from school or school-related activities, should be properly and safely seated facing forward. In addition, the State Directors Association believes there should be adequate space on the seat for the child to be seated completely within the seating compartment.

Accordingly, the State Directors Association believes States should establish guidelines for determining the “in-use” capacity of school buses and other buses used to transport pupils to and from school and school-related activities. The State Directors Association further believes States should enact legislation to prohibit standees during the regular operation of a school bus or other bus used to transport pupils to and from school or school-related activities.

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NATIONAL ASSOCIATION OF  
STATE DIRECTORS OF  
PUPIL TRANSPORTATION SERVICES

## **Position Paper**

### **School Bus Drivers -- Their Importance and Training**

#### **Background:**

School buses are the safest vehicles on the road. This safety record is the result of the interaction among several items -- the design and construction of the school bus; the operating condition of the bus; the planning of the school bus route; the location of the loading zones; and, the school bus driver. The role of the school bus driver in ensuring the safe transportation of children to and from school and school-related activities is as important as any other link in the school transportation safety chain.

A modern, safe, well-maintained school bus operating on the best possible terrain with ideal loading zones can not compensate for an ill-trained school bus driver. Likewise, today's highly-trained school bus drivers can not provide the safest possible transportation to students with out-of-date, poorly-maintained school buses traveling over illogical routes, and stopping at undesirable loading zones.

While the construction and safety equipment of school buses is critical to providing safety to school bus occupants when a crash occurs, it is the school bus driver who often prevents incidents and crashes each school day. The safety record of school bus transportation is a testament to school bus drivers and the rest of the school transportation industry.

#### **Discussion:**

Over the years, a number of actions have been taken to improve school bus driver selection and training activities. Since the early 1920's when training manuals for school bus drivers were developed, private and public entities have continued their efforts to develop and improve school bus driver training. Then, in the 1970's, the National Highway Traffic Safety Administration (NHTSA) issued standards (which later became guidelines) for school bus driver training.

In the early 1990's, the Federal Highway Administration issued a requirement that all school bus drivers possess a Commercial Drivers License (CDL). To attain this license, school bus drivers must pass knowledge and skills tests, be subject to random drug and alcohol testing, and pass a biennial physical. As with other individuals that come in contact with school children, school bus drivers must pass a criminal background check. While actions at the federal level have been important and beneficial in terms of improving school bus safety, there are equally important activities that occur at the state and/or local level.

- Driver Attitude
- Student Management
- Highway-Rail Grade Crossing Safety
- Vehicle Training Knowing Your Route
- Loading and Unloading
- Transporting Infants and Toddlers

While these training modules are intended to provide refresher training on important topics, they are not intended to be training for new school bus drivers.

During 2000, NHTSA will complete the development and distribution of two additional in-service training modules on:

- Driving in Inclement Weather
- Wheelchair Securement and Wheelchair Lifts

In December 1999, the Motor Carrier Safety Improvement Act was signed into law, and created the Federal Motor Carrier Safety Administration (FMCSA) within the U.S. Department of Transportation. One of the responsibilities given to FMCSA is the oversight of the Commercial Drivers License Program. Within that area of responsibility, the Act directed FMCSA to initiate rulemaking on the feasibility of amending various aspects of the Commercial Drivers License Program. One of the rulemakings will deal with the potential for creating a special CDL endorsement for drivers of school buses. As stated in the Act, the rulemaking for considering a school bus drivers' endorsement "shall, at a minimum:

- include a driving skills test in a school bus; and
- address proper safety procedures for loading and unloading children; using emergency exits; and traversing highway rail grade crossings."

### **Conclusions:**

The National Association of State Directors of Pupil Transportation Services supports efforts at federal, state, and local levels that are designed to improve the knowledge and skills of school bus drivers. The State Directors Association will be actively involved in any federal initiatives or rulemaking activities that impact school bus drivers.

The State Directors Association notes that the demands on school bus drivers have increased in recent years. For example, school bus drivers must deal with inattentive and distracted motorists; disruptive students on the school bus; inappropriate or even illegal activities on school buses and at school bus stops; and a myriad of daily incidents. These factors highlight the importance of on-going training.

The State Directors Association notes that there is a shortage of school bus drivers in many parts of the Nation, which is typical when the Nation's economy is good and there are many competing job opportunities. Many school bus drivers are part-time, rather than full-time employees which also impacts the job benefits (for example, insurance and retirement). The State Directors Association encourages states and local school districts to develop programs for training and hiring school bus drivers, and to compensate school bus drivers at a level that is commensurate with the job they perform.

Finally, the State Directors Association commends school bus drivers and driver trainers for the outstanding jobs they do every school day in providing safe transportation to the Nation's children.

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National Association of  
State Directors of  
Pupil Transportation Services

**POSITION PAPER**

**Passenger Crash Protection in School Buses  
An Update**

**INTRODUCTION:** In July 1998, the National Association of State Directors of Pupil Transportation Services issued a Position Paper titled, "Passenger Crash Protection in Large School Buses." Since then, a number of significant actions have taken place. This updated Position Paper provides the latest information on passenger crash protection in all sizes of school buses.

Additionally, Dr. Phyllis Agran, one of the authors of a scientific paper quoted in the July 1998 Position Paper, notified the Association of her objection to the manner in which the paper was used in the Position Paper. Specifically, Dr. Agran noted that permission was not obtained from either her or the American Academy of Pediatrics, holder of the copyright. Furthermore, Dr. Agran noted that excerpts were taken out of context, edited, and presented in a misleading manner to support the State Directors Association's position against lap belts in large school buses. Dr. Agran has made it clear that in no way does the article, "Child Occupant Protection in Motor Vehicles," authored by her and her colleagues, suggest that children would be better protected from occupant injury in school buses if they were unrestrained, as is implied in the July 1998 Position Paper.

It was never the intention of the State Directors Association to violate any copyrights or misstate, take out of context, or misrepresent the information contained in Dr. Agran's scientific paper. The State Directors Association believes Dr. Agran's paper is an excellent work, and regrets any misunderstandings that may have resulted from the reference to her scientific paper in the July 1998 Position Paper.

The July 1998 version of this Position Paper should no longer be utilized.

## **Introduction**

No one questions that school buses are the safest form of highway travel, or that today's school buses provide students with exceptional levels of safety. Despite these facts, the pupil transportation industry constantly is seeking ways to make a safe form of transportation even safer. In this quest, there are times when individuals and organizations will disagree over the potential benefits of certain safety features. This paper provides a discussion of the current status of passenger crash protection in school buses. It also provides comments from safety experts and safety researchers on the appropriateness of lap belts as a means of passenger crash protection for children. A Summary and Conclusions section is presented first, followed by detailed discussions of the wide range of topics and issues involved in the crash protection of children in school buses.

**The State Directors Association believes it is important to define the terms that are used in the debate over the best means of providing crash protection to children in school buses. Unless terms that are consistent and unambiguous are used, there may be confusion. Unfortunately, the term "seat belt" means different things to different people.**

**Rather than using non-definitive terms such as "seat belt," precise terms should be used to define the "belt system" under discussion – it is either a "lap belt" or a "lap/shoulder belt." These terms are easily and completely understood by everyone.**

## **Summary and Conclusions**

School buses are the safest form of motor vehicle travel in the United States. While every serious injury or fatality to a student in a school bus is tragic, such instances are few in number each year. Nationwide, on average there are fewer than 10 school bus passenger fatalities each year out of approximately 10 billion student trips. In contrast, more than 800 school-aged children are killed in passenger cars or other private vehicles during normal school hours. It is likely that many of these children were on their way to or from school or school-related activity. In such instances, had these children been in a school bus, they would most likely be alive today.

Based on all of the real-world facts, "compartmentalization" in today's school buses is providing an extremely high level of crash protection for student passengers considering all the types of crashes involving school buses. There are no aggregate statistical data to suggest that a safety problem exists in large school buses that the installation of lap belts would solve. In fact, there is growing concern among safety professionals around the world over the use of lap belts as a form of passenger restraint for young or small children. In August 1998, at a public hearing held by the National Transportation Safety Board, five international experts in the field of motor vehicle occupant crash protection expressed their concern about the appropriateness of lap belts in providing crash protection to small children. The unanimous opinion was that lap belts were not a good means of providing crash protection to small children because small children's bone structure, particularly their hips, is still developing through grade school.

In addition, in November 1998, Mr. Jim Hall, Chairman of the National Transportation Safety Board, spoke to a national conference of school transportation professionals. In his remarks, Chairman Hall stated that, "I personally think it is our turn now to step up to the plate on the issue of lap/shoulder belts in school buses." He went on to state that while "we have to stop being indecisive on this issue," we should "commit to doing it, but let's do it right." Chairman Hall reiterated that "we have to make sure this is done on the basis of solid science. We don't want to simply bolt in lap belts at every seating position." Finally, Chairman Hall stated that "lap belts are probably not the most effective form of restraint for the millions of children transported on school buses."

