

**BOOSTER SEATS AND THE FORGOTTEN CHILD:  
CLOSING A SAFETY GAP**

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**HEARING**

BEFORE THE

SUBCOMMITTEE ON CONSUMER AFFAIRS, FOREIGN  
COMMERCE AND TOURISM

OF THE

COMMITTEE ON COMMERCE,  
SCIENCE, AND TRANSPORTATION  
UNITED STATES SENATE

ONE HUNDRED SEVENTH CONGRESS

FIRST SESSION

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## **BOOSTER SEATS AND THE FORGOTTEN CHILD: CLOSING A SAFETY GAP**

**TUESDAY, APRIL 24, 2001**

U.S. SENATE,  
SUBCOMMITTEE ON CONSUMER AFFAIRS, FOREIGN COMMERCE  
AND TOURISM,  
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,  
*Washington, DC.*

The Subcommittee met, pursuant to notice, at 10:12 a.m. in room SR-253, Russell Senate Office Building, Hon. Peter G. Fitzgerald, Chairman of the Subcommittee, presiding.

### **OPENING STATEMENT OF HON. PETER G. FITZGERALD, U.S. SENATOR FROM ILLINOIS**

Senator FITZGERALD. I am going to call this hearing to order. This is the hearing of the Senate Commerce Committee, the Subcommittee on Consumer Affairs, and it is a hearing on "Booster Seats and the Forgotten Child: Closing the Safety Gap." First, I will deliver my opening statement. If any other members join us, I will give them an opportunity to give an opening statement, and then we will turn to our first panel of experts. I will ask each of you, if you have a prepared statement, to submit your prepared statement for the record, to condense your remarks and, if possible, give them impromptu. If you do read your remarks, if you would try and limit them to 5 minutes, we would appreciate it. We will try and keep this moving so that everybody has an opportunity to be heard.

Late last year, Congress passed the Transportation Recall Enhancement Accountability and Documentation, or TREAD, Act, which, at my insistence, included a requirement that the National Highway Traffic Safety Administration update its standards on child safety seats, including booster seats. The enactment of this requirement is an important step toward protecting our older child passengers. But I believe that we can and should do more.

The National Highway Traffic Safety Administration, or NHTSA, will, I hope, expand and improve its performance standard for booster seats. But developing better booster seats is of limited value if people do not use them. It has been reported that only about 5 to 6 percent of children who should be in booster seats are using them. In the United States, there are 19.5 million so-called "forgotten children," that is children between the ages of 4 and 8; and we need to do a better job of protecting them.

Those kids are too large to ride in child safety seats, but some experts believe that they are often too small to be properly seated

in a three-point safety belt. In 1998, 495 children aged 5 to 8 were killed and 86,000 were injured in car crashes and collisions. Indeed, car crashes and collisions are the leading cause of death and serious injury in children under 10 in the United States.

Ongoing research is providing increasingly compelling evidence of the need to use booster seats. Three-point shoulder and lap belts, even those in the back seat where it is recommended that children sit, currently are not made or tested for children. Children who are graduated at 40 pounds or so directly from their child safety seat to adult seat belts can suffer serious harm.

In some crashes, the seat belts do not restrain the child or the child's upper body. In others they do, but the shoulder belt that cuts across the small child's neck and the lap belt that rides high over her abdomen cause severe internal injuries to the liver, spleen, intestines, and the spinal cord.

Parents obviously want to do what is best for their children. Safety restraint use for children under a year old is 97 percent, and it is 91 percent for children ages 1 to 4. These high usage rates are due in large part to mandatory child restraint laws in all 50 states. Usage rates for booster seats, however, fall woefully short of this level. Although all 50 states have mandatory child safety seat laws, there is no similar uniform requirement for booster seat use, and there are very serious gaps in state laws regarding child restraints generally. Some states require seat belts only for children sitting in the front seat. Others only require children to wear seat belts if they are younger than 5 or 6 years old. According to NHTSA, for children between ages 5 and 15, restraint use is only 68.7 percent; and NHTSA data for 1998 shows that over 47 percent of fatally injured children ages 4 to 7 ride completely unrestrained.

Only 3 states—Washington, California, and Arkansas—have adopted mandatory booster seat laws and none of them are in effect yet. Recent attempts to pass meaningful legislation in other states, including my home state of Illinois, have failed. A lack of understanding of the benefit of booster seats may account for why more states have not acted, but there are also unanswered questions about what booster seat laws should require that could be regarding state action. Should children be in booster seats until they are 4, 6 or 8 years old, 60 pounds or 80 pounds? Or should states not use age and weight measures and instead rely on the fit of the particular child in the particular vehicle? There appears to be no clear consensus.

Additionally, the federal standard for booster seats currently only covers seats for children up to 50 pounds. NHTSA was directed in the TREAD Act to consider changing this standard to 80 pounds. In the meantime, though, what does it mean for a state law to require that children up to 60 pounds be in a “federally certified booster seat”?

At today's hearing we will address these and other questions. Some of the witnesses will speak about efforts underway to address the “forgotten child”, the child who has outgrown her child safety seat and is inappropriately placed in an adult-sized safety belt without an adult positioning booster seat or, worse still, left completely unrestrained.

The education that these groups are providing is critical to closing the knowledge gap. A recent survey of 1,000 parents and caregivers conducted by NHTSA and Daimler-Chrysler revealed that 96 percent of parents and caregivers did not know the correct age at which a child no longer requires a booster seat or a child safety seat.

Education is critical and I hope to further raise public awareness. Education alone, however, is not enough. As I said before, one of the reasons child safety seat usage is so high is because it is mandated in all 50 states. People not only want to comply with the law for the law's sake and for fear of being penalized; they also understand that laws codify often our knowledge or promote a desirable social end, in this case child safety.

In the past, Congress has provided incentives for states to adopt responsible highway laws. We have done so to encourage states to adopt repeat offender and open container laws. Last year, we did this to encourage states to adopt .08 blood alcohol level laws. Perhaps it is still too early for federal legislation to require states to adopt mandatory booster seat use laws, because of the deficiency in the current federal standard, because comprehensive medical data showing the benefits of booster seats is still being developed, and because a lot of states have yet to adopt adequate safety belt laws.

Nevertheless, I think the safety of the forgotten child is extremely important and we need to consider all of the tools at our disposal to advance it. One such tool is the continuation of federal child passenger protection education grants, the authorization for which expires this year.

In closing, there is still much we do not know. We do know, however, that more needs to be done to protect many of our child passengers between the ages of 4 and 8. I look forward to working with my children in the U.S. Senate to develop solutions to this critical issue.

With that, we are going to turn to our witnesses. On the first panel we have: Mr. Robert Shelton, the Executive Director of NHTSA; Ms. Elaine Weinstein, Acting Director, Office of Safety Recommendations and Accomplishments at the National Transportation Safety Board; Ms. Autumn Alexander Skeen from the state of Washington, a child passenger safety advocate; Dr. Flaura Winston—doctor, good to see you again—assistant professor of pediatrics at the Children's Hospital of Philadelphia and the University of Pennsylvania School of Medicine; Dr. Kyran Quinlan—Dr. Quinlan is from the Department of Pediatrics at the University of Chicago in my home state of Illinois; thank you for being with us; and Ms. Judith Lee Stone, the President of the Advocates for Highway and Auto Safety.

In addition, we have added to the first panel Dr. Adrian K. Lund, the Chief Operating Officer of the Insurance Institute for Highway Safety. I understand that Dr. Lund may have a different take on the whole issue and we decided to put him on the first panel so that we might get some give and take.

With that, I want to start with Mr. Shelton, if he could be kind enough to give us his testimony. Thank you all for being here.

**STATEMENT OF L. ROBERT SHELTON, EXECUTIVE DIRECTOR,  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION**

Mr. SHELTON. Thank you, Mr. Chairman, for inviting me to testify on child booster seats. I also want to thank you, Mr. Chairman, for sponsoring legislation to improve child passenger safety. We are working hard to implement that legislation, now a part of the TREAD Act enacted last November.

Traffic crashes are the leading cause of death for children. Six out of ten children who die in passenger car crashes are either not restrained at all or improperly restrained. The most effective way to protect children in a crash is to ensure that they are properly restrained in the rear seat in an appropriate restraint system on every trip. For the older child, generally 4 to 8 years old, booster seats, properly used, can help prevent injury by making adult-sized belts fit better.

Booster seats help prevent injury to children between 40 and 80 pounds. Without a belt-positioning booster seat, the lap belt can ride up over the stomach and the seat shoulder belt can cut across the neck. In a crash, this could cause serious or even fatal injuries. With a booster seat, the lap and shoulder belt fit correctly, reducing the risk of belt-induced injury during a crash. Correct fit also reduces the chance of ejection during a crash.

Based on current data, children should be in booster seats until they reach about 80 pounds and a height of 4 feet 9 inches. Unfortunately, as you pointed out, few children who could benefit from booster seats now use them. Most studies show booster seat use rates below 10 percent. Survey data show that these children often use seat belts instead or ride totally unrestrained.

In 1998, NHTSA included questions about booster seat use in a telephone survey of parents or caregivers of children under the age of 6. They were asked if they were aware of booster seats. While 76 percent said they were aware of booster seats, only 53 percent of those who were aware said they had ever used them for their children. The survey confirmed that children who should be in booster seats often use seat belts instead.

Premature use of seat belts by a child can cause significant injury in a crash. Many parents and caregivers do not understand the risks that adult seat belts can pose to children who weigh between 40 and 80 pounds. They also do not understand that booster seats are designed to remedy this problem. Educational efforts are needed to inform parents and caregivers on the benefits of booster seats and when to transition the child to seat belts.

A significant barrier to the use of booster seats is gaps in state child passenger safety and seat belt use laws. These gaps promote low booster seat use rates and premature graduation of children from safety seats to seat belts. In many states children over 4 can legally ride unrestrained in the rear seat, because these laws apply only to front seat occupants. In most states, children older than 4 are covered by seat belt laws, not child restraint laws, a matter that contributes to premature use of seat belts.

NHTSA is taking a number of steps to improve existing standards for the performance and testing of booster seats. Federal Motor Vehicle Safety Standard 213, Child Restraints, establishes performance and structural integrity requirements for booster



seats. These requirements provide for dynamic tests of the seats in three-point lap and shoulder belts that can restrain children weighing up to 50 pounds.

In accordance with the TREAD Act, we are considering whether to amend the standard to cover restraints for children weighing up to 80 pounds. Though NHTSA recommends the use of booster seats for children up to 80 pounds and many manufacturers now recommend booster seats up to 80 pounds and higher, we currently test booster seats with a dummy that simulates a 6-year-old child weighing 47 pounds. At this time we do not have an acceptable test dummy larger than a 47-pound 6-year-old child dummy and smaller than a 105-pound, 5th percentile female dummy.

NHTSA has been working with the Society of Automotive Engineers to develop a 10-year-old child dummy. We expect to have a prototype of this dummy to evaluate this June. Incorporation of the dummy's specifications into our standards will require further testing and rulemaking. As an interim measure, however, we are assessing the approach of adding weights to the existing 6-year-old dummy to evaluate the performance of booster seats for larger children.

In addition, we are conducting a study, as required by the TREAD Act, on the use and effectiveness of booster seats. This study will be completed by November.

We also are examining ways to expand our educational efforts to raise awareness and increase the use of booster seats and give parents, caregivers and others the information they need to determine the correct use of all child safety seats.

In 1998, NHTSA sponsored a blue ribbon panel of experts to recommend better ways to protect children ages 4 to 16 years old. Also in 1998, TEA-21 provided a new incentive grant program targeting specific occupant protection laws and programs. It authorized \$83 million over 5 years for a two-part program. Under the first part, a 5-year program, states receive grants if they demonstrate they have in place certain occupant protection laws and programs, such as a child passenger protection law that requires minors to be properly secured in an appropriate child system.

As you mentioned, Mr. Chairman, under part two, a 2-year program which expires at the end of fiscal year 2001, states receive grants if they carry out child passenger protection and education activities, including activities on the use of booster seats.

In 1999, to address the issue of non-use of booster seats, NHTSA awarded a total of \$800,000 to six states and communities for pilot and demonstration programs to increase booster seat use for children between ages 4 and 8 and seat belt use among older children.

In February 2000, in response to one of the blue ribbon panel's recommendations, NHTSA launched "Don't Skip a Step," a national booster seat campaign to educate parents and caregivers not to skip a step as their children grow, beginning with rear-facing infant seats and progressing to forward-facing child seats, booster seats, and ultimately properly restrained in adult belts, in the back seat for all children 12 years and under.

Also, raising booster seat awareness has been the keystone of our national child passenger safety week campaign for the last several years.

We will continue to implement our booster seat initiatives by updating our legislative fact sheets, which provide technical assistance to states. In addition, we are developing a booklet, "Protecting America's Children: The Case for Strong Child Passenger Safety Laws," which will be completed this summer, to highlight the need to close gaps in state child passenger safety laws discussed earlier.

NHTSA also has been a close partner in the development and refinement of the "Boost America" program sponsored by Ford Motor Company. This \$30 million program, to be launched next week, will give away a million booster seats during the program's first 12 months and award \$1 million in grants to local organizations to support grassroots booster seat advocacy and distribution efforts.

NHTSA's web site now contains a separate section on child safety seats, which makes it easy for the public to locate and obtain specific information on all child seats, including booster seats. This new service is designed to help families obtain the latest safety seat information and guide parents and caregivers to the right restraint choices for their children. The site provides one-stop shopping to those who want to learn about the correct use and installation of all child safety seats, and links the user to a list of locations throughout the Nation where parents and caregivers can have safety seats and booster seats inspected. Additional information on booster seats is also provided toll-free through our Auto Safety Hotline.

Finally, NHTSA is currently developing a 5-year booster seat education strategic plan, as required by the TREAD Act. We will complete the plan by November of this year.

Mr. Chairman, this concludes my statement. I will be pleased to answer any questions.

[The prepared statement of Mr. Shelton follows:]

PREPARED STATEMENT OF L. ROBERT SHELTON, EXECUTIVE DIRECTOR, NATIONAL  
HIGHWAY TRAFFIC SAFETY ADMINISTRATION

Mr. Chairman and Members of the Subcommittee, thank you for this opportunity to testify on child booster seats. I also want to take this opportunity to thank you, Mr. Chairman, for raising awareness about the leading killer of children in America, motor vehicle crashes, and for your sponsorship of legislation to improve child passenger safety. We are working hard to implement that legislation, now a part of the Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act, enacted last November.

Traffic crashes are the leading cause of death for children of every age from 5 to 16 years old. Six out of 10 children who die in passenger motor vehicle crashes are either not restrained at all or are improperly restrained. The single most effective way to protect children in the event of a crash is to ensure that they are properly restrained in the rear seat in appropriate restraint systems on every trip. For children from 4 to 8 years old, booster seats, properly used, can help prevent injury by making adult-sized seat belts fit correctly.

**When to Use a Booster Seat**

Booster seats are intended to be used as a transition to lap and shoulder belts by children who have outgrown forward-facing child safety seats. Children outgrow the weight and height limits of most forward-facing child safety seats at around 4 years of age, when they weigh about 40 pounds and are about 40 inches tall. At that time, they should be moved to a booster seat to help the lap and shoulder belt fit correctly. Based on current data, NHTSA believes children should stay in booster seats until they reach about 80 pounds, and a height of four feet, nine inches.

Booster seats help prevent injury to children between 40 to 80 pounds. Without a belt-positioning booster seat, the lap belt can ride up over the stomach and the shoulder belt can cut across the neck. In a crash, this could cause serious or even

fatal injuries. With a booster seat, the lap and shoulder belts fit correctly, reducing the risk of belt-induced injury during a crash. Correct fit also reduces the chance of ejection during a crash.

#### **Why Is Booster Seat Use So Low?**

Unfortunately, few children who could benefit from booster seats use them. Most studies show booster seat use rates below 10 percent. Survey data show that these children often use seat belts instead, or ride totally unrestrained.

In 1998, NHTSA included questions about booster seat use in a telephone survey of a randomly selected national sample of about 4,000 persons age 16 and older. A selected subgroup of this sample, parents or caregivers of children under the age of 6, were asked if they were *aware* of booster seats. While 76 percent of these participants said they were aware of booster seats, 21 percent said they had not heard of them and 3 percent were unsure. Of those who were aware of booster seats, 53 percent said they had used them at some time for their children.

The survey confirmed that children who should be in booster seats often use seat belts instead. While most participants thought children in rear-facing seats were expected to move on to other safety seats, 14 percent expected their older child to use seat belts. Slightly more than half (55 percent) said that when children outgrow a child safety seat they would use a different seat or booster seat while 43 percent answered either that the children would graduate to seat belts or that they did not know what would happen.

Premature use of seat belts by a child can cause significant injury in a crash. A recent research project conducted for NHTSA by TraumaLink, The Children's Hospital of Philadelphia, concludes that many parents and caregivers simply do not understand the risk that adult seat belts can pose to children who weigh between 40 and 80 pounds. They also do not understand that booster seats are designed to remedy this problem.

The project identified several barriers to use of booster seats, including child behavior; child discomfort; availability and cost; and gaps in state child passenger safety and seat belt use laws. Potential strategies to overcome these barriers focused on educational efforts needed to inform parents and caregivers on the benefits of booster seats and when to transition the child to seat belts.

The matter of state law drew particular comment in the project report. The report found that gaps in state child passenger safety laws and seat belt use laws promote low booster seat use rates and premature graduation of children from safety seats to seat belts. For example, in many states, children over the age of 4 can legally ride unrestrained in the rear seat because these laws apply only to front seat occupants.

Since 1985, all 50 states and the District of Columbia have adopted child restraint laws. All of these laws are primary laws (which means that a law enforcement officer may stop a vehicle solely for restraint law violations) and require that young children be properly secured in a child safety seat. Though child restraint laws have helped to increase the use of child restraints, they often fail to conform to current best practices. For example, some states permit children as young as two years of age to be restrained in a seat belt if the child is in the rear seat, while others have no restraint requirements for any rear-seat occupants other than for children under a specified age. In most states, children older than 4 are covered by seat belt laws (most of which are secondary enforcement laws), not child restraint laws—a matter that contributes to premature use of seat belts.

The project also found that parents and caregivers rely on state child restraint laws for instruction and guidance. They believe that these laws are an accurate guide for what is recommended to be safe for their children; but, many state laws do not provide such a guide. To date, only two states, California and Washington, require the use of booster seats. These laws require booster seat use only for children to age 6 or 60 pounds.

Late last year, NHTSA provided technical assistance to the DaimlerChrysler Corporation for a survey on parental attitudes and expectations about state child restraint laws. Among the survey's conclusions—released early this month—was the finding that parents are confused about when children may safely ride in an adult safety belts and the exact purpose of booster seats. The survey's findings have reinforced the continuing need to make the purpose, use and details of booster seats a top agency priority.

#### **What NHTSA Is Doing: Motor Vehicle Safety Initiatives**

NHTSA is taking a number of steps to improve existing standards for the performance and testing of booster seats. Federal Motor Vehicle Safety Standard (FMVSS) 213, "Child Restraints," establishes performance and structural integrity

requirements for booster seats. These requirements provide for dynamic tests of the seats in 3-point lap and shoulder belts that can restrain children weighing up to 50 pounds.

In accord with the TREAD Act, we are considering whether to amend the Standard to cover child restraints for children weighing up to 80 pounds. Though NHTSA recommends the use of booster seats for children up to 80 pounds, and many child restraint manufacturers now certify booster seats up to 80 pounds and higher, we currently test booster seats with a dummy that simulates a 6-year-old child. At this time, we do not have an acceptable test dummy larger than our 47-pound 6-year-old dummy and smaller than our 95-105-pound 5th percentile female dummy.

To acquire a test dummy suitable for evaluating booster seats designed for larger children, NHTSA has been working with the Society of Automotive Engineers (SAE) to develop a 10-year-old child dummy, which would be approximately 4-feet 6-inches tall and weigh 71 pounds. We expect to have a prototype of the 10-year-old dummy to evaluate by June 2001, but incorporation of the dummy's specifications into our standards will require further testing and rulemaking. As an interim measure, we are assessing the approach of adding weights to the existing 6-year-old dummy to evaluate the performance of booster seats for larger children. However, the primary concern for older children is head excursion which is influenced by the height of the dummy. Thus, adding weight to a 6-year-old dummy is not a satisfactory long-term solution.

NHTSA is currently conducting a study, as required by the TREAD Act, on the use and effectiveness of booster seats. This study is hampered, however, by the lack of use of booster seats by older children, which makes it hard to find enough crash cases with booster seats to give reasonable estimates of their effectiveness. This study will be completed this November.

In addition to setting and maintaining federal motor vehicle safety standards, NHTSA conducts compliance tests to assure that the standards are met. We generally test every child restraint model available on the market each year for compliance with FMVSS No. 213. From 1996 to the present, NHTSA has conducted compliance tests on 63 models of booster seats. In 1998, we sent a letter to all child safety seat manufacturers urging them to manufacture child seats so that they "perform well beyond the minimum requirements of our standard." We can also conduct investigations and seek a recall if there is evidence that these restraints contain a safety-related defect.

#### **What NHTSA Is Doing: Education and Information Initiatives**

In addition to NHTSA's motor vehicle safety initiatives to improve booster seats, we are continually examining ways to expand our educational efforts to give parents, caregivers and others the information they need to determine the correct use of all child safety seats. These efforts include initiatives to raise awareness and increase the use of booster seats.

The agency has four strategies that have been determined to be especially effective in meeting child passenger safety goals: public education; high visibility law enforcement; public-private partnerships; and strong legislation.

In 1998, NHTSA sponsored a "Blue Ribbon Panel" of experts to recommend better ways to protect children passengers 4 to 16 years old. In March 1999, the panel presented recommendations for these children in three areas:

- *Marketing and Public Education*—Educate parents and caregivers on the importance of booster seats for children who have outgrown child safety seats; generate peer programs for increasing seat belt use among older children.
- *Legislation and Enforcement*—Close gaps in the child passenger safety and seat belt laws that leave children ages 4 to 16 unprotected; encourage high visibility enforcement of child passenger safety laws.
- *Product Design and Implications*—Improve booster seat design for safety and comfort; develop recommendations for the use of aftermarket products.

Also in 1998, the Transportation Equity Act for the 21st Century (TEA-21) added a new incentive grant program to our occupant protection efforts. Beginning in FY 1999, TEA-21 authorized \$83 million over 5 years for a two-part program to target specific occupant protection laws and programs. Under part one, a 5-year program beginning in FY 1999, states receive grants if they demonstrate that they have in place certain occupant protection laws and programs, such as a child passenger protection law that requires minors to be properly secured in an appropriate restraint system. Under part two, a 2-year program in FY 2000 and 2001, states receive grants if they carry out child passenger protection and education activities, including activities on the use of booster seats.

Since 1998, NHTSA and AAA have jointly published a brochure, *Buying a Safer Car for Child Passengers*, designed to help consumers make an informed decision when purchasing a family vehicle. The brochure, which is updated annually to include safety features available on new model year vehicles, highlights information on booster seats.

In 1999, to address the issue of non-use of booster seats, NHTSA awarded a total of \$800,000 to six states and communities (NY, RI, TX, WA, AZ, ND) for pilot and demonstration programs to increase booster seat use for children between age 4 and 8 years old and seat belt use among older children. Using final reports on these programs, due at the end of 2001, NHTSA will develop "best practices" strategies and educational materials for the use of the states and our national partner organizations.

In February 2000, in response to one of the Blue Ribbon Panel's recommendations, NHTSA launched *Don't Skip a Step*, a national booster seat campaign to educate parents and caregivers not to skip any step as their children grow: beginning with rear-facing infant seats and progressing to forward-facing child safety seats, booster seats, and properly restrained in an adult belt in the back seat for all children 12 and under. As part of the campaign, NHTSA has distributed campaign brochures to enlist the support of child safety advocates, health care providers, law enforcement personnel and others to help spread the booster seat safety message across the country. An expanded booster seat education program is planned for later this year. In addition, raising booster seat awareness has been the centerpiece of NHTSA's "National Child Passenger Safety Week" campaign for the last several years.

We will continue to implement our booster seat initiatives by updating NHTSA's legislative fact sheets, which provide technical assistance to the states. In addition, we are developing a booklet, *Protecting America's Children: The Case for Strong Child Passenger Safety Laws*, which will be completed this summer, to highlight the need to close gaps in state child passenger safety laws discussed earlier. In January 2001, the National Committee on Uniform Traffic Laws and Ordinances developed a model law on occupant protection that provides coverage for all occupants in all seating positions.

NHTSA has been a close partner in the development and refinement of the "Boost America!" program sponsored by Ford Motor Company. This \$30-million program, to be launched at the end of this month, will give away a million booster seats during the program's first 12 months, and award \$1 million in grants to local organizations to support grassroots booster seat advocacy and distribution efforts. In addition, the program will distribute pre-school and elementary school educational materials promoting booster seat use. NHTSA plans to continue to work with child safety seat manufacturers and retailers to raise consumer awareness of booster seats.

NHTSA's web site, [www.nhtsa.dot.gov](http://www.nhtsa.dot.gov), now contains a separate section on "Child Safety Seats," that makes it easy for the public to locate and obtain specific information on all child seats, including booster seats. This new Internet-based service, launched last month by Secretary Mineta, is designed to help families obtain the latest child safety seat information and guide parents and caregivers to the right restraint choices for their children. When a user clicks on the icon, "Child Safety Seats," the user is linked to a comprehensive source of information, tips and recommendations. Dozens of full-color photos of the different types of child safety seats are provided, together with step-by-step installation guidelines. This site provides one-stop shopping to those who want to learn about the correct use and installation of all child safety seats, and includes: (1) a current listing of all new child safety seats available; (2) a list of model year 2001 vehicles with child safety seat features; (3) a description and list of various features available on the restraints that may make them easier to use and install; and (4) a child safety seat dictionary of terms. The site also has links to a comprehensive list of locations throughout the country where parents and caregivers can have child safety seats and booster seats inspected, and to the brochure, *Buying a Safer Car for Child Passengers*, mentioned earlier.

Additional information on booster seats also is available toll-free through NHTSA's Auto Safety Hotline, 1-888-DASH-2-DOT. Our Hotline operators are available to answer questions from 8 a.m. to 10 p.m., Eastern time, Monday through Friday. Messages can be left on tape 24 hours a day.

NHTSA currently is developing a 5-year booster seat education strategic plan, as required by the TREAD Act, to reduce deaths and injuries caused by failure to use the appropriate booster seat in the 4- to 8-year-old age group by 25 percent. Booster seat use will be monitored using NHTSA's databases. We will complete the plan by November of this year.

In closing, I would like to note that NHTSA staff have been active participants at the Association for the Advancement of Automotive Medicine's (AAAM) Conference on "Booster Seats for Children," taking place this week in Washington, DC. This conference has brought together international experts in pediatric restraint science from Canada, Sweden, the United States, the United Kingdom and Germany to review the current state of the art in child booster seat design, materials, tolerances and child riding behavior. The proceedings of the conference will be published to serve as a guide to future research in child safety engineering, provide recommendations for the medical community, and address the formulation of effective restraint laws for 4- to 8-year old children.

Mr. Chairman, this concludes my statement. I will be pleased to answer any questions.

Senator FITZGERALD. Mr. Shelton, thank you very much.  
Ms. Weinstein.

**STATEMENT OF ELAINE B. WEINSTEIN, ACTING DIRECTOR,  
OFFICE OF SAFETY RECOMMENDATIONS AND  
ACCOMPLISHMENTS, NATIONAL TRANSPORTATION SAFETY  
BOARD**

Ms. WEINSTEIN. Good morning, Mr. Chairman. It is a pleasure to represent the National Transportation Safety Board this morning on this very important issue.

According to the National Highway Traffic Safety Administration, in the decade of the 1990s, 8,600 children between the ages of 4 and 8 died in motor vehicle crashes. Highway crashes are the leading cause of death for children in this country, Mr. Chairman, and we applaud you for holding this much-needed hearing.

The Centers for Disease Control and Prevention have stated that children who have outgrown child safety seats should ride in a booster seat that positions the shoulder belt across the chest, with the lap belt low across the upper thighs. Without a booster seat, a child can slouch and slide forward, causing the vehicle lap belt to ride up into the child's abdomen, resulting in serious or fatal injuries.

The Safety Board agrees with that position, and in 1996 we recommended that the states require children up to 8 years old to use child restraint systems and booster seats. As you mentioned, in the 4 years since our recommendation was issued only 3 states—Washington, California, and Arkansas—have enacted some form of booster seat legislation.

Another problem identified in the Safety Board's 1996 study was that there are children who exceed the 60-pound weight limit established by most child restraint manufacturers for booster seats, but these children are still too short to properly use lap and shoulder belts. In addition, the NHTSA standard only covers child restraints for children up to 50 pounds. Also 4 years ago, the Safety Board asked NHTSA to establish performance standards for booster seats that can restrain children up to 80 pounds, but today there are still no such standards.

Safety advocates often tell parents that the safest place for their children in the car is the center of the back seat, because it is the farthest away from a side or frontal crash. Parents have been listening. Today 46 percent of back seat occupants in crashes seated in the center seat are under the age of 13. But to use one of the booster seats on the market today, you need a lap and a shoulder belt in the center rear seat position. Except few minivans and

SUVs, which are today's family car, many vehicles now have lap and shoulder belts in the center rear seat position.

The Safety Board believes that the back seat of the car should be designed with children in mind, and we have issued several recommendations to the automobile manufacturers to make the back seats of the cars more child-friendly.

In December of last year, the Safety Board sponsored a meeting with safety advocates and representatives of industry and government to identify immediate, short-term and long-term actions that can be taken to ensure that all children are equally protected when they are traveling on our nation's roadways. We were particularly concerned about low income and minority children.

Some of the solutions identified by participants include more products, including booster seats that are compatible with lap-only belts, more education of parents of 4 to 8 year old children about the need to use booster seats, incentives such as store-manufacturer coupons to purchase low-cost booster seats, more availability of booster seats in stores that reach low income and minority families, and retailer education to ensure that booster seats are available.

Mr. Chairman, too many parents buckle their children into adult restraints in their automobiles and think that their child is safe. We know that that is not the case. The Safety Board believes that action must be taken by the states, the automobile manufacturers and NHTSA to ensure that there is one level of safety for all children.

That completes my statement, Mr. Chairman. I would be happy to answer any questions.