A number of scientific papers that assess the effects of lap belts and lap/shoulder belts on children involved in real-world motor vehicle crashes have been conducted. While these studies appear to be based exclusively on children in passenger cars and other private vehicles, the conclusions of the studies raise important questions with respect to the appropriateness of lap belts in school buses. For example, the report, "Injuries to Children Restrained in 2- and 3-Point Belts," was presented at the 42<sup>nd</sup> Annual Proceedings of the Association for the Advancement of Automotive Medicine in October 1998. While the authors of the study did not draw any conclusions about the relative efficacy of lap belts versus lap/shoulder belts, they did point out that "Injury risks to children restrained in 2-point belts have been well described. 'Seat belt syndrome,' associated with the use of 2-point belts, includes contusion of the abdominal wall, fracture of the lumbar spine, and intra-abdominal injury."

The study concluded that, "Children restrained in 3-point belts exhibit a similar pattern of injury to those in 2-point belts, however 3-point belts appear to be protective for the lumbar spine." The authors of this study noted that while it included data on more real-world crashes than previous studies of the effects of 3-point lap/shoulder belts on children, it was still a relatively small study, and excluded belted children who were uninjured in motor vehicle crashes. The absence of data on children using lap or lap/shoulder belts who were uninjured makes it impossible to draw any conclusions about the absolute or relative effectiveness of lap or lap/shoulder belts on children.

The purpose of citing this study is not to suggest that the paper or the authors of the paper believe children are better off unrestrained in motor vehicles. Rather, studies such as this appear to indicate that all types of passenger crash protection devices may have unique consequences for children. The State Directors Association believes it is extremely important to understand the interaction of all types of passenger crash protection devices on the human body. Much is learned through epidemiological studies that are conducted by the medical community. If children or adults are needlessly injured in real-world crashes, such studies can assist in the identification of problems and the development of solutions to those problems.

The development of a better understanding of the types and causes of injuries occurring to passengers in school buses can not be overstated. This information can only be gathered from medical records, either from the hospital or physician that treated the injured child. Without medical information on the type and severity of injury being suffered by school bus passengers in various types of crashes, it is not possible to properly evaluate the relative benefits of different forms of passenger crash protection in terms of preventing or inflicting injuries to children in school buses. Without data on how and when lap belts, or lap/shoulder belts, or "compartmentalization" either

reduce the risk of injury or cause an increased risk of injury to children on school buses, it is inappropriate to suggest changes to current requirements for the crash protection of school bus passengers.

Some have suggested that differences in seat design (such as the seat cushion stiffness) between passenger cars and school buses reduce concerns about lap belt-induced injuries to small children. The State Directors Association believes it is only possible to determine the effect of seat designs on the relationship between lap belts and the skeletal development of children through scientific evaluation, including laboratory testing and evaluations of real-world crashes and medical records.

To that extent, in August 1998, the National Highway Traffic Safety Administration (NHTSA) announced an extensive 2-year research program to consider alternative methods for potentially improving Federal school bus passenger crash protection requirements. In announcing the program, NHTSA reiterated its belief that “compartmentalization” has proven to be an excellent form of school bus passenger crash protection, but believes it is important to develop the necessary data and science to review and evaluate objectively potential improvements in passenger crash protection for the next generation of school buses. The NHTSA research program is designed to determine whether it is technologically feasible and operationally practicable to upgrade the current Federal standards for passenger crash protection in school buses. The research approach is direct – develop data on existing school bus crashes to determine the causes of fatalities and serious injuries; use that data to evaluate existing and alternative passenger crash protection systems in a laboratory test environment; and consider the impact of various passenger crash protection systems on school bus capacity and emergency egress. Based on the results of this research program, the data and science necessary for making informed decisions about the safety of all children in school buses should be available.

Until such time that the research and crash test data support alternative crash protection systems, the State Directors Association continues to support the conclusions reached during the past 20 years by the National Academy of Sciences and the National Transportation Safety Board, and the position of the National Highway Traffic Safety Administration, that there is no supportable need for lap belts in large school buses. In addition, the State Directors Association believes that legislators and regulators, in carrying out their responsibility to establish public policy through laws and regulations, have an obligation to make decisions based on data and science, not emotion and supposition. To do otherwise could result in public policies that improperly use society’s limited resources, and could result in additional injuries and fatalities to school bus passengers, rather than reducing or eliminating them.

The State Directors Association fully supports NHTSA’s announced research program, and believes it is the appropriate mechanism for resolving the current debate about the appropriateness of lap belts in school buses, and to establish the foundation for potential improvements to school bus safety. The State Directors Association has provided suggestions to NHTSA on the scope and content of the research program, and will, to the extent permitted, stay involved in the research program and its results. The State Directors Association has already requested that NHTSA expand the scope of its research program to include all sizes of school buses, based on its concerns about the appropriateness of lap belts as a form of crash protection for young children.

The State Directors Association believes that all interested parties should take an active interest in the NHTSA research program, so as to insure that the program addresses the appropriate issues, and that NHTSA is aware of all existing data relative to pertinent issues involved in passenger crash protection in school buses. Over the years, many studies of school bus transportation have noted that there is a need for more and better data upon which to draw conclusions and make decisions. The NHTSA research program should be structured to collect and analyze the data needed to make informed public policy decisions about passenger crash protection in school buses. Without complete data, there are no bases to support changes to existing school bus safety requirements.

The State Directors Association believes it is inappropriate to consider legislation, at any level, to require lap belts in school buses while the Federal government is conducting research that is designed to develop the next generation of passenger crash protection systems in school buses. Without attempting to pre-judge the outcome of NHTSA's research program, it does not appear that the agency would conclude that lap belts, a 30-year-old technology, were the most effective form of passenger crash protection for school buses for the next century. Rather, with the advancements that have been made in lap/shoulder belt systems and energy absorbing materials and construction techniques, it would appear that NHTSA would propose changes to school bus passenger crash protection utilizing the latest technologies.

While the NHTSA research program is underway, the State Directors Association believes that the pupil transportation industry, parents, state and local legislators, and all other interested parties should join forces in an effort to reduce the deaths and serious injuries to children that, either by choice or circumstance, travel to and from school and school-related activities in private vehicles, in vans that do not conform to Federal safety standards for school buses, in transit vehicles, or who walk or ride bicycles. While there are no exact numbers available, it is clear that hundreds of children are needlessly killed each year as they travel to or from school or a school-related activity in some manner other than a school bus. It is likely that the number of serious injuries to such children is equally high. The State Directors Association believes the most prudent course of action for the next two years is to address the safety issues of children not in school buses. In addition, the safety of children as pedestrians in the school bus loading zone must continue to be addressed. When the Federal government has completed its research, then the focus should return to the best means of providing passenger crash protection to children on school buses.

As a final note, the pupil transportation industry is made up of thousands of people who have the safety of children as their highest priority. Most are parents, also. Whenever there are devices or procedures which have the potential to make pupil transportation even safer, the State Directors Association is at the forefront of the debate. If a device or procedure proves to be beneficial based on all available data and information, the State Directors Association stands ready to provide its support to legislators and regulators.

## **Background and Related Information**

The issue of whether to require “seat belts” in large school buses [those with a gross vehicle weight rating over 10,000 pounds] is a topic that has been studied thoroughly and debated for many years. An important, but often overlooked fact in the debate, is the difference between lap belts and lap/shoulder belts. Until recently, no one has advocated the installation of lap/shoulder belts in large school buses. During the last year, school transportation organizations have expressed their support for studies to determine the engineering feasibility and operational practicability of installing and using lap/shoulder belts for passengers of all ages and in all sizes of school buses. In addition, it is critical to develop an understanding of the interaction of lap/shoulder belts on children of all ages and sizes from a medical perspective.

In general, advocates for lap belts in school buses point to the potential benefits of lap belts in terms of reduced injuries and fatalities in certain types of school bus crashes -- typically side impact and rollover crashes. They also refer to improvements in pupil behavior as the result of lap belt usage. Finally, advocates point to the importance of consistency in teaching children to buckle-up in all types of motor vehicles -- if there are no lap belts in school buses, advocates believe there is an obvious break in the chain of consistency.

Life, however, is filled with numerous inconsistencies that young children and young adults must face. How they face or deal with those inconsistencies depends on how they are presented and explained by parents, highway safety officials, or educators. Children, even the very young, have tremendous capacity to reason and understand. For instance, children learn from infancy that adults are the rule makers, authority figures, and should be obeyed. All their contacts with adults (parents, grandparents, care givers, teachers) reinforce this teaching. However, children are also taught at an early age that some adults are not to be obeyed, such as strangers who offer gifts, auto rides, or attempt to touch children in unacceptable ways.