[The prepared statement of Ms. Weinstein follows:]

PREPARED STATEMENT OF ELAINE B. WEINSTEIN, ACTING DIRECTOR, OFFICE OF SAFETY RECOMMENDATIONS AND ACCOMPLISHMENTS, NATIONAL TRANSPORTATION SAFETY BOARD

Good morning Mr. Chairman and Members of the Subcommittee. It is a pleasure to represent the National Transportation Safety Board before you today regarding child passenger safety, particularly the use of booster seats by children between the ages of 4 and 8 years old.

Americans understandably react with horror at random acts of violence that take the lives of innocent children, and they demand that action be taken when a child is killed in a school firearm incident. In 1998, 121 children under age 10 died as a result of unintentional firearm-related actions, according to the National Safe Kids Campaign. That same year, 922 children under age 10 died as passengers in motor vehicle crashes, according to the National Highway Traffic Safety Administration's (NHTSA) Fatality Analysis Reporting System (FARS). Although highway crashes are the leading cause of death for children in this country, we do not hear a nationwide outcry every time a young girl or boy dies in a traffic crash. Mr. Chairman, the Safety Board applauds you for holding this hearing to bring much needed attention to this important issue.

According to NHTSA, in the decade of the 1990s, over 90,000 children died in motor vehicle crashes, and over 9 million were injured. Eight thousand six hundred of the children who died were between the ages of 4 and 8. That equals about 16 children between the ages of 4 and 8 killed each week in motor vehicle crashes. More than 70 percent of the 778 children age 4-to-8 killed in automobile accidents in 1999 were totally unrestrained (546 children), and 13 percent (105 children) were in lap/shoulder belt restraint systems designed for adults.

The Safety Board has for some time been concerned about the dangers to our children when riding in an automobile. In 1996, the Safety Board adopted a study on the performance and use of child restraint systems, seatbelts, and air bags for children in passenger vehicles.

In part, the Board's 1996 report concluded that:

- Children (especially those properly restrained) in the back seats of vehicles are less likely to sustain injury than those seated in the front seats;
- Children of all ages need to be properly restrained and should be covered by the states' child restraint and seatbelt use laws;
- More than two-thirds of the children in the Safety Board's study sample were not in the appropriate restraint for their age, height, and weight;
- Children tended to be in restraint systems too advanced for their development, such as moving from child restraint systems to seatbelts rather than using booster seats; and
- Booster seats that restrain children who weigh more than 50 pounds are not subject to any performance standards; however, booster seats are necessary for some children above that weight.

Two years ago, to focus attention on our 1996 safety recommendations, the Safety Board implemented a comprehensive campaign regarding children passenger safety. We met on several occasions with automobile and child safety seat manufacturers, participated at child safety seat fitting stations and check points, testified at legislative hearings, spoke at and attended numerous conferences and symposia, and held several meetings. As a direct result of the Board's work, we have seen many improvements regarding child passenger safety, especially related to increasing proper use of child safety seats. For instance:

- NHTSA developed a guidebook for states to use in establishing and operating fitting stations;
- Many states have set up fitting stations at health centers or in police, sheriff, or fire stations;
- DaimlerChrysler established *Fit for A Kid*, a nationwide program of permanent fitting stations, at selected dealerships. *Fit for a Kid* is now in all 50 states, and much of the U.S. population is less than an hour's drive from a *Fit for a Kid* location;
- General Motors established mobile fitting stations in every state in partnership with the National Safe Kids Campaign; and
- Ford Motor Company established the "Boost America" program to provide support for existing community fitting stations, to conduct child safety seat inspections, and to implement a campaign to give away booster seats to needy families.

Mr. Chairman, it is unfortunate that booster seats are still not recognized or understood by the public as the next step in child passenger protection after a child outgrows a child restraint system.

#### **Seatbelt Fit for 4-to-8-year-old Children**

Once children outgrow child restraint systems, they often use the vehicle seatbelts. In the crashes investigated for the Safety Board's 1996 study, 73 children should have been in booster seats according to their age, height, and weight, but only 11 children were restrained in booster seats. Fifteen children in our study cases were improperly restrained by the vehicle seat belt. Fourteen of those children should have been in booster seats, and the other one should have been in a child safety seat.

Vehicle seat belts, like air bags, were designed to protect adults. Poor shoulder belt fit was reported in 8 seatbelt misuse cases by children in our sample as the reason for wearing the shoulder belt under the arm or behind the back. Moderate to severe injuries were sustained by 9 of the children; all but 1 were involved in high severity crashes. Five children in the study who sustained no or minor injuries were involved in low to moderate severity crashes. Improper use of the lap/shoulder belt decreased as the child's height increased above 50 inches, resulting in a better fit of the shoulder portion of the belt.

According to the Centers for Disease Control and Prevention, children who have outgrown their child safety seats should ride in a booster seat that positions the shoulder belt across the chest, and with the lap belt low across the upper thighs. Without a booster seat, a child can slouch and slide forward, causing the vehicle lap belt to ride up on to the child's abdomen, resulting in serious or fatal injuries.

The Safety Board believes that children of all ages need to be properly restrained and should be covered by the states' child restraint and seatbelt use laws. Accord-



ingly, on October 31, 1996, the Safety Board recommended to the Governors and Legislative Leaders of the 50 states and U.S. Territories, that children up to 8 years old be required by the state's mandatory child restraint use law to use child restraint systems and booster seats. In the over five years since the safety recommendation was issued, only three states—Washington, California, and Arkansas—have enacted some form of booster seat law.

Another problem identified in the Safety Board's 1996 study was that there were 22 children who exceeded the 60-pound weight limit established by most child restraint manufacturers for booster seats, but were too short (all of these children were less than 59 inches tall) for lap/shoulder belts according to the age, height, and weight classification system used by the Board. NHTSA's own research confirms that "the minimum size child in this study who could use three-point belts alone had a sitting height of 74 cm [29.6 inches], standing height of 148 cm [59.2 inches], and weight of 37 kg [82 pounds]." On September 20, 1996, the Safety Board asked NHTSA to establish performance standards for booster seats that can restrain children up to 80 pounds. NHTSA responded to the Board's recommendation with a letter to the child restraint manufacturers asking them if they had plans to produce booster seats for older children and if there was a need for federal standards. NHTSA subsequently convened a Blue Ribbon Panel on older children in 1998 which recommended a number of actions similar to what the Safety Board asked for in its 1996 recommendations.

Mr. Chairman, when discussing child passenger safety there are two additional areas that need to be discussed—child-friendly back seats and children in low income families.

#### **Child-Friendly Back Seats**

The Safety Board believes that the back seat of vehicles should be designed with children in mind. We have issued safety recommendations to the automobile manufacturers to design child-friendly back seats by having center lap/shoulder belts in the rear seats of new vehicles, lap/shoulder belts in the rear outboard seating positions that fit older children, and built-in child safety seats.

The Safety Board first asked manufacturers to consider installing center lap/shoulder belts in all newly manufactured passenger vehicles following a 1986 safety study on the performance of lap belts in frontal crashes. Although more vehicles have lap and shoulder belts in the center rear seat position today than in 1986, few minivans or sport utility vehicles—today's family car—have lap/shoulder belts available for children in all back seat positions.

Safety advocates often tell parents that the safest place for their children is the center position in the back seat because it's the farthest away from a side or frontal crash. Parents have been listening. NHTSA's FARS data show that 46 percent of all back seat occupants seated in the center position are under the age of 13, and 75 percent of them are under the age of 21. Vehicle occupants seated in the center rear seat position should be afforded the same level of protection as other occupants of the back seat.

The Board has also recommended that lap/shoulder belts in the rear outboard seating positions should fit older children comfortably and securely. Manufacturers have argued that the adjustable upper shoulder belt anchorages, now standard in the front seat, aren't feasible in the back seat because the back seat's design renders the anchorage ineffective. If that is true, the Safety Board has suggested that manufacturers put their design teams to work looking for alternative solutions.

Lastly, the Board recommended that vehicles should have built-in child safety seats. Few manufacturers offer a built-in safety seat. It is almost solely an optional equipment item, and often is not marketed well. Auto manufacturers have suggested that built-in child seats are a tough sell. Many people who have children young enough to use them are not in the market for a new car, and car dealers do not want to stock vehicles with integrated seats.

#### **Children in Low Income Families**

A concern recently expressed by the Safety Board involves the use of booster seats in older vehicles. Booster seats currently on the market are, with one exception, designed for use with lap and shoulder belts. However, lap/shoulder belts have only been required in the outboard seating position of vehicle back seats since 1990. That means that about 34 percent of all cars (some 43 million vehicles) still in use today have lap belts in all back seat positions. Shoulder belts still are not required in the center back seat position, and many current model vehicles, including sport utility vehicles, only have lap belts in the center rear seat position. When Board representatives participated in child safety seat fitting stations and check points, we were told that it is difficult to find booster seats for use in vehicles with lap-only belts.

According to the 1995 National Personal Transportation Survey, conducted for the Federal Highway Administration, the average age of vehicles owned by low-income households is 11 years. Therefore, it is reasonable to assume that low-income families with children between the ages of 4 and 8 years old are likely to own a vehicle with lap-only belts in the back seat. The Safety Board is concerned that adequate, affordable protection is not readily available for these children when they are transported in cars.

In December 2000, the NTSB sponsored a meeting with safety advocates and representatives of industry and government to identify immediate, short-term, and long-term actions that can be taken to ensure that all children are equally protected when they are traveling on our nation's roadways. Some of the solutions identified by the participants include:

- More products, including lap-only belt compatible restraints;
- More education of parents of 4-to-8-year old children about the need to use booster seats;
- Incentives, such as store/manufacture coupons, to purchase low cost booster seats and more availability of booster seats in stores that reach low-income and minority families; and
- Retailer education to ensure that booster seats are available.

As a result of the Safety Board's meeting, representatives of the Departments of Transportation, Health and Human Services, and the Safety Board's Chairman signed a Letter of Intent to work together to increase the availability of child safety seats and booster seats for low-income families.

Mr. Chairman, too many parents buckle their children into adult restraints in their automobiles and think their child is safe. We know that is not the case. The Safety Board believes that action must be taken by the states, the automobile manufacturers, and NHTSA to ensure that there is one level of safety for all children.

That completes my statement, and I will be happy to respond to any questions you may have.

Senator FITZGERALD. Ms. Weinstein, thank you very much.

Ms. Autumn Alexander Skeen from Walla Walla, Washington. Thank you very much for being here.

**STATEMENT OF AUTUMN ALEXANDER SKEEN,  
CHILD PASSENGER SAFETY ADVOCATE**

Ms. SKEEN. Mr. Chairman and Senators: I am Autumn Alexander Skeen of Washington state. Thank you for allowing me to testify. It is seemly that this opportunity would come less than 2 weeks after my son's birthday. Spring and Easter are the most painful times now, their message of new life and green glory underscoring what Anton has lost. He would have been 9 years old this year, just like your son.

But Anton was 4 years old and a good-sized lad when he, his sister and I came home from Japan for summer vacation in June 1996, leaving my husband at his post in Tokyo as the Pacific editor of Stars and Stripes. We were to have a whole summer at our family cabin in central Oregon.

My parents live in Seattle and for the summer I borrowed their SUV, a 1988 Dodge Raider. In the whirl of travel, my mind quickly touched upon the basics of transport. The front seats were where the only lap and shoulder belts were in this vehicle, and of course it had no air bags. Washington state law said you could buckle children Anton's size and weight, nearly 50 pounds and too big for a child car seat, into seat belts. I concluded he should be up front with the best seat belts.

I am a journalist. I had researched the law in 1993, writing on the lack of child passenger safety laws on Indian reservations. So

I felt knowledgeable about the law. I was a mom who played by the rules: bike helmets, limited TV time, brush teeth and bed time by 8:30.

Anton's grandmother remembers buckling him into the seat that morning when we left Seattle. "I get to ride up in front with mommy," he crowed to her. He was a sunny child, loving, smart, healthy—everything a parent could want.

He and I headed toward central Washington, planning to visit friends there before driving on to Oregon. My daughter Geneva was to follow us the next day with my sister, her aunt. Two and a half hours into our drive, we were traveling approximately 65 miles an hour on I-82, crossing a high desert steppe, a desolate place used by the Army as a firing range. Anton's head leaned against the window as he fell asleep in the warm sun.

When the noon news faded, I reached for the car radio, which was positioned exceptionally low, just over the car's hump. At the same time, we passed a semi truck in the right-hand lane, and basically that is all I remember. At the same time I leaned over, we apparently hit a gust of wind, drifting onto the shoulder, which had no rumble strips. I must have startled when I realized where we were and overcorrected. The wheels bit into the volcanic ash and sand, tripping the vehicle into a triple roll.

They found me unconscious in the car, critically injured, but nonetheless alive. The seat belt held me in, saving my life. But next to me they found no one. When the Washington State Patrol examined the car, they found Anton's seat belt still clicked shut, but Anton was in the median, dead from massive head injuries. The seat belt had failed to hold him in and he was thrown out, only to have the car roll over him, and just that fast this beautiful boy was gone, never to be seen nor held by me again.

Anton did get to the cabin in Oregon in the end, but as ashes, ashes we spread in the cold Metolius River. I have a river since then, too, for the pain of missing him and the pain of knowing what he has missed is an insurmountable sorrow for his father and me.

I realize, however, one mother's broken heart alone is not enough to change a nation's behavior. But Anton's death was no anomaly. Some 500 children in Anton's age group bloody the road sides of America and die. Thousands more are hurt for life. Since this last Thanksgiving, within a 50-mile radius of my house, in separate incidents a 5½ year old boy in an adult seat belt was partially thrown out in a rolling pickup truck and died, a 6 year old girl in an adult seat belt was thrown out in a crash and died. Last week, in a three-car collision another 6 year old was injured by the adult seat belt itself. These are just the recent ones I know about in rural southeast Washington state.

These are not statistics who suffer or die. These are worlds that die: Tonka trucks and teddy bears packed away, Dr. Seuss and Curious George stories boxed up, hollow birthdays celebrated only with prayers and burning candles. The start of the school year only signals more sadness for us parents, mentally graduating lost children along: first grade, second grade, and now third grade.

Because many of these deaths are preventable, guilt and blame drive divorce, chemical dependency, family dysfunction, and, yes, suicide, to fill the empty silhouette of a child.

I was fortunate in one way. My marriage and psyche have survived this catastrophe. Nonetheless, almost equal to my sorrow is my rage, at myself and at the other elements of this horror—foremost, the lack of regulation in regard to safety practices and safety equipment for passengers smaller than 170-pound males. Where have our governments been? Even though car crashes are the number one killer of children, apparently there has not been enough dead youngster data to set off a commensurate alarm.

Yet people in safety and automotive circles have known about this problem of poor fit for the post-car seat aged child since the late 1980's. Safety equipment in a car is no guarantee, but it does imply a chance. Perhaps Anton would not have survived the crash forces, but we will never know, because his seat belt did not, could not, deliver.

Too late, in retrospect I see how ludicrous it was to think its ill fit would suffice. But I extrapolated then that if the law said it was OK, someone somewhere had tested the engineering. Adult seat belts are better than nothing. Nonetheless, they present an illusion of safety, a lie in effect to these children who trust us with their very lives, the same way I naively trusted the law.

I am not the only one. Parents are awash in health and safety messages. Their priority filters tell them that if a warning is not law the potential is not life-threatening. Nothing could be further from the truth when it comes to car crashes.

In our commuter society, children travel more than a thousand car trips a year, and yet they are subjected to the capricious nature of state child passenger safety laws, all of which, even Washington and California's new improved ones, fall short of best practice. But parents do not realize this.

These treasured children are Americans first. They carry American passports, not state passports. They deserve a uniform standard of regulatory protection coast to coast, whether that involves auto design or booster seats or both. As citizens, it is their birth right to come of age. We all failed Anton. Good conscience and good government demand we not fail another vulnerable young spirit.

This ends my testimony. I will answer any questions. Thank you.  
[The prepared statement of Ms. Skeen follows:]

PREPARED STATEMENT OF AUTUMN ALEXANDER SKEEN, CHILD PASSENGER SAFETY  
ADVOCATE

Mr. Chairman and Senators of the Committee, I am Autumn Alexander Skeen of Washington state.

Thank you for allowing me to testify. It is seemly that this opportunity would come less than two weeks after our son's birthday. Spring and Easter are the most painful times now, their messages of new life and green glory underscoring what Anton has lost. He would have been nine years old this year, just like your son, Senator Fitzgerald.

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These aren't statistics who suffer or die, these are worlds that die: toy trucks and teddy bears packed away; bedtime stories boxed up; hollow birthdays celebrated only with prayers and burning candles. The start of the school year only signals more sadness for parents—mentally graduating lost children along: first grade, second grade, and now third grade. Because most of these deaths are preventable, guilt and blame drive divorce, chemical dependency, family dysfunction and yes, suicide to fill the empty silhouette of the child.

I was fortunate in one way—my marriage and psyche have survived this catastrophe. Nonetheless, almost equal to my sorrow is my rage—at myself and at the other elements of this horror, foremost the lack of regulation in regard to safety practices and safety equipment for passengers smaller than 170-pound males.

Where have our governments been? Even though car crashes are the #1 killer of children, apparently there hasn't been *enough* dead-youngster data to set off a commensurate alarm. Yet, people in safety and automotive circles have known about this problem of poor fit for the post-carseat age child since the late 1980's. Safety equipment in a car is no guarantee, but it does imply a chance. Perhaps Anton would not have survived the crash forces, but we'll never know because his seatbelt did not, *could not* deliver. Too late, in retrospect I see how ludicrous it was to think its ill fit would suffice. But I extrapolated then that if the law said it was OK, someone somewhere had tested the engineering. Adult seatbelts are better than nothing, nonetheless they present an illusion of safety, a lie in effect, to these children who trust us with their very lives, the same way I naively trusted the law.

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Senator FITZGERALD. Ms. Skeen, I want to thank you for that very powerful and compelling testimony and thank you and applaud you for your courage in coming forward with that, and for all the good work and advocacy you have been doing in this area. We will work so that there are not other parents what have to undergo the suffering that you have endured, and we will keep Anton in our memories. Thank you very much for your courage in coming forward with that powerful testimony.

Mr. Lund, the Chief Operating Officer of the Insurance Institute for Highway Safety, thank you for being here.

**STATEMENT OF ADRIAN K. LUND, CHIEF OPERATING OFFICER, INSURANCE INSTITUTE FOR HIGHWAY SAFETY**

Dr. LUND. Thank you, Mr. Chairman. The Insurance Institute for Highway Safety is a nonprofit research and communications organization that identifies ways to reduce motor vehicle crashes and crash losses.

Senator FITZGERALD. Mr. Lund, could you just pull that microphone a little bit closer to you. I would appreciate it. Thank you.

Dr. LUND. I am the Institute's Chief Operating Officer and I am here to discuss the issue of child occupant protection, in particular the advisability of requiring booster seats. With me today are Michele Fields, General Counsel for the Institute, and Shelly Martin, our Government Affairs Representative, who will help me at various stages.

To begin, I want to emphasize that the Institute believes that the main issue with regard to child occupant protection is the fact that so many children ride unrestrained. Although child restraint use is up markedly since the 1970's and 1980's, only one in three children killed in motor vehicle crashes in 1999 were restrained.

When it comes to protecting infants and children in motor vehicles, the key issue is whether a restraint system is used. It is not the type of restraint or whether it is installed precisely as the manufacturer intended. Although these can be important, it is not the main issue. Research indicates that even when restraints are misused, they do often provide good protection. We should not lead parents to assume that the belt provides no protection.

When the Institute evaluated child restraint laws around the nation last year, we did not consider what kind of restraint a law requires for children or how extensively it defined proper use of the restraint. Instead, the principal concern was whether the laws included provisions that we know from data maximize the use of

some kind of restraint. Our emphasis throughout was to ensure that all children in all vehicle seats are restrained all the time.

In this situation, where do boosters come in? Restraint use is a particular concern among those children who are graduating from child restraints and for whom boosters are being recommended. Research shows that restraint use declines precipitously among children ages 3 to 6 compared with their zero to 2 year old. It declines from around 95 percent to around 40 to 50 percent in rear seats. We do not know why this decline occurs, but it means these children are at increased risk of injury in crashes.

Are boosters the answer? The fact is boosters can help. A child should use a lap belt that fits over the upper legs or pelvis and not the stomach. The shoulder belt should cross the center of the chest. It should not come across the neck and face. For some children, this optimal level of restraint may not be achievable without a booster seat. However, the Institute believes that requiring boosters is a misplaced priority at this time.

First, requiring boosters complicates the first priority in protecting child occupants, which is to get kids buckled up in the first place. It means that we must convince parents not only to buckle their children, but also to have booster seats available for all the children they might carry. A parent who buckled their child into a vehicle's lap-shoulder belt alone would become a law-breaker even if no booster were required to achieve a good fit.

Now, a second concern at the Institute is that booster seats are not all the same. They do not fit all cars or all kids the same. To get a handle on this, the Institute has examined how different booster seats fit two different children in three different vehicles. Our finding is that booster seats sometimes improve belt fit and sometimes have no effect or can make things worse.

I have asked Shelly to help us look at some exhibits here. I would like to start with this picture of 6 year old Laura in the rear seat of a Honda Accord. As you can see, the adult lap-shoulder belt fits Laura in this vehicle reasonably well without a booster. Now, she still might benefit from a booster in perhaps another vehicle with different belt geometry. But in this vehicle, when we looked at different booster seats we saw that they were as likely to worsen belt fit for her as to improve it.

The second exhibit—

Senator FITZGERALD. Dr. Lund, could I stop you for a second and ask you how much that young girl who you said was 6 years old weighed?

Dr. LUND. She weighs 62 pounds.

Senator FITZGERALD. 62 pounds.

Dr. LUND. So she's just over the 60-pound limit, but well under the 80-pound limit.

Senator FITZGERALD. How tall would she have been?

Dr. LUND. She is 52 inches.

Senator FITZGERALD. 52 inches, and she does look like she fits into that.

Dr. LUND. Yes.

Now, the second exhibit shows a different story. This is 5 year old Camron in the rear seat of a Hyundai Excel. Without benefit of a booster, we see two problems with the belt fit. First, the belt

does lie across Camron's neck and face. But most importantly, we see that the belt crosses his stomach rather than lying down on his thighs or across his pelvis.

Now, if we go to the next exhibit, we see Camron in a Britax Star-Riser booster seat. This is not an ad for Britax, but there are other boosters that do this as well. But we see that with this Britax seat a good improvement in the belt fit. We see that the belt has been re-routed across the chest and, most importantly, the arms on this seat are keeping the lap belt low on the thighs and pelvis. That is what you want to do to avoid abdominal injuries.

Now, if we go to the next exhibit, here is the problem that we see. This is the Jupiter Comfort Rider GTX booster. It does not help so much. The belt fit is somewhat better as it passes over the shoulder, but it achieves this by lengthening the amount of shoulder belt that is out. That means that in a frontal crash this seat is going to rotate further in that crash, allowing the head to go further forward. We know that in real world crashes a problem for kids is head injuries, even restrained kids.

More importantly in my view in this case, though, is the fact that if you look at that lap belt fit on the child, you see that the lap belt is still in the stomach, threatening abdominal injuries in a severe frontal crash.

Thus, our research is indicating that booster seats do not necessarily improve belt fit. Whether they do depends on the specific child, the specific booster seat, and the specific car model in which the two are positioned.

That leads me to the final point that I would like to make. Booster seats are not well defined. In general, a booster seat raises a child up for a better fit. But does this mean a firm cushion qualifies as a booster seat? What about a phone book? We note that the National Highway Traffic Safety Administration sets forth extensive testing requirements for infant and child seats, and all states require the use of federally approved seats. These seats have been tested and approved.

But these requirements do not apply to booster seats for children who weigh more than 50 pounds. It makes no sense in our view to require the use of special restraint devices that have not been tested or approved for the children that they are required for.

Given these observations, the Institute has the following recommendations for improving child occupant protection at this time. The very first order of business is to get older children into restraints. Lap-shoulder belts may have limitations, but they still greatly improve the likelihood that children will survive in crashes. State legislatures are already moving to remove the loopholes in restraint legislation that are partly responsible for the decline in restraint use by elder children. The next step is we have got to get the police enforcing those laws as well.

At the same time, though, we must recognize that these belts do not fit all children well. Research should proceed to document the benefits that booster seats can and cannot provide. We need to understand not only the potential limitations of lap-shoulder belts, but also the aspects of booster seats that help or do not help.

We do not yet—I go back to my point that not all boosters are the same, and our problem is we do not know which differences are



the most important. We need research. At a minimum, before we require booster seats we need a federal definition of booster seats that is based on science and test requirements that are standard and realistic.

That concludes my testimony, Mr. Chairman.  
[The prepared statement of Dr. Lund follows:]

PREPARED STATEMENT OF ADRIAN K. LUND, CHIEF OPERATING OFFICER, INSURANCE INSTITUTE FOR HIGHWAY SAFETY

The Insurance Institute for Highway Safety is a nonprofit research and communications organization that identifies ways to reduce motor vehicle crashes and crash losses. I am the Institute's chief operating officer, and I am here to discuss the issue of child occupant protection—in particular, the advisability of requiring booster seats.

**Main Issue is Whether Restraints are Used**

The proportion of children who ride restrained has increased markedly since the early 1980s,<sup>1,2</sup> but too many children still ride unrestrained. The results are deadly. In 1999, more than 1,300 child passengers (12 and younger) died in crashes. Only 36 percent of them were restrained. Another 14 percent were either improperly restrained (in all likelihood, gross misuse of the child seat or safety belt) or restraint use was unknown. Fifty percent of the children who died were unrestrained. Thus, nearly two of every three child deaths probably involved a failure to use an available restraint system. Among the older children in this group, restraint use was lower than among the infants and youngest children (0–3 years old).

CHILDREN KILLED IN PASSENGER VEHICLES, 1999

Age	Count	Unrestrained		Unknown/Improper Restraint		Restrained	
		NO.	Percent	NO.	Percent	NO.	Percent
0–3 years	451	172	38%	80	18%	199	44%
4–6 years	281	148	53%	37	13%	96	34%
7–8 years	215	119	55%	33	15%	63	29%
9–12 years	362	212	59%	33	9%	117	32%
<b>TOTAL</b>	1,309	651	50%	183	14%	475	36%

Source: Fatality Analysis Reporting System

So, when it comes to protecting infants and children in motor vehicles, the key issue is whether a restraint system is used—not what type of restraint or whether it is installed precisely as the manufacturer intended (research indicates that, even when restraints are misused, they often provide good protection).<sup>3</sup> What matters is that so many children still are riding unprotected by any kind of restraint.

**Ratings of State Laws Based on Likelihood of Increasing Restraint Use**

The Insurance Institute for Highway Safety always has placed the highest importance on enacting and enforcing laws that require restraint use by all children sitting in all vehicle seats. Last year the Institute rated selected traffic safety laws in every state, based on research indicating the extent to which the laws enhance highway safety (attachment).<sup>4</sup> To evaluate laws protecting child passengers, the Institute considered the comprehensiveness of both child restraint and adult belt use laws, which cover older children. The laws that earn the highest ratings provide primary coverage for all children 12 and younger in all vehicle seats. (Primary coverage means police may stop and ticket motorists for restraint violations alone. All

<sup>1</sup> Williams, Allan F. 1976. Observed child restraint use in automobiles. *American Journal of Diseases of Children* 130:1311–17.

<sup>2</sup> National Highway Traffic Safety Administration. May 1999. National occupant protection use survey, 1998, controlled intersection study (draft). Research Notes. Washington, D.C. U.S. Department of Transportation.

<sup>3</sup> Melvin, John W.; Weber, Kathleen; and Lux, Paula. Performance of child restraints in serious crashes. *Proceedings of the 24th Annual Conference of the American Association for Automotive Medicine*, 117–31. Morton Grove, IL: American Association for Automotive Medicine.

<sup>4</sup> Insurance Institute for Highway Safety. 2000. How state laws measure up. *Status Report* 35:10.

child restraint laws are primary, but most adult belt laws are secondary, which means motorists have to be stopped for some other violation first.) Laws with low ratings allow some children to ride unrestrained.

Children too old to be covered under the child restraint laws in 11 states (Alabama, Arizona, Idaho, Illinois, Indiana, Iowa, Minnesota, Mississippi, New Jersey, Ohio, and Pennsylvania) are protected by adult belt laws that apply only to people riding in the front seat. Thus, it is perfectly legal in these states for children to ride unrestrained in rear seats. This makes no sense. The back seat is where we tell parents it is safest for their children to ride, so restraint laws should cover the kids who sit there. Closing such loopholes in the laws should be our highest priority.

In rating the laws, the Institute did not consider what kind of restraint a law requires for children of various ages. Adults could buckle children into rear-facing infant restraints, forward-facing child restraints, or adult lap/shoulder belt systems, as appropriate. This reflects the Institute's major concern, which is to ensure that all children in all vehicle seats are restrained all the time.

### Restraint Use Declines After Age Two

The problem of children riding unrestrained is not uniform from infant through preteen years. Restraint use declines after age two, according to recent Institute surveys conducted in three states. In particular, restraint use drops off precipitously among children ages 3–6 compared with 0–2 year-olds.<sup>5</sup> We do not know why this is happening, but it means these children are at unnecessary injury risk in crashes.

PERCENT OF CHILDREN RESTRAINED

	FRONT SEAT (in percent)	REAR SEAT (in percent)
MICHIGAN		
younger than 1	82	96
1–2 years	69	98
3–6 years	56	44
7–12 years	69	39
NORTH CAROLINA		
younger than 1	89	94
1–2 years	83	96
3–6 years	66	57
7–12 years	79	39
TEXAS		
younger than 1	77	89
1–2 years	64	92
3–6 years	55	42
7–12 years	73	37

Source: Ferguson, Susan A.; Wells, JoAnn K.; and Williams, Allan F. 2000. Child seating position and restraint use in three states. *Injury Prevention* 6:24–28.

### Are Booster Seats the Answer?

There is merit in the idea of booster seats for some children who have outgrown their child restraints. Experts agree that a child should use a lap belt that fits over the upper legs or pelvis (not the stomach) and a shoulder belt that crosses the center of the chest (not the face or neck). The knees should bend at the edge of the vehicle seat so the child is not encouraged to slouch down for comfort, displacing the lap belt up over the stomach or perhaps even allowing the child to slide out from under the belt system.

For some children, this level of restraint may not be achievable without a booster seat, so some people would like to require boosters. The idea is that adult belts will fit better, more 3–6 year olds will ride restrained, and these children will be better protected than in adult belts alone. Three states already have passed booster seat requirements covering children to age 6 or 60 pounds: Arkansas, California, and Washington. States also are considering legislation that would extend booster seat requirements to children who weigh less than 80 pounds or are shorter than 57 inches, as recommended on the National Highway Traffic Safety Administration's website.<sup>6</sup>

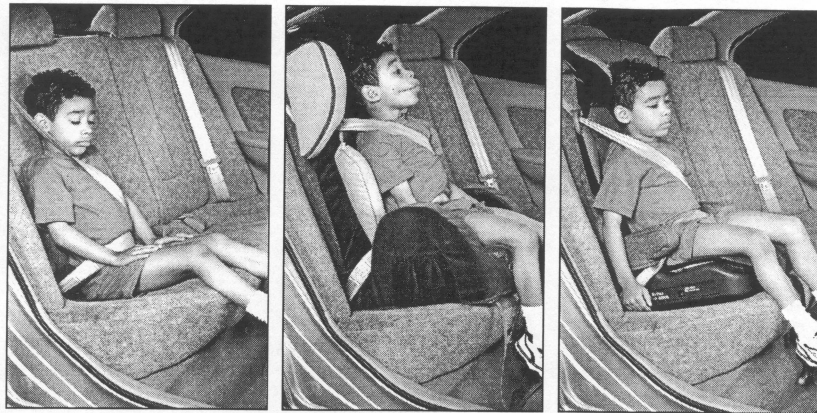
<sup>5</sup>Ferguson, Susan A.; Wells, JoAnn K.; and Williams, Allan F. 2000. Child seating position and restraint use in three states. *Injury Prevention* 6:24–28.

<sup>6</sup>National Highway Traffic Safety Administration. 2001. [www.nhtsa.dot.gov/people/injury/childps/Boosterseat/talking.html](http://www.nhtsa.dot.gov/people/injury/childps/Boosterseat/talking.html). Washington, D.C. U.S. Department of Transportation.

The Institute believes emphasizing boosters is a misplaced priority. One problem is that it complicates the task of complying with the law. Parents have to buy boosters and have them available for any children they might take along in their cars. A parent who buckles a child into a vehicle's lap/shoulder belt alone would become a lawbreaker, even if no booster were needed to achieve a good belt fit. Adding booster seat requirements for 4–6 year olds without also extending the coverage of child restraint laws to 7–12 year-olds still would leave substantial numbers of children unprotected.

Booster seat requirements still might be a good idea if the boosters were to greatly improve the fit of adult safety belts. But it is not clear that they do. Institute researchers have tried to get a handle on this by buckling two children (a 6-year-old girl 52 inches tall weighing 62 pounds; a 5-year-old boy 45 inches tall weighing 42 pounds) into 6 different booster seats positioned in 3 different passenger vehicles (a small car with contoured seats, a midsize car with bench seats, and a passenger van with captain's chairs). For comparison, the researchers conducted the same placements with a Hybrid III dummy representing a 6-year-old boy (50th percentile height at 45 inches tall; 75th percentile weight at 52 pounds). Sixty-three different placements were assessed, including ones in which no booster seats were used (adult belt systems only).

One finding is that some booster seats are very good—that is, they route the adult lap/shoulder belt correctly—while others provide only marginal improvement in belt fit. Getting a good one does not necessarily mean buying the most expensive one. The Britax Star-Riser is a good choice at \$100. Evenflo's Right Fit is another good booster seat costing only \$20.



Adult safety belts alone (above left) do not fit some children, like 5-year-old Camron who weighs 42 pounds. The shoulder belt cuts across his face and neck, while the lap belt is much too high across his stomach instead of lower on his upper legs or pelvis. Plus his knees do not bend at the edge of the vehicle seat, so he is likely to scoot forward. The right booster seat can help. The key is to get the right one. The Jupiter Komfort Rider GTX (above middle) does not help much. The shoulder belt is routed better than with an adult belt alone, but the lap belt still is positioned too high. A better fit is in the Britax Star-Riser (above right), which routes both the lap and shoulder portions for a correct fit. But not every child 4-8 years old needs a booster seat. Laura (below), who is nearly 7 and weighs 62 pounds, fits reasonably well in an adult belt system without a booster.



The main finding of this research is that booster seats enhance belt fit in some configurations. In others, a booster makes no difference or results in a poorer fit. All of this variability makes it difficult, if not impossible, to generalize about which groups of children would benefit from a booster seat requirement. It depends on the specific child, the specific booster seat, and the specific car model in which the two are positioned.

An even more basic problem with requiring booster seats is that we in the United States do not have a clear definition of what boosters for older children are. In general, a booster seat raises a child up for a better fit in an adult belt system. Does this mean a firm cushion would qualify as a booster seat? What about a phone book? Kids, even when they are the same age, vary widely in height and weight. Booster seats vary in size and shape. Vehicle seats vary from bench-type to contoured. Safety belt systems also vary from car model to model. So which boosters work best in which vehicles? Which children need booster seats in what vehicle models? For how long? The answers vary from child to child and vehicle to vehicle. There is too much variability to apply a single booster seat requirement to all kids of specified ages (or heights or weights) in all cars.

Another issue involves testing. The National Highway Traffic Safety Administration sets forth extensive testing requirements for infant and child restraints. All states require the use of federally approved seats. But these requirements do not apply to booster seats for children who weigh more than 50 pounds. It makes no sense to promote, let alone require, the use of devices for older children that have not been tested or approved.

### **Recommendations**

The first order of business is to get older children in restraints regardless of what type of restraint is used. Lap/shoulder belts may have limitations, but they still greatly improve the likelihood that children will survive in crashes. State legislators already are extending child restraint laws to cover older children, which accomplishes two objectives. It closes loopholes that once allowed some children to ride unrestrained, and it extends primary enforcement of restraint laws to more children. (All child restraint laws are primary, but most adult belt laws are secondary.)

At the same time, government and other researchers are proceeding with studies to document the benefits that booster seats can and cannot provide. These studies should continue. We need to understand not only the limitations of lap/shoulder belts for children but also the aspects of booster seats that help remedy such limitations. Not all booster seats are the same, and we do not yet know which differences are the important ones. At a minimum, we need a federal definition of booster seats based on science and test requirements that are standard and realistic.

Special issue: state traffic safety laws

# STATUS REPORT

INSURANCE INSTITUTE  
FOR HIGHWAY SAFETY

Volume 35, Number 10, December 20, 2000

## BEST LAWS

- ✓ California
- ✓ District of Columbia
- ✓ Maryland

5

## WORST LAWS

- ✗ Montana
- ✗ South Carolina
- ✗ South Dakota

how state laws  
**MEASURE  
UP**



**State Traffic Laws Rated Good to Poor, Revealing Nation's Best and Worst**  
*Ratings Based on Likelihood Laws Will Enhance Traffic Safety by Influencing Driver Behavior*

Traffic safety laws are on the books in every state to reduce deaths and injuries in crashes by changing driver behavior. The idea is to deter dangerous behavior like driving while impaired by alcohol and encourage beneficial habits like buckling up safety belts.

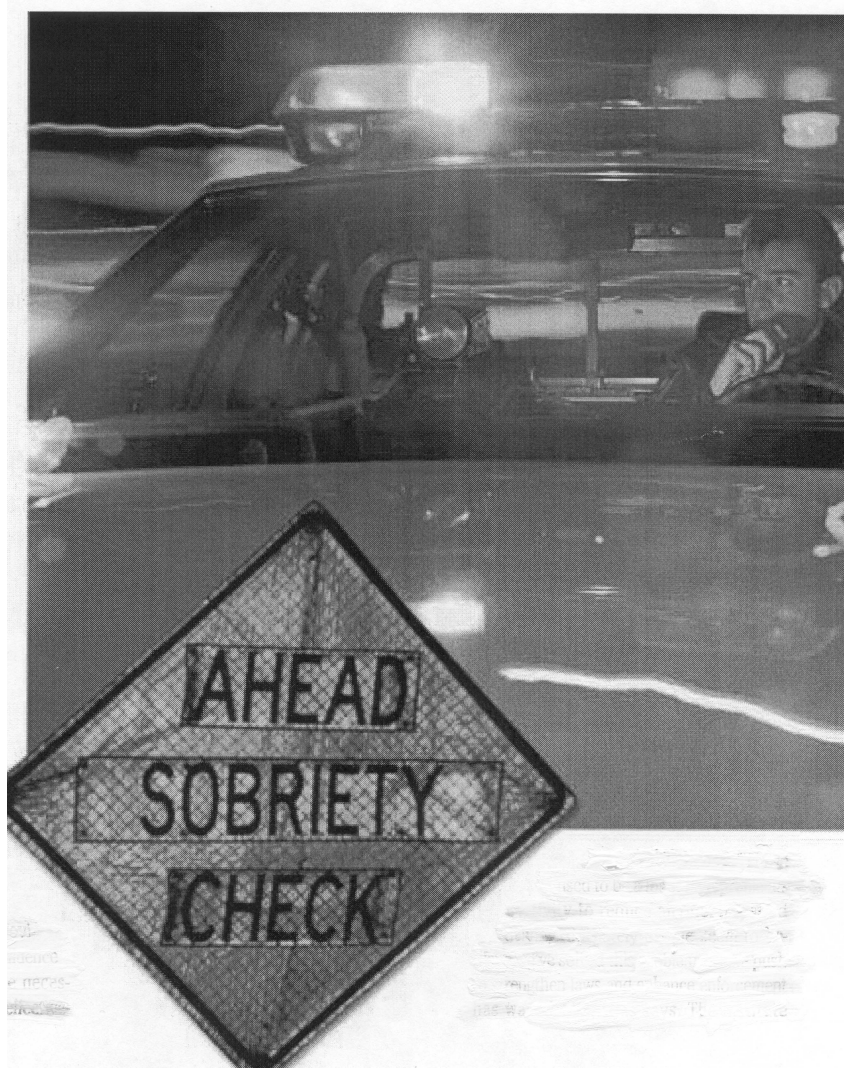
How do these laws compare from state to state? Overall the strongest laws in the United States are in California, the District of Columbia, and Maryland. The weakest traffic safety laws are those in Montana, South Carolina, and South Dakota.

Research has repeatedly shown the benefits of good traffic safety laws that are enforced. This has been established as the only way to achieve high belt use rates, for example. The starting point is to put a good law on the books, which is why the Institute has conducted a comprehensive assessment of key traffic safety laws in all 50 states and the District of Columbia.

"We didn't evaluate every law by any stretch," says Institute senior vice president Allan Williams. "We looked at provisions of selected laws that research shows have improved driver behavior. Clearly some states do a better job than others of getting good traffic safety laws on the books."

Even if a law includes strong provisions, enacting it isn't sufficient to influence the behavior of many drivers. The necessary next step to maximize a law's effectiveness is to publicize and enforce it. "People don't usually comply with traffic laws because they think doing so will prevent crashes or save lives. People comply if they believe there's a real chance of getting a ticket or points on their license if they don't. This is why we didn't give high marks to laws that are on the books but are hard to enforce," Williams explains.

Institute researchers assessed alcohol-impaired driving laws, young driver licensing laws, safety belt use laws, child restraint use laws, motorcycle helmet use laws, and laws allowing camera enforcement of red light violations. A rating of good, acceptable, marginal, or poor is assigned to each law, or set of related laws, in each state (see pp. 32–33). These ratings reflect how well the provisions of a given law can be expected to improve safety, based on research identifying what works and doesn't work to achieve such improvements.



*DUI/DWI laws: "There used to be a lot of high-profile activity to reduce alcohol-impaired driving. But lately people seem to believe we've solved this problem, so the push to strengthen laws and enhance enforcement has waned," Williams says. The Institute has evaluated four separate DUI/DWI laws in all states and the District of Columbia.*

1. Under administrative license revocation laws, the license of every driver arrested for DUI/DWI is automatically revoked for a specified time. The success of such laws in reducing fatal crashes has been documented since the late 1980s (see Status Report, March 14, 1988). The best administrative license revocation laws require driver's license removal for at least 30 days with few or no exceptions for hardship.

"Administrative license revocation is the cornerstone of an effective DUI or DWI program," Williams says. Yet Kentucky, Michigan, Montana, New Jersey, Pennsylvania, Rhode Island, South Carolina, South Dakota, and Tennessee still don't have



such laws on the books. Another 17 states don't require revocations lasting at least 30 days.

2. Under the laws in 21 jurisdictions, it's illegal to drive with a blood alcohol concentration, or BAC, at or above 0.08 percent (elsewhere it's usually 0.10 percent). Research indicates that 0.08 laws have reduced fatal crashes in which alcohol is a factor.

3. Across the United States, it's illegal for people younger than 21 to drive with any measurable BAC. All jurisdictions have such laws, dubbed zero tolerance, because in 1998 the federal government began withholding highway funds from states without the provisions. But the laws are far easier to enforce in some states than others. Institute researchers found that laws in Massachusetts, Nevada, New Jersey, New Mexico, North Dakota, Rhode Island, and Tennessee are virtually unenforceable because police must suspect a young driver has a high BAC before administering a breath test to check for violations of the zero tolerance law, under which any measurable BAC constitutes a violation (see *Status Report*, March 11, 2000; on the web at [www.highwaysafety.org](http://www.highwaysafety.org)).

4. High-profile sobriety checkpoints are effective ways to deter alcohol-impaired driving. They increase drivers' perceptions that apprehension is likely to follow the offense. Yet checkpoints aren't permitted in Idaho, Iowa, Michigan, Minnesota, Montana, Oregon, Rhode Island, Texas, Washington, Wisconsin, or Wyoming.

Graduated licensing laws: The newest drivers are the most hazardous because they're not only inexperienced but also immature. Teenage drivers have the highest crash risk of any group, and 16 year-olds pose a much greater risk than older teens. This is why graduated licensing is being embraced by state legislators. Its purpose is to protect beginners by phasing in full driving privileges so teenagers graduate to unrestricted licenses over at least a year (see *Status Report*, March 11, 2000; on the web at [www.highwaysafety.org](http://www.highwaysafety.org)).



Beginning with Florida in 1996, “graduated licensing has caught on rapidly,” Williams points out. “An impetus has been media attention on young driver crashes, especially fatal crashes. This attention has kept the issue in the forefront and helped make state legislators receptive to graduated licensing.”

Now only nine states (Alabama, Arizona, Hawaii, Kansas, Montana, Nevada, Oklahoma, Texas, and Wyoming) fail to include any of the key provisions of graduated licensing. In the other 42 jurisdictions, there’s wide variation in the strength of the provisions.

Williams explains that “the most important aspect of graduated licensing is to restrict driving once a beginner gets a license.

**GOOD LAWS**

*ALCOHOL*

Alabama  
California  
Florida  
Hawaii  
Kansas  
New Hampshire  
Utah  
Vermont

*YOUNG DRIVERS*

California  
District of Columbia  
Massachusetts  
New Jersey  
Oregon  
Tennessee  
Washington

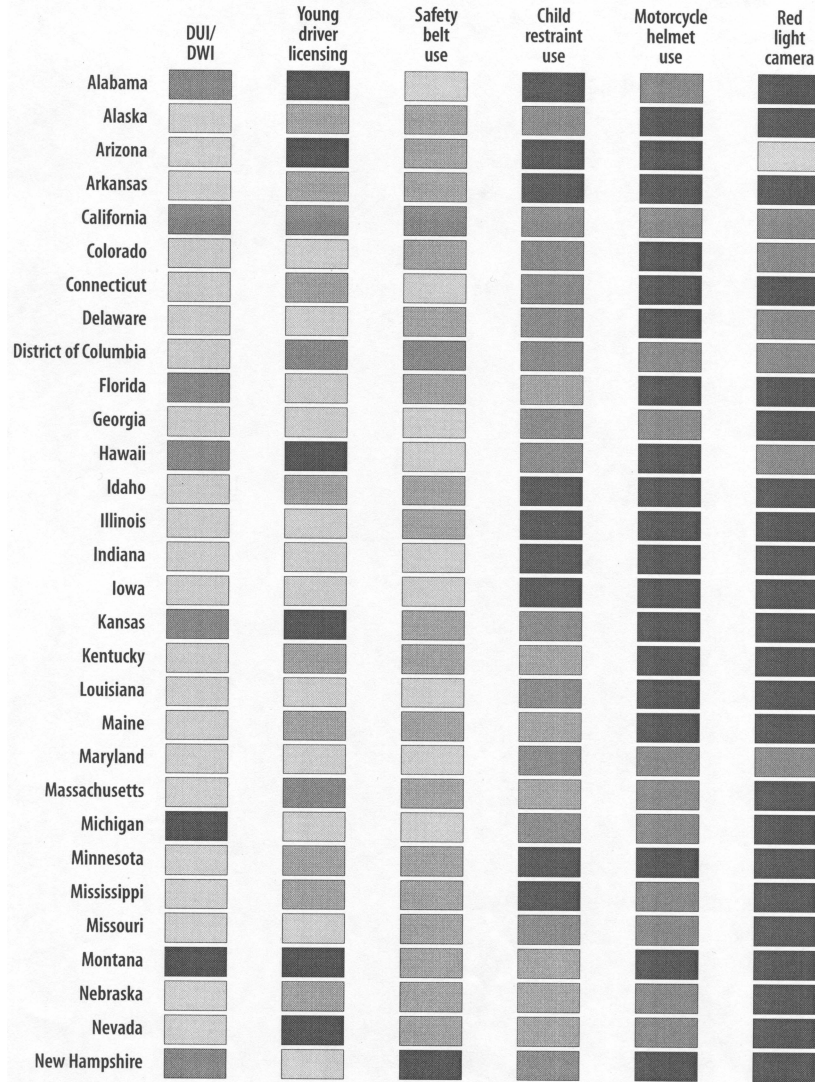
*SAFETY BELT USE*

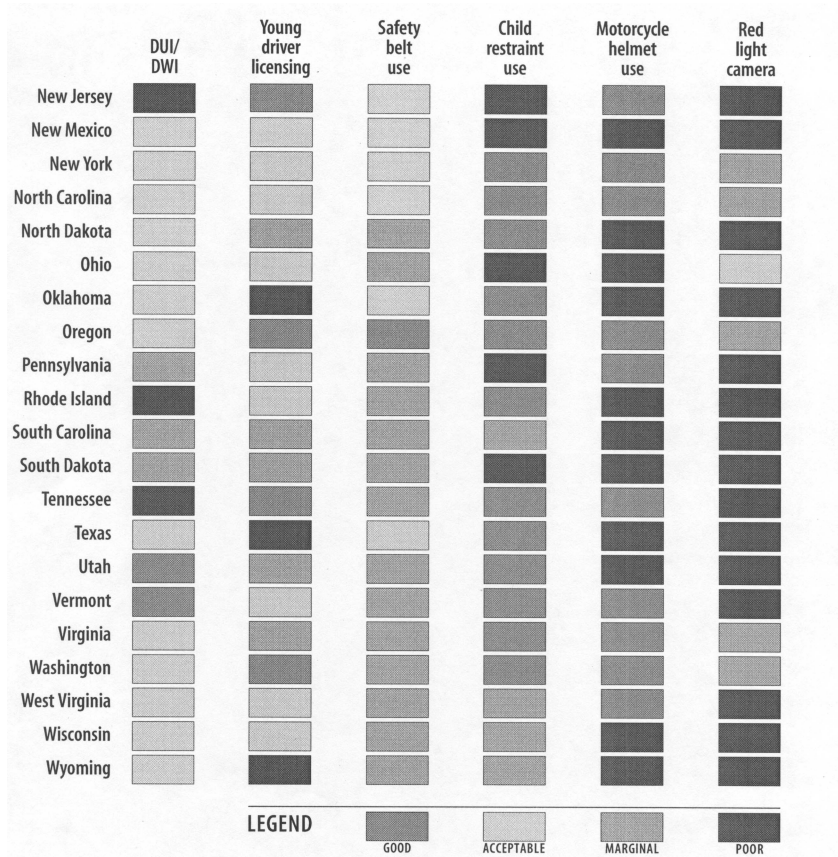
California  
District of Columbia  
Oregon

*CHILD RESTRAINT USE*

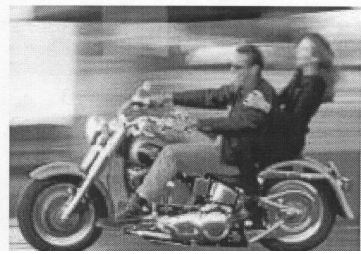
Alaska  
California  
Colorado  
Connecticut  
Delaware  
District of Columbia  
Georgia  
Hawaii  
Kansas  
Louisiana  
Maryland  
Michigan  
Missouri  
New Hampshire  
New York  
North Carolina  
North Dakota  
Oklahoma  
Oregon  
Rhode Island  
Tennessee  
Texas  
Utah  
Vermont  
Virginia  
Washington

# Traffic safety laws: how they rate





**Helmet use laws in 30 states don't cover cyclists of all ages**



**HOW LAWS ARE RATED***Alcohol Laws*

**GOOD:** an administrative license revocation law that mandates at least a 30-day revocation for a violation with few or no exceptions for hardship; a law under which it's illegal to drive with a blood alcohol concentration (BAC) at or above 0.08 percent; a readily enforceable law under which it's illegal for anyone younger than 21 to drive with any measurable BAC (enforcement is impeded in some states because police must suspect that a young driver has a high BAC before administering an alcohol test to check for any measurable BAC); **and** sobriety checkpoints must be permitted

**ACCEPTABLE:** an administrative license revocation law (not necessarily including a 30-day revocation) **or** a law under which it's illegal to drive with a BAC at or above 0.08 percent **plus** at least one of the other provisions listed above (see **GOOD**)

**MARGINAL:** a readily enforceable law under which it's illegal for anyone younger than 21 to drive with any measurable BAC **plus** no limitations on conducting sobriety checkpoints

**POOR:** one or none of the four provisions listed above (see **GOOD**)

*Young Driver Licensing Laws*

**GOOD:** minimum 6-month learner's phase; once licensed, beginners are subject to restrictions beginning at 10 p.m. or earlier and extending to 5 a.m. and/or a restriction that allows no more than one passenger when driving unsupervised; **and** beginners must wait until age 17 for their unrestricted licenses

**ACCEPTABLE:** law includes the late evening/night driving restriction and/or passenger restriction listed above, **and** beginners must wait until age 17 for their unrestricted licenses; **or** law includes a minimum learner's phase (any length) plus some restrictions on driving hours and/or passengers, **and** beginners must wait until age 16½ for their unrestricted licenses

**MARGINAL:** law includes a minimum learner's phase (any length) **plus**, once a beginner is licensed, some restrictions on driving hours and/or passengers; **or** law includes only a learner's phase lasting a minimum of 6 months; or law includes only restrictions on driving hours and/or passengers once a beginner is licensed

**POOR:** minimum learner's phase shorter than 6 months **and** no restrictions on driving by beginners

*Safety Belt Use Laws*

**GOOD:** law allows primary enforcement (police may stop and ticket motorists for belt law violations alone); fines and/or license points are imposed for violations; **and** law applies to occupants in rear as well as front seats

**ACCEPTABLE:** law allows primary enforcement but doesn't require belt use in rear seats

**MARGINAL:** law allows secondary enforcement (police must stop motorists for other violation before enforcing belt law)

**POOR:** either no belt use law **or** law doesn't impose any fine or license points

*Child Restraint Use Laws*

**GOOD:** all children younger than 13 in all vehicle seats are required to ride in infant restraints, child seats, or safety belts; enforcement is primary (see above for definition of primary enforcement)

**MARGINAL:** all children younger than 13 in all seats are required to ride in infant restraints, child seats, or safety belts; enforcement under adult belt laws may be secondary (see above for definition of secondary enforcement)

**POOR:** some children younger than 13 aren't required to be restrained

*Motorcycle Helmet Use Laws*

**GOOD:** all motorcycle riders must wear helmets

**POOR:** either no helmet use law or law covers only some riders

*Red Light Camera Enforcement Laws*

**GOOD:** law grants specific statewide authority for camera enforcement

**ACCEPTABLE:** operational camera enforcement without specific state authority

**MARGINAL:** law restricts authority for camera enforcement to specific communities only

**POOR:** no law grants authority for camera enforcement and no operational camera enforcement

**GOOD LAWS**

*MOTORCYCLE HELMET USE LAWS*

Alabama  
California  
District of Columbia  
Georgia  
Maryland  
Massachusetts  
Michigan  
Mississippi  
Missouri  
Nebraska  
Nevada  
New Jersey  
New York  
North Carolina  
Oregon  
Pennsylvania  
Tennessee  
Vermont  
Virginia  
Washington  
West Virginia

*RED LIGHT CAMERA ENFORCEMENT*

California  
Colorado  
Delaware  
District of Columbia  
Hawaii  
Maryland

States accomplish this by prohibiting unsupervised driving in high-risk situations like at night or with passengers. The tougher these restrictions are and the longer they last past a beginner's 16th birthday, the higher we rated a state's licensing law covering young drivers. Also important is an initial learning phase lasting six months or longer when only driving under supervision is allowed."



**Safety belt use laws:** In 1984, New York enacted the nation's first law requiring motorists to buckle up. Within 2 years, 22 jurisdictions had such laws, and now all but New Hampshire does. But the provisions vary widely.

For example, most states still don't allow police to stop motorists solely for belt violations (primary enforcement). Enforcement is secondary, which means motorists



have to be stopped for some other violation first. This impedes enforcement and explains, in part, why belt use is significantly lower in the United States than in Canada and elsewhere. The laws in only 17 U.S. states and the District of Columbia allow primary enforcement, and even in these states the laws don't always cover people riding in rear seats.

"One thing we know from repeated research conducted since the early 1980s is that belt law effectiveness depends on publicity and enforcement," Williams says (see *Status Report*, Jan. 15, 2000; on the web at [www.highwaysafety.org](http://www.highwaysafety.org)). "It's harder to enforce a secondary law. This is why, when we rated state belt use laws, we considered whether the provisions for enforcement are primary or secondary. We also considered whether all occupants are covered."

**Child restraint laws:** To evaluate these, the Institute assessed not only the comprehensiveness of state laws covering very young children but also the adequacy of adult belt laws, which cover older children. What matters most is whether these laws together provide primary coverage for all children younger than 13 in all seats or allow some children to ride unrestrained.

For example, children too old to be covered under the child restraint laws in 14 states are protected by adult belt laws that apply only to people riding in the front seat. Thus, it's perfectly legal for children to ride unrestrained in rear seats.

"This makes no sense," Williams says. "The back seat is where we tell parents it's safest for their children to ride, so restraint laws should cover the kids who sit there."

**Motorcycle helmet use laws:** By the 1970s, helmet laws had been enacted in virtually all states. All riders were covered, and injuries among cyclists were reduced. (Wearing a helmet reduces the risk of death in a motorcycle crash by about one-third). But by 1980 most states had abandoned their motorcycle helmet laws or substantially weakened them by applying them only to riders younger than a specified age, usually 18.

Now all riders are covered in only 21 jurisdictions. Helmet laws aren't on the books in Colorado, Illinois, or Iowa, and they're watered down in another 27 states.

"You might as well not have a law that doesn't apply to all riders," Williams says, "because so few motorcyclists are the younger riders covered under the weak laws. Helmet use rates in states with limited laws are about the same as in states without any laws at all" (see *Status Report*, April 4, 1998; on the web at [www.highwaysafety.org](http://www.highwaysafety.org)). For this reason, the Institute assigned poor ratings to the laws in all states where helmet laws don't apply to all riders.

**Red light camera enforcement:** Running red lights is a good example of "everyday" aggressive driving. It's less spectacular but a lot more common than the occasional headline-grabbing instances of aggressive driving known as road rage.

Until a few years ago, red light violators had to be apprehended and ticketed one by one. The odds of this were so small that offenders found little reason to change their ways. But now they do, at least where red light cameras have been installed to snap photos of vehicles whose drivers deliberately run red lights. Then the violators are ticketed by mail.

Such programs reduce red light running by about 40 percent (see *Status Report*, July 11, 1998; on the web at [www.highwaysafety.org](http://www.highwaysafety.org)), but there's a problem. Relatively few red light camera programs are operational, in many cases because state laws haven't been enacted to authorize them. In only six jurisdictions (California, Colorado, Delaware, the District of Columbia, Hawaii, and Maryland) is camera enforcement specifically authorized for use statewide.

"Cameras shouldn't merely be permitted in the United States. They should be in wide use, as in other countries," Williams says. "Red light running kills hundreds of people every year, more than half of them struck by the signal violators. To make a dent in this toll, we've got to encourage the use of the camera technology we know will deter the would-be violators."

**For more information:** Specific provisions of selected traffic safety laws in all 50 states and the District of Columbia are detailed at [www.highwaysafety.org](http://www.highwaysafety.org). Click on "safety facts" and then choose "state laws."



# STATUS REPORT

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## Special issue

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This special issue focuses on state traffic safety laws. Recent special issues have focused on the following subjects:

Driver death rates	35:7 (2000)
Federal airbag rule	35:6 (2000)
Cosmetic repair parts	35:2 (2000)
Graduated licensing	34:10 (1999)
Vehicle compatibility in crashes	34:9 (1999)
Child safety	34:8 (1999)
Neck injuries	34:5 (1999)
Vehicle safety advancements	34:4 (1999)
Pedestrian deaths, injuries	34:3 (1999)
Truck safety	33:8 (1998)
Urban crashes	33:4 (1998)
Crash compatibility	33:1 (1998)

306  
traffic safety  
laws evaluated:

about  
one-fourth  
are good, about  
one-third are poor,  
and the rest are  
rated acceptable  
or marginal

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The Insurance Institute for Highway Safety is an independent, nonprofit, scientific and educational organization dedicated to reducing the losses — deaths, injuries, and property damage — from crashes on the nation's highways. The Institute is wholly supported by automobile insurers:

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Farmers Insurance Group of Companies	Nationwide Insurance	Yasuda Fire & Marine of America
Farmers Mutual of Nebraska	North Carolina Farm Bureau	Zurich U.S.

Senator FITZGERALD. Dr. Lund, thank you very much.

Dr. Flaura Winston, the assistant professor of pediatrics at the Children's Hospital of Philadelphia. Thank you, Dr. Winston, for being here.

**STATEMENT OF FLAURA KOPLIN WINSTON, M.D., PH.D.,  
ASSISTANT PROFESSOR OF PEDIATRICS,  
CHILDREN'S HOSPITAL OF PHILADELPHIA AND UNIVERSITY  
OF PENNSYLVANIA SCHOOL OF MEDICINE**

Dr. WINSTON. Good morning, Mr. Chairman, Members of the Committee. Thank you for the opportunity to speak. My name is

Dr. Flaura Koplin Winston. I am a biomechanical engineer as well as a board-certified pediatrician and the mother of two young boys, Zachary and Andrew. I head a pediatric injury research center at the Children's Hospital of Philadelphia and the University of Pennsylvania.