When appropriately presented, children and young adults can understand that a school bus and an automobile are very different in purpose, design, and construction. And, they can understand that although a lap belt or a lap/shoulder belt are important and appropriate for use while traveling in an automobile, light truck, or van, the passive occupant safety system in school buses, "compartmentalization," is equally appropriate.

Those opposed to the installation of lap belts in large school buses point to a wide variety of data and facts: (1) the safety record of school buses; (2) analyses of all types of real-world school bus crashes; (3) laboratory crash test data; and (4) the potential effects of lap belts on young children.

It is important to realize that lap belts only provide restraint around the hips of a seated individual. Lap/shoulder belts, on the other hand, provide restraint around the hips and across the upper torso of a seated individual.

The potential safety benefits of these two systems are very different. Lap belts, even when properly positioned and tightened, allow full upper torso movement. As a result, a person's head could contact surrounding surfaces at higher impact velocities than if they were unbelted. Lap/shoulder belts restrain the upper torso and, thereby, reduce the likelihood of head contact with a surrounding surface.

It has been suggested that school buses that have wider seat spacing to accommodate the installation of child safety seats will reduce the potential for head contact for passengers utilizing lap belts. While the greater seat spacing would obviously reduce the likelihood of head impacts, not all school buses would be constructed with child safety seat anchorage systems and the resulting wider seat spacing. Additionally, even in school buses that were equipped with child safety seat anchorage systems and wider seat spacing, such anchorage systems and seat spacing would not necessarily be at every row of seats in the school bus.

### **Safety Record of School Buses**

One of the major reasons for the outstanding safety record of school buses is the manner in which they are constructed. As is the case with all motor vehicles sold in the United States, school buses have to meet a stringent series of Federal motor vehicle safety standards designed to provide school bus passengers with high levels of safety should a crash occur. One of those Federal standards, "School Bus Passenger Seating and Crash Protection," establishes minimum occupant crash protection requirements for school buses built after April 1, 1977. For large school buses, the Federal standard requires occupant protection through a concept called "compartmentalization" -- strong, well-padded, well-anchored, high-backed, evenly-spaced seats.

In the late 1960's and early 1970's, research was conducted on how to best provide passenger crash protection to the various sizes of children that ride school buses. The research looked at alternative ways of reducing pupil injuries and fatalities in school buses as they existed at that time. School buses of that era typically had exposed metal seat frames and grab bars on the top of the seats, and the seats had little or no crash energy management or energy absorption capabilities.

Some of the research suggested that improvements in seat structure and energy absorbing padding, along with the installation of lap belts, were needed to improve the safety of children in school buses. However, there were other data and factors that had to be considered in establishing the Federal standards governing school bus construction. One of the most relevant dealt with concerns about whether lap belts would be used. No type of restraint device provides a benefit unless the vehicle occupant actively connects the belts.

In the mid 1970's when the Federal school bus standards were being developed, only a small percentage of occupants in all types of vehicles used the available belt system. This fact suggested that the usage rate of lap belts in large school buses would be equally low. No state or jurisdiction had mandatory belt use laws, as currently exist. As a result, the Federal government looked to a "passive" means of providing passenger crash protection in school buses. A "passive" crash protection requires no action by the vehicle occupant to attain the benefits of the system. For example, air bags, motorized lap/shoulder belt systems, and interior padding require no action by the vehicle occupant to obtain the benefits of the system.

The inherent benefits of a "passive" crash protection system versus an "active" crash protection system are important. First, the benefits of a "passive" system are always there, and require no action by the vehicle occupant. Second, "passive" crash protection systems, particularly those that utilize energy-absorbing structures and padding, provide protection to different sizes of occupants and in various seating positions. The "compartmentalization" concept for passenger crash protection in school buses is a passive crash protection system.

It must be recognized that the research conducted in the 1960's and 1970's was done on school buses that did not meet the safety requirements of modern school buses, those manufactured since April 1, 1977. Thus, it would be inappropriate to consider the results of those tests with respect to the potential effectiveness of lap belts in school buses that meet current Federal safety standards. The crash performance and interior design features of school buses built prior to April 1, 1977, are not comparable to school buses built after that date.

The effectiveness of “compartmentalization” has been confirmed in independent studies by the National Transportation Safety Board and the National Academy of Sciences.

### **National Transportation Safety Board (Safety Board)**

In 1987, the Safety Board completed detailed analyses of 43 serious accidents involving large school buses to evaluate the effectiveness of “compartmentalization.”<sup>1</sup> These crashes included frontal and side impacts, and included a large number of rollover crashes. A Safety Board team of accident investigators reconstructed each crash, evaluated the motion of the occupants, and identified the cause(s) of the injuries/fatalities. For each crash, an evaluation was made of whether the use of lap belts would have made a difference in the injury levels of the school bus occupants.

From a public policy perspective, the Safety Board’s conclusions are extremely important.

- School bus occupant deaths and the serious or worse injuries sustained by survivors were, for the most part, attributable to the occupants’ seating position being in direct line with the crash forces. It is unlikely that the availability of any type of restraint would have improved their injury outcome.
- Lap belt use probably would have made no change in the total number of school bus passengers who died in the crashes investigated ... possibly one more death would have resulted.
- Lap belt use probably would have made no change in the number of surviving school bus passengers with severe or worse injuries.
- At best, lap belt use probably would have reduced somewhat the injuries of less than 8 of the 24 surviving school bus passengers with serious injuries. At worst, seat belts might have increased the injury to almost as many passengers with serious injuries as it improved.
- Lap belt use probably would have worsened the outcome for one-fifth [20%] of the 58 school bus passengers with moderate injuries.

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<sup>1</sup> “Crashworthiness of Large Poststandard Schoolbuses,” National Transportation Safety Board, Report Number NTSB/SS-87/01, March 18, 1987. This study was designed to evaluate the effectiveness of the Federal requirements for “compartmentalization” under FMVSS No. 222. As such, it only compared the post-1977 school buses with pre-1977 school buses that were built to Federal requirements. Since there were no Federal requirements for lap belts on either pre-1977 school buses or post-1977 large school buses, it would have been inappropriate to include any crashes involving school buses equipped with lap-belts in this study.



These real-world data clearly show that while lap belts may offer a safety benefit in some instances, in most crashes the installation and use of lap belts would not have changed the injury outcome of the crash. Equally important is the fact that in a significant number of crashes the use of lap belts would have worsened the injury levels. In fact, it appears that in one instance the use of lap belts would have killed a child that would have otherwise survived. When all crashes are considered, it appears from the data that there are no overall benefits of lap belts in large school buses.

Since the Safety Board's study was completed in 1987, there have been a number of school bus crashes that have resulted in fatalities and serious injuries. While each of these crashes and the consequences are tragic, it is important to study such crashes to identify areas for potential safety improvements. Three of the most tragic crashes occurred in Carrollton, Kentucky; Alton, Texas; and Fox River Grove, Illinois.

In Carrollton, 27 occupants of a former school bus died due to fire and smoke inhalation. In Alton, 21 students drowned in a bus that rolled on its side and was totally submerged in water. And, in Fox River Grove, 7 students were killed when their bus was struck by a speeding train. Each of these crashes required immediate, quick action by passengers under extreme conditions, in order to survive. In Carrollton, a gasoline-fed fire spread rapidly through the bus, and provided very little time for evacuation of the crowded bus. In the Alton crash, the Safety Board's investigation report notes that there "was inadequate time for 81 desperate students to escape through the available window openings and rear emergency door. ... Escape was further complicated by dark murky water which obscured vision. ... The 21 students who perished did not have enough time to escape from the bus." In Fox River Grove, the students sitting in the back of the bus saw the train approaching and had only fractions of a second to move from the back of the bus to the front.

In each of these crashes, unlatching lap belts would have required additional time under panic conditions. In Carrollton, the passengers, many of whom were sleeping, were first stunned by a head-on crash with a pickup truck at a speed of over 100 miles per hour, and then had to cope with fire and dense smoke in an effort to escape the burning bus. No one died from trauma-induced injuries. In Alton, the bus was struck by a tractor-trailer, then plunged from a cliff into water, and the students had to escape in murky water while the bus was on its side. Any passengers on the right side of the bus would have been hanging from their seats by the lap belts. Again, no one died as a result of trauma-induced injuries. In Fox River Grove, all of the students in the back of the bus had only milliseconds to get out of their seats and run forward prior to the collision.