Together with State Farm Insurance Companies, we have created the world's largest surveillance system for children in motor vehicle crashes, Partners for Child Passenger Safety. We now have hard data on which to base policy—not simply fitting children in booster seats, not opinions, but hard data on 137,000 children in real crashes. Based on these numbers, more than 1.5 million U.S. children are passengers in motor vehicle crashes annually.

Today more than 750 children will be injured. Nearly 100 of these children will be seriously injured or killed. Unfortunately, the most common serious injuries are to the brain. I understand that in most cases, restraints will save a child's life. That has been demonstrated many times. But many children will still be seriously injured if they are inappropriately restrained. Many of these serious injuries will be to the brain.

As a physician, I know the brain is the organ least able to recover. These injuries to the brain tend to be the most devastating to families and it is essential to prevent these injuries.

In a nutshell, my research shows that most parents have gotten the message to place their youngest children in car seats in the rear of the vehicle. My research bears out that these properly restrained children are the least likely to sustain devastating injuries. But at the same time, it is glaringly obvious that most parents have not gotten the message that children under age 9 are too small for adult seat belts and require car seats or belt-positioning booster seats.

This lack of awareness has led to devastating injuries that could be prevented. My research points to the need for ensuring a more consistent message to parents about appropriate restraint, backed up by consistent laws and their enforcement. Preventable injuries occur every day.

Let me demonstrate the safety advantages of a belt-positioning booster seat. This is a simulation that was based on multiple crashes that we investigated. The above simulation shows a 6 year old child properly restrained in a belt-positioning booster seat. This child barely moves during the 35 mile per hour crash.

In the below simulation, the same child is improperly restrained in a seat belt. This child dummy demonstrates what many children will do with an uncomfortable seat belt that falls over their neck. The child would move the seat belt behind her back. As you can see, she is thrown forward dramatically without the torso protection.

Our data indicate that inappropriately restrained children can strike their head, making them four times more likely to suffer brain injuries than children in booster seats. Further, children in adult seat belts, as you all very well know, suffer intestinal, liver, spleen, and spinal cord injuries, all due to the excessive bending during a crash from being in a seat belt rather than a belt-positioning booster seat.

Now, please look at this graph of recommended restraint use. I am defining recommended restraint in that children under 4 need to be in car seats and children 4 to 8 year olds need to be in booster seats. What you can see is an alarming dip in recommended restraint between the ages of 3 and 8. More than 80 percent of children through age 2 are appropriately restrained in car seats, according to our study. This is good news.

Beginning at age 3, appropriate restraint use drops to 52 percent. Nearly half of 3 year old children are not in car seats. By age 4, the most prevalent form of restraint is, inappropriately, the adult seat belt and virtually no 7 or 8 year old children are in belt-positioning booster seats.

Instead of using car seats or belt-positioning booster seats, many children between ages 3 and 8 are inappropriately restrained in adult seat belts. It is important to note that many children older than 8 are too small for adult seat belts and may benefit from belt-positioning booster seats.

Existing laws have been very effective in getting those youngest children into car seats. But the laws as they currently stand are a patchwork that differ widely and fail to incorporate current best practice guidelines. This serves as a source of confusion for parents.

We have conducted extensive focus groups to actually ask about this and the parents in our study suggested that strong laws that are enforced are important for sending clear, consistent messages regarding child passenger safety. Parents, much like Ms. Skeen, look to the law.

The responsibility for the safe transportation of children must be shared, though, by educators, regulators, legislators, manufacturers, and the parents. All of us must share responsibility for America's children. Clearly, we must ensure that all children are restrained. I agree with that. That will save lives.

But this is not enough. We want the best protection for our children, and we now know that children over 40 pounds are seriously injured when they are improperly restrained. We want the best. We need to determine evidence-based uniform guidelines for appropriate restraint for all children. We need to consistently incorporate these guidelines into state laws and enforce them. We need to ensure that high quality, low cost, user friendly, comfortable restraints are available for all children in all vehicles.

I am happy to say that State Farm Insurance Companies and the Children's Hospital of Philadelphia are doing their part. We have collaborated in many efforts to get the appropriate restraint message to parents, doctors, advocates, legislators, enforcement agencies, and manufacturers, and now have produced the nation's first in-school curriculum to educate young children about booster seats.

Efforts such as these have resulted in an increased booster seat awareness. Our data are showing a trend of increased booster seat use. But overall, appropriate restraint use remains very, very low.

Partners for Child Passenger Safety is here to help you in your important work and we commend all the hard work that you have been doing. If there is any way that we can provide additional data, we will be glad to do that.

Mr. Chairman, I am ready to respond to any questions you might have.

[The prepared statement of Dr. Winston follows:]

PREPARED STATEMENT OF FLAURA KOPLIN WINSTON, M.D., PH.D.,  
ASSISTANT PROFESSOR OF PEDIATRICS, CHILDREN'S HOSPITAL OF  
PHILADELPHIA AND UNIVERSITY OF PENNSYLVANIA SCHOOL OF MEDICINE

Good morning, Mr. Chairman, Members of the Committee. Thank you for the opportunity to speak.

My name is Dr. Flaura Koplin Winston. I am a practicing pediatrician at The Children's Hospital of Philadelphia, a faculty member at the University of Pennsylvania School of Medicine, a biomechanical engineer, a clinical researcher, and a mother of two boys, Zachary and Andrew, who inspire my research to make every ride safe for children. The Children's Hospital of Philadelphia is a Level One Pediatric Trauma Center, designated to care for the most seriously injured children, but much of our work is devoted to preventing injury. We realize that the best way to care for our children is to keep them safe, avoiding the physical and emotional pain and suffering that accompany every childhood injury.

I am the Principal Investigator of Partners for Child Passenger Safety, the world's largest surveillance system for children in automobile crashes. Begun in 1997, Partners for Child Passenger Safety, a collaboration between State Farm Insurance Companies, the University of Pennsylvania, and The Children's Hospital of Philadelphia, is the first comprehensive research study of how and why children are injured or killed in motor vehicle crashes.

Each day the Partners research team receives information, with privacy safeguards, from State Farm on nearly 200 children involved in crashes in 15 states (AZ, CA, DE, IL, IN, M.D., MI, NC, NJ, NY, NV, OH, PA, VA, and WV) and the District of Columbia. The research team conducts in-depth telephone interviews and on-site crash investigations in order to estimate the number of children in crashes; identify specific safety problems for children in motor vehicles; suggest solutions to those problems; and evaluate real-world effectiveness of vehicle and restraint system features.

In this testimony, I will describe the national problem of children in motor vehicle crashes in terms of the number of crashes involving children and the number of children who are injured in these crashes. I will also describe the high proportion of children who are inappropriately restrained for their age and size and the mechanism of injuries due to inappropriate restraint. The key message is that the vast majority of parents across the country are not adequately protecting their 4-to-8-year-old children in crashes. These parents can do a better job by appropriately restraining these children in belt-positioning booster seats in the rear seat of their vehicles on every ride.

With just two years of data collection, Partners for Child Passenger Safety has collected information on more than 90,000 crashes involving roughly 137,000 children under age 16. Based on these numbers, we estimate that each year in the United States, more than 1.5 million children are passengers in motor vehicle crashes. More than 750 children will be injured today, nearly 100 of these children will be seriously injured. Unfortunately, the most common serious injuries are to the brain, which can lead to devastating long-term disabilities.

Motor vehicle crashes are very violent events that occur in milliseconds, in the blink of an eye. Our data indicate that nearly half of crashes involving children occur within seven minutes from home. All it takes is a split second for an errand, a car pool, or a family outing to turn into tragedy.

Last summer we learned of a tragic case in which a 7-year-old, we'll call him Jared, was the only fatality. On a warm June evening in Arizona, Jared's father swerved and crossed the center line of the highway and struck a pickup truck head-on. There were no airbags in the vehicle, yet Jared's father survived this serious crash without brain, spinal cord, or organ injury. Jared, unfortunately, was inappropriately restrained in a lap-shoulder belt in the front seat of his father's mid-size sedan. During the crash, his sub-optimal restraint allowed him to move forward and strike the windshield. Jared suffered a lethal injury to his cervical spine—a fracture with complete dislocation. If Jared had been restrained in a belt-positioning booster seat in the back seat of his father's car, he likely would have survived. His younger siblings in the rear seat survived the crash. A simple action—using the appropriate restraint and placing the child in the rear seat—could have likely prevented a family's lifetime of mourning.

Just a few months ago, I learned of another preventable tragedy. At 7:00 in the morning, a 5-year old girl from Ohio, let's call her Latasha, was the only passenger injured in a moderate severity crash. Her 22-year old mother was driving their full-

size sedan when another vehicle made a left turn into the path of their vehicle, impacting the right side. Latasha's mother, who was wearing her lap and shoulder belt, was uninjured. Latasha's 18-month-old sister, who was appropriately restrained in her child safety seat in the rear seat, was uninjured. Latasha, who was sitting in the right rear seat next to her sister, was inappropriately restrained in a lap-shoulder belt. Latasha suffered bilateral severe kidney damage. Our investigation indicated that the inappropriate restraint caused the serious injuries known as "seat belt syndrome." If Latasha had been restrained in a belt-positioning booster seat, she would likely have been uninjured.

Preventable injuries such as these occur every day.

Our data indicate that most parents ensure that their children are restrained. The simple act of restraining a child makes it three times less likely that that child will be injured in a crash. Many parents further protect their children by placing them in the back seat, thereby making it an additional two times less likely that their children will be injured in most vehicles. Further, most parents ensure that their youngest children are restrained in child safety seats. Accordingly, these children have the lowest chance of getting injured of any age group.

However, I am particularly concerned with children between age 3 and 8 years. That is where our data show an alarming decrease in recommended restraint use [refer to recommended restraint use chart—Attachment A]. Note the u-shape in this graph of recommended restraint use by age. More than 80 percent of children through age 2 years are appropriately restrained. Beginning at age 3, appropriate restraint drops to 52 percent. By age 4, the most prevalent form of restraint is the adult seat belt. Only 24 percent of children age 4 are in booster seats. By age 7, virtually no children are in booster seats. Instead of using car seats or belt-positioning booster seats, many children ages 3-to-8 years old are inappropriately restrained in adult seat belts. For optimal protection during crashes, children should ride in child safety seats with full harness until the seat is completely outgrown based on manufacturer height and weight limits. This is usually around 4 years old and 40 pounds, at which point children should be placed in belt-positioning booster seats. They should remain in the belt-positioning booster seat until they are big enough for the adult seat belt to fit correctly. Correct adult seat belt fit is not achieved until a child is at least 4 feet 9 inches tall and 80 pounds, often around the age of nine.

Last June, Partner's for Child Passenger Safety published an article in the journal *Pediatrics* about the risk of premature graduation of children to adult seat belts. We found that 2-to-5-year-old children who were placed in adult seat belts were 3.5 times more likely to suffer significant injury and four times more likely to suffer head injury when compared to children in the same age group who used car or booster seats. There is a 50 to 75 percent reduction in serious injuries to child passengers who are placed in belt-positioning booster seats rather than seat belts alone.

Why are booster seats so much more effective than adult seat belts in protecting 4 to 8-year-olds in car crashes? Standard equipment vehicle seat belts are designed for adults. During a crash, adult seat belts spread the forces of the crash over the strong, hard bones—the hips, shoulders, and chest—and keep the occupant in place so that the head, face and chest are less likely to strike the inside of the vehicle. An adult seat belt fits correctly when the lap portion of the belt rides low over the hips and the shoulder portion of the belt crosses the sternum and shoulder. Correct seat belt fit is not usually achieved until a child is 9 years old, the age at which the child's thigh is long enough for the child to sit against the back of the seat, the hips are sufficiently developed to anchor the belt, and the child's sitting height is sufficient for the shoulder belt to fit properly over the shoulder and sternum.

When a child is "prematurely graduated" to an adult seat belt, the lap portion of the belt rides up over the soft abdomen and the shoulder portion crosses the neck or face, causing many children to move the shoulder belt behind their back or under their arm. Incorrect fit of the vehicle belt places the child at risk for "submarining" or sliding out of the lap belt during a crash. Rapid, "jack-knife" bending around a poorly positioned vehicle adult seat belt increases the risk of intra-abdominal and spinal cord injuries, also known as "seat belt syndrome" and brain injury due to impact of the head with the child's knees or the vehicle interior.

Our data indicate that the majority of the injuries to children prematurely graduated to seat belts are to the head, likely due to excessive head excursion. In addition, Partners data show that children in adult seat belts suffered the only reported cases of abdominal injuries, including intestinal, liver, and spleen injuries.

Let me demonstrate the safety advantage of a belt-positioning booster seat by this crash simulation. [Booster seat crash simulation computer model] The above simulation shows a 6-year-old child properly restrained in a belt-positioning booster seat. This child barely moves during the 35 m.p.h. crash. This same child is represented

in the below simulation of the same crash. She is improperly restrained in an adult seat belt. Like many children, she has slipped the shoulder portion of the belt behind her back. As you can see, she is thrown forward dramatically. The inappropriate fit of the adult seat belt and lack of upper body restraint puts the child at risk for severe head, spine, abdominal and brain injury.

What is at stake is the safety of our children. Under contract to the National Highway Traffic Safety Administration, we conducted focus groups and in-depth discussions with parents about the barriers to using belt-positioning booster seats. There are many reasons parents give for prematurely placing their child in vehicle seat belts. Some parents are unaware of the likelihood of crashes and the injuries that can result. Others are not aware of current best practice regarding child passenger safety. Still others do not realize that children are actually more comfortable in belt-positioning booster seats rather than in adult seat belts alone. Clearly, education is needed.

Parents with older vehicles face additional challenges in finding a child restraint compatible with vehicles that only have lap belts in the rear seat. Clearly, there is a role for new technologies.

However, many parents of 4-to-8-year-old children are aware of the risks of crashes, are aware of the injuries, know that belt-positioning booster seats can reduce the risk of injuries, and have vehicles that can accommodate belt-positioning booster seats in the rear. Yet, they fail to use these devices. According to parents in our focus groups, the only strategy to ensure that these parents are optimally protecting their children is through strong laws that are enforced.

Our current laws are not in alignment with best practice recommendations from the National Highway Traffic Safety Administration and the American Academy of Pediatrics and this serves as a source of confusion for parents. Much of the opposition to closing the gaps in child passenger restraint laws concerns the inconvenience and cost to adults to comply with these laws. My question to you, Senators, is this: What value do we, as a nation, place in the life of a child? A backless belt-positioning booster seat costs less than \$20 at my local retailer.

I am happy to say that State Farm Insurance Companies and The Children's Hospital of Philadelphia are doing their part. We have collaborated in many efforts to get the appropriate restraint message to parents and have now collaborated to produce the nation's first in-school curriculum, called *Safe Cruisin' with the Good Neigh Bear*, to educate young children about booster seats. We regularly share our study data with doctors, advocates, regulatory agencies, and manufacturers. In 2001 we will be producing state-specific fact sheets on each state involved in the Partners study to aid advocates in their educational efforts. But there is much more to be done.

Efforts such as these have resulted in an increased awareness of booster seats. For the first time, Partners data is showing a trend of increased booster seat use. Maybe the climate is right for closing the gap in occupant restraint laws to require booster seats for older children.

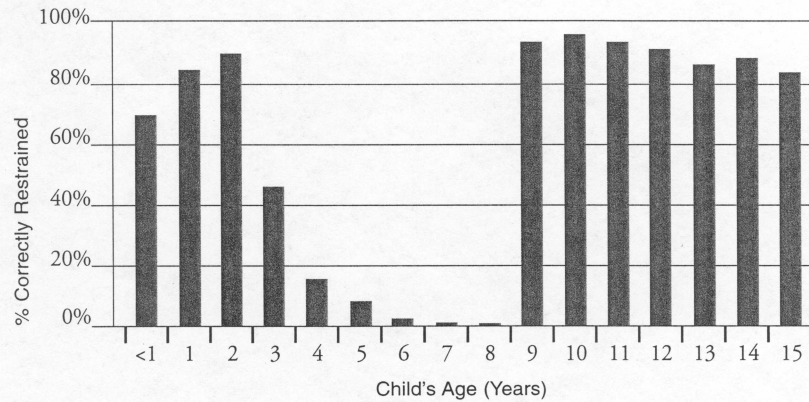
If parents continue to restrain their young children in vehicle seat belts or, worse, not restrain them at all, we will continue to have tragic, preventable, costly injuries to our children, our most precious resource. As a pediatrician, pediatric injury researcher, and mother of two young children, I am here to provide a voice for children, all children. They need our protection. They need appropriate restraint on every ride.

Mr. Chairman, I am ready to respond to any questions the Committee might have.



## Attachment A

Testimony of Flaura Winston, M.D., Ph.D.

**Recommended Restraint Use**

Source: Partners for Child Passenger Safety Study

Senator FITZGERALD. Thank you, Dr. Winston.

Dr. Quinlan from the Department of Pediatrics at the University of Chicago. Thank you for being here.

**STATEMENT OF KYRAN QUINLAN, M.D., MPH,  
DEPARTMENT OF PEDIATRICS, UNIVERSITY OF CHICAGO**

Dr. QUINLAN. Thank you. Good morning, Mr. Chairman. My name is Kyran Quinlan. I am a board-certified pediatrician on the faculty at the University of Chicago. I am an injury epidemiologist, trained at the National Center for Injury Prevention and Control at the Centers for Disease Control and Prevention, and I have a master's in public health in epidemiology. I am a child passenger safety researcher, a clinician, and a fellow in the American Academy of Pediatrics. I also have personal experience caring for children who have suffered preventable crash injuries. I regularly counsel parents in my practice on the need for belt-positioning boosters and I was a part of the recent unsuccessful attempt for a booster law in the chairman's home state of Illinois.

Thank you for this opportunity to discuss this important issue. I am here today with two recommendations: First, that Congress promote booster laws in each state; and second, that Congress support the National Highway Traffic Safety Administration to lead an

intensive and sustained public education campaign to promote belt-positioning boosters.

Motor vehicle trauma is the leading threat to the health of our children. While most age groups have experienced recent significant declines in crash deaths, the unchanging annual count of 500 dead and nearly 90,000 injured has clearly established the 4 to 8 year age range as the forgotten children in traffic safety.

These children are real. There was the 5 year old boy who was brought to our hospital recently after a crash. He was small for a 5 year old and, despite being buckled in a lap-shoulder belt, he was ejected from his family's car. Unconscious and bloody, he lay motionless in the street with a broken skull, pelvis, thigh, and shin bones. He lived and his bones will mend, but he will have a long road back with rehabilitation for his severe brain injury.

Then there was the 8 year old boy we recently treated. He had put the shoulder belt behind his back to keep it from rubbing and cutting across his neck. In the instant he was thrown violently forward in the crash, the poorly fitting lap belt crushed his soft internal organs and then fractured his spine, leaving him paralyzed. Multiple abdominal surgeries were successful at repairing the injuries to his intestines and other internal organs. Much less successful, however, have been the attempts to bring him out of the growing depression from realizing that, while only 8 years old, he will never walk again.

Too big for a car seat, not big enough for seat belts made for adults, these children need belt-positioning booster seats. But few families are using them. Data from Partners for Child Passenger Safety, from Dr. Winston, tell us that in our state specifically, Mr. Chairman, that at most 20 percent of the 4 to 5 year olds are using boosters, just a handful of 6 year olds do, and virtually no 7 or 8 year olds are currently using booster seats.

This fits with what I see in my practice on the South Side of Chicago. I recently saw a family with a 4 year old who had outgrown her car seat, her forward-facing car seat, and was using just a seat belt. I discussed the need for a belt-positioning booster and advised the family to get her one. The next time I saw them, they had not gotten a booster seat. The mom said: I remember what you told me, I remember you told me that my daughter's back could break in a crash and that she could be paralyzed, but I just have not gotten around to it yet.

Being able to say that riding without a booster is against the law would help me to persuade parents to use one.

So I recommend first that Congress promote booster laws in each state. The laws should require children to be in belt-positioning boosters from the time they outgrow a forward-facing car seat and until they are large enough to sit safely using the vehicle lap-shoulder belt. So far just three states—Washington, California, and Arkansas—have passed booster laws. Many other states, including our own home state, Mr. Chairman, have introduced booster bills, but have not been successful in passing them.

Booster laws will protect children. Fewer children will be injured and fewer will be killed when it becomes illegal to ride without one.

Second, Congress should support NHTSA to lead an intensive and sustained public education campaign to promote belt-posi-

tioning booster seats. Related to this is the section 2003[b] of TEA-21, that is the child passenger protection education grants which fund innovative demonstration projects. Funding for section 2003[b] should be extended.

While a huge undertaking, safety promotion on this scale has been done successfully before. 25 years ago, just a handful of infants and toddlers used car seats. Today usage in these two groups, as you mentioned, is over 90 percent. We can promote belt-positioning boosters and we will see an increase in their use. How quickly that happens will depend in part on the degree of different investment in promoting them now and promoting reasonable laws regarding their use.

This is an exciting and historic time in child passenger safety, similar in many respects to 1977, when Tennessee passed the first car seat law. By 1985, just 8 years later, all states had one and putting an infant in a car seat started to become just what you do. Seeing the day that belt-positioning booster seats are in common use will require laws supported by sustained public education.

Thank you for the opportunity to testify here today. I would be happy to answer any questions that you have.

[The prepared statement of Dr. Quinlan follows:]

PREPARED STATEMENT OF KYRAN QUINLAN, M.D., MPH, DEPARTMENT OF  
PEDIATRICS, UNIVERSITY OF CHICAGO

Good morning Mr. Chairman and Members of the Subcommittee. My name is Kyran Quinlan. I am a pediatrician on faculty at the University of Chicago. I am a clinician, a child passenger safety researcher and a member of the American Academy of Pediatrics. Thank you for this opportunity to discuss this important issue.

We are talking today about how to better protect our children from the greatest threat to their health. In the United States, nothing kills more children than motor vehicle crashes. Each year, about 500 of our children aged 4-8 years die and another 90,000 are injured while riding in a motor vehicle. With most occupant safety attention focused on younger child passengers, this older group of what has been termed "forgotten children" has not experienced any real decrease in their occupant fatality rates over the last 20 years.

These children are real. I could tell you about the 5-year-old boy who was brought to the University of Chicago recently after being in a crash. He was small for a 5-year-old. Despite being buckled up in a lap/shoulder belt, he was ejected from his family's car. Unconscious and bloody, he lay motionless in the street with a broken skull, pelvis, thigh and shin bones. He lived, and his bones will mend, but he will have a long road back with rehabilitation for his severe head injury. Or I could tell you about the 8-year-old boy who was recently cared for at our hospital after being in a crash. He put the shoulder belt behind his back to keep it from rubbing and cutting across his neck. In the instant he was thrown violently forward in the crash, the only thing that stopped him was the poorly-fitting lap belt. After crushing his soft internal organs, the lap belt then found and fractured his back bone leaving him paralyzed. Multiple abdominal surgeries were successful at repairing the injuries to his intestines and other internal organs. Much less successful however, have been the attempts to bring him out of the growing depression from realizing that while only 8, he will never walk again.

These children are too big for a car seat, but are not big enough to fit safely in the seat belts of the car. They need booster seats to raise them up so that the lap belt fits low and snug across their upper thighs and the shoulder belt crosses their collarbone and not their neck. Not using a booster seat puts these children at unnecessary risk. As you have just heard from Dr. Winston, there is good evidence that boosters protect children, but few families are using them. In Illinois specifically, Dr. Winston's system tells us that at most about 20 percent of the 4-5-year-olds use boosters, just a handful of 6-year-olds do, and virtually no 7- or 8-year-olds do.

This fits with what I see on the south side of Chicago. I recently saw a family with a 4-year-old who had outgrown her car seat and was using just a seat belt. I discussed the importance and need for a booster and advised them to get one for

her. At the next visit, they told me they had not gotten a booster. I frankly told them I was interested to know if there was something I could have said that would have been more persuasive the first time. The mom said, “no, I remember what you said. You told me that without a booster, my daughter’s back could break and she could become paralyzed in a crash, but I just hadn’t gotten around to it.” I could use help to convince parents to use boosters. Being able to say that riding without a booster is against the law would certainly help.

So there’s a real problem here. We’re dealing with the leading killer of children, and we know that boosters protect children, but changing the way people buckle their children up is difficult.

What do I think Congress can do? 2 main things:

1. Congress should promote booster laws in each state. These laws should require children to be in boosters from the time they outgrow a forward-facing car seat until they are large enough to sit safely using the vehicle lap/shoulder belt. So far, just three states, Washington, California, and Arkansas have booster laws. Many other states have introduced booster bills but have not been successful. I was part of the recent unsuccessful effort to pass booster legislation in Illinois. Congress should consider providing incentives to the states to pass booster laws. Tying the receipt of state highway funds to passing a booster law is one mechanism. Booster laws will protect children. Less children will be injured and less children will be killed when it becomes illegal to ride without a booster.
2. Congress should support the National Highway Traffic Safety Administration to lead an intensive and prolonged public education campaign to promote booster seats. The recent booster promotion efforts by NHTSA and the National SAFE KIDS campaign have been significant, but much more needs to be done. We are talking here about changing a social norm, changing the way virtually everyone buckles up this group of children. While it is a huge undertaking, safety promotion on this scale has been done successfully before. Twenty five years ago, just a handful of infants and toddlers used car seats. Today, usage in these two groups is over 90 percent. We can promote boosters, and we will see increased use of boosters. How quickly that happens will, in part, depend on the degree of federal investment in promoting boosters now.

Thank you, Mr. Chairman, for the opportunity to testify here today. I look forward to the day when parents would not think of taking a trip without their child in a booster. Getting booster use to be that common can be achieved through booster laws and intensive and sustained public education. I would be happy to answer any questions you and the members of the Subcommittee may have.

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*MMWR (Morbidity and Mortality Weekly Report)*

February 25, 2000/49(07);135–7

**Motor-Vehicle Occupant Fatalities and Restraint Use Among Children Aged 4–8 Years—United States, 1994–1998**

In the United States, more children aged 4–8 years die as occupants in motor-vehicle—related crashes than from any other form of unintentional injury (1). To reduce the number of deaths and injuries caused by motor-vehicle-related trauma, child passengers in this age group should be restrained properly in a vehicle’s back seat (2). To characterize fatalities, restraint use, and seating position among occupants aged 4–8 years involved in fatal crashes, CDC analyzed 1994–1998 data from the Fatality Analysis Reporting System (FARS), which is maintained by the National Highway Traffic Safety Administration (NHTSA). This report summarizes the results of that analysis, which indicate that during 1994–1998, little change occurred in the death rate, restraint use, and seating position among children aged 4–8 years killed in crashes.

Motor-vehicle occupants who died in crashes during 1994–1998 were included in the analysis of FARS data. FARS is a census of traffic crashes in which at least one occupant or nonmotorist (e.g., pedestrian) died within 30 days of a crash on a public road within the 50 states, District of Columbia, and Puerto Rico. FARS includes information about restraint use and seating position derived from police crash reports. Restraint use (e.g., seat belts, child-safety seats [CSSs], and belt-positioning booster seats) was reported as used or not used. Seating position was designated as front, back, other, or unknown. Injury death rates per 100,000 population were calculated using annual estimates from the Bureau of the Census.

During 1994–1998, 14,411 child occupants aged 4–8 years were involved in crashes where one or more fatalities occurred; of these, 2549 (17.7 percent) died. Approximately 500 child occupants died each year during the study period; the average annual age-specific death rate was 2.6 per 100,000 population (Table 1). In 1994, restraint use among fatally injured children was 35.2 percent (177 of 503); in 1998, restraint use was 38.1 percent (201 of 527). The proportion of fatally injured children seated in the back seat of a vehicle involved in a crash was 50.1 percent (252 of 503) in 1994 and 53.7 percent (283 of 527) in 1998.

*Reported by: Div of Unintentional Injury Prevention, National Center for Injury Prevention and Control, CDC.*

TABLE 1. Number of deaths, death rate,\* restraint use, and seating position among fatally injured motor-vehicle occupants aged 4–8 years—United States, 1994–1998

Year	No. deaths	Death rate	No. restrained	Restrained (in percent)	No. seated in back	Seated in back (in percent)
1994	503	2.65	177	35.2	252	50.1
1995	498	2.58	168	33.7	208	41.8
1996	499	2.55	188	37.7	250	50.1
1997	522	2.64	198	37.9	257	49.2
1998	527	2.66	201	38.1	283	53.7
<b>Total</b>	<b>2549</b>	<b>2.61</b>	<b>932</b>	<b>36.6</b>	<b>1250</b>	<b>49.0</b>

\*Per 100,000 age-specific population.

Source: Fatality Analysis Reporting System, National Highway Traffic Safety Administration.

**Editorial Note:** During 1994–1998, child occupant death rates did not decrease, restraint use among fatally injured child occupants changed little, and the proportion of fatally injured children seated in the back seat of a motor vehicle involved in a crash remained fairly constant. Children aged 4–8 years represent a special population for motor-vehicle occupant protection. Having outgrown CSSs designed for younger passengers, children aged 4–8 years frequently sit unrestrained or are placed prematurely in adult seat belt systems. Public health and traffic safety organizations recommend that children in this age group be restrained properly in booster seats (3). This study found that nearly two thirds of fatally injured children were unrestrained at the time of the crash. Only 4%–6% of children aged 4–8 years used booster seats when riding in motor vehicles (4,5).

Belt-positioning booster seats raise a child so that the shoulder belt fits securely between the neck and arm and the lap belt lies low and flat across the upper thighs. Children do not fit in adult lap/shoulder belts without a booster seat until they are 58 inches tall and weigh 80 lbs (3,6). Children should ride in a booster seat from the time they graduate from their forward-facing CSS until approximately age 8 years or until they are tall enough for the knees to bend over the edge of the seat when the child's back is resting firmly against the seat back.

Despite recommendations for children to ride in the back seat whenever possible to reduce risk for injury in a crash, approximately one fourth of child passengers ride in the front seat (7). Riding in the back virtually eliminates injury risk from deployed front-seat passenger air bags and places the child in the safest part of the vehicle in the event of a crash. As of January 1, 2000, 35 children aged 4–8 years have died while seated in front of air bags. Of these children, 31 (89 percent) were either unrestrained or improperly restrained (8). Riding in the back seat is associated with at least a 30 percent reduction in the risk for fatal injury (9). Approximately half of those children in this study who were fatally injured were sitting in the back seat.

The 50 states, District of Columbia, and Puerto Rico have child-passenger safety laws; however, substantial gaps in coverage exist for child passengers aged 4–8 years. For example, in 19 states, children this age can ride unrestrained in the back seat of a motor vehicle. In most states, children as young as age 4 years may use an adult seat belt. No state requires the use of booster seats for children who have outgrown their CSSs (10). Three states have laws requiring that children be seated in the back seat of passenger vehicles. The ages of the children covered by these laws vary by state.

The findings in this study are subject to at least three limitations. First, police crash reports overestimate restraint use; therefore, restraint use may be lower for children in this age group. Second, vehicle miles traveled have increased during 1994–1998; consequently, improvements in fatality rates may be masked by increased exposure to travel. Finally, increases in restraint use and resulting changes

in occupant fatalities may require many years of investigation before they become apparent.

Reducing fatalities among motor vehicle occupants aged 4–8 years will require finding effective strategies to promote booster seat use and placement of children in the back seat. Public health and traffic safety efforts should be accelerated to increase appropriate occupant protection among children aged 4–8 years as a primary means to reduce fatal motor-vehicle-related injuries. Efforts are under way by CDC and others to determine the best ways to encourage booster seat use and to increase the prevalence of properly restrained children riding in the back seat.

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*MMWR (Morbidity and Mortality Weekly Report)*  
February 5, 1999/48(04); 83–84  
*Notice to Readers*

#### National Child Passenger Safety Week—February 14–20, 1999

In 1997, 1791 U.S. children aged <15 years were killed and 282,000 were injured while riding in motor vehicles (1). National Child Passenger Safety Week, February 14–20, 1999, will highlight safety recommendations for children aged >4 years and weighing >40 lbs who have outgrown their child safety seats.

Children who are too large for child safety seats often are restrained improperly or not at all. A recent observational study in four states indicated that, of children weighing 40–60 lbs, 75 percent were improperly restrained, and 19 percent were unrestrained (2). Of passengers aged 5–9 years in fatal crashes in 1997, 46 percent were unrestrained (1).

For proper restraint, children who have outgrown child safety seats require booster seats used with vehicle lap/shoulder belts. Lap/shoulder belts usually do not fit children properly until they are 58 inches tall, have a sitting height of 29 inches, and weigh 80 lbs (3). Therefore, children aged <10 years probably will not be big enough to use a lap/shoulder belt without a booster seat. When smaller children restrained with only a lap belt or a poorly fitting lap/shoulder belt become involved in a crash, the belt tends to ride up onto the abdomen, allowing the pelvis to slide under the belt. This places pressure directly on the abdominal organs and may lead to the child flexing over the belt above the hips, resulting in abdominal and/or spinal injuries (4).

Children should remain in their convertible child safety seats as long as they fit well. Convertible seats are the appropriate restraints for children until their ears reach the top of the back of the safety seat and their shoulders are above the top strap slots, or until they reach the upper weight limit of the seat. To help prevent

deaths and injuries among young passengers who have outgrown their child safety seats, CDC recommends the following:

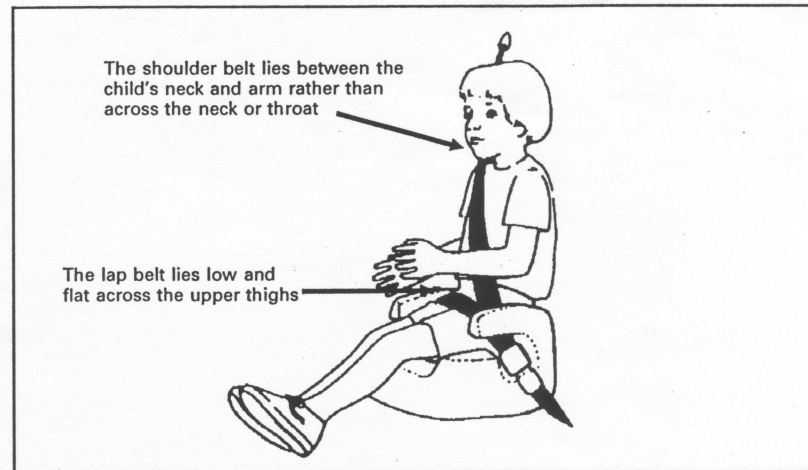
- Belt-positioning booster seats should be used until lap/shoulder belts fit properly (5). Belt-positioning boosters raise children so that the safety belt fits correctly (Figure 1) and should always be used with a lap/shoulder belt. Booster seats with high backs are recommended for vehicles with seat backs that do not support a child's head. Shield boosters, which have a plastic shield in front of the child, do not provide as much upper-body protection and are no longer certified for children weighing >40 lbs. The American Academy of Pediatrics recommends that shield boosters not be used for children weighing <40 lbs, even if they are labeled for use at a lower weight (6). Shield boosters should only be used with their shields removed so they can function as belt-positioning booster seats with lap-shoulder belts.
- Lap/shoulder belts should fit properly (Figure 1). A child cannot ride comfortably and remain properly restrained until tall enough for the knees to bend over the edge of the seat when the child's back is resting firmly against the seat back.
- Whenever possible, child passengers should be placed in the back seat.

The National Transportation Safety Board recommends that states upgrade their child passenger protection laws to require age-appropriate child restraint systems and booster seats for children aged <8 years and has asked automobile manufacturers to redesign the back seats of cars to be more accommodating to children (7). Additional information on child passenger protection is available on the World-Wide Web from the American Academy of Pediatrics at <http://www.aap.org>, the Society of Automotive Engineers at <http://www.sae.org>, the National Highway Traffic Safety Administration at <http://www.nhtsa.dot.gov>, the National Transportation Safety Board at <http://www.ntsb.gov>, and CDC's National Center for Injury Prevention and Control at <http://www.cdc.gov/ncipc>.

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**FIGURE 1. Child properly restrained in a belt-positioning booster seat**



Source: Adapted from the Child Passenger Protection Research Program, University of Michigan Medical School

Senator FITZGERALD. Thank you, Dr. Quinlan.

Ms. Stone, thank you for being here. You are the State of Advocates for Highway and Auto Safety, and I compliment you for your long-time involvement in this issue.

**STATEMENT OF JUDITH LEE STONE, PRESIDENT,  
ADVOCATES FOR HIGHWAY AND AUTO SAFETY**

Ms. STONE. Thank you so much, Mr. Chairman. Advocates has a long history of working on state and federal initiatives to improve child passenger safety. We have been at the forefront of lobbying in the states to close deadly loopholes in child restraint laws, to urge adoption of laws to encourage everyone to buckle up, and pushing the U.S. DOT to address regulatory gaps and omissions that affect the safety of children.

In 1991 the Senate Commerce Committee authored and enacted a NHTSA reauthorization bill that contained a motor vehicle safety agenda as part of the larger ISTEA legislation. Under the leadership at that time of Senators Hollings, Danforth, Bryan, and Gorton, this legislation was a watershed for improvements in passenger vehicle safety.

One of the provisions in ISTEA was intended to upgrade the safety of booster seats. More recently, the TREAD Act includes many provisions that can enhance the safety of child occupants and we commend you, Senator Fitzgerald, and other co-sponsors for your legislation and the reforms that it requires.

Why should we be concerned at this time? Today there are over 20 million children in this age group of about 4 to 9, and each year approximately 500 children ages 5 to 9 die, the equivalent of two to three elementary school populations. Nearly 100,000 more are injured as occupants in passenger vehicles. 40 percent of the children killed are completely unrestrained.



While other children, those in the ranges of zero to 4 years and 10 to 15 years, have experienced reductions in death and injury in motor vehicle crashes over the past 20 years, the rate for those in this category, ages 5 to 9, has remained constant during that same period. Obviously we are not doing enough to protect these children.

Since the back seat is supposed to be safer for children, it is our obligation as a society to provide for the safety of those children when their parents and guardians follow this safety recommendation.

There are no federal safety standards for booster seats recommended for children over 50 pounds, as you have heard and others have said, and recommendations for their use are dependent upon voluntary manufacturer testing, with no government oversight. While booster seats may have backs or arms that prevent the lap belt portion of the seat belt from changing position, neither of these features are required by federal law.

There are no structural or performance requirements for booster seats. Booster seats that are recommended for children who weigh 50 pounds or less fall within the scope of the existing child restraint standard.

States are moving to enact laws requiring booster seat use. Within the last 2 years, 3 states have passed booster seat laws and 15 to 20 states have introduced some form of booster seat legislation just this year.

Laws requiring the use of booster seats are important because they better protect children who use them and they educate parents and guardians. Currently, only 6.1 percent of booster-aged children are restrained in booster seats and booster seat laws will undoubtedly increase the percentage of children using them.

What federal regulatory actions are needed? In 1991 Advocates worked with this Committee to enact into law legislative language in the ISTEA bill, which I mentioned before, which conferred broad legislative authority on NHTSA to address the safety of child booster seats used in passenger cars. Congress intended the agency to take aggressive action to improve the regulation and protection afforded by booster seats. Unfortunately, NHTSA responded narrowly and only took action to delete the prohibition against belt-positioning booster seats so that they now can be used without an overhead tether.

This was a squandered opportunity for comprehensive improvements in booster seat protection. Advocates strongly recommends that these federal regulatory actions be implemented immediately. NHTSA should expand the scope of the child restraint standard to children who weigh up to 80 pounds. NHTSA should establish minimum requirements for booster seat performance and structural integrity, including booster seat back requirements that afford head and neck protection, requirements for the height of the booster seat platform, and requirements to ensure that the belt-positioning features function as designed.

NHTSA should develop a child test dummy that is representative of a 10 year old child that can be used in testing booster seats.

NHTSA should upgrade the seat back strength standard to protect against injuries from front seats collapsing onto children in the

rear seat. This standard has not been substantially revised since 1971 and failure of a front seat back in a crash resulting in its falling back onto the space occupied by a child in the rear greatly endangers the child.

Because the rear seat environment is not fully friendly for children ages 4 to 8 years old, other actions need to be taken. Auto manufacturers should make built-in booster seats standard equipment in some model lines and promote the availability of this option in other models. Some manufacturers say these are available, but few dealers know about them and say that they can provide them.

As more states enact child booster seat laws, there will be a demand for built-in booster seats. It will make compliance and enforcement of these laws easier and more effective.

NHTSA and auto manufacturers should seek other opportunities to enhance the safety of children in the rear seat environment, including providing head restraints that protect taller children, vehicle seat designs that better accommodate children, and making adjustable upper anchorages for safety belts available as standard equipment in all rear seating positions of all passenger vehicles.

Thank you, Mr. Chairman. I am happy to answer questions.  
[The prepared statement of Ms. Stone follows:]

PREPARED STATEMENT OF JUDITH LEE STONE, PRESIDENT, ADVOCATES FOR HIGHWAY AND AUTO SAFETY

### Summary of Testimony

#### Advocates for Highway and Auto Safety

Child restraints are required and regulated for children up to four years of age, and lap/shoulder belts are designed to protect adults. In between is the “forgotten child,” roughly ages 5 to 9 years old, who has not been the focus of safety laws and regulations. There are over 19.5 million children in the 5 to 9 year old age group, and about 500 of these children die each year as occupants in motor vehicle crashes. The motor vehicle fatality rate for this age group has remained constant over the past two decades, despite the fact that the fatality rate has decreased for other age groups—children 0 to 4, and children 10 to 15 years old, in the same time period.

In addition, safety recommendations from government agencies and private organizations alike advise parents to place their children in the rear to maximize their safety. The safety of these children can be improved by requiring the use of booster seats, so that adult lap/shoulder belts will better fit these children, by regulating the performance of booster seats to ensure safety, and by making changes to improve the rear seat environment to afford children a safer ride.

Advocates’ testimony contains the following recommendations:

- Every state should adopt a mandatory booster seat use law.
- NHTSA should expand the scope of the child restraint standard to children who weigh up to 80 pounds.
- NHTSA should establish minimum requirements for booster seat performance and structural integrity including booster seat back requirements that afford head and neck protection, requirements for the height of the booster seat platform, and requirements to ensure that belt-positioning features function as designed.
- NHTSA should develop a child test dummy that is representative of a 10-year-old child that can be used in testing booster seats.
- NHTSA should upgrade the seat back strength standard to protect against injuries from front seats collapsing onto children in the rear seat.
- Auto manufacturers should make built-in booster seats standard equipment in some model lines and promote the availability of this option in other models.

- NHTSA and vehicle manufacturers should seek other opportunities to enhance the safety of children in the rear seat environment including providing head restraints that protect taller children, vehicle seat designs that accommodate children, and making adjustable upper anchorages for safety belts available as standard equipment in all rear seating positions of all passenger vehicles.

## I. Introduction

Good morning, Mr. Chairman and Members of the Subcommittee on Consumer Affairs, Foreign Trade and Tourism. My name is Judith Lee Stone, and I am the President of Advocates for Highway and Auto Safety (Advocates), a coalition of consumer, health and safety groups and insurance organizations working together to reduce motor vehicle deaths and injuries. Since its inception in 1989, Advocates has been involved in all aspects of child safety and protection issues in motor vehicles.

Advocates has conducted legislative and educational campaigns to promote child safety and child restraint use including the “Children At Risk” campaign in 1993 and the “Kids, Cars and Crashes” campaign launched in 1996. In 1999, I participated as a member of the Blue Ribbon Panel—Protecting Our Older Child Passengers—which issued a set of recommendations on child occupant safety, a copy of which I will submit for the record. I currently serve as a member of the Advisory Board of “Partners for Child Passenger Safety,” a ground breaking research project at The Children’s Hospital of Philadelphia supported by State Farm Insurance Companies.

Advocates has been in the forefront of efforts to enact state laws to improve child safety in motor vehicles including amendments to close the gaps in existing state child restraint laws, and more recently, booster seat laws. Despite many efforts, there remains a long list of states whose occupant protection laws do not cover all ages of children in every seating position. A chart of states with “gaps” in their child restraint laws is attached to my testimony.

On Capitol Hill, Advocates has worked to include child safety protection provisions in federal legislation such as the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). The Senate Commerce Committee is to be commended for its role in drafting and enacting the motor vehicle safety provisions contained in the ISTEA legislation. Under the leadership of Senators Hollings, Danforth, Bryan and Gorton, the 1991 ISTEA legislation was a watershed for improvements in passenger vehicle safety. Ten years ago Advocates worked with the Committee to include a provision in ISTEA intended to upgrade the safety of booster seats.

Advocates has also provided assistance on safety provisions contained in the Transportation Equity Act for the 21st Century (TEA-21) and, most recently, the Transportation Recall Enhancement, Accountability and Documentation or TREAD Act. Section 14 of the TREAD Act includes many provisions that can enhance the safety of child occupants, including improvements in child restraint testing, more stringent injury criteria and performance requirements for booster seats, to name just three. These and other child safety ideas were originally contained in the Child Passenger Protection Act of 2000, which was introduced by Sen. Fitzgerald as S. 2070 in the last Congress, a bill that was wholeheartedly supported by Advocates.

Advocates is acutely aware of the need for improved child safety and we have documented that this concern is shared by the American public. In a 1999 poll, commissioned by Advocates, the eminent pollster Lou Harris found that 93 percent of the American public overwhelmingly supports the federal government’s mission to set highway and auto safety standards, including standards for child safety. A 1998 Lou Harris poll showed that an impressive 90 percent of the public supports aggressive enforcement of child safety seat laws.

While there have been improvements in safety for child passengers, clearly more can and should be done. My testimony will address the problem of the “forgotten child,” discuss what has been done on the state and federal levels, and recommend actions to prevent the continuation of needless deaths and injuries of our nation’s children.

## II. The Problem: Preventable Deaths and Injuries of Our Children

### A. The “Forgotten Child”

Each year approximately 500 children ages 5 to 9 die and nearly 100,000 more are injured as occupants in passenger vehicles. More than 40 percent of the children killed are completely unrestrained. Over the past 20 years, between 1978 and 1998, the combined rate of motor vehicle occupant deaths and injuries per one hundred thousand children in the population has dropped significantly for children ages 0–4, by 35 percent, and for children ages 10–14, by 15 percent. The rate among motor vehicle occupants ages 5–9, however, has remained constant. The fatality rate for children in these age groups, when analyzed separately from the injury data, tells

a similar story. I have attached to my testimony charts from the NHTSA's Fatal Analysis Reporting System (FARS) that display these facts. These statistics are based on a current population of over 19.5 million children in the 5 to 9 year old age bracket.

While a great deal of attention has been paid to child restraint systems for infants and toddlers, much less emphasis has been placed on providing for the safety of children generally between 4 and 8 years of age, and older, known as the "forgotten child." These children have outgrown their toddler-sized child restraints but are still too small to fit properly in seat belt systems, the three-point lap/shoulder belts made to fit adults. Since the back seat is supposed to be safer for children than the front seat, and because parents are being told to put their children in the back seat, it is our obligation as a society to provide for the safety of those children when their parents follow this safety recommendation.

#### *B. Booster Seats: Child Restraints for Older Children*

Child restraint systems were developed to protect young children in moving vehicles. Child restraints for infants and toddlers generally have a hard plastic shell including a back and sides and an internal belt and buckle to hold the child securely within the restraint in the event of a crash. While the federal child restraint standard governs the structural performance and levels of safety protection afforded children up to 50 pounds, the legal obligation to place children in restraints emanates from mandatory child restraint use laws passed by each of the 50 states, the District of Columbia, and Puerto Rico. These state laws establish the maximum age or weight limit for children who are required to be in a restraint system, and those limits have predominantly been set at 4 years or 40 pounds.

Although booster seats are a type of child restraint, they are intended for use by older children who because of their size have outgrown child restraints made for toddlers. Toddler restraints are intended to provide support and protection in a crash and keep the child inside the restraint. Booster seats are only intended to provide a platform that lifts the child up off the vehicle seat in order to improve the fit of the child in the adult seat belt. An improper fit of an adult seat belt causes the lap belt to ride up over the stomach and the shoulder belt to cut across the neck. In a crash a seat belt that does not fit properly can cause critical or even fatal injuries. In addition, if the shoulder strap portion of the lap/shoulder belt is uncomfortable, children will place it behind their backs, defeating any safety benefits the belt system might provide. Studies show that most adult belt systems do not fit children under 4'9" and less than 80 pounds.

While booster seats may have backs, or arms that prevent the lap belt portion of the seat belt from changing position, neither of these features are required by federal law. In fact, there are no structural or performance requirements, as such, for booster seats. Booster seats that are recommended for children who weigh 50 pounds or less fall within the scope of the existing child restraint standard. However, most booster seats are recommended for children over 50 pounds and are not covered by the federal child restraint standard. As a result, booster seats are, for the most part, not regulated and recommendations for their use are dependent upon voluntary manufacturer testing with no government oversight.

### **III. Steps That Have Been Taken to Improve Child Passenger Safety on the State and Federal Levels**

#### *A. State Laws*

Within the last two years, three states have passed booster seat laws. In March 2000, Washington enacted the first law requiring children between a minimum of 4 years of age or over 40 pounds and a maximum of 6 years of age or under 60 pounds to be in booster seats, and it goes into effect on July 2, 2002. This law was inspired by Autumn Skeen who is here today to testify. Her son was killed when he was ejected from a vehicle while his seat belt was on. Even though the seat belt remained buckled, it did not keep him in the seat.

In September 2000, California passed a law requiring children less than 6 years of age or less than 60 pounds to be properly restrained in a child passenger restraint system, effectively requiring booster seats; it goes into effect on January 1, 2002. In February 2001, Arkansas became the third state to adopt a booster seat law requiring children up to age 6 and 60 pounds to be restrained in a child passenger safety seat, again effectively requiring booster seats, and the law will take effect later this year. While these states have led the nation with new booster seat laws, many states are considering following suit. Between 15 and 20 states have introduced some form of booster seat legislation this year. Laws requiring the use of booster seats are important because they better protect children who use them and educate parents and guardians.

In addition to education, child restraint laws have been proven to increase use rates. According to NHTSA, restraint use from birth to age one is 97 percent, and ages one to four is 91 percent. From age five to 15, however, restraint use plummets more than 29 points to 68.7 percent. Additionally, a NHTSA study showed that only 6.1 percent of booster-aged children were restrained in booster seats. Booster laws would undoubtedly increase this percentage.

Furthermore, research supports the enactment of state booster seat laws. The Children's Hospital of Philadelphia and State Farm Insurance Companies have brought this issue to the forefront of the national agenda on child passenger safety by creating the largest single research project in the country and the first comprehensive study devoted exclusively to pediatric motor vehicle injury. Findings from this research initiative, "Partners for Child Passenger Safety," show that 83 percent of children in this country between the ages of 4 and 8 are improperly restrained in adult safety belts. Many of these children, who should be using child safety seats or booster seats, are instead prematurely graduated to adult safety belts. This inappropriate restraint results in a 3.5-fold increased risk of significant injury and a more than four-fold increased risk of significant head injury.

Advocates supports the adoption of booster seat laws in every state.

#### *B. Federal Regulation of Child Safety*

Although in the last 20 years there has been unequivocal progress in motor vehicle child safety, with improved child safety seat protection and adoption of state laws requiring their use, there has not been a great deal of progress with booster seats. The more we know, the more we are compelled to act in order to ensure maximum protection for every child of every age, on every ride in a motor vehicle. NHTSA has been in the lead on improving child safety in a number of ways. For example, in a 1995 final rule, the agency required child restraint manufacturers to determine the recommended use of their restraints in ranges of height and weight based on testing with different sizes of child crash test dummies.

More recently, in 1999 NHTSA issued a rule to require a new system of child restraint anchorages in order to reduce the chances of incorrect installation of child restraints. At present, child restraints are secured to the vehicle frame with the vehicle lap belt or lap/shoulder belt system provided for adult occupants. The new "LATCH" system, which stands for "lower anchors and tether for children," provides a separate set of restraint-to-vehicle connectors and an overhead tether strap. The requirement, which applies to toddler restraints, but not to booster seats, is being phased-in and when fully implemented after September 1, 2002, will require each new vehicle to have a set of connecting bars that will interlock with matching connectors on new child restraints. The LATCH system will allow child restraints to be installed without using an adult lap belt or an adult lap/shoulder belt. Vehicles are already being produced with ready-to-use upper tether anchorages that will secure the top of the child restraint to the vehicle chassis.

Although NHTSA's record on child safety is commendable in many respects, and Advocates has strongly supported the agency in this area, the agency has not taken action on other important child safety initiatives. An opportunity to improve safety for the forgotten child was provided by Congress in 1991. ISTEA included a provision authored by the Senate requiring that NHTSA address through regulation the "safety of child booster seats used in passenger cars and other appropriate motor vehicles." Although Congress conferred broad legislative authority on NHTSA and intended the agency to take aggressive action to improve the regulation and safety protection afforded by booster seats, NHTSA chose to respond narrowly. The only action the agency took was to delete the prohibition against belt-positioning booster seats, so that they now can be used without an overhead tether. This *de minimus* response by the agency to the 1991 ISTEA requirement squandered an opportunity for comprehensive improvements in booster seat protection for children ages 4-8 years.

To date, NHTSA has still made only a recommendation that when children outgrow child restraint seats, at around 40 pounds, they should be restrained in booster seats until they are big enough to fit in an adult safety belt, at about 80 pounds and about 4'9" tall. While this recommendation is useful, it does little reduce the annual fatality toll of 5-9 year olds. In 1999, another 500 children in this age group died as occupants in motor vehicles. This is the equivalent population of two or three elementary schools. Regulatory action is needed to address the broader safety concerns of booster seat performance and use, including expanding the scope of the child restraint standard to cover booster seats for children who weigh up to 80 pounds.

#### **IV. What Needs to Be Done: Advocates' Recommendations**

##### *A. The Rear Seat Environment*

It has long been known that the rear seat is a safer location in most crashes. In recent years this message has been included in the recommendations to parents from many organizations, including NHTSA. However, the rear seat of most passenger vehicles is not designed for the comfort or safety of young children. Manufacturers have largely been concerned with designing features to accommodate adults. Although enormous resources have been expended to develop and market entertainment equipment for children in motor vehicles, particularly in the rear seat, by contrast little has been done to provide comfortable seating for children that would enhance safety. Moreover, agency regulations have also focused primarily on safety performance for adults, and on requirements for add-on child restraints for children 0–4 years old. As a result, the rear seat environment is not particularly friendly for children ages 4 to 8 years old.

Adult seat belts do not fit or properly restrain younger children. The required three-point lap/shoulder belt systems were designed for adults and provide crash protection for adults ranging in size, generally, from shorter females up to tall males. Adjustable upper anchorages were introduced to improve the comfort and fit of lap/shoulder belts for adults. But even with the addition of adjustable upper anchorages, which allow for some movement in the positioning of the shoulder portion of the belt, adult seat belts do not fit the average sized 4 to 8 year old child. Moreover, NHTSA only requires adjustable upper anchorages in the front seat, so only a small percentage of vehicles even have adjustable upper anchors in the rear outboard seating positions.

Even when a child is large enough to fit in a lap/shoulder belt, most manufacturers provide lap/shoulder belts only in the rear outboard seating positions, where children (and adults) are at greater risk in a side impact crash. While some manufacturers make lap/shoulder belts available as options in the center seating position, few provide this design as standard equipment. Generally, only lap belts are available for children in the center rear seating position.

Head restraints are also not currently required in rear seating positions. While rear seat head restraints have become more popular in recent years, they are still not available in most passenger vehicles and are not standard equipment. The heads of taller children may rise above the top of the vehicle seat back, especially if they are using a backless booster seat. Thus, taller children using backless booster seats may have no head and neck support in the event of a rear end collision. At present, few booster seats are designed with backs. Although the lack of head restraints in rear seating positions is most certainly a problem for adults, it also poses a severe problem for taller children since they are likely to have weaker neck muscles than adults.

Rear seats are primarily designed to suit the comfort and convenience of adults in terms of both seat angle and depth. Since manufacturers have moved to angled or sloped seats to improve comfort for adults, children end up sitting even lower and have less visibility out of windows than when bench seats were the norm. In addition, the depth of rear seats, from front to back, is too long for the shorter legs of children, and particularly the shorter femurs (thigh bones) of younger children, who cannot bend their legs at the knee if they are seated with their backs against the vehicle seat back. As a result of these two design features, children of booster seat age are often uncomfortable when they sit back in the vehicle seat because they may not be able to bend their legs at the knee. This discomfort motivates children to move forward on the seat both to get a better view out of the front windows because of the slope of the seat, and to sit more comfortably with their legs bent and feet on the floor. This positioning compromises the protection afforded by the seat belt and booster seat.

Finally, the collapse of front seats in a crash also poses a danger to children in the rear seat. When a front seat back fails in a crash, it falls back into the space occupied by a child in the rear. Not only can a child be struck by the collapsing seat and head restraint, but the front seat occupant can be thrown rearward, over the collapsed front seat colliding with an occupant in the rear seat with a great deal of force. Such secondary collisions within the vehicle have anecdotally been reported as the injury mechanism in a number of deaths and serious injuries to children. In order to protect all rear seat occupants, but especially children, NHTSA must improve the seat back strength requirements in the current vehicle safety standards. The current federal safety standard for seat back strength has not been substantially revised to improve seat back performance since the standard was first adopted in 1971. In fact, NHTSA research and tests for the proposed amendments to the fuel

integrity standard showed that almost all front seats failed in 50 miles-per-hour rear impact collisions.

This confluence of design issues makes it all the more important that manufacturers and NHTSA focus on the plight of the forgotten child. Since parents are being instructed to place children in this age group in the rear seat for their own safety, it is imperative that the rear seat be a safe environment in which comfort reinforces safe behaviors.

#### *B. Stuck in Neutral Recommendations*

Advocates addressed several aspects of the child restraint issue in our 1999 safety report entitled *Stuck In Neutral—Recommendations For Shifting The Highway And Auto Safety Agenda Into High Gear*, which is available on Advocates' web site at [www.saferoads.org](http://www.saferoads.org). With respect to child restraints, the report concluded that NHTSA should take action on the following four recommendations:

- 1) expand the scope of the child restraint standard to children who weigh 80 pounds;
- 2) establish minimum requirements for child booster seats and belt-adjusting devices;
- 3) develop a child test dummy that is representative of a 10-year-old child; and,
- 4) require that child restraints be dynamically [crash] tested.

The first three of these recommendations are specifically relevant to booster seats. The provisions of section 14 of the TREAD Act require NHTSA to consider these issues as part of a larger rulemaking on child restraint safety.

#### *C. Child Restraints up to 80 Pounds*

NHTSA should expand the scope of the child restraint standard to children who weigh up to 80 pounds. Advocates wholeheartedly supports the language in section 14 of the TREAD Act that requires consideration of protection for children who weigh more than 50 pounds. Advocates has on many occasions stated that children ages 4 to 8 years old, and older, are disenfranchised under both state restraint laws and federal occupant protection requirements. We firmly believe that the current 50 pound weight limit should be raised to 80 pounds and that minimum performance requirements for booster seats should be regulated by NHTSA. Additionally, NHTSA should enhance its education and publicity campaign to disseminate information about the need for, and to promote the use of, child booster seats.

#### *D. Booster Seat Design / performance Requirements*

NHTSA should establish minimum requirements for child booster seats and belt-adjusting devices. Advocates also supports the initiative in Section 14 of the TREAD Act to have NHTSA determine the need to establish minimum requirements for booster seat performance and structural integrity that are dynamically tested. We realize that booster seats function differently from infant/toddler restraints, and are intended to enable children to use adult seat belts to provide safety protection in a crash. Booster seats may also not be considered as complex, from an engineering standpoint, as infant/toddler restraints. Nevertheless, NHTSA should ensure that booster seats perform this function properly and afford children adequate levels of safety.

Currently, booster seats are subject to performance requirements and compliance testing for all child restraints, but only up to the 50 pound limit of the child restraint standard. Booster seats recommended for children over 50 pounds are not subject to the requirements of that standard. This means that parents have no means to independently evaluate the safety of a booster seat for older children and they must rely on manufacturer recommendations. NHTSA should determine what performance requirements and safety features, as a minimum, should be common to all booster seats. For example, since booster seats are intended to lift children and improve their fit in an adult seat belt, a requirement might be appropriate to set a minimum height for the booster seat platform above the vehicle seat. Use recommendations could be based on this requirement. Also, booster seats without backs may result in neck or head injuries, especially for taller, older children whose heads and necks clear the top of the rear vehicle seat back. Currently, even booster seats with backs are not required to provide crash protection for the child's head and neck. Booster seats with improved backs may be necessary to protect taller children from head and neck injuries. Likewise, belt-adjusting arms should be examined to determine whether they are necessary to enhance booster seat safety. The agency should also test booster seat features to ensure that they do not interfere with safe performance of the seat belt system in a crash.