There is little doubt that the installation and use of lap belts in these crashes would have resulted in additional fatalities and serious injuries. This fact must be considered in any debate over the potential benefits of lap belts in school buses. Unfortunately, these crashes often are ignored by those who advocate the installation of lap belts in school buses. Instead, advocates for lap belts in school buses tend to base their arguments on selected crashes. For example, a 1996 rollover crash of a school bus in Flagstaff, Arizona, which resulted in five students being ejected from the bus, one of whom suffered serious permanent injuries. Of the 26 other students in the school bus, one also suffered serious permanent injuries. Like all fatalities and injuries to children, these injuries are tragic and everyone wishes they had never happened. However, in making public policy decisions, it is imperative to consider all information on a subject, not just data from selected crashes.

As stated earlier, there have been school bus crashes where lap belts may have offered a safety benefit. However, there are other crashes where the installation and use of lap belts would have resulted in more injuries and fatalities. When the entire range of school bus crashes are considered, the State Directors Association does not believe there is a compelling body of data to support the installation of lap belts in large school buses.

### **National Academy of Sciences**

In 1989, the National Academy of Sciences completed a study at the direction of the United States Congress on “the principal causes of fatalities and injuries to school children riding in school buses and of the use of seat [lap] belts in school buses and other measures that may improve the safety of school bus transportation.” The Academy was directed to “determine those safety measures that are most effective in protecting the safety of school children while boarding, leaving, and riding in school buses.” In its conclusions, the Academy noted that “the overall potential benefits of requiring safety [lap] belts on large school buses are insufficient to justify a Federal requirement for mandatory installation. Funds used to purchase and maintain seat [lap] belts might be better spent on other school bus safety programs and devices that could save more lives and reduce more injuries.” The Academy pointed out that since children are at greater risk of being killed in the school bus loading zone (i.e., while boarding or leaving the bus) than as a passenger in the school bus, “a larger share of the school bus safety effort should be directed to improving the safety of school bus loading zones.”<sup>2</sup>

One of the often cited conclusions from the Academy’s study is that “seat (lap) belts, when properly used on post-1977 ... school buses, may reduce the likelihood of death or injury to passengers involved in school bus crashes by up to 20 percent.” That estimate was based on a 1986 study of rear seat occupants in passenger cars, only a small minority of which were of school age. It should be noted that at the time the 1986 study was conducted, there were relatively limited amounts of real-world data on the effectiveness of lap belts in the rear seats of passenger cars. Based on the differences in the body sizes of school bus and passenger car occupants, and the importance of proper position and adjustment of lap belts, it is not clear that the “up to 20 percent” effectiveness estimate was accurate with respect to school buses.

Since the mid 1980's, additional and significant real-world data have been obtained on the effectiveness of lap belts for rear seat occupants in passenger cars, primarily since belt usage in motor vehicles has increased dramatically in that time frame. Based on real-world crash data through 1996, NHTSA currently estimates that lap belts in school buses at best would be 5 percent effective in reducing school bus passenger fatalities.

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<sup>2</sup> It should be noted that while improvements have been made in school bus loading zone safety since the National Academy of Sciences’ 1989 report, the greatest safety risk to pupils riding school buses is still as a pedestrian in the school bus loading zone. When all pupil transportation modes are considered, the greatest safety risk to students is as a pedestrian walking to or from school or as a passenger in a private motor vehicle transporting the student to or from school.

Considering those crashes where lap belts would likely exacerbate injuries, NHTSA estimates that lap belts would have no overall effectiveness in school buses. In its conclusions, NHTSA noted that the greatest benefit of lap belts to rear seat occupants of passenger cars was in terms of preventing ejection from the car, typically in rollover crashes. Since fatalities and serious injuries due to ejection from a school bus are relatively rare events, the effectiveness rate of lap belts in passenger cars is not directly applicable to school buses. These NHTSA conclusions were provided at an August 1998 Public Hearing held by the National Transportation Safety Board on Bus Crashworthiness and Occupant Survivability.

### **Lap Belt Concerns**

In addition to the NHTSA comments at the August 1998 Public Hearing, an international panel of experts in the field of motor vehicle occupant crash protection testified about their views and opinions on how best to provide passenger crash protection to children in school buses. Five researchers, representing Australia, Canada, Europe, and the United States were asked about the appropriateness of lap belts in providing crash protection to small children. The unanimous opinion was that lap belts were not a good means of providing crash protection to small children because small childrens' bone structure, particularly their hips, is still developing through grade school.

One of the researchers discussed a passenger car crash where "...two children have become paraplegics in the rear of one vehicle that was struck head-on, because they were wearing lap belts, and they suffered severe injuries to their spine." Another researcher commented that, "The lap belts involve, in my mind, an unsatisfactory compromise." A third stated. "...as regard children, I would never ever recommend using lap belts." A comment by one of the researchers appears to accurately reflect the views of all of the international researchers – "So I think there is a lot to be considered before we wave our arms and say, 'Lap belts are the answer'."

In addition to the potential for a lap belt to cause internal injuries to small children, lap-belted school bus passengers also risk more severe head and neck injuries in crashes. Unlike passenger cars where there may be a significant amount of space between the rear seat and the front seat, in school buses the seat spacing has been significantly reduced by design. In 1985, Transport Canada issued a report on a series of crash tests it conducted to examine the outcome of lap-belted test dummies in simulated frontal crashes. These tests indicated that lap-belted test dummies in school buses received more severe head and neck injuries than unbelted test dummies in severe frontal crashes. At the time, several individuals questioned the test procedures and results of the Transport Canada study. However, no additional testing was done. In a 1997 series of crash (sled) tests conducted by NHTSA, the same results were found – lap-belted test dummies in school bus seats received higher head injury measures than unbelted test dummies. These 1997 tests appear to confirm the earlier study by Transport Canada.

In a November 2, 1998, speech before the annual conference of the National Association for Pupil Transportation, Jim Hall, Chairman of the National Transportation Safety Board spoke about school bus passenger crash protection. In his comments, Chairman Hall stated that, "I personally think its our turn now to step up to the plate on the issue of lap/shoulder belts in school buses." [Emphasis added.] Chairman Hall also stated that, "It is time for the school pupil transportation network of this country to call on the manufacturers and regulators to make this happen, rather than waiting for it to happen."

While these comments may be interpreted that Chairman Hall personally believes lap/shoulder belts should be installed in school buses right away, such a position is not supported by other statements he made. Specifically, Chairman Hall stated that while “we have to stop being indecisive on this issue,” we should “commit to doing it, but let’s do it right.” Chairman Hall reiterated that “we have to make sure this is done on the basis of solid science. We don’t want to simply bolt in lap belts at every seating position.” Finally, Chairman Hall stated that “lap belts are probably not the most effective form of restraint for the millions of children transported on school buses.”

While lap/shoulder belts in school buses may be one of the most logical technologies to evaluate, there is a significant amount of research to conduct before drawing conclusions about the efficacy of lap/shoulder belts in school buses. For example, the necessary science on how to design and install lap shoulder belt systems in school buses, such that they would be effective in reducing injuries and fatalities to all sizes of pupil passengers, has recently been initiated by several companies. The importance of developing the necessary data and science to determine the proper location of the shoulder belt anchorage point, so that it allows the shoulder belt to be in the proper location across the chest of every size child, can not be overlooked. There is considerable evidence that improper shoulder belt positioning is a significant safety problem in other types of motor vehicles. If we rush to install lap/shoulder belts in school buses without developing the necessary data and science, we may very well establish policies that result in a negative effect on the safety of children in school buses.

### **Additional Comments on Lap and Lap/Shoulder Belts**

At the 1998 Annual Conference of the Association for the Advancement of Automotive Medicine, several presentations were made concerning injuries to children in motor vehicle crashes. In each case, it appears that the crashes investigated were confined exclusively to passenger vehicles. No school buses were included.

One of the papers<sup>3</sup> compared injuries to children restrained in lap belts and lap/shoulder belts. The authors studied the injuries to 98 children 15 years old or younger, half of which had been restrained in 2-point lap belts and the other half restrained in 3-point lap/shoulder belts. Seventy two percent of the children in the study were between the ages of 5 and 9 years -- the ages of children who typically ride school buses. The paper noted that, “Injury risks to children restrained in 2-point belts have been well described. ‘Seat belt syndrome,’ associated with the use of 2-point belts, includes contusion of the abdominal wall, fracture of the lumbar spine, and intra-abdominal injury.”

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<sup>3</sup> “Injuries to Children Restrained in 2- and 3-Point Belts,” Catherine S. Gotschall, Allison I. Better, Dorothy Bulas, and Martin R. Eichelberger of the Children’s National Medical Center, and Frances Bents and Mike Warner of Dynamic Sciences, Inc., October 1998. 42<sup>nd</sup> Annual Proceedings of the Association for the Advancement of Automotive Medicine. This paper includes an extensive list of references which undoubtedly provide excellent information on crash protection for children.