In addition, NHTSA should adopt separate injury criteria for children and adults. More stringent injury criteria scaled for the bodies of children have already been

adopted by NHTSA for the occupant protection standard which governs safety belts and air bag performance. The agency should also adopt these more stringent injury criteria for the child restraint standard. These scaled injury criteria should also be applied to any extension of the child restraint standard to children who weigh over 50 pounds.

*E. 10-year Old Crash Test Dummy*

NHTSA should develop a child test dummy that is representative of a 10-year-old child that can be used in testing booster seats. This was among the recommendations of the Blue Ribbon Panel on Protecting Our Older Child Passengers, and Advocates fully endorses this proposal. While there is already an effort to develop such a test dummy, efforts should be made to ensure that it is ready for use in the near future. Adoption of a 10-year-old child test dummy will permit testing at the upper weight range of booster seat recommendations. Auto manufacturers will also be able to use the 10-year-old dummy to improve the designs of rear seats to better accommodate the safety of all sizes of children.

*F. Built-in Booster Seats*

Similar to the design of integrated child restraints, booster seats can be built into vehicle seats. Built-in booster seats would afford greater stability and protection since the seat is built into the vehicle seat and attached to the vehicle chassis. Built-in booster seats would be specifically designed to function with the three point lap/shoulder belts installed at the same seating position. As more states enact child booster seat laws there will be a demand for built-in booster seats. It will make compliance and enforcement of these laws easier and more effective. Parents, relatives, friends and visitors will be able to accommodate children as passengers in a safer, more convenient way.

Thank you, Mr. Chairman, for the opportunity to address these important issues.

Advocates is prepared to work with the Committee in its evaluation of the implementation of the TREAD Act and other safety recommendations, and I will answer any questions you and the Committee may have.

**Disclosure of Federal Grants and Contracts**

I, Judith Lee Stone, President of Advocates for Highway and Auto Safety, hereby certify that Advocates for Highway and Auto Safety has not received any federal funds in fiscal years 2000 and 2001.

Respectfully submitted,

JUDITH LEE STONE,  
*President.*

**Advocates for Highway and Auto Safety**

Table 6

Occupant Fatality and Injury Rates per Population by Age Group, 1975-1999  
Age Group (Years)

(Fatality Rate per 100,000 Population)

Year	-5	5-9	10-15
1975	4.50	2.71	5.71
1976	4.50	2.56	6.14
1977	4.68	2.83	6.44
1978	4.61	2.66	6.60
1979	4.35	2.84	6.13
1980	4.24	2.67	6.00
1981	3.75	2.43	5.24
1982	3.67	2.22	4.85
1983	3.55	2.33	4.60
1984	3.13	2.33	5.21
1985	3.18	2.36	5.52
1986	3.42	2.30	6.07
1987	3.78	2.60	6.00
1988	3.82	2.64	5.74
1989	3.93	2.92	5.48
1990	3.30	2.50	5.25



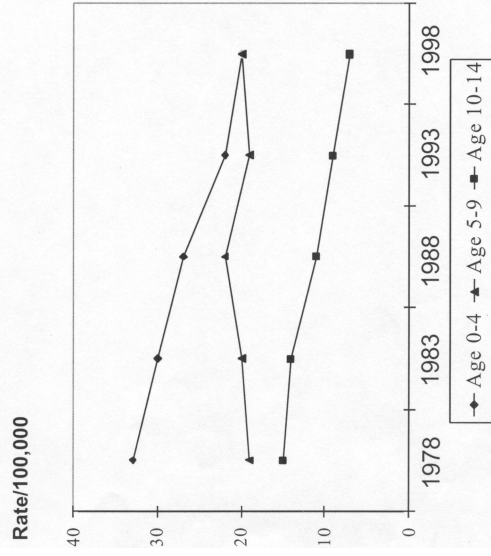
Table 6—Continued  
Occupant Fatality and Injury Rates per Population by Age Group, 1975–1999  
Age Group (Years)

(Fatality Rate per 100,000 Population)

Year	-5	5-9	10-15
1991	3.13	2.39	4.86
1992	2.99	2.41	4.75
1993	3.14	2.35	4.67
1994	3.46	2.35	5.07
1995	3.17	2.46	5.15
1996	3.40	2.34	5.07
1997	3.16	2.42	4.96
1998	3.03	2.60	4.60
1999	2.93	2.54	4.48

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# Trends in MVC Mortality & Morbidity 1978-1998



- Children < 5 yrs: 35% decline
- Children 5-9 yrs: unchanged
- Children 10-14 yrs: 15% decline

Source: Traffic Safety Facts 1998, US DOT/NHTSA



STATE	GDL: Learner's Stage Six Month Holding Period <sup>1</sup>	GDL: Learner's Stage 30-50 Hours of Supervised Driving <sup>2</sup>	GDL: Intermediate Stage Nighttime Restriction <sup>3</sup>	GDL: Intermediate Stage Passenger Restriction <sup>4</sup>	Standard Enforcement Safety Belt Law	.08 BAC Per Se Law	Child Restraint Law No Gaps	All-Rider Motorcycle Helmet Law	Statewide Red Light Camera Law <sup>5</sup>	Repeat Offender Law Complies with TEA-21 <sup>7</sup>	Open Container Law Complies with TEA-21 <sup>8</sup>
Mississippi	X		X				X		X		
Missouri	X						X	X			
Montana							X				
Nebraska						X	X	X		X	
Nevada		X					X	X		X	
New Hampshire						X	X		X	X	
New Jersey	X			X	X			X	X	X	
New Mexico	X	X		X	X	X	X				
New York			X		X		X	X		X	
North Carolina	X		X		X	X	X	X	X	X	
North Dakota	X						X			X	
Ohio	X	X								X	
Oklahoma					X				X	X	
Oregon	X	X		X	X	X	X	X		X	
Pennsylvania	X	X						X	X	X	
Rhode Island	X						X			X	
South Carolina			X							X	
South Dakota			X				X			X	
Tennessee	X	X		X			X	X			
Texas					X	X					
Utah		X		X		X	X		X	X	
Vermont	X	X		X		X	X	X			
Virginia	X	X				X	X	X	X		
Washington	X	X		X		X	X	X	X	X	
West Virginia	X						X	X			
Wisconsin	X	X		X						X	
Wyoming							X				
Total # of States & DC	28 & DC	20 & DC	7	12 & DC	17 & DC	21 & DC	32 & DC	20 & DC	8 & DC	23 & DC	30 & DC
% of U.S. pop. covered by law <sup>9</sup>	63%	49%	13%	29%	52%	49%	59%	54%	22%	41%	68%

### KEY TO STATE HIGHWAY SAFETY LAW CHART

*Graduated Driver Licensing (GDL) Systems—Optimal graduated driver licensing systems consist of a learner's stage, an intermediate stage and an unrestricted driving stage. Within each of these stages, there are provisions that are optimal to providing safe circumstances under which to develop driving skills. Four of these provisions are #1-4 below. Each state's law is intricate and this chart should serve only as a guide. To fully understand a state's law, one should review it.*

#### A. Learner's Stage

- 1. Six Month Holding Period:** A novice driver must be supervised by an adult licensed driver at all times. If the learner remains conviction free for six months, he or she progresses to the intermediate stage. In an optimal provision, there is not a reduction in this amount of time if the driver takes a driver's education course.
- 2. 30-50 Hours of Supervised Driving:** A novice driver must receive 30-50 hours of behind-the-wheel training with an adult licensed driver. In an optimal provision, there is not a reduction in this amount of time if the driver takes a driver's education course.

*B. Intermediate Stage:* While optimally this stage should continue until age 18, states have been given credit in this chart for having the following two restrictions for any period of time, i.e., 6 months.

3. **Nighttime Restriction:** Because a majority of the crashes involving teens occur before midnight, the optimal period for supervised nighttime driving is from 9 or 10 p.m. to 5 a.m. Unsupervised driving during this period is prohibited.
4. **Passenger Restriction:** Limits the number of teenage passengers that ride with a teen driver driving without adult supervision. The optimal limit is no more than one teenage passenger. Sometimes family members are excepted.
5. **Child Restraint Law—No Gaps:** A state is considered not to have gaps in its child restraint laws if all occupants up to age 16 are covered by either a child restraint law or a safety belt law.
6. **Statewide Red Light Camera Law:** Laws vary widely among the states. While some states require legislation to allow localities to operate red light running photo enforcement programs, other states do not require enabling legislation and laws are passed at a local level. States with an “X” in this column have statewide laws. For more information on state laws and legislation, see Advocates’ intersection safety chart.
7. **Repeat Offender Law:** Complies with the Transportation Equity Act for the 21st Century (TEA–21): States with an “X” in this column have voluntarily submitted their repeat offender law to the National Highway Traffic Safety Administration (NHTSA) for review and have been found to be in compliance with the provision in the federal highway bill, TEA–21. (Note: States may have one or more of the repeat offender law requirements under TEA–21, but only those states that fully comply with the federal law are listed as in compliance.)
8. **Open Container Law:** Complies with the Transportation Equity Act for the 21st Century (TEA–21): States with an “X” in this column have voluntarily submitted their open container law to the National Highway Traffic Safety Administration (NHTSA) for review and have been found to be in compliance with the provision in the federal highway bill, TEA–21. (Note: States may have one or more of the open container law requirements under TEA–21, but only those states that fully comply with the federal law are listed as in compliance.)
9. **Unattended Children Law:** A person responsible for a child who is 8 years of age or younger shall not leave that child in a motor vehicle without being supervised in the motor vehicle by a person who is at least 14 years of age.
10. **U.S. Population:** U.S. population data taken from the 2000 state population estimates according to the Population Estimates Program, Population division, U.S. Census Bureau. Available on-line at <http://www.census.gov/statab/www/part6.html>.

*(Sources: Advocates for Highway and Auto Safety, Air Bag and Seat Belt Safety Campaign, American Automobile Association, Federal Highway Administration, Insurance Institute for Highway Safety, Mothers Against Drunk Driving, National Committee on Uniform Traffic Laws and Ordinances, National Highway Traffic Safety Administration, National Transportation Safety Board, National SAFE KIDS Campaign, state agencies and U.S. Census Bureau)*

Senator FITZGERALD. Ms. Stone, thank you very much. All of you, thank you for your testimony.

I would like to go to some questions and I would prefer to kind of keep this free-wheeling and have any of you jump in if you want to respond to something that somebody else on the panel is saying.

My first thought listening to all this is, what about a requirement that automobile manufacturers make the seat belts adjustable so that they could come down to fit a young child, perhaps doing that as an alternative to a requirement—have a requirement that your child be in a booster seat or that he or she be fastened in an adjustable safety belt that can be properly fitted for a youngster? Nobody has mentioned that. Dr. Winston?

Dr. WINSTON. The problem with that is that the issue is more thigh length than how tall the child is. The injuries that we worry about are not as much the injuries to the neck. That is not where

the problem is. The problem is that the thigh is too short, and the child will slide forward on the seat, causing the lap portion of the belt to ride up. This will then make the shoulder portion even more uncomfortable and also will have the child further far forward, and in the event of a crash the child will be able to slip out of the belt or move forward and hit the head.

There are quite a few vehicles that already have adjustable shoulder restraints.

Senator FITZGERALD. What vehicles are they?

Dr. WINSTON. I would defer to the manufacturers.

Mr. SHELTON. We have a list, Mr. Chairman. I do not recall any off the top of my head, but we have a brochure we put out called "Buying a Safer Car for Child Passengers," and in that brochure we identify vehicles that have adjustable rear safety belts in them. I believe it is around 20 percent of the new vehicle fleet have them.

Senator FITZGERALD. Is that right? Okay.

Mr. SHELTON. Approximately, off the top of my head. But I would like to reiterate what Dr. Winston said. One of the concerns that we would have is one of the main reasons children need booster seats is because of lap belt fit and an adjustable shoulder belt does not address the issue of lap belt fit.

Senator FITZGERALD. Well, can the lap belt be adjustable? Clearly you could make a lap belt that fit a child, right?

Mr. SHELTON. It is not a matter of length. It is a matter of angle and location—unfortunately, there is a compromise between protection for adults and protection for children.

Dr. LUND. Mr. Chairman, if I could followup on that.

Senator FITZGERALD. Yes.

Dr. LUND. You pose an interesting idea and I think one that has a lot of merit. Certainly in Europe there is a move in their new car assessment program to put more of the onus for how car safety seats for children and booster seats as well perform in those cars, putting more of the onus on the manufacturer of that vehicle, asking them to name the child seat that could be used in a test.

I personally think that as we go forward part of what is going to have to happen to make sure that booster seats perform as we on this panel all want them to perform is there is going to have to be greater coordination between the child seat manufacturers or booster seat manufacturers and the vehicle manufacturers to make sure that the boosters or the child seats are compatible with the seats themselves. So that is one thing. The onus is going on them.

I would like to also come back and say that one of the developments that we thought was very positive here, and it is a shame to see that the public is not picking up on it that greatly, is the provision by manufacturers of built-in child restraints.

You talked about making the belts adjustable, and it is very difficult, as Mr. Shelton said, to adjust the lap belt. But you can put in a built-in child seat that folds down or folds up or modifies the seat geometry so that it works.

Senator FITZGERALD. How many manufacturers are doing that right now?

Dr. LUND. They are available from a number of manufacturers. We were able to get pictures only of a Volvo. It was the only one being delivered. But we have the Dodge Caravan; Daimler-Chrysler

provided this in minivans for some time. You can ask Daimler-Chrysler, but I think that they will tell you that the uptake on that option by consumers was not very good.

Ms. STONE. Mr. Chairman, if I could just respond to that same question. We made some calls around to some dealers just before this hearing to see and practically none of the dealers we talked to even knew what they were. So no matter whether they are available as an option, the dealerships really do not know about them.

So I think that they are largely unavailable unless they come as standard equipment.

Senator FITZGERALD. I have never heard of them being offered and I am someone who has an 8 year old boy and have been thinking about this issue for years and always on the lookout for cars that have it as an available option. I have never heard of it being offered.

Ms. WEINSTEIN. Mr. Chairman, I would like to add to the discussion. The Safety Board, as I mentioned, made three recommendations to the auto manufacturers to design the back seats of cars for children. One of the recommendations was for built-in car seats; one of the recommendations was for adjustable upper anchorages.

What we are getting in response on the adjustable upper anchorages is that the design of the car does not really permit them to put the adjustable anchorage in the back seat the same as it does in the front seat. What some of the manufacturers have done is lowered the retractor anchorage to the back of the back seat, which does make it fit a little bit better for shorter adults and taller children.

On the built-in child restraint systems, the manufacturers are telling us that there is no market out there for them. Our question back to them is, what have you done to sell them, and they have not done very much. I think that that is certainly an area that could solve a lot of problems, including for low income families, because when they would buy the car the built-in child restraint would already be there.

Dr. QUINLAN. If I could add one other bit, I want to make it very clear, adjustable upper anchorages alone are not a solution. It has to be combined with some integrated support from below. The lap belt is the safety issue for children, for children in this age range, is the lap belt, the lap belt riding over the hips, crossing across the tender stomach.

In the violence of the crash, the lap belt wraps around the abdomen like a rope around a pillow. There is nothing to stop it until it reaches bone when it hits the back bone, and finally the child is stopped by the fracture of the spine.

So a lower cushion to boost the child up is absolutely necessary. Adjustable upper anchorages do not do that.

Senator FITZGERALD. I have an Oldsmobile Aurora that does not have in the center of the rear seat a three-point lap belt and my wife does not even want to let me drive my son in my car. She makes me take him in her car, which has a three-point lap belt in the center rear seat.

What should parents do who have a car with a rear seat that does not have a three-point shoulder belt in the center rear? Would they be better off putting them to one of the outboard sides, where

are at greater risk of side impact collision? Would anybody care to speak to that issue?

Mr. SHELTON. Again, Mr. Chairman—well, not again, but as I mentioned before we have a brochure for parents who are looking for a new car. The “Buying a Safer Car” brochure for a child passenger does identify vehicles that have a center lap shoulder belt standard or optional. In many cases also, manufacturers will offer a retrofit shoulder belt for the rear seat, although it is typically for an outboard position, not a center seating position.

So if you have a car I think you have to use what you have, which would be to put the child in the outside seating position using the three-point belt, and the child would be much better off than putting the child in the center seating position, on balance.

Senator FITZGERALD. Autumn.

Ms. SKEEN. I live in a part of the state that is quite agricultural. We have more than a 30 percent Hispanic population. One of the things that I have noticed in the national brochures is that they are not in Spanish. Certainly, my concern and one of the reasons that I have pushed for the law is that I wanted this to not be just safety for the urban and the well educated and the well to do. My concern is that you have to be fairly educated to even know that there is a brochure out there that says that there are certain kinds of vehicles.

Also, from talking to local dealerships, if you want safety equipment like that you have to special order. Oftentimes I think people just sort of go out and buy a car off the lot almost, not quite on impulse but almost. So as far as availability, it is not quite out there.

Dr. QUINLAN. If I can also add, I would like to use this as an opportunity to make sure people are aware of the over 14,000 child passenger safety technicians that are out there in the country right now, who are ready to help with specific child passenger questions like the one you just asked.

Senator FITZGERALD. Where are they?

Dr. QUINLAN. You can go to NHTSA’s web site and you can locate your closest technician by entering your zip code.

Senator FITZGERALD. Are these people typically at car dealerships?

Dr. QUINLAN. Sometimes at car dealerships, sometimes at hospitals, sometimes at traffic safety offices, law enforcement agencies.

Senator FITZGERALD. Are these people certified?

Dr. QUINLAN. They are trained by NHTSA in a 4-day course and certified by AAA, and they are a very reliable source of specific technical information that I really think is underutilized.

But there are products specific for your case. There is a seat out there that can go to 60 pounds with just a lap belt, so a child who is under 60 pounds can get into a Futura 20/60 and can use that, just lap belt in the center, in exactly the situation you said. So there is a variety of special products the technicians are the experts on knowing.

Senator FITZGERALD. Dr. Lund, correct me if I am wrong, but you have been a little bit of a contrarian with respect to the booster seats. In your testimony you said “Emphasizing booster seats is a misplaced priority” and that what we really need to do is focus on



encouraging the use of seat belts because you point out that better to be restrained than completely unrestrained, and we have too many kids in this country who are completely unrestrained.

But we have got to be concerned, do you not think, about the kids like Anton, so that there are kids who are restrained, but who are too small for that three-point seat belt, and in a serious collision could go flying out the seat? What do we do about that?

Dr. LUND. Mr. Chairman, I do agree with you. We are all here because we are all concerned about child passenger safety. There is no question about that. I think we do need to do something about the situations such as Anton. This is a case where the belt has failed him.

The problem that the Institute is dealing with is not that the adult lap-shoulder belts are perfect or the final answer, but what I do not want to do is to move to a law that requires parents to put children in booster seats and a parent goes out and buys a booster seat because the manufacturer says, this is a booster seat, so now I am in compliance with the law, and then we have the child in a booster seat that fits the way that the Komfort did on Camron and then have that parent later say: I did not realize that the lap belt coming across the stomach was a problem; why did not somebody tell me? Why was that seat available for my child?

The same situation—I do not want to see that happen. The law does become a way of telling people information about what is good. They will buy the booster rather than the concept of proper belt fit.

We have heard a lot about educating the parents the put children in boosters, but I think where we are right now is we do know how belts should fit. What we do not know is that all boosters do that and they do need to be educated on belt fit and parents need to be educated to shop for the booster, not just go buy a booster to comply with the law.

Senator FITZGERALD. Well, do you think we should have as a first step federal minimum standards on requirements for booster seats, and then once we have those down, once we have the science behind that, then think about encouraging the states to adopt mandatory booster seat usage laws?

Dr. LUND. Absolutely, Mr. Chairman. This is—as I said, it is a misplaced priority, which means a timing issue. We are all on the same side here.

Senator FITZGERALD. So we have to get the standards here.

Dr. LUND. We have to know what we want parents to use first.

Senator FITZGERALD. Do you all agree that we ought to have federal standards that go up to, say, 80 pounds as opposed to the 50 pounds? Does anybody disagree with that?

[No response.]

Senator FITZGERALD. No.

Dr. Winston, you are anxious to speak.

Dr. WINSTON. Yes. I think one of the challenges with the photographs that you saw from the Insurance Institute is those are children placed in booster seats. They are not children in crashes. I think we need to think about it. I wholeheartedly agree that we should have standards for the booster seats. It is very confusing to the parents that there still are shield boosters out on the market.

There are many different varieties of boosters and parents get confused.

But the real world experience with children in crashes, demonstrates that existing belt-positioning booster seats are exceedingly effective. It is rare to find serious injuries to children in belt-positioning booster seats in our study. The same experience is in Sweden. When a child is in a belt-positioning booster seat, they have many fewer minor injuries than children in seat belts.

Senator FITZGERALD. Your studies are based on data provided by State Farm?

Dr. WINSTON. What happens in our study is that each day we hear about crashes that are reported to State Farm Insurance Companies in 15 states and the District of Columbia. With the appropriate privacy safeguards, State Farm sends information to the Children's Hospital of Philadelphia, from claims in which consent to release data was obtained.

We then do onsite crash investigations and in-depth telephone interviews with parents and have amassed the world's largest data base related to children in crashes.

Senator FITZGERALD. How many crashes are in that data base total?

Dr. WINSTON. So far, we have 137,000 children in approximately 90,000 crashes.

Senator FITZGERALD. There is no other bigger data base, I would imagine, that is out there.

Dr. WINSTON. No.

Senator FITZGERALD. You have a fantastic set of data.

Dr. WINSTON. We are very lucky. The generosity of State Farm has been great.

The issue that I am pointing out is that real world data are more important than photographs. In the first photograph of the child who was more properly restrained, she would have moved that shoulder belt behind her back. It was right over her neck. If you look at that photograph, she would have been uncomfortable, if the belt had remained over her neck.

But in the event of a crash, when a child is in a belt-positioning booster seat, the belt would fit well. The child would remain in the shoulder belt and our data are bearing out that the children do quite well.

Let us keep in mind how much a booster seat costs. This is an important issue vs. the cost of a child's injuries. A belt-positioning booster seat, a backless belt-positioning booster seat at my retailer, is under \$20. That is what we are talking about here.

One of the challenges with the integrated seats, as much as I think they are wonderful, is they are quite expensive. These backless boosters work well and are very effective.

Ms. WEINSTEIN. Mr. Chairman, I would like to point out that speed is another issue that needs to be considered in this discussion. In the Safety Board's 1996 study we found that for children who were in high-speed crashes it mattered whether they were in the appropriate restraint for their age, height and weight. The children who were improperly restrained in high-speed crashes, which we define as a change in velocity of more than 20 miles an hour,

those who were improperly restrained were much more likely to be killed and seriously injured.

Dr. LUND. Mr. Chairman, if I might, I would like to followup on one thing that Dr. Winston said. It is by way of making sure that we do not think that the better belt positioning offered by boosters is a panacea for restraint use. We recently—the assumption is made that if the belt fits better the child will not move the shoulder belt or will leave it on. We recently had—our photographer who was involved in taking these pictures has children in this age group and he took a week-long trip and he took some of our better fitting booster seats.

He found that, with the exception of one of them, the children did move the belts. They wiggled in the booster seats just as they did on a car seat. They did in fact remove that and come out from behind the shoulder belt.

So we must keep in mind that this is not a panacea. The main thing it cannot do, as Kyran Quinlan said, is that if you get a good booster that moves the child up and positions that lap belt better, that is the main benefit that we can get.

Senator FITZGERALD. I would like to give, if I could, Senator Dorgan the opportunity to speak for a moment. He is the ranking member of this Committee. Then, because of time constraints, we are going to have to go on to the second panel. Senator Dorgan, thank you.

**STATEMENT OF HON. BYRON L. DORGAN,  
U.S. SENATOR FROM NORTH DAKOTA**

Senator DORGAN. Mr. Chairman, thank you very much.

I wanted to say to the panelists that we appreciate very much your being here. As is often the case in the Senate, this week is very busy with hearings. I have 16 hearings of committees and subcommittees this week, and I was not able to be here earlier because I am on the Appropriations Committee and we are meeting with Secretary Norton right at the moment. So I am going to go back there.

But I did want to come and say this. I had the opportunity to review much of your testimony in your prepared statements. I think your contribution in that testimony is very significant.

Senator Fitzgerald has had an abiding interest in this subject and, despite the fact that my colleagues and I have been absent this morning, Senator Fitzgerald and I will work on these issues with great diligence, especially with Senator Fitzgerald's leadership. This hearing I hope will help us make some progress in a very significant area.

I have a 14 year old son and a 12 year old daughter and we have been through this period. My wife insisted the cars not move an inch until everyone was belted up and cinched down correctly in the right car seats and booster seats and so on. I understand the concerns. I understand the dangers that are involved with children in automobiles in circumstances where they are not properly restrained.

I think this hearing is a real contribution. I want to thank our chairman and thank you for your indulgence. I just want you to understand why I was not here and why many of my colleagues are

not here, but I think you are making a very significant contribution this morning.

I thank you for being here and presenting the testimony.

Senator FITZGERALD. Senator Dorgan, thank you very much.

We will take just one more comment from Ms. Stone here and then we will go on to the second panel.

Ms. STONE. Thank you very much, Senator. I just wanted to talk a little bit about history repeating itself in part. Dr. Quinlan mentioned in his testimony about the child restraint laws being passed starting over 25 years ago. The first one was in 1978. I was at the Department of Transportation at that time, as were some others in this room.

It really was an amazing situation, because that was a movement that was started by pediatricians as well. So we are glad to see the pediatricians out here again.

What I wanted to say about it is that the states did not wait for perfect science. The standard was in place, but it was not the best standard it could be. They went ahead and passed the laws. No, they were not perfect, but they did pass them.

I really believe that we are at the exact same spot on this issue with booster seats. I would not want to wait until everything, all the t's are crossed in i's are dotted, in order to move forward with state laws, because I think that we can do a lot of help, do a lot of service to the American people, by passing those laws and using them as education tools.

I do not know how they will be enforced. I think they will be difficult to enforce. Any traffic safety law is. But I really believe that it is time for us to use them as educational tools, as they were used starting in 1978. That is how we got where we are today.

Senator FITZGERALD. Ms. Stone, thank you very much for those remarks. All of you, you were excellent witnesses. I want to thank you for coming here and participating.

We will now go to our second panel. We will take just a 1 or a 2-minute break and we will come back.

[Recess.]

Senator FITZGERALD. I would like to resume the hearing now. On the second panel we have three witnesses: Ms. Heather Paul, Executive Director of the National SAFE Kids Campaign. Ms. Paul, thank you for being here. Mr. James Vondale, Director of Automotive Safety Office of Ford Motor Company. Mr. Vondale, thank you. Mr. Baloga, the President of Britax Child Safety, Inc., and I think we saw a picture of one of your child safety seats earlier. Thank you, Mr. Baloga, for being here.

Ms. Paul, if you would like to begin.

**STATEMENT OF HEATHER PAUL, Ph.D.,  
EXECUTIVE DIRECTOR, NATIONAL SAFE KIDS CAMPAIGN**

Ms. PAUL. Senator, thank you so much. You have done wonderful work in this area and I think I am a witness to history here today to see so much attention paid to specifics of booster seats. I have seen tremendous transformation of this whole traffic safety community since I started only 7 years ago. So thank you again.

I am here on behalf of 303 SAFE Kids Coalitions, made up of firefighters, traffic safety police, public health department officials.

Actually, we are making up some of the core child passenger safety technicians who you alluded to earlier. I have Joe Colella and Karen DiCapua here, who are some of the best technicians in the country. Because of them and so many others, we have seen this problem of booster seat use from the micro perspective as well as a macro one.

In regards to the micro one, we have been hands on, have checked over 160,000 car seats since we began in 1996 with the first car seat checkups, with a national campaign in place thanks to the support of General Motors. Ironically, we began just the same year that Autumn Skeen's son was taken so tragically, and a lot has happened in the last 5 years.

We have also been with 3200 General Motors dealerships, training them, having them stage these car seat checkups. In addition, we have been in the parking lots and the shopping malls, in the daycare centers, with the UAW, La Raza, and NAACP in distributing over \$5 million worth of free car seats.

So we have seen it all. We have seen the upscale fathers in their Mercedes sport utility vehicles and we looked at absolutely the poorest of the poor in remote rural areas, in the inner city, where the back seat of their cars is a testament to the state of their poverty. They are pre-1989, they are in a state of deterioration, they have lap belt only if they are lucky, if they have just the amount of children who could even be restrained in that back seat.

When it comes to booster seats, actually it is the same problem whether you are rich or poor: tremendous underutilization, as all these other articulate experts have cited today, and a fundamental cluelessness on the part of parents on why they think they need them.

We know this through our conducting thousands of car seat checkups, which take about 40 minutes each. If you think of that, it is an extraordinary act of public service. Parents say all kinds of things about boosters through our focus groups and through the car seat checkups. Why would they use this low-back booster, for instance, this thing that looks like something that you just sit tall on in a restaurant? What is so important about this seat? What, seat belt syndrome? What is that? Why this seat? Why not an adult belt system? Surely the absence of that little seat cannot give my child spinal cord injuries, or cause major internal organ damage that is impossible. Finally: Why would I use that? There is no law in my state, is there? As other very responsible parents—we abide by the law—So why on earth would you ask me to use this?

These are very legitimate questions. So there is an awful lot we need to do on the public education side. That attitude and perception on the part of parents segues right into the other aspect of our work, and you have cited that—thank you so much—through our recent study. This is the first-ever, in-depth analysis of current child occupant protection laws across the country.

It is not a pretty picture, Senator. As you well know, even Illinois is not doing very well, and I will get to that in a second.

So we were harsh graders. SAFE KIDS gave half the states Fs. That is quite extraordinary. Another third earn D's, and there were other shocking facts. How could children be exempt in some states because they are nursing when their mother is up front? How could

children be exempt from using restraints in the back seat or the front seat if they are driving with an out of state driver with out of state plates? How can they be exempt from the law if they are simply sitting in the back seat?

In fact, only two states, California and Washington—and they were cited here today, and now Arkansas—have a law that goes only as high, finally, as 5, not to the age of 8, what we are talking about today. These new laws in California and Washington do not even take effect until 2002. In fact, Arkansas, most recently passed, does go into effect this summer.

Another 11 states dictate a child restraint only up to the age of 4. So that means the rest of the states fundamentally say it is just okay to be in an adult belt system.