The study concluded that, “Children restrained in 3-point belts exhibit a similar pattern of injury to those in 2-point belts, however 3-point belts appear to be protective for the lumbar spine.” The authors of this study noted that while it included data on more real-world crashes than previous studies of the effects of 3-point lap/shoulder belts on children, it was still a relatively small study, and excluded belted children who were uninjured in motor vehicle crashes.

The absence of data on children using lap or lap/shoulder belts who were uninjured makes it impossible to draw any conclusions about the absolute or relative effectiveness of lap or lap/shoulder belts on children. The authors did not believe it was possible “to meaningfully compare the relative efficacy of the two restraint systems.”

The purpose of citing this study is not to suggest that the paper or the authors of the paper believe children are better off unrestrained in motor vehicles. Rather, studies such as this appear to indicate that all types of passenger crash protection devices may have unique consequences for children. The State Directors Association believes it is extremely important to understand the interaction of all types of passenger crash protection devices on the human body. Much is learned through epidemiological studies that are conducted by the medical community. If children or adults are needlessly being injured in real-world crashes, such studies can assist in the identification of problems and the development of solutions to those problems.

While this study and others appear to be based exclusively on children in passenger cars and other private vehicles, the conclusions point out legitimate issues that must be fully understood with respect to the appropriateness of lap belts or lap/shoulder belts in school buses. Some have postulated that differences between school bus seats and passenger car seats are significant and that these differences reduce concerns about belt-induced injuries to small children. Others question whether there is scientific evidence that demonstrates the effects of seat designs on the relationship between lap and lap/shoulder belts and a child’s skeletal development. This is the type of information that is expected to be developed during NHTSA’s school bus passenger crash protection research program, which is discussed later in this paper.

### **Types of School Bus Crashes**

Nationwide, the National Safety Council estimates that approximately 30,000 crashes occur each year in which a school bus is involved. Less than 7,000 of these crashes involve “injuries” to school bus occupants.<sup>4</sup> Most of these injury-involved crashes are minor in nature, however, serious school bus crashes do occur. When a serious crash occurs, the school bus passengers are mostly uninjured or receive minor to moderate injuries.<sup>5</sup> These serious crashes involve frontal, angular, side, rear, and rollover crashes.

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<sup>4</sup> The National Safety Council recently determined that the data it collects from individual states are inconsistent and unreliable indicators of actual injuries to school bus occupants. Accordingly, school bus occupant injury data will not be estimated by the National Safety Council in the future.

<sup>5</sup> According to mid-1980’s state crash data reviewed by the National Academy of Sciences, only 5 percent of school bus passenger injuries are incapacitating (e.g., severe lacerations, broken limbs, head/chest injuries). A 1997 study of state crash data by NHTSA showed only 4 percent of school bus passenger injuries were serious, severe, or critical.

Unfortunately, there are crashes that result in serious injuries or fatalities to school bus passengers. Most of these crashes are very severe, and as reported by the National Transportation Safety Board in its 1987 report:

“schoolbus occupant deaths and the serious or worse injuries ... were, for the most part, attributable to the occupant’s seating position being in direct line with the crash forces. It is unlikely that the availability of any type of restraint [emphasis added] would have improved their injury outcome.”

With respect to minor and moderate injuries, as discussed earlier, the Safety Board’s study found that lap belt use would have worsened the injury levels for 20 percent of the students receiving moderate injuries. It was not possible to judge the effect of lap belt use on those passengers that only received minor injuries.

Obviously, there are some school bus crashes where lap belts may have reduced or eliminated injuries and/or fatalities. As was done in the National Transportation Safety Board’s 1987 study, it is possible to assess what injuries may have been mitigated because of lap belts. However, it is much more difficult to suggest what injuries may have occurred as the result of the use of a lap belt, and whether those injuries would have been more severe than the injuries that were mitigated.

In order to evaluate objectively the potential safety benefit of any device, all aspects of the device must be studied and understood. It is not legitimate to consider isolated or anecdotal information and ignore a larger body of information and knowledge. Similarly, it is not legitimate to rely on hypothetical, theoretical, and/or laboratory information when real-world information exists.

### **Other Organizations**

There is unanimity among a wide range of national organizations<sup>6</sup> that are charged with establishing national motor vehicle and highway safety policy that “compartmentalization” is effective in school buses and that lap belts should not be required in school buses. However, as with any controversial issue, there are organizations that believe there should be lap belts in school buses. These include a number of medical associations and state-level organizations. These organizations express their support for lap belts in school buses, but generally publish little or no data or detailed analyses to explain and justify their position, or do not consider all of the real-world data discussed above.

In the best interest of the safety and health of children, it would be beneficial if organizations that take a position on safety matters dealing with pupil transportation provided a detailed discussion and rationale for their position. This should include all of the facts, statistics, and analyses upon which the position is based, and should include a detailed discussion of why opposing views are incorrect or inappropriate.

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<sup>6</sup> These organizations include the National Highway Traffic Safety Administration, the National Transportation Safety Board, the National Safety Council, the National Academy of Sciences and others.

Some organizations and individuals have mis-characterized the conclusions from the 1989 National Academy of Sciences' report discussed earlier. In that report, the Academy concluded "seat (lap) belts, when properly used on post-1977, Type I school buses, may reduce the likelihood of death or injury to passengers involved in school bus crashes by up to 20 percent." [Emphasis added]

According to a March 27, 1998, Florida Senate Staff Analysis and Economic Impact Statement, the Florida PTA utilized the National Academy of Sciences' report to assert "that seat belts<sup>7</sup> on school buses would improve safety by 20 percent." [Emphasis added] Similarly, a citizens' group in Minnesota, People Advocating Seatbelt Safety, also claimed that "50% usage would reduce deaths and injuries by 20%." [Emphasis added]

There is a significant difference between the National Academy of Sciences' conclusion that says "may" and "by up to" and Florida PTA's and Minnesota's claim of "would." This is particularly important since the data used by the National Academy of Sciences were based on adults in the back seat of passenger automobiles, not children in school buses, as discussed earlier. Also, the 1989 data used by the National Academy of Sciences are outdated. The most recent real-world data indicate that at best lap belts would be 5 percent effective in reducing fatalities, but most likely would have no overall effectiveness.

### **Lap Belt Requirements in New York and New Jersey**

Currently, there are two states that require the installation of lap belts in large school buses. New York has required the installation in all new school buses purchased after June 30, 1987. However, New York does not have a law requiring students to use the lap belts. Such requirements are left up to the individual school districts. Recent information provided by New York indicates that only 26 (4 percent) of New York's 709 public school districts have adopted policies which require all students to wear the available lap belts. Those school districts report an estimated 88 percent of elementary, 71 percent of middle, and 47 percent of high school students wear the available lap belts.

New Jersey passed a law in 1992 requiring the installation and use of lap belts in all new large school buses. While there is no official data on lap belt usage, New Jersey estimates that 75 percent of students wear the available lap belts, and that elementary-aged children use them more than high school-aged children.

The National Transportation Safety Board attempted to conduct a study of the effectiveness of lap belts in school buses in New York and New Jersey several years ago, however, the study has not generated any useable information since (thankfully) there have not been any serious crashes of school buses equipped with lap belts. As a result, there is no body of real-world data involving all types of serious school bus crashes that support the position that lap belts provide additional levels of crash safety in the aggregate over the safety provided by "compartmentalization."

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<sup>7</sup> The term "seat belt" on school buses as used by the Florida PTA is interpreted to mean lap belts, since that was the type of belt system considered by the National Academy of Sciences in its study.

## **Potential Changes to School Bus Passenger Crash Protection**

In August 1998, NHTSA announced an extensive 2-year research program to consider improvements to school bus passenger crash protection requirements. In announcing the program, NHTSA reiterated its belief that “compartmentalization” has proven to be an excellent form of child crash protection, but believes it is important to develop the necessary data and science to develop the next generation of passenger crash protection in school buses. The NHTSA research program is designed to determine whether it is technologically feasible and operationally practicable to upgrade the current Federal standards for passenger crash protection in school buses. The research approach is direct – develop data on existing school bus crashes to determine the causes of fatalities and serious injuries; use that data to evaluate existing and alternative passenger crash protection systems in a laboratory test environment; and consider the impact of various passenger crash protection systems on school bus capacity and emergency egress. Based on the results of this research program, the data and science necessary for making informed decisions about the safety of all children in school buses will be available.