No state law covers children in a child restraint up until the age of 8. I am sorry to say, Senator, in the state of Illinois that children between the ages of 6 and 8 can actually ride totally unrestrained in the back seat if they are with a driver over the age of 18. Obviously, that is counterintuitive and quite absurd.

In our rating of child occupant protection laws we thought we took some risks with very stringent grading. No good teacher would stand behind half your students getting F's. But we are really dealing with the harsh realities of motor vehicle crashes and killing thousands of children and injuring them every year. So we know that it matters, so much so that we have presented a grid to you today—Judy Stone has alluded to it as well—where 23 states since our report was issued in February, with Safe Kids' assistance, have moved forward, either introducing a bill, improving that bill that was already introduced, or actually enacting a much better law, which is the case with Arkansas.

So once in a while a stick works as well as a carrot, there is no question about it.

In terms of the research, we certainly, as an advocacy group, rely on the facts of groups like Flaura Winston as well as NHTSA, and we indeed want a universal standard, more research, heavier crash test dummies when it comes to children up to the age of 8.

I will also say that the National SAFE Kids Campaign is affiliated with Children's National Medical Center and there is a NHTSA-supported siren study there, the only study in the country that is doing a review, forensic studies of kids in crashes who were improperly restrained, and Dr. Eichelberger and his team look at those cases as they come into Children's Hospital.

There is no question, even though this data base, as is the problem here, is very small—20, 30 cases—that he sees very serious injuries from seat belt syndrome that would not be there, according to his team, if these same children were in booster seats.

Outside of the issue of demand, which we are talking about right now namely—the need to better educate parents so that they ask for these seats, there is also the other side of the ratio, which is the supply. What does it look like in the marketplace? How can we mandate, how can we ask parents to choose a different restraint system if they are not easily accessible.

It is a changing situation. According to the car seat manufacturers that I spoke with, only 5 years ago it was a very grim picture. There was hardly anything out there. In fact there were less than

a half million, booster seats, sold a year. That now is up to a million seats a year.

Now, that does not put a dent in the roughly 20 million children between the ages of 4 and 8, that is true.

Senator FITZGERALD. How many car seats are sold each year, do you know?

Ms. PAUL. Twice that amount.

Senator FITZGERALD. Twice that amount.

Ms. PAUL. Yes, two million car seats a year according to one manufacturer who I discussed this with this week. Perhaps folks from Britax can qualify that, but that is the information I have.

Also, there is a positive trend in that, more retail space is being allocated for booster seats, maybe up to one to one, as many booster seats are on some shelves as car seats.

There is another interesting phenomenon, which maybe you will speak to this as well, 70 percent of booster seats are sold by four retailers: Walmart, Kmart, Toys-R-Us and Target. That is not the best situation. That means that they potentially have a stranglehold on the nature of the booster seats available. Really, it might depend on brand managers or other aspects of retail life that would command exactly how parents see, perceive them, what education they get onsite as to what booster seats to choose.

Also, its important to note that relatively the industry is small. It is a \$350 million industry that handles all car seats in America. The advertising budgets are also small. If we want public education done, we certainly can not rely on the manufacturers when they do not even have the money for a television ad. When is the last time you saw a television ad on car seats in general? We can get Pokemon ads from Toys-R-Us, but we are not going to get one on car seats. So therefore the burden is even greater on advocates like us, as well as the government, to provide that public education.

So finally, I would say too, as Flaura has, that our 300 coalitions stand ready to help in any way we can. Thanks to the incredible generosity of General Motors, they have committed to us for another 5 years, and that we will be checking tens of thousands more car seats, getting more data. If there is any way that we can contribute our traffic safety folks in terms of surveillance, more public education, demonstrations on what works, how can we get to parents with the incredible seriousness of an issue that Autumn has revealed so painfully.

So on that note, thank you very much.

[The prepared statement of Ms. Paul follows:]

PREPARED STATEMENT OF HEATHER PAUL PH.D., EXECUTIVE DIRECTOR, NATIONAL SAFE KIDS CAMPAIGN

My name is Heather Paul and I am the Executive Director of the National SAFE KIDS Campaign. It is my pleasure to testify before the Subcommittee today. Mr. Chairman, thank you for inviting me to address this important topic of child restraints for older children and other critical child occupant protection initiatives. I also want to take this opportunity to express our appreciation for your sponsorship of last year's *Child Passenger Protection Act* and for making child passenger safety a priority for your Subcommittee. The *Child Passenger Protection Act*, passed by the 106th Congress, helped us to refocus on how we can all protect children when they are traveling on our nation's roads.

### **I. History of the National SAFE KIDS Campaign**

As you and many Members of the Subcommittee know, the National SAFE KIDS Campaign is the first and only national organization solely dedicated to addressing an often unrecognized problem: *More children under age 14 are being killed by what people call “accidents” (motor vehicle crashes, fires, and other injuries) than by any other cause.*

For well over a decade, the National SAFE KIDS Campaign (hereinafter “SAFE KIDS”) has been focusing on this problem through the work of its national headquarters and its over 300 state and local SAFE KIDS coalitions—including thirteen SAFE KIDS coalitions in Illinois alone. From its inception, SAFE KIDS has relied on developing injury prevention strategies that work in the real world—conducting public outreach and awareness campaigns, organizing and implementing hands-on grassroots activity, and working to make injury prevention a public policy priority.

The on-going work of SAFE KIDS coalitions reaching out to local communities with injury prevention messages has helped lead to the decline of the unintentional injury death rate during the past decade—a 35 percent decline for children ages 14 and under. However, with one out of every four children—or more than 14 million children ages 14 and under—sustaining injuries that are serious enough to require medical attention each year, SAFE KIDS remains committed to reducing unintentional injury by implementing prevention strategies, and increasing public awareness of the problem and its solutions.

### **II. National SAFE KIDS Campaign’s Child Occupant Protection Initiatives**

Since 1996, SAFE KIDS has partnered with General Motors to develop and implement the SAFE KIDS BUCKLE UP program to address the needless tragedies associated with motor vehicle crashes—the *leading cause* of unintentional-related death among children ages 14 and under. The SAFE KIDS/General Motors program is an historic long-term, initiative that has committed over \$20 million to the problem. The partnership’s commitment and longevity are certainly warranted. Consider these statistics:

- In 1998, 1,765 child occupants ages 14 and under died in motor vehicle crashes. Children ages 4 and under accounted for 33 percent of these childhood motor vehicle occupant deaths.
- In 1999, an estimated 272,000 children ages 14 and under were injured as occupants in motor vehicle-related crashes.
- As of November 1, 2000, 98 children were killed by passenger side air bags. Nearly 89 percent of all children killed by passenger side air bags were either unrestrained or improperly restrained at the time of the crash.

#### *A. Alarming Child Safety Seat Misuse Rate: 4 out of 5 Child Safety Seats Improperly Installed*

An integral component of our the SAFE KIDS/GM partnership are Car Seat Check Up events conducted nationwide by the more than 300 SAFE KIDS coalitions, together with General Motors dealerships and its employees. These events are open to the public and provide families with free, hands on instruction on how to use child safety seats, booster seats, and safety belts correctly. The events not only occur at fixed sites like General Motors dealerships, but are also held at places where families go on a more regular basis, such as shopping malls and childcare centers. SAFE KIDS is better able to reach these additional families when we expanded our General Motors’ partnership and created the first ever nationwide Mobile Car Seat Check Up program. General Motors donated 51 Mobile Car Seat Check Up vans to coalitions in each state and the District of Columbia. These vans are packed with child passenger safety literature, tents, cones, child safety seats, booster seats, and everything necessary to hold a Car Seat Check Up event at a community venue.

As we have found at these events and reported in our 1999 study, *Child Passengers at Risk in America: A National Study of Car Seat Misuse*, misuse of child safety seats is widespread. It is estimated that although 96 percent of parents believe they install their child safety seat correctly, approximately 85 percent of children placed in child safety seats are actually improperly restrained. Over the past four years, the National SAFE KIDS Campaign has checked more than 160,000 child safety seats through over 4,000 nationwide Check Up events and given away more than 100,000 child safety seats to families in need. Our national numbers are consistent with what we find in Check Up events in Illinois. In Illinois, close to 200 Check Up events resulted in over 6,000 child safety seats being checked—with a 90 percent misuse rate. We know that those parents and caregivers who attend our



check up events leave not only with their child safety seat installed correctly, but also leave with a better understanding about how to travel with their children safely.

*B. Shocking Child Safety Seat Nonuse Rate: 40 Percent of Children Continue to Ride Completely Unrestrained*

Our dealership-based and mobile check-up events have helped address the alarming misuse rate of child safety seats. Significantly, however, a full 30 percent of children still ride completely unrestrained. Our SAFE KIDS/General Motors' child occupant protection program addresses this problem also. In May of 1998, the United Auto Workers and General Motors joined the America's Promise initiative by committing \$5 million over three years to purchase child safety seats for families in low-income communities. The program aims to reduce the 1,800 deaths and 270,000 injuries among children in motor vehicle crashes every year. Far too often kids hurt in car crashes are not restrained at all. Special emphasis is placed on serving African-American and Latino children, who are being killed and injured in disproportionate numbers on our nation's highways. The seats are being distributed through a partnership with the National Council of La Raza (NCLR), the National Association for the Advancement of Colored People (NAACP), General Motors and SAFE KIDS.

As of March of 2001, a total of 30 NCLR affiliates and five NAACP branches in 24 different sites have established themselves as ongoing distribution centers, after receiving training and technical assistance in child passenger safety from SAFE KIDS coalitions and child passenger safety experts. Twenty-one additional NAACP branches joined with SAFE KIDS coalitions to hold one-day child safety seat check-up and distribution events in September of 2000. Representatives from these affiliates and branches have distributed over 76,000 child safety seats, including over 27,000 booster seats, and educated low-income families on proper use.

SAFE KIDS adamantly believes a properly used and correctly installed child safety seat is the best way to protect our nation's children from the dangers of car crashes. We believe, through our program and with the help of other dedicated child safety advocates and partner organizations, children will be better protected on our nation's highways.

**III. Most State Child Occupant Protection Laws Have Dangerous Gaps and Weaknesses**

We know the best practices as to how to protect children when they travel and we know that in order to persuade parents to buckle up their children, we need to educate them about the benefits of proper restraint and the consequences of not restraining their children at all. Most experts agree that strong occupant protection laws, coupled with consistent enforcement, are a proven way to get children and adults to buckle up. Yet shockingly, a majority of states have gaps in their coverage—leaving certain motor vehicle occupants, especially children, unprotected. Loopholes in child passenger safety laws are confusing to parents who look to the law for guidance on how to best protect their children. They also serve as disincentives to law enforcement by negating the law's intent and failing to give police officers a clear directive to keep kids safe when traveling. These laws can leave children lawfully restrained, but woefully at risk.

*A. Child Passengers At Risk in America: A National Rating of Child Occupant Protection Laws*

The first child occupant protection law was passed in Tennessee in 1978. Since then, all states have passed laws mandating that children be restrained in motor vehicles. Disappointingly, the numbers of unrestrained children injured and killed on America's roadways have remained alarmingly high for the last two decades, bringing renewed attention to all aspects of child passenger safety.

The reasons for nonuse and misuse are complex. However, most experts agree that one key factor has been weak state laws, many of which have gaps in coverage related to age, seating position, lack of specific child safety seat use, and other exemptions and insufficient penalties. Loopholes in child passenger safety laws are confusing to parents who look to the law for guidance on how to best protect their children. Weak laws also prevent police officers from adequately helping to protect children who travel on roads in their states.

Many safety advocates are working toward improving their child occupant protection laws. To further these efforts, the National SAFE KIDS Campaign recently completed the most comprehensive analysis of our nation's child occupant protection laws. We reviewed each existing child occupant protection law and then measured them against a model law that we believe provides a benchmark for every state leg-

islature. Assessments were based on the language of each law, not on its implementation, enforcement, or other state child passenger safety programs.

Existing weaknesses and gaps are frightening. Nearly half of all states earned F's and more than a third earned D's.

- Nineteen states allow children to ride completely unrestrained. For instance, New Jersey's state law permits any child ages 5 and older to ride completely unrestrained in the back seat. Pennsylvania's law is even worse—a father can transport his four year old without safety restraints in the rear seat. In a crash, these unrestrained children are thrown violently within the interior of the car or even ejected from the vehicle all together.
- Thirty-four states allow kids to ride completely unrestrained in certain circumstances by exempting drivers and/or other responsible parties from compliance with their child restraint laws. For example, in Idaho and Tennessee a child can lawfully ride unrestrained if he/she is being nursed or his/her "personal needs" are being attended to. SAFE KIDS believes that a child should never be unrestrained in a moving vehicle merely because the child, at a moment in time, needs some extra attention.
- According to a majority of state laws, if there are not enough safety belts for all passengers, children can ride completely unrestrained. Other states allow children traveling in cars with out-of-state plates, or being driven by a resident of another state, to ride completely unrestrained. SAFE KIDS believes a child born in Louisiana, traveling in Louisiana, but driven by his out-of-state grandmother still deserves the full protection of an effective law.

Although all these scenarios are legal, they leave our children in potentially dangerous, life-threatening situations. Inconsistent state laws do children a grave injustice. No child in America should be dependant on the state in which they live for their safety on the road. SAFE KIDS believes that child passenger safety laws should apply equally across all of the states and the District of Columbia.

#### *B. Closing the Gaps Across the Map by 2006*

This rating of state child restraint laws clearly demonstrates that child safety needs to be a higher priority for our state legislators, governors, and citizens. In response, SAFE KIDS and its more than 300 coalitions have launched a five-year initiative to "close the gaps" in these laws, helping to ensure that all children are properly protected while traveling in motor vehicles. SAFE KIDS has provided individualized, tailored recommendations to each state legislature on how it can better protect its most vulnerable population and supplied model provisions to guide them in their efforts. Nationwide, SAFE KIDS coalitions have been working to upgrade their state child occupant protection laws, educating families on how to properly restrain their children, and assisting states in their law enforcement efforts. Already, at least 20 states have introduced bills to upgrade their law and three states (Arkansas, Georgia, and New Mexico), in response to their poor grades, have improved their existing laws—raising their failing or near failing grades to Bs.

#### **IV. Conclusion**

SAFE KIDS believes that a strong law, coupled with effective programming, is the cornerstone of any state's commitment to child passenger safety. SAFE KIDS is dedicated to continuing its effort to both helping parents safely transport their children and assisting state legislatures with improving their child restraint laws. Today's hearing, along with the awareness it will produce, will help SAFE KIDS and other child safety advocates better protect our nation's children.

Senator FITZGERALD. Ms. Paul, thank you very much.  
Mr. Vondale.

#### **STATEMENT OF JAMES VONDALE, DIRECTOR, AUTOMOTIVE SAFETY OFFICE, FORD MOTOR COMPANY**

Mr. VONDALE. Thank you. Good morning, Mr. Chairman. I am James Vondale, Director of the Automotive Safety Office for Ford Motor Company, and I appreciate the opportunity to be here today to discuss child safety and also booster seats. Ford has worked for many years to increase the proper restraint use by vehicle occupants of all ages and, while our overall efforts will continue, we

have increased our focus recently on the need to further improve the effectiveness of restraint systems for children aged 4 to 8.

Ford believes that booster seats should be used by children who have outgrown child safety belts but are too small to wear the safety belts in the vehicle now. In a crash, poor belt fit can reduce the protection that the safety belts should provide against the risk of serious or fatal injuries. Booster seats help address that concern by raising the child in the seat, filling the size gap so that the safety belts fit properly.

Booster seats are simple to use and they can be moved easily, they can be moved easily from vehicle to vehicle. Unfortunately, as we know, available data shows that only a small percentage of children aged 4 to 8 use booster seats.

Ford strongly supports the efforts of this Committee and the other initiatives that can increase booster seat use. In fact, Ford believes booster seats and child safety are so important that we launched the Boost America! program in April of last year. Because of the importance and broad scope of this undertaking, we partnered with a number of prominent safety-minded organizations and individuals. Like all of our prior efforts to increase proper use of safety restraints, we believe education is critical to increasing booster seat use.

A key component of our education strategy is the distribution of innovative, professionally developed educational materials to daycare centers, preschools, and elementary schools across the country. The Boost America! program has already forwarded educational materials to more than 150,000 daycare centers, preschools, and elementary schools, and through direct financial grants to states and local programs Boost America has already sponsored more than 60 car seat inspection events in 13 states and the District of Columbia and Puerto Rico, and we have certified over 300 new child passenger safety technicians during 20 certification courses in 7 states.

Additionally, the Boost America! program will distribute one million free booster seats nationwide. Half a million of those seats will be distributed to lower income families through United Way of America agencies around the country. The remaining half a million seats will be distributed by a voucher system through Ford Motor Company dealers and our partners. The vouchers will permit the remaining seats to be obtained at Toys-R-Us stores.

With your permission, I would like to submit additional information about the Boost America! program to the Committee for the record.

In conclusion, Ford Motor Company is a leading champion of child safety and booster seats. In fact, Ford was the first vehicle manufacturer to market a child restraint system in the U.S., beginning way back in 1957. In fact, Ford Motor Company was the first, second, and third manufacturer to market child restraint systems in the United States. Ford's Tot-Guard child restraint was introduced back in 1967 and it was sold by Ford and its dealers for many years until more modern child restraint systems became readily available in the marketplace.

Ford's sponsorship of the Boost America! program demonstrates our firm commitment to dramatically increase the use of booster

seats, and we look forward to working together with you and with others in the safety community on this very important safety issue.

Thank you.

[The prepared statement of Mr. Vondale follows:]

PREPARED STATEMENT OF JAMES VONDALE, DIRECTOR, AUTOMOTIVE SAFETY OFFICE,  
FORD MOTOR COMPANY

Good morning, Mr. Chairman, Members of the Committee. I am James Vondale, Director of Ford Motor Company's Automotive Safety Office. I appreciate the opportunity to be here today to discuss child safety and booster seats.

Over the past few decades, significant advances have been made in vehicle safety technology, and traffic fatality rates have declined steadily. Unfortunately, motor vehicle crashes remain the leading cause of death of children ages 5 to 14 in the U.S. Additionally, while injuries and fatalities involving infants and toddlers are down because of new developments in restraint technology, the wide availability of child safety seats, and aggressive education efforts, injuries and fatalities among children ages four to eight have declined only slightly. We are pleased with the progress that has been made to improve child passenger safety. But, Ford Motor Company is not satisfied and we continue to put motor vehicle safety, and particularly child safety, high on our agenda for continuing efforts for improvement.

Ford has worked for many years to increase proper restraint use by vehicle occupants of all ages. While our overall efforts will continue, we have increased our focus recently on the need to further improve the effectiveness of restraint systems for children. Ford believes that booster seats should be used by children who have outgrown child safety seats but are too small to wear vehicle safety belts properly. According to the National Highway Traffic Safety Administration, a child under 80 pounds is almost always too small physically to benefit as much from an adult safety belt alone as the child could benefit if better positioned by a booster seat. In a crash, poor belt fit can reduce the protection that the safety belts otherwise would provide against the risk of serious or fatal injuries. Booster seats help address that concern by raising the child in the seat, filling the size gap so the safety belts fit properly. Booster seats are also simple to use and can be moved easily among different vehicles. Unfortunately, available data indicates that only a small percentage of children between the ages of 4 and 8 are using booster seats.

Ford strongly supports the efforts of this Committee and other initiatives that can increase booster seat use. In fact, Ford believes booster seats and child safety are so important that we launched the Boost America! program in April of last year. Because of the importance and broad scope of this undertaking, we have partnered with a number of prominent safety minded organizations. Like all of our prior efforts to increase proper use of safety restraints, we believe education is critical to increasing booster seat use. A key component of our education strategy is the distribution of innovative, professionally developed educational materials to day care centers, pre-schools and elementary schools across the country. The Boost America! program has forwarded educational materials to more than 150,000 centers and schools. Boost America! has already sponsored more than 60 car seat inspection events in 13 states, the District of Columbia and Puerto Rico and certified 317 new child passenger safety technicians during 20 certification courses in 7 states.

Additionally, the Boost America! program will distribute 1 million free booster seats nationwide. Half a million of the seats will be distributed to lower income families through United Way of America agencies around the country. The remaining half a million seats will be distributed by a voucher system through Ford Motor Company dealers and our partners. The vouchers will permit the remaining seats to be obtained at Toys-R-Us stores. I would like to submit additional information about the Boost America! program to the Committee for the record.

In conclusion, Ford Motor Company is a leading champion of child safety and booster seats. In fact, Ford was the first vehicle manufacturer to market a child restraint system in the U.S., beginning in 1957. Ford's Tot Guard child restraint was introduced in 1967 and sold by Ford and its dealers for many years until more modern child restraint systems became readily available in the marketplace. Ford's sponsorship of the Boost America! program demonstrates our firm commitment to dramatically increase the use of booster seats and we look forward to working together with you and others in the safety community on this important safety issue.

Senator FITZGERALD. Mr. Vondale, thank you very much for that, and congratulations to Ford Motor Company for the good work you are doing in this area.

When will you be distributing the one million booster seats? Over what period of time is that?

Mr. VONDALE. That will be distributed shortly, the distribution period will begin. I believe that will cover about a 2-year period.

Senator FITZGERALD. It is very important work and I compliment you and Ford Motor Company for your efforts in this area. Thank you.

Mr. Baloga, thank you for being here.

**STATEMENT OF TOM BALOGA, PRESIDENT,  
BRITAX CHILD SAFETY, INC.**

Mr. BALOGA. You are welcome, Mr. Chairman. I am Tom Baloga, President of Britax Child Safety, Incorporated. My company is located in Charlotte, North Carolina. We are the U.S. subsidiary of Britax International, Warwick, England. Based on global sales, Britax is the world leader in child restraint sales. We have manufacturing and R and D in England, Germany, Australia, and sales offices in France, Sweden, Finland, and the Far East, and we have been manufacturing in the U.S. since 1996. So we have a very global perspective on child restraints.

I would like to make three main points in my testimony. No. 1, adult belts are too big for children 4 to 8 years old and most parents do not know this, and a national child restraint law would correct this. No. 2, we child restraint manufacturers must do a better job attracting 4 to 8 year olds to use restraints. No. 3, Congress has the power to remove an impediment to education by passing a Good Samaritan law for child restraint educators.

All over the world, children in child seats are being protected. Despite everything, child seats are doing an excellent job protecting children. But we can and must always do better. Seat belts in vehicles are primarily designed to be used by themselves to protect adults, not children, and the reason is that vehicle seat belts are positioned optimally for adults and therefore they are too big for children.

If vehicles were produced with a wide range of adjustment for adults and bigger children, as you had asked the question earlier, there would be a potentially huge problem of misuse by adults who would never adjust the seat belt to the adult position. What that means is that if you can accommodate children and move the seat belt low enough for the child, you would have a large number of adults who would never adjust it to the higher position and you could severely compromise protection.

Most parents wrongly believe that at 40 pounds or 3 to 4 years of age their children can safely use an adult seat belt and they do not understand that a child's hip bones do not develop sufficiently until about the age of 7 to 10, and then the child can be big enough to avoid a lap belt resting against the soft abdomen, as previous people have testified.

Seat belts must hold a human in a crash via the human's bone structure. Only strong bone can support the crash loads. Frontal crash forces can easily make the child's body momentarily weigh

2,000 pounds. This would be a 50-pound child experience a 45-g frontal crash, as in, for example, a 30 mile crash into a bridge abutment.

If a restrained child presses against a seat belt with a momentarily 2,000-pound force into the abdomen, the child will suffer lap belt syndrome, which has been mentioned by previous testifiers. This means severe internal injuries, including spinal column separation and paralysis. This happens if the child is too small for the adult belt and the lap belt rides up on the abdomen.

The problem is not one of available products to protect children, since there are many restraints on the U.S. market for children older than 3 years old. The problem is that most parents honestly do not know adult seat belts are too big for their children and this false impression is partly due to state laws that end requirements for child restraint too young.

Most infants and toddlers are being restrained, but parents find out that state laws for child restraints end at about 3 years of age and they wrongly believe that above this age their children can safely use the adult belt.

I believe that the same formula for success in getting infants and toddlers into child seats will work for getting big kids into restraints. Laws need to be updated as soon as possible and, since state laws seem to be very slow getting started, it may be appropriate to consider enacting a national child restraint use law.

For about 10 years Germany, Sweden and Austria have required the use of an appropriate restraint device for children up to 12 years old or less than 1.5 meters in height, which is about 4 foot 11. This has resulted in a tremendous number of children being protected and using booster seats. There is now activity under way to make this a Europe-wide directive.

A U.S. federal law or strong encouragement for states to adopt a uniform child restraint law up to 80 pounds would be very desirable. Recently, the Florida State Senate approved legislation to require children 8 or younger to ride in a child restraint and we hope this sparks interest and action by other states. I hope that bringing attention to this issue can at least educate parents that adult belts are too big for children.

We manufacturers must do more. As child restraint manufacturers, we have an obligation to do even better to make big kids' seats attractive to kids. There are boosters on the market now in fabrics of denim, camouflage, and themes for older kids, like NASCAR racing and so forth. But we manufacturers need to mobilize our efforts to prove that it is cool to be restrained. Peer pressure at that age is very, very important to keep children riding safely.

I believe our industry via our Juvenile Product Manufacturers Association is ready and willing to do its part to attract older kids, and I will carry that forward with our JPMA.

Removing a road block to education. There are many wonderful organizations like SAFE Kids and volunteers providing education on proper child restraint use. The majority of adults want all children to be protected and when they realize the need they will respond. In the U.S. there is currently a significant disincentive for more people to become involved in education on child restraints. Fear of litigation stops many organizations, volunteers, and sales

people from helping educate adults on proper child restraint use. A Good Samaritan law for child passenger protection educators would remove this disincentive and free up tremendous resources to provide personal education to those who can use it. I have sent a request to you to respectfully consider sponsoring such legislation for a Good Samaritan law.

While instructions, labels, flyers, videos, manuals and demonstrations are important, person to person information with hands-on guidance is often most effective. It is frustrating to us as a manufacturer when retailers tell us they are afraid to provide detailed fitting instructions to consumers because they fear product liability lawsuits. On the advice of legal counsel, most retailers forbid their staff from attaching a child seat into a consumer's vehicle and volunteer advocates who conduct safety seat checks do a terrific job, but many admit they operate in fear of litigation.

In closing, I would like to reiterate that products are already on the market to better protect children and parents often wrongly believe that adult seat belts are okay after 3 years of age, and updating laws and improving education can lead to significant improvements to restraints for big kids.

Thank you and I am ready to answer any questions you might have.

[The prepared statement of Mr. Baloga follows:]

PREPARED STATEMENT OF TOM BALOGA, PRESIDENT, BRITAX CHILD SAFETY, INC.

Mr. Chairman and Members of the Subcommittee, I am Tom Baloga, President of Britax Child Safety, Inc. My company is located in Charlotte, NC and we are the U.S. subsidiary of Britax International, Warwick, England. Based on global sales, Britax is the world's leading manufacturer of child restraints. Britax has manufacturing and R&D in England, Germany, and Australia and sales offices in France, Sweden, Finland, and the Far East. We have been manufacturing in the U.S. since 1996.

All over the world, children in childseats are being protected. Despite everything, childseats are doing an excellent job protecting children, but we can and must always do better.

Seat belts in vehicles are primarily designed to be used, by themselves, to protect adults not children. The reason is that the vehicle seatbelts are positioned optimally for adults and they are therefore "too big" for children. If vehicles were produced with a wide range of adjustment for adults and bigger children there would be a potentially huge problem of misuse by adults who would never adjust the seatbelts to the "adult position." Most parents wrongly believe that after 40 lbs. or 3-4 years of age their children can safely use an adult seatbelt. They don't understand that until a child's iliac crests (hip bones) are developed at about the age of 7 to 10 and the child is big enough to avoid the lap belt resting against the soft abdomen, an adult seatbelt provides inadequate protection to a young child.

Seatbelts MUST hold a human in a crash via the human's bone structure. Only strong bone can support the crash loads. Frontal crash forces can easily make the child's body momentarily "weigh" 2,000 pounds. This would be a 50 pound child experiencing a 45 g. frontal crash as in a 30 mph crash into a bridge abutment. If a restrained child presses against a seatbelt with a momentary 2000 pound force and the force is going into the abdomen, the child will suffer "lap belt syndrome" which means severe internal injuries including spinal column separation and paralysis. This happens if the child is too small for the adult belt and the lap belt rides up on the abdomen.

The problem is NOT one of available products to protect children since there are many restraints on the U.S. market for children older than 3 years old. The problem is that most parents honestly don't know adult seatbelts are too big for their children and this false impression is partly due to state laws that end requirements for child restraint too young.

### **Current State Laws Are Out of Date**

Most infants and toddlers are being restrained but many parents find out that state laws for child restraints end at about 3 years of age and they believe that above this age children can safely use adult belts. I believe that the same formula for success in getting infants and toddlers into childseats will work for getting “big kids” into restraints. Laws need to be updated as soon as possible. Since state laws seem to be very slow in getting started it may be appropriate to enact a National Child Restraint Use Law. For about the 10 years Germany, Sweden and Austria require the use “an appropriate restraint device” for children up to 12 years old or less than 1.5 meter in height (i.e. 59 inches or 4 ft. 11 in.). There is now activity underway to make this a Europe-wide directive. A U.S. Federal Law or strong encouragement to states to adopt uniform child restraint laws up to 80 lbs. or 4 ft. 9 in. would be very desirable. Recently the Florida State Senate approved legislation to require children 8 or younger to ride in child restraints and we hope this sparks interest and action by other states. I hope that bringing attention to the issue can at least educate parents that adult belts are too big.

### **Manufacturers Must Do More**

We child restraint manufacturers have an obligation to do even more to make our “big kids seats” attractive to the kids. There are boosters on the market with fabrics in denim, camouflage, and themes for older kids like NASCAR racing etc. but we manufacturers need to mobilize our efforts to prove that it’s cool to be restrained. I believe our industry via the Juvenile Products Manufacturer’s Association (JPMA) is ready and willing to do it’s part to attract older kids.

### **Removing a Roadblock to Education**

There are many wonderful organizations and volunteers providing education on child restraint use. The majority of adults want all children to be protected and when they realize the need they will respond. In the U.S. there is currently a significant disincentive for more people to become involved in education on child restraints. Fear of litigation stops many organizations, volunteers, and sales people from helping educate adults on proper child restraint use. A “Good Samaritan Law for Child Passenger Protection Educators” would remove this disincentive and free up tremendous resources to provide personal education to those who can use it.