The State Directors Association fully supports the NHTSA research program, and notes that it contains much of the content and logic suggested by the Association in July 1998. The State Directors Association has requested that NHTSA expand the scope of its research program to include all sizes of school buses, based on the Association’s concerns about the appropriateness of lap belts as a form of crash protection for young children. The State Directors Association maintains its belief that the two most logical options to consider in any research program on the subject of passenger crash protection in school buses are: (1) lap/shoulder belts for all designated seating positions; and (2) upgrades to “compartmentalization.”

### **Lap/Shoulder Belts**

As stated earlier, there is unanimity within the motor vehicle safety community that lap/shoulder belts offer superior levels of occupant crash protection over lap belts only. At the current time, there is little, if any, information available on the technological feasibility, operational practicability, potential benefits, and other potential positive and negative concerns associated with the installation of lap/shoulder belts in school buses. The State Directors Association believes it is important to develop as much information as possible on lap/shoulder belts in school buses in the course of the NHTSA research program. This includes assessing engineering issues associated with installing lap/shoulder belts in school buses, given the Federal requirements for “compartmentalization,” and whether some of the Federal requirements would have to be eliminated or modified. It also includes an understanding of the potential injury risks to small children from lap/shoulder belts. As discussed earlier, the medical community regularly conducts epidemiological studies of motor vehicle crashes involving children, and such studies may provide important insight into the relative safety of various forms of passenger crash protection in school buses.



The development of a better understanding of the types and causes of injuries occurring to passengers in school buses can not be overstated. This information can only be gathered from medical records, either from the hospital or physician that treated the injured child. Without medical information on the type and severity of injury being suffered by school bus passengers in various types of crashes, it is not possible to properly evaluate the relative benefits of different forms of passenger crash protection in terms of preventing or inflicting injuries to children in school buses. Without data on how and when lap belts, or lap/shoulder belts, or “compartmentalization” either reduce the risk of injury or cause an increased risk of injury to children on school buses, it is inappropriate to suggest changes to current requirements for the crash protection of school bus passengers.

Since it is unrealistic to expect all school bus passengers would wear the lap/shoulder belts, and wear them correctly, it is important to identify potential safety issues to the unrestrained school bus passengers, who may not have the benefits of “compartmentalization” if lap/shoulder belts were installed at all designated seating positions. The State Directors Association does not believe the safety of those children, who either can not or do not want to utilize an available lap/shoulder belt, should be compromised.

### **Upgraded Compartmentalization**

Unlike lap/shoulder belt systems which require school bus passengers to buckle up, “compartmentalization” is a passive passenger protection system. It may be possible to make school buses even safer through improvements in energy-absorbing materials and the use of energy absorbing construction at seating locations.

The Summary and Conclusions section appears at the beginning of this paper.

## **Position Paper**

### **Vans Used for School Transportation**

#### **Background**

In recent years, the use of passenger vans to transport children to and from school and school-related activities has become a significant issue. In an apparent effort to reduce transportation costs, some school districts across the nation have purchased or leased full-sized passenger vans with capacities of more than 10 persons, and/or mini-vans with capacities under 10 passengers, in lieu of school buses. Since drivers of these vehicles are not required to possess a Commercial Drivers License, school districts may be able to bypass a number of state/local-mandated requirements. In addition to the lack of a Commercial Drivers License, drivers of vans may not receive specialized driver training, a background check, a physical, drug and alcohol testing, or a driver record check. This is an alarming situation with potentially disastrous consequences.

#### **Discussion**

Under federal law, any motor vehicle designed to carry more than 10 persons is classified as a bus. A bus is classified as a school bus if it is used, or intended for use, in transporting students to and from school or school-related activities. At the direction of the U.S. Congress, the U.S. Department of Transportation, National Highway Traffic Safety Administration, only has authority over the manufacture and first sale of a motor vehicle. After a vehicle is sold, only state and local governments can regulate the use of motor vehicles.

Federal law prohibits dealers from selling/leasing a motor vehicle with a capacity of more than 10 persons for the purpose of transporting students to and from school or a school-related activity unless the vehicle complies with the applicable Federal Motor Vehicle Safety Standards for school buses. While there is no federal prohibition against dealers selling or leasing used full-sized vans or new/used mini-vans for the purpose of transporting students, such actions are counter to the basis for the federal law previously mentioned – students are safer in school buses. Likewise, there are no federal prohibitions against companies renting vans to schools, unless the rental company purchases a new full-sized van for the purpose of renting the van to a school.

Manufacturers of full-sized passenger vans (Chrysler Corporation, Ford Motor Company, and General Motors Corporation) have provided written notification to each of their dealers of the federal law as a reminder not to sell/lease passenger vans with seating capacities of more than 10 persons to schools. Unless the van has been modified, and certified by the manufacturer/modifier as a school bus, it is considered a “non-conforming” van, since it does not conform to the Federal Motor Vehicle Safety Standards for school buses. It is the responsibility of the seller/lessor to ascertain the intended use of the vehicle. The seller/lessor is subject to substantial penalties for knowingly selling or leasing a vehicle that does not meet the Federal Motor Vehicle Safety

Standards for school buses, including civil fines and injunctive sanctions. It is unfortunate that some sellers/lessors apparently are ignoring this information.

Full-sized passenger vans and mini-vans do not offer the same level of safety to occupants as a full-sized school bus or a school bus built on a van-type chassis. In a crash, the risk of a serious injury or fatality is significantly higher for the occupants of a van. Typically, any crash resulting in serious injuries or fatalities to school children results in lawsuits. The fact that a school used a vehicle that was not manufactured, sold, or leased in accordance with federal laws governing school transportation most likely would be a significant issue in the lawsuit. Depending upon state insurance regulations and insurance policies themselves, this fact could have an impact on the liability responsibilities of the insurance company used to insure the operations of the school.

The National Highway Traffic Safety Administration (NHTSA) has investigated and fined a number of dealers for violating the federal law. The National Association of State Directors of Pupil Transportation Services supports these actions by NHTSA, and encourages everyone to report illegal sales or leases of non-conforming vans to NHTSA. The agency maintains a toll-free Auto Safety Hotline [1-800-424-9393] that can be used to report such information to NHTSA's Office of Chief Counsel.

## **Conclusions**

The National Association of State Directors of Pupil Transportation Services believes that it is appropriate to require higher levels of safety in vehicles that transport children to and from school and school-related activities. Accordingly, the State Directors Association supports the position that school children should be transported in school buses which provide the highest levels of safety, not in full-sized vans or mini-vans which do not meet the stringent school bus safety standards issued by the federal government and recommended by the National Conference on School Transportation, an organization of state school transportation officials.

The State Directors Association endorses the October 15, 1997, statement of Dr. Ricardo Martinez, Administrator of NHTSA at that time, -- "A school's purchase or use of 10-15 passenger vans or non-school buses could result in school children being transported in vehicles that do not provide an appropriate level of safety." The State Directors Association believes states are in the best position to ensure that vans of any size, both new and used, are not utilized in lieu of school buses. This can be accomplished by establishing strict requirements on the types of motor vehicles that can be used within a state for transporting children to and from school and school-related activities.

For that reason, the State Directors Association supports the findings and conclusions of the National Transportation Safety Board's special report, "Pupil Transportation in Vehicles Not Meeting Federal School Bus Standards," which was adopted on June 8, 1999.

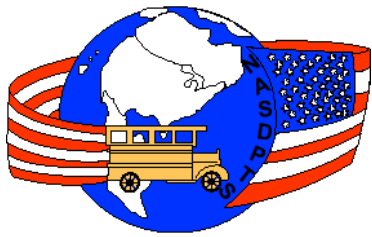
After investigating four crashes involving full-sized passenger vans and one non-school bus, which resulted in a total of eight fatalities to children, the Safety Board concluded that the children would have fared significantly better in the crashes if they had been in school buses. The Safety Board made the following Safety Recommendations:

To the U.S. Department of Health and Human Services:

“Require that Head Start children be transported in vehicles built to federal school bus structural standards or the equivalent.”

To the Governors of the 50 States and the Mayor of the District of Columbia:

“Require that all vehicles carrying more than 10 passengers (buses) and transporting children to and from school and school related activities, including, but not limited to, Head Start programs and day care centers, meet the school bus structural standards or the equivalent. Enact regulatory measures to enforce compliance with the revised statutes.”



# National Association of State Directors of Pupil Transportation Services

## Position Paper

### Transporting the Nation's School Children [School Buses - Transit Buses]

Since the late 1800s, school-age children have been transported to and from school in unique school vehicles. The first “vehicles” used to transport students were nothing more than horse-drawn wagons which were borrowed from local farmers. With the development of automobiles and trucks with gasoline-powered engines, the school “wagon” was replaced with the school “truck.” During the 1920s and 1930s, the Nation’s roadway system was expanding, especially in rural communities. This led to a greater need for vehicles to transport school children and the formation of the school bus industry, which is comprised of bus manufacturers and school transportation providers. Today, school transportation is the largest public mass transportation system in the country.

As the number of school buses operating on the roadways increased, there came the inevitable problems. Several serious tragedies occurred involving school buses which caused school officials to think seriously about developing safety guidelines and recommended safety standards. In 1939, representatives from 48 states gathered to develop standards and recommendations for the school bus industry. Since that time, there have been a total of 12 National Conferences on School Transportation where representatives from each state gathered to revise existing standards and establish new safety standards for school buses and operating procedures for the safe transportation of students, including those with disabilities.

In addition to the requirements developed by the school transportation community, there are 36 Federal Motor Vehicle Safety Standards that apply to school buses. These standards cover a wide range of vehicle components and systems. Many of these Federal standards have unique requirements for school buses, e.g., outside mirrors to provide the seated driver with a view in front of and along both sides of the bus, amber and red warning lights when the bus is stopped to load or unload passengers, emergency exits, and fuel system integrity. Of these 36 Federal standards, four are unique to school buses. They are:

- “School Bus Pedestrian Safety Devices,” which establishes the performance and use requirements for stop signal arms to minimize the possibility of vehicles passing a stopped school bus and striking pedestrians in the vicinity of the bus;
- “School Bus Rollover Protection,” which specifies the minimum structural strength of school buses in rollover-type accidents;
- “School Bus Body Joint Strength,” which specifies the minimum strength of the joints between the panels that comprise the school bus body; and

- “School Bus Passenger Seating and Crash Protection,” which establishes requirements for seating systems in all sizes of school buses, and provides minimum performance requirements for wheelchair securement/occupant restraint devices and establishes a requirement that wheelchair locations be forward facing.

The design and construction of today’s school buses are a direct result of both the Federal Motor Vehicle Safety Standards that apply to school buses and the standards adopted by the National Conferences on School Transportation, as well as some requirements that are unique to a particular state or local school district. While some may argue that today’s school buses do not look much different from their predecessors of 30-40 years ago, they are dramatically different.

Every school day, millions of parents and their children rely on the “yellow” school bus to provide safe and dependable transportation to and from school and school-related activities. The outstanding safety record of this unique form of transportation is based on several factors:

- Clearly distinguishable vehicles, equipped with special safety features, which are afforded preferential treatment by other motorists -- specifically, motorists are required to stop while students enter or leave a stopped school bus;
- Specially trained drivers that are concerned with only a single category of riders and are required to provide discipline to the student passengers;
- Specially designed student education programs concerning school bus safety, including emergency evacuation drills; and
- Specially designed routes and schedules to minimize the distance that students need to walk to the school bus stop.

Like school buses, public transit buses also have established an excellent safety record with their primarily adult passenger population. Transit buses are required to meet the same Federal Motor Vehicle Safety Standards as school buses in a variety of areas, such as steering, brakes, tires, and flammability. However, transit buses are not required to meet a series of safety standards that are designed to make a school bus more crashworthy and provide high levels of occupant crash protection to school bus passengers. There are no Federal standards that directly deal with occupant crash protection for transit bus passengers. The passenger seats in transit buses can face in any direction, and often are completely unpaddinged.

Over the past few decades, the largest school transportation safety problem has been in the school bus loading zone, where children get on and off the bus. The Federal requirement that school buses have flashing lights on the front and rear, and a stop signal arm on the left side, provide notice to passing motorists to stop their vehicles in accordance with State law.

Stopping traffic in areas where children get on and off school buses, and are often crossing the street, has proven to be beneficial in protecting students who must cross the street to reach the bus or go home. Stopping traffic creates a safer environment for young children who are not as adept as adults with negotiating their way through traffic.

In most States, there is no mandate to provide students with transportation to or from school. Accordingly, funding for school transportation in those States does not always receive as high a priority in budget decisions as mandated education programs, e.g., facilities, teacher salaries, computers, and books. Even in States where transportation of students to and from school is required by law, funding shortfalls in recent years have created problems in maintaining an adequate school transportation program. As a result of budget constraints, many schools are being forced to seek alternative means of providing transportation services for students. A growing number of school districts are turning to public transit buses as a means of getting students to and from school each day.

The American Public Transit Association estimates that transit buses provided over 800 million student-related passenger trips in 1994. This translates into approximately 2 million students (8 percent of all public school students) who rode transit buses to and from school each school day. All indications are that this number is increasing and will continue to do so in the future.

The National Association of State Directors of Pupil Transportation Services believes that the safest way to transport children to and from school and school-related activities is in a school bus. Nevertheless, the State Directors Association recognizes that there are funding constraints in some state/local school districts that make it impossible for all children to be transported in school buses. It is unlikely there will be sufficient increases in future education budgets of state and local school districts to allow all students to be transported to and from school in school buses. Therefore, parents and transportation professionals must recognize that alternative modes of transporting students to and from school are being used and the safety of students transported by these modes must not be compromised.

The State Directors Association realizes that the transit industry is a major provider of home-to-school transportation, and the number of students using public transportation will continue to increase in the future due primarily to budgetary decisions. Accordingly, the State Directors Association strongly urges members of the pupil transportation and public transportation communities to join forces to mutually ensure the safe transportation of students on transit vehicles.

At the same time, the State Directors Association is of the opinion that the appropriate agencies of the Federal government should initiate a study to better define the extent to which public transit vehicles are being used to transport students to and from school. The study should assess the crash/injury data for both school buses and transit buses. Additionally, the study should define the differences between school buses and public transit buses, and their respective operations, that could affect safety. Based on the results of this

study, the Federal agencies should evaluate their respective standards/recommendations/guidelines to determine if any changes are necessary to ensure continued safe transportation of the Nation's school children.

The State Directors Association supports several recent actions at the Federal level to gather information on the use of public transit vehicles to transport children to and from school. On March 21, 1996, Senator Frank Lautenberg of New Jersey introduced Senate Bill 1633, "Omnibus School Transportation Safety Act of 1996." Section 11 of that bill would require the U.S. Secretary of Transportation to conduct a study of the use of transit vehicles for school bus operations. The study would identify and analyze the differences between school bus operations carried out directly by schools or local educational agencies and school bus operations carried out by transit operations, including school bus tripper service. Two specific components of the study would address the differences in: (1) vehicle attributes that affect safety; and (2) routes and operational requirements that affect safety.

On April 2, 1996, Senator Mike DeWine of Ohio chaired a hearing of the Labor and Human Relations Committee of the United States Senate on school transportation safety. Senator DeWine "called on every state to ... explore the potential hazards of school children using public transportation." He cited two examples of students being killed or seriously injured after exiting a transit bus and noted that "there's an obvious danger to children who do not ride school buses." Senator DeWine noted that there is a need to gather information on school bus operations and transit operations.

Finally, on September 30, 1997, the National Transportation Safety Board, after completing its investigation of a fatal crash involving a student pedestrian that had exited a transit bus, issued the following Safety Recommendation to the U.S. Department of Transportation: "Collect accident data involving school children riding on transit buses, including pedestrian accidents, to assist development of appropriate means to ensure that school children riding on transit buses are afforded an equivalent level of operational safety as school children riding on school buses." The Safety Board further recommended that the U.S. Department of Transportation work with the National Association of State Directors of Pupil Transportation Services, the American Public Transit Association, and the Community Transportation Association of America to implement the findings of the accident data analyses.

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# National Association of State Directors of Pupil Transportation Services

## Position Paper

### Speed Limits for School Buses

On December 8, 1995, the National Speed Limits ceased to exist. States were free to establish whatever speed limits they wished on their highways. While some states chose to leave the speed limits at existing levels, typically 55 or 65 miles per hour, others raised the speed limits, typically back to the pre-1970's energy crisis levels of 70 miles per hour or higher.

Safety experts agree that higher travel speeds result in more severe crashes. While improved safety technology in modern motor vehicles provides higher levels of occupant crash protection compared to motor vehicles of the 1960's and 1970's, safety experts agree that the higher speed limits will likely result in additional fatalities and serious injuries in motor vehicle crashes.

What does this mean with respect to school bus safety? Should school buses be driven at the higher speed limits?

Throughout their history, school buses consistently have been one of the safest forms of motor vehicle transportation. During the 1960's and 1970's when higher speed limits were in effect across the Nation, school buses were transporting students safely to and from school and school-related activities. The numbers of school bus occupant fatalities in those years were as low as they have been in recent years. During that time, school buses typically were driven at speeds 10-15 miles per hour slower than the posted speed limit. These slower travel speeds reduced the potential crash severity for school buses.

Traffic volume on the Nation's highways has increased dramatically over the past twenty years. Also, there have been increases in the number of school buses, the number of miles travelled by school buses, and the number of students transported in school buses. Thus, there is a greater exposure to potential school bus crashes in the 1990's than in the 1970's.