While instructions, labels, flyers, videos, manuals, and demonstration fixtures are important, person-to-person information with hands-on guidance is often most effective.

It is frustrating to us when retailers tell us that they are afraid to provide detailed fitting instructions to consumers because they fear product liability lawsuits. On the advice of legal counsel most retailers forbid their staff from attaching a childseat into a consumer’s vehicle. Volunteer advocates who conduct safety seat checks do a terrific job but many admit that they operate in fear of litigation.

In closing I would like to reiterate that :

- Products are already on the market to better protect children
- Parents often wrongly believe that adult seatbelts are ok after 3 years of age
- Updating laws and improving education can lead to significant improvements to restraints for big kids.

Thank you and I’m ready to answer any questions you might have.

Senator FITZGERALD. Thank you very much.

Mr. Baloga, are those child safety seats or booster seats manufactured by your company?

Mr. BALOGA. No.

Senator FITZGERALD. No. I do not know if anybody—who put those up there? Did anybody want to do a demonstration?

Ms. PAUL. I turn to Joe Colella. Would you like to see?

Senator FITZGERALD. Well, I was wondering if those were for demonstration purposes.

Ms. PAUL. This low back booster seat illustrates how parents might dismiss its importance. It really doesn’t look so sturdy, therefore parents might not think it important and certainly cannot be the difference between life and death or serious injury



caused by an adult belt system. Then there's a high back booster that more imitates a front-facing convertible seat, so that parents see this as a more obvious transition, a graduation from small child into larger child seat. So there are some interesting issues of perception.

Mr. BALOGA. I can point out the aspects of the booster that are very, very critical to proper attachment of the seat belt on the child. These are horns that hold the seat belt down low so that it does not creep up on the child's abdomen. When adults sit in a vehicle, the belt is raised up sufficiently so that the belt lays across the thighs. That is the optimal position.

On a child who sits too low, it is very easy for the belt to ride up and that is where the loads of the seat belt are going the push into the soft abdomen. Of course, the abdomen has no bone protection. You do not have the hip bones developed until they are about 8 years old. So these horns artificially act as the hip bones and they will hold the lap belt down low.

Senator FITZGERALD. So that alone is a booster seat. Most booster seats that I have seen and the ones that my own son used, they had a full back to it as well.

Mr. BALOGA. Like this, yes.

Senator FITZGERALD. But that is a booster seat, not just a child safety seat?

Mr. BALOGA. Correct. It converts into a booster seat. You know, the harness can be removed. The lap belt, if you notice the cutout here, this holds it down low to simulate these horns. That will hold the lap belt down low. Then I have possibilities here to slide the shoulder belt in different locations. There are three possible locations to hold the shoulder belt in the proper position.

Senator FITZGERALD. Great. Well, thank you very much. That was a helpful illustration.

I wanted to get back to the issue. A few of you have mentioned the standards in the European Community and suggested that they are much tougher than we are here. In fact, some of the European countries have a requirement that all children under age 11—did I hear that correctly—

Mr. BALOGA. 12.

Senator FITZGERALD. 12?

Mr. BALOGA. Yes.

Senator FITZGERALD.—must ride in some child restraint. Could you tell us a little bit more about the specifics of those laws in Europe? Apparently the European Union is considering a Europe-wide standard?

Mr. BALOGA. Yes. The age is 12 years old or 1.5 meters, which is about 4 foot 11. If you are shorter, if you are shorter than this or you are younger than this, you must ride in an appropriate restraint. That means either an infant seat, a toddler seat, or a booster seat.

Senator FITZGERALD. Does the law get more specific than that? Does it break down the age at which you must be riding in a booster seat, as opposed to a child safety seat?

Mr. BALOGA. No, no. That is taken care of by the European requirements for the appropriateness of the actual child restraint, to have group zero, group one, group two, and so forth. So depending

on the weight of the child, you will select a restraint appropriate for the child. So the law states that below 12 years old you must be riding in an appropriate restraint, and then "appropriate" is determined by the actual restraint itself, if you follow the labeling instructions.

Senator FITZGERALD. Do you think we should have a law like that in the United States?

Mr. BALOGA. Yes. I would say 80 pounds would be the weight limit that I would recommend, 8 years, 80 pounds.

Senator FITZGERALD. Do you think the Europeans are wrong in going up to 12 years of age?

Mr. BALOGA. I think it is too high. I think it is unnecessary. I think it is a situation where you would be hard pressed to find an 11 year old who would sit in a booster seat. I think we should be more realistic.

Senator FITZGERALD. They just do not want to sit in those seats. They are anxious to graduate out of that.

Mr. BALOGA. Which is what I mentioned about we manufacturers have to do a better job of attracting these older kids.

Senator FITZGERALD. But the Europeans must have felt they had some science behind their requirement there, kids up to 12 years old. What is the science behind it? They must be finding injuries.

Mr. BALOGA. It originated in that in some of those European countries a child 12 years and younger could not ride in a front seat and that was the origin of it. For many, many years a child could not ride in a front seat until they were 12. With the advent of two-seaters and convertibles and so forth, they needed to make amendments to that. But that is really the origin, that riding in the front was not permitted.

Senator FITZGERALD. Now, with respect to an appropriate booster seat in Europe, what qualifies as an appropriate booster seat and would some of the booster seats on the market in this country not qualify as appropriate booster seats in Europe?

Mr. BALOGA. As far as meeting the European requirements, I do not have a good answer because we do not take the U.S. booster seats and test them to the European requirements. I know that our Britax seats meet the European requirements.

Senator FITZGERALD. You do sell them in Europe?

Mr. BALOGA. Yes.

Senator FITZGERALD. You designed them to meet the European specifications?

Mr. BALOGA. And the U.S., yes.

Senator FITZGERALD. And the U.S. But we only have—what are our specifications?

Mr. BALOGA. Well, when you start with a booster seat below 50 pounds you are automatically required to meet Standard 213, because Standard 213, the U.S. requirement, goes up to 50 pounds. So for example, our booster seat that goes from 40 pounds to 100 pounds—and we have three models that do that—they must meet the requirements of Standard 213 anyway.

So we would test them, for example, with a 6 year old child that weighed—the dummy weighs 47 pounds, and it would have to meet U.S. requirements. Above that, we would use a European P-10 dummy that is equivalent to a test for 80 pounds. Then for 100

pounds we would use a fifth percentile female U.S. dummy that is weighing 104 pounds.

So there are devices for testing and they are capable of being used for compliance and also for assurances to us as a company that we are protecting children. We are running these tests regardless of whether there is a U.S. requirement or not.

Senator FITZGERALD. How many booster seats a year does Britax sell?

Mr. BALOGA. In the world or in the U.S.?

Senator FITZGERALD. In the world and in the U.S. Would you know?

Mr. BALOGA. In the world, probably one million. In the U.S., we are very new in this market, so we are very small; on the order of 100,000.

Senator FITZGERALD. Is that right? So most of your sales are overseas. But you are headquartered here, right?

Mr. BALOGA. We are headquartered in Warwick, England.

Senator FITZGERALD. Okay.

Mr. BALOGA. We are only in the U.S. since 1996.

Senator FITZGERALD. You are a British company?

Mr. BALOGA. Yes.

Senator FITZGERALD. Okay.

Mr. VONDALE, does Ford Motor Company collaborate at all with the manufacturers of the child safety seats and booster seats? Does the auto industry generally?

Mr. VONDALE. Yes, we collaborate with the child seat manufacturers. In fact, as a part of our Boost America program we collaborated very closely with several of the manufacturers—Century. We developed with them the booster seats that we are going to be distributing across the United States.

Senator FITZGERALD. Oh, you developed a specific booster seat for this program?

Mr. VONDALE. One of the seats, the high-backed booster, was developed especially for this distribution and it is available only through the distribution. The other seat is similar to a seat that is on the market, but again it was developed and tested and evaluated very carefully with the two child restraint manufacturers.

Senator FITZGERALD. So you had your own engineers involved in that process of designing that seat?

Mr. VONDALE. They were involved from the beginning in terms of the evaluation of that seat, in fact both seats.

Senator FITZGERALD. Ms. Paul, you look anxious to speak.

Ms. PAUL. I was just going to say as a sidebar, talking about the state of child restraints in Europe, we are doing some work in Brazil now and we have lots of testimony from other developing nations, and it is a very, sorry situation. 5 percent of kids in Brazil are in car seats and car seats cost over \$200 because of high import tariffs. So the problems are just so replete worldwide as traffic and urbanization become the number one way kids are really going to die in the streets.

Senator FITZGERALD. They are putting tariffs on safety equipment like that.

Ms. PAUL. Yes.

Senator FITZGERALD. That does not seem like a good public policy.

Ms. PAUL. No, it does not seem like a good public policy.

Senator FITZGERALD. For Ms. Paul: Do we know that passing or improving a gap-closing law actually changes behavior? Would just passage of a law improve the usage of child safety seats?

Ms. PAUL. That is a universal question in the halls of Congress, is it not, oftentimes? There is some evidence and we rely strongly on—for instance, we know that when you have a primary enforcement law you can expect that seat belt usage rates on the average go up by 17 percent. Now, that is adult use. But then there is research that correlates adult seat belt use with parents and caregivers using child restraints.

We also know when we look at bike helmet laws that SAFE Kids has helped pass bike helmet laws in 16 states and we have seen a 60 percent drop in head trauma from bicycles because of the use of the helmets. So you can sort of tease out some of these correlations.

The CDC has also done a study that tracks, I believe, a correlation between primary seat belt laws passed and a rise in use by African Americans of seat belts. So we put together these isolated studies to make a case that laws really matter. Of course, we know attitudinally they absolutely matter, because parents say: If there is no law I am not sure I feel bound to do this.

I will say, too, parenthetically, looking at the 23 states that are moving ahead in closing those gaps, most include language that only covers children up to the age of 6. So the concerns that the Insurance Institute have are valid in that we should move ahead with research at the same time as we move ahead with passing booster seat laws. If we are going to demand 8 years of age and 80 pounds, we need good research behind these laws. Probably the research on booster seat effectiveness is most needed on older children of higher weights. These are the children who are much more emotionally independent, they demand freedom, autonomy, they want to be in that adult belt system. We know that.

So these are important reasons why we need the research behind mandates for booster seats of seven and eight year olds.

Senator FITZGERALD. Mr. Vondale, Ford now owns Volvo, is that correct?

Mr. VONDALE. Yes, that is true.

Senator FITZGERALD. I understand that Volvo's web site regarding its Safety Concept Car states that: "Today's generation of rear seats is designed for adults and modified to suit children. In the Volvo SCC, Volvo cars approach the matter from the opposite direction and presents a rear seat that is designed first and foremost for children, while functioning perfectly well for adults, too. Both the seats in the rear of the SCC have electrically adjustable seat cushions that can be varied vertically. This is done so that the rear seat can be altered to suit all those children who have outgrown rearward-facing child seats. The seat cushion height is adjusted steplessly to exactly match the child's height and with due attention to belt geometry, comfort, and forward visibility."

Is Ford considering incorporating this feature into its regular Ford cars as opposed to its Volvo subsidiary?

Mr. VONDALE. Senator, one of the advantages of having Volvo as one of Ford's brands now is our ability to use the strength of Volvo's safety reputation and safety expertise to develop new concepts and new ways to address these issues. So we are working with Volvo to, as a concept car, to evaluate those types of systems.

Certainly one of our plans with Ford Motor Company is if these systems are in fact proven out and they are feasible, then they can be considered for cascading through the other Ford brands. Right now we are working with Volvo on those types of concepts and we think that it does have some promise.

Senator FITZGERALD. Are those adjustable seats available on the market now with Volvo, or is that just a concept?

Mr. VONDALE. That is a concept car. In fact, I was handed a note: The concept car will be here on May 7th, and we probably will be able to share that information with you. But it is a concept car.

Senator FITZGERALD. Will it be here for an exhibit on May 7th? Okay. But that is not offered in any production model, then, yet, these adjustable seats?

Mr. VONDALE. No. That is a very new and—

Senator FITZGERALD. Revolutionary.

Mr. VONDALE.—revolutionary concept that is being explored as a part of the Volvo concept car.

Senator FITZGERALD. I guess my question, just to followup on that a little bit, would be, if we were to go forward and mandate booster seats or greater booster seat usage, that would clearly be one way of addressing this whole issue. But do you think the technology will be out there that we can actually mandate that the cars themselves have seats that are adjustable to fit children?

Now, in the past panel the panelists did not seem to think the mandating any requirements in the cars was the way to go because they thought it was too difficult. Clearly, the car seat or booster seat industry would probably prefer us the require booster seats. After all, there is some self-interest in this. If we mandate booster seats, that is going to mandate buying your product.

But I do not know if that is the right thing to do for our kids in this country.

Mr. BALOGA. Senator, when my son Matthew was born we looked for a built-in child restraint and could have bought one from Chrysler at the time. The question that we asked was, will it accommodate an infant? The answer was no, because infant restraints have to be rear-facing and they are very complicated to build into a seat and bulky, so that is out of the question.

Then the second issue was, if we buy a vehicle with a built-in child restraint we also have to buy a portable restraint because when grandma and grandpa and our relatives take the child we would then be expected to give them our car, which is rather inconvenient. So the practical issue is built-in restraints have been available and the public has decided it is not convenient.

You also have to sit on the restraint when it is folded in, which makes it very hard and uncomfortable. While I would grant you that technologically it is not impossible to design a system, at this point it is just not practicable to do so. From the issue of the relatives transporting children, you would have to buy a portable restraint anyway.

Senator FITZGERALD. But any kind of federal mandate it seems to me could be written in such a way so that a parent or a caregiver is complying with the law if they have got their child in the required safety restraint, whether it is built into the car or it is portable and it is basically a booster seat.

Mr. BALOGA. Yes.

Senator FITZGERALD. Would Ford have anything to add here?

Mr. VONDALE. Senator, I think just looking at the booster seats that are presented in front of us it is pretty clear that particularly the backless booster seat is a clear example of a very simple seat that we have found is very effective in addressing the issues here, and that is also very affordable to the customer and one that can be moved from vehicle to vehicle. All of those kinds of things are very important to customers.

Senator FITZGERALD. Is the backless booster seat as effective as one with a back?

Mr. VONDALE. When we have looked at both backless and high back, we find that the backless booster seat works very well in vehicles that have a sufficient high back behind the child. We want to make sure that the child's head and neck are protected. In those vehicles, particularly much older vehicles, where the back seat is much lower, you would want to consider a high-backed booster seat. So I think that is the real issue of choosing between a backless booster and the high-backed booster, is the neck protection that is available to the child in the vehicle that it is being used in.

Senator FITZGERALD. The ones that you are going to be distributing as part of your campaign, they have a high back?

Mr. VONDALE. We are distributing both. We have a backless booster that will be available for vehicles that have a sufficiently high back seat to help protect the child's neck and head, and then we will have high-backed boosters for those vehicles that need the high back, extra height protection.

Senator FITZGERALD. Are you doing any advertising campaign to demonstrate the availability of your, or publicize the availability of the seats you will be giving away?

Mr. VONDALE. As I said, there is a strong educational program that is going forth. We are using United Way and their network to help get to those people who are of lower income. We think that is a very effective way, rather than advertising, to get directly to the people who need these seats.

As a part of the Ford Motor Company and our partners' give-away—for example, AAA and others will be involved with us—yes, there will be communications to let customers know about the availability of this program.

Ms. PAUL. I think you have also hit on the complexity that has not been really worked out yet as to what the protocol is to determine exactly which low-back, high-back seat is best, considering all the variables of car seat dimensions and a child's weight and size, and the fact that when you talk about—and many people get this wrong—a give-away program, you just cannot give a low income mom a seat and expect her to know what to do with it. So then we are back to the trained technicians who need to be certified by at least 4 days of training and hundreds more hours of hands-on

experience, being able to guide them best, to then help them put that seat in right.

So it is a really complicated business.

Mr. VONDALE. That is a good point. One of the other reasons we are using the United Way is the agencies there will be able to work with the people who are getting these seats, to give them information, so that they make the right choice and the seat fits properly.

Senator FITZGERALD. Well, with that I want to thank all of you. Both panels have been wonderful. I really appreciate your interest and willingness to come here to Washington to testify. I am hoping that some good will come out of this. I think we have learned a lot here.

For the most part, I think all the witnesses have given pretty clear direction on what we ought to be doing. We will take all of your full written statements and put them in the record, and we will look forward to continuing to work with you on this very important issue.

Thank you all very much for being here. Thanks. With that, I am going to adjourn this meeting.

[Whereupon, at 12:23 p.m., the Subcommittee was adjourned.]





## APPENDIX

### PREPARED STATEMENT OF THE NATIONAL ASSOCIATION OF GOVERNORS' HIGHWAY SAFETY REPRESENTATIVES

#### Introduction

The The National Association of Governors' Highway Safety Representatives (NAGHSR) is pleased to submit testimony to the Consumer Subcommittee on the issue of child passenger safety. NAGHSR is a nonprofit association representing state highway safety agencies. Its members are appointed by their governors to administer federal behavioral highway safety grant programs, develop the annual state Highway Safety Plan, and implement highway safety programs in the state. NAGHSR focuses on the behavioral aspects of highway safety such as impaired driving, failure to use occupant restraints and child passenger restraints, excessive speeding and aggressive driving, distracted and fatigued driving, and unsafe bicycling, walking and motorcycling.

#### Overview of the Problem

Research by the National Highway Safety Administration (NHTSA) has consistently shown that occupant restraints are the *most* cost-effective way to prevent deaths and injuries in motor vehicle crashes. Hence, the failure to properly restrain drivers and occupants of a vehicle, including children, is a priority issue for NAGHSR members.

Unrestrained children in motor vehicle crashes are an especially troublesome, often tragic, yet preventable problem. However, it is important to keep the problem in perspective. Inadequate occupant protection is still overwhelmingly an adult problem. According to 1999 data from the Fatal Analysis Reporting System (FARS), children aged nine and under represented only 3 percent of occupants killed in a motor vehicle crash and 5.4 percent of occupants injured in such crashes. Children nine and under killed in a vehicle who were unrestrained represent only 2.9 percent of the total unrestrained occupants.

Additionally, ensuring that children are placed in restraints is a far bigger problem than ensuring that the restraints are used properly. According to 1999 FARS data, 55 percent of fatally injured children ages four to nine are completely unrestrained. Restraint use for children from birth to age one is 97 percent, and ages one to four, 91 percent. From age five to 15, restraint use plummets to 68.7 percent. Hence, a major focus of state occupant protection efforts for children is to make sure that children are restrained and that they are kept in appropriate restraints for as long as possible before being moved to safety belts.

Generally, state child passenger protection programs have three or four components: legislation, public information and education programs, enforcement and child safety seat clinics and fitting stations. Although legislation is a very important component, it is only *one* element of a comprehensive approach to child passenger safety. Without education and enforcement, legislation alone will have a limited impact upon behavior.

#### Legislation

Two states had enacted booster seat laws prior to the 2001 legislative session. In 2000, Washington was the first to enact a booster seat law which requires children up to 6 years old or 60 pounds to be restrained in booster seats. The law will take effect July 1, 2002. California subsequently enacted a law that would require children up to 6 years old or 60 pounds to be in booster seats. California's law will take effect Jan. 1, 2002.

During this year's sessions, the states have been very active on the legislative front. Many states have pending legislation that would close the gaps in child restraint laws or specifically require older children to be restrained in booster seats.

There are two distinct problems with the drafting of state booster seat legislation. First, all state child restraint laws require that children be placed in child restraint systems that are consistent with federal safety standards (FMVSS 213). (See at-

tached Arkansas law which is typical of how state laws are written.)\* However, the current federal child restraint standard only covers safety seats for children 49 pounds or less. Hence, by referencing the federal standard, state booster seat laws encourage parents to put children into boosters that are untested and potentially unsafe.

Further, by referencing the federal standard such laws are put into a legal “grey” area. A good defense lawyer could easily mount a challenge to such a law in court because there is no federal standard for child restraints for children 50 pounds or above. In order to rectify this situation, the National Highway Traffic Safety Administration (NHTSA) must raise the standard for child restraints and do so as quickly as possible.

Secondly, there is currently no consensus on the appropriate age or weight for booster seats and hence, it is difficult to know how to write a state law. Some states have used a 6 year old or 60 pounds limit. Others have higher limits. The difficulty with a limit based on age or weight is that there are always exceptions. A standard child passenger safety seat may better serve children who have reached the age limit but not the weight limit. Larger children who have reached the weight limit but not the age limit may better suited to a booster seat. A number of researchers and child safety advocates believe that the best test for children is a “fit” test. If the child can sit in a booster seat with his/her legs bent over the edge, with the lap belt low on the hips, and with the shoulder belt properly positioned across the chest, then that seat is right for the child. It is difficult, however, to write a fit test into state legislation. NHTSA should reconvene its Blue Ribbon Panel on Child Restraint Usage and encourage it to take the lead on the development of research-based guidelines for use of booster seats.

There are also concerns about mandating booster seats in states that have large low income populations. These populations typically own older vehicles with lap-only belts in rear seats. Booster seats are not compatible with and cannot be used with such vehicles. Retrofit kits for older cars are expensive and scarce. Child restraint manufacturers should be encouraged to develop booster seats that can be properly used with lap-only seat belts.

Despite these difficulties, many states have forged ahead with booster seat legislation because they are concerned about the safety of young children and want to take every precaution to protect them. NAGHSR conducted an informal poll of its member State Highway Safety Offices (SHSO's) the week of April 16 and 33 states have responded to date. Of the 33 respondents, 14 states have introduced booster seat laws this session. Of those, one was enacted (Arkansas) and one was killed (Maryland). The remainder are still pending. Individual state responses are as follows:

Arkansas—legislation enacted in February that would require children 6 years of age or at least 60 pounds to be in an age-appropriate child passenger safety seat. The law will go into effect this summer.

Colorado—booster seat bill may be introduced next session.

Connecticut—legislation is pending that strengthens existing CPS law.

Delaware—booster seat bill is pending.

District of Columbia—current child restraint law is being re-written and strengthened. A booster seat bill is expected to be introduced shortly.

Georgia—legislation introduced to strengthen child safety seat law and mandate booster seat use. Booster seat portion not accepted by legislature.

Hawaii—booster seat bill pending. The legislature enacted a booster seat bill that would require children to be in booster seats if they are under 80 pounds or 8 years old. The bill is awaiting the Governor's signature. It would go into effect Jan. 1, 2002.

Iowa—bill pending which would raise the age of child restraint coverage to 5 and would require children age 13 or younger to be restrained in any seating position in a vehicle.

Illinois—booster seat bill is pending.

Kansas—booster seat bill introduced. Senate passed bill but no action has been taken by House. Passage unlikely.

Louisiana—booster seat bill is pending.

Maryland—booster seat bill passed Maryland Senate 41-4 but killed on House floor.

Massachusetts—booster seat bill is pending.

Missouri—Senate bill passed but House action is uncertain. Passage unlikely.

Minnesota—Booster seat bill introduced but stalled in committee.

New Hampshire—may file a booster seat bill later this spring.

\*The information referred to was not available at the time this hearing went to press.

North Carolina—will hold a study commission on the issue this year; expect to file a booster seat bill in 2002.

New Jersey—booster seat bill is pending. Bill also requires children 8–18 to wear safety belts in any seating position in vehicle.

New Mexico—current CPS law strengthened, effective 7/1/2001.

Oregon—booster seat bill is pending.

Rhode Island—booster seat bill pending; chances of passage are very good.

Texas—booster seat bill is pending.

Vermont—booster seat bill is pending.

### **Clinics and Fitting Stations**

*Every state* has trained Child Passenger Safety (CPS) technicians who are certified in NHTSA's four day standardized training curriculum. The course includes three days of classroom instruction and one day of hands-on training and student evaluation. There are strict standards a student must pass before he/she can become a certified technician. Technicians learn about and are evaluated on booster seats as part of their standardized NHTSA training.

State Highway Safety Offices are the primary financial supporters of technician training. They pay for technician training from a variety of federal sources: Section 402 State and Community Highway Safety grants (23 U.S.C. 402); Section 157 incentive grants to increase seat belt usage (23 U.S.C. 157); Section 405 occupant protection incentive grants (23 U.S.C. 405); and Section 2003(b) child passenger protection incentive grants (Section 2003(b) of TEA–21). According to NHTSA, there are more than 15,000 trained CPS technicians, and more are being trained every day.

*Every state* also conducts CPS clinics on a regular basis. The clinics are special events held during a fixed period of time on an identified date. At a clinic, trained technicians check the proper installation of child restraints, hand out information about child restraints, and educate parents and caregivers on the proper type, use and fit of child restraints. Correction of booster seat installations and booster seat education are a big part of state CPS clinics. The clinics are typically held in conjunction with safety fairs, at grocery stores or pre-schools, at local retailers, hospitals, or day care centers, etc.

States may also conduct a select number of special events each year focused on booster seats. Utah, for example, conducted 150 clinics in both rural and urban areas last year. At least one special event focused on booster seats. Parents with children aged 4–8 were encouraged to attend, and special booster seat education was provided. Low cost or no-cost booster seats were also given to attending parents.

Nearly every state also has permanent fitting stations. These are places with a trained technician open to the public on a regularly schedule basis. A parent or caregiver can make an appointment and bring his/her vehicle and child restraint for an inspection by a trained technician. As with the CPS clinics, booster seat education is an integral part of the fitting. The fitting stations are typically car dealerships, fire stations, local police departments, county health departments, etc. Some states operate mobile fitting stations (usually a retrofitted bus) which can provide child safety seat and booster seat inspections in less densely populated areas of a state.

Most states also give child restraints (including booster seats) to low income families. Last year, Utah distributed approximately 3,500 booster seats to needy families. Delaware's Office of Highway Safety is presently coordinating a number of booster seat distributions for low income families with such partners as the federal Women, Infants, and Children (WIC) program, Head Start, PTA's, elementary schools, and pediatricians.

Even small states actively promote booster seats at their CPS clinics and fitting stations. Montana, for example, conducts clinics all year long in the seven largest counties and several of the smaller counties. The state also operates twelve fitting stations. At almost all of these forums, booster seats are included in the process to educate parents about child safety seat usage and installation.

The Section 2003(b) program is a major source of funding for both fitting stations, CPS clinics, and child restraints (including booster seats). This program was authorized under TEA–21 at \$7.5 million for 2000 and 2001 only. The 2003(b) program, which is an earmark out of the obligation limitation for federal-aid highways, should be funded at \$7.5 million each year for the remaining two years of TEA–21.

### **Public Information and Education**

In addition to fitting stations and clinics, *every state* also has an educational program aimed at informing parents about the proper use of child restraints, including booster seats. States typically provide education through public service announcements, websites, banners, posters, brochures, special contests and media events,

press releases, videos, or through classes for parents. States may also conduct CPS workshops and summits to keep trained technicians apprised of the latest developments in child passenger safety, including booster seat safety. The technicians, in turn, use the updated information when they communicate with parents at fairs, clinics, fitting stations, and the like.

Some State Highway Safety Offices have special educational programs for targeted populations. Connecticut, for example, has a safety program specially geared toward the Latino population to teach them about the importance of child restraints, including booster seats. In Georgia, an aggressive outreach program was implemented to raise awareness and increase child restraint use (including booster seat use) in designated low-income, minority and rural Georgia communities. Georgia is also partnering with minority organizations, minority sororities and fraternities, historically black colleges and faith communities to host minority health fairs and help educate the minority community about the need for child restraints, including booster seats. The Oklahoma highway safety office is funding a full-time traffic safety educator through the Latino Community Development Agency. The educator will hold twenty workshops in English and Spanish to educate parents about child restraint use, including booster seats, and will distribute printed materials as well.

Maryland's educational program is typical of those found in most states. The Maryland Kids in Safety Seats (KISS) program is the primary educational resource for child passenger safety. Information is provided to parents about child restraints and booster seats through a partnership with social clubs, day care centers, preschools, elementary schools, the health care community, and other community organizations. Another component is the "Prescription for Your Child's Safety," a partnership between the Maryland Chapter of the American Academy of Pediatrics, the Maryland Highway Safety Office, and Maryland Safe Kids. The program, which has reached more than 3,000 family practitioners and pediatricians in the state, provides a check-off form for doctors to use with families. The form provides guidance to doctors on appropriate child restraints, including booster seats. The Baltimore City Community Traffic Safety Program, in partnership with the Baltimore Safe Kids Coalition, has offered a Give Kids A Boost program for the last several years for city residents. When children are brought to specified locations to visit the TIKEMobile, they can receive an immunization booster shot as well as a free booster seat. Parents are also given assistance with installation of all child restraints.

NAGHSR and its members have also been an active participant in the Ford Motor Company Boost America! Campaign. This \$30 million campaign is intended to raise public awareness about the importance of booster seats and has three parts: an educational component, a booster seat distribution component, and a grant component. The State Highway Safety Offices will be a key partner in the booster seat distribution component. A half a million booster seats will be given to low income families. The booster seats will be disseminated at press events that will be held in a different state each week for the next year. The SHSO's will help organize these events, and state-funded child passenger safety technicians will be on hand to disseminate the seats and offer installation advice.

Once a state enacts a booster seat law, the state typically undertakes an educational campaign to notify parents of the new law. Washington, for example, used its Child Passenger Safety Teams—located in 30 of 39 counties—to get the word out. The SHSO has also developed booster seat public service announcements for both radio and television. The office is also developing an interactive educational video for kids of booster seat age. Additionally, the SHSO is working with broadcast companies and radio stations who are sponsoring booster seat events.

### **Enforcement**

Since there are no booster seat laws currently in effect, the states have not yet undertaken special booster seat enforcement efforts. Rather, states typically enforce child restraint laws as part of their regular enforcement waves and biannual enforcement campaigns. In Michigan, for example, booster seat use is a prime message in all occupant protection enforcement campaigns. As more and more states enact booster seat laws, it can be expected that states will undertake special enforcement efforts to increase usage rates.

### **Summary of Recommendations**

In summary, all states are conducting a number of activities to promote booster seats. In order to maximize state efforts, however, the following should be undertaken:

- NHTSA should upgrade FMVSS 213 to cover restraints that can accommodate children up to 80 pounds.

- NHTSA should reconvene the Blue Ribbon Panel on Child Restraint Usage and develop uniform guidelines on the use of booster seats.
- Manufacturers should be encouraged to develop booster seats that are compatible with lap-only belts for use in the rear seats of older vehicles.
- Congress should extend the funding for the Section 2003(b) program which is slated to expire at the end of FY 2001.

Thank you for the opportunity to submit the views and recommendations of the National Association of Governors' Highway Safety Representatives (NAGHSR).