Over the years, the National Association of State Directors of Pupil Transportation Services has initiated and supported a number of efforts to enhance the conspicuity of school buses. Examples include the color of the bus (National School Bus Yellow), retro-reflective markings, strobe lights, and daytime running lights. These items play a significant role in making the school bus a highly identifiable vehicle on the road. This allows other drivers to recognize the school bus and realize that it is possibly travelling at a slower speed.

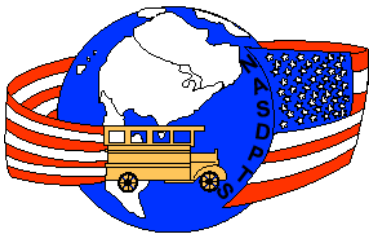
In consideration of the above, the National Association of State Directors of Pupil Transportation Services believes that school buses should continue to operate at the speed limits in effect for school buses in each state prior to December 8, 1995. In some areas of the country, this would result in school buses operating at speeds 10-15 miles per hour under the posted speed limit.

There is ample evidence that this differential in travel speeds does not present a safety risk to school buses or other vehicles. The slower speeds will reduce the potential crash severity level in vehicle-to-vehicle crashes involving a school bus, while also reducing fuel consumption.

The State Directors Association is confident that the safety of the Nation's students will be a primary consideration when decisions are made concerning their transportation to and from school and school-related activities. Driving at higher speeds in school buses so as to shorten the travel time by a few minutes is not worth the inherent increase in risk.

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# National Association of State Directors of Pupil Transportation Services

## POSITION PAPER

### Advertising on School Buses

Over the past few years, a number of states and local school districts have considered allowing the placement of advertisements on the exterior of school buses. While several states or school districts have proceeded with such programs, most states continue to prohibit advertising on school buses. There are a number of issues that are relevant to advertising on school buses, including potential safety consequences and the content of the advertising and potential legal challenges to any content restrictions.

#### Why Advertising?

First, and foremost, it appears economics is the primary reason that school districts consider the use of advertising on school buses. Education and school transportation budgets have been decreasing, and school transportation officials are forced to do more with less funding. Thus, finding alternative sources of revenue is a significant issue in many states and local school districts. There are a wide variety of programs that have been initiated across the United States to reduce the cost of school transportation, such as extending student walking distances and eliminating school bus service in favor of public transit service. Other programs have been initiated in efforts to obtain additional revenue, such as imposing a passenger fee and selling advertising space on school buses. If school transportation budgets were fully funded, it is unlikely that any of these initiatives would be undertaken.

#### Potential Safety Concerns

There has been considerable debate between those that believe advertising on school buses is a legitimate and reasonable means for obtaining additional revenue to maintain school bus operations and those that believe advertising on school buses presents an inherent safety risk to students.

A significant claim by the advocates for advertising is that there are no data to show that advertising on school buses, or any other type of bus, is or would be distracting to passing motorists. And thus, they believe, there are no safety risks associated with advertising on school buses, or the risks are acceptable.

Opponents to advertising on school buses acknowledge that there are no statistics to show the potential safety consequences of advertising on the outside of school buses. They point to one of the concepts of school buses that contribute to their outstanding safety record -- large, uniquely-colored buses that are equipped with flashing warning lamps and stop signal arms to warn passing motorists that the bus has stopped to allow students to board or leave the school bus. Their argument is that if you put advertising on the exterior of a school bus to catch the attention of passing motorists (since that is precisely what advertising is designed to do), then you run the inherent risk that passing motorists will focus their attention on the advertising and not notice, for example, that the school bus has stopped, or turned on its flashing lamps, or allowed students to exit the bus.

It is important to understand that the reason there are no data to prove whether or not there is a safety risk associated with advertising on school buses is that no accident data has ever been collected in sufficient quantity to statistically assess on a national basis the effect that advertising on any type of vehicle (transit buses, taxi cabs, etc.) has on driver distraction and resulting accidents.<sup>1</sup> However, there have been studies of the effects of various types of driver distraction and inattention on accidents.

In a 1996 technical paper entitled, “The Role of Driver Inattention in Crashes,” the National Highway Traffic Safety Administration analyzed its 1995 national accident data and estimated that 3.2 percent of all towaway crashes were caused by the driver being distracted by something outside of the vehicle, such as another person, object, or activity. This result is consistent with the “1979 Indiana Tri-Level Study of the Causes of Traffic Accidents,” which found that approximately 4 percent of crashes were caused by an external distraction to the driver, such as attention to a competing event, activity, or event outside the vehicle. The 1995 NHTSA nation-wide data is also consistent with the results of a 1994 study of crashes in North Carolina which showed that about 3.7 percent of the 18,000 crashes studied were attributed to driver distraction from a source outside the vehicle.

These statistically-based analyses dealt with driver distraction from all types of sources outside the vehicle, including other persons, activities, and advertising on signs, buildings, and other motor vehicles. While it is not possible to estimate the risk of motor vehicle crashes attributed solely to drivers being distracted by advertising, it is evident that driver distraction is a definitive causal factor in a small but significant percentage of motor vehicle crashes. Since advertising on the exterior of a school bus is a potential source of driver distraction, it is reasonable to assume that such advertisements will increase the likelihood of driver distraction, and potentially result in accidents, injuries, and fatalities that would not have otherwise occurred.

### **Advertising Content and Potential Legal Issues**

The First Amendment to the U.S. Constitution states, “Congress shall make no law ... abridging the freedom of speech ...”. Over the past few decades, there have been countless lawsuits and legal decisions concerning freedom of speech. While no lawsuits have been filed on the issue of advertising on school buses, there have been cases that may have applicability to the issue of controlling the content of advertising on school buses.

In December 1993, a U.S. District Judge in Boston ruled that the Massachusetts Bay Transportation Authority’s “G-rated” advertising policy violated the U.S. Constitution. The advertisements in question dealt with the use of condoms to prevent the spread of AIDS. The federal judge stated that a transit service “cannot open its transit car doors to public service advertising and hang only its favorite posters.” The judge noted that the Massachusetts Bay Transportation Authority had concurrently accepted advertising for the R-

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<sup>1</sup> While there have been anecdotal data from a few school districts over a relatively short period of time, those data are insufficient in quantity to make any statistically-based statements about the safety risks associated with advertising on school buses. Also, it is not clear whether reliable, analytical data collection techniques were used in determining if the driver of the other vehicle involved in the accident was distracted prior to the accident.

rated movie, *Basic Instincts*. With respect to “protecting” children from inappropriate advertisements, the judge wrote, “that concern evaporates on examination because shielding children from [the] advertisements is insufficiently compelling to justify the resulting limitation of speech.”

Based on decisions by the United States Supreme Court, there are three types of fora: (1) traditional public forum; (2) public forum created by government designation; and (3) nonpublic forum. In 1974, the United States Supreme Court held that advertising space on a city transit bus was not considered to be a public forum for purposes of the First Amendment. This decision allows a transit system to control, to an extent, the type and content of advertisements it will accept because the transit system is considered to be a “nonpublic forum.” However, lawyers and legal experts have expressed concern that a nonpublic forum could become a public forum based on the acceptance of certain types of advertisements. This would eliminate the ability to establish advertising content criteria. As shown in the Massachusetts Bay Transportation Authority case, it may be difficult to establish and have individuals consistently apply reasonable advertising content criteria.

Supporters of advertising on school buses believe that committees should be formed to establish criteria for the appropriateness of advertising, and believe the criteria will protect them from legal action. The fact of the matter is that such criteria may be challenged in court, and it is impossible for anyone to predict the likelihood of success of any legal challenge to restricting the type of advertising on school buses. While legal challenges to state or local policies may or may not occur, the potential of a lawsuit is always present. The cost for a state or local school district to defend its advertising policy in court could conceivably exceed the revenue obtained from the advertising itself.

## **Conclusions**

Based on all of the above information, the National Association of State Directors of Pupil Transportation Services does not endorse advertising on the exterior of school buses. The potential increase to driver distraction, a known cause of motor vehicle accidents, presents a safety problem around school buses that cannot be ignored. Additionally, it may be difficult or impossible, and legally expensive, to control the types of advertising that could appear on school buses.

While the State Directors Association opposes advertising on school buses, it is recognized that some school districts currently use advertising on school buses as a means of generating revenue for school budgets. The State Directors Association assumes that these school districts have exercised all other means for obtaining additional revenue before selling advertising space on their school buses. For those school districts that allow advertising on school buses, the State Directors Association encourages them to develop size and location criteria for the advertising on the exterior of school buses. Additionally, any device(s) used for securing advertisements on school buses must be designed so that children’s clothing or related items do not become snagged on them.

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