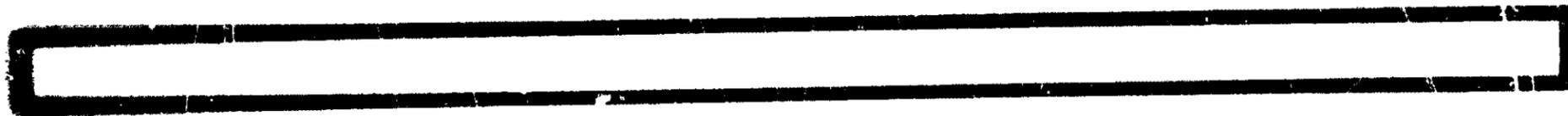
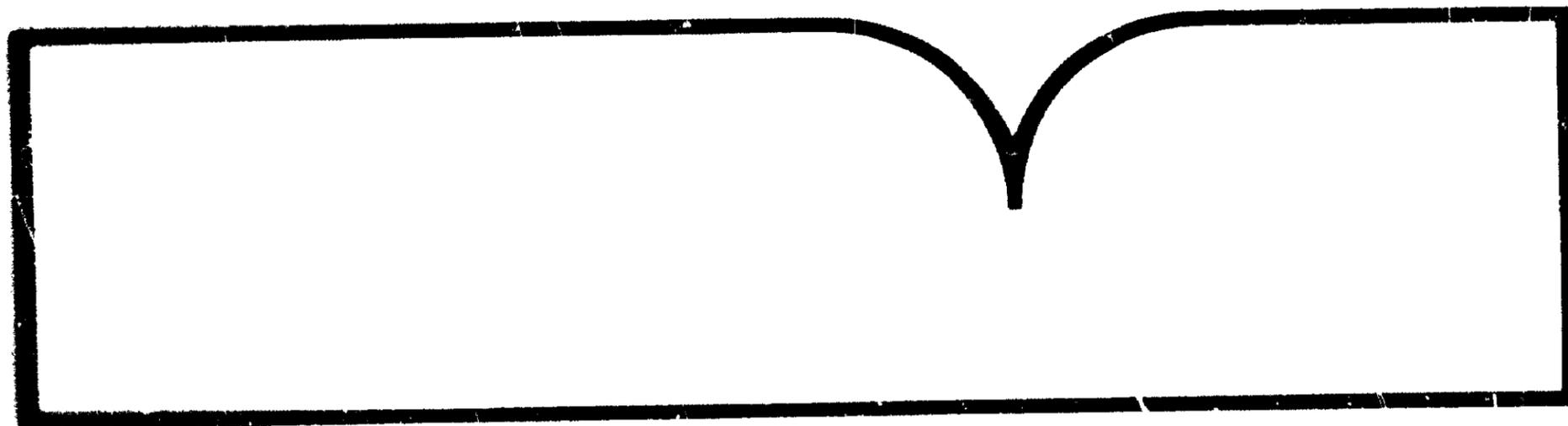


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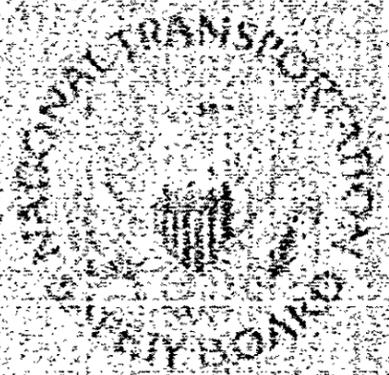
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SAFETY STUDY

CHILD PASSENGER SAFETY SYMPOSIUM:
WAYS TO INCREASE USE AND DECREASE
MISUSE OF CHILD RESTRAINTS

NTSB SS-84-05

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SUMMARY
OF
THE NATIONAL TRANSPORTATION SAFETY BOARD
CHILD PASSENGER SAFETY SYMPOSIUM:
Ways to Increase Use and Decrease Misuse of Child Restraints

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FOREWORD

This report contains the transcript of the general sessions of the Safety Board's Symposium on Child Passenger Safety, held in Washington, D. C. on January 28, 1985. These sessions, and the discussions of six groups that considered various aspects of the problem and made reports at the afternoon general session, focused on ways to increase use of child restraints and to reduce their misuse. The report also contains considerable reference material which should be useful to child passenger safety advocates. Appendixes present information on child restraint use rates as well as on rates of misuse, State child passenger protection laws, child passenger fatalities by State, current models of child restraints, and State Child Passenger Safety Associations.

INTRODUCTION

Motor vehicle crashes continue to be the number one killer andcrippler of children in the United States. Children routinely are immunized against childhood diseases which used to claim many lives, but too many parents fail to "immunize" small children against harm from crashes by placing them in child restraints every time they are in a motor vehicle. Child restraints are extremely effective in reducing small child passenger casualties. Up to 91 percent of the fatalities and 74 percent of the serious injuries incurred by small child passengers could have been prevented by the use of child restraints 1/, according to a Washington State study. 2/ Other studies have indicated that correctly used child restraints could result in fatality reductions of 65 to 75 percent and injury reductions of 40 to 50 percent. 3/ Whether the loss reductions are in the lower or higher ends of these statistics, it is clear that too many children are dying needlessly or being crippled cruelly because they were unrestrained during a motor vehicle accident.

It is the goal of the Safety Board that, by 1995, at least 80 percent of all child passengers younger than 5 years will be transported in approved, properly used child restraints. There is much work to be done by many before this goal can be achieved.

Progress is being made. The federal Fatal Accident Reporting System (FARS) 4/ gives an indication that the enactment of State child passenger protection laws has contributed to a national decrease in child passenger fatalities. According to the 1984 FARS data, 532 child passengers younger than 5 years in age were killed in crashes involving passenger cars, vans, and light trucks (the vehicles most likely to be covered under child passenger protection laws), compared to 598 in 1983 and 606 in 1982. This represents declines of 12.2 percent and 11 percent from 1982 and 1983, respectively. The number of fatalities among older child passengers, typically not covered by child passenger protection legislation, did not show similar declines in 1984. (See appendix F.)

1/ The term "child restraint" as used in this report refers to many forms of child restraint devices including infant, toddler, and convertible safety seats, and booster seats.

2/ R. G. Sherz, Washington State Seatbelt Study, 1970-1977, unpublished. Note: Some researchers find the Washington State study of restraint effectiveness overstates the value of restraint use. The analysis was biased by police officers' tendency to assume if an occupant was injured in a crash, he or she was unrestrained. For an analysis of reporting bias, see Yosef Hochberg, "Problems of Inference in Studies of Seatbelt Effectiveness," University of North Carolina Highway Safety Research Center (HSRC), December 1975.

3/ Estimates of the effectiveness of a properly used child restraint vary widely, probably due to differences in sample size, quality of reported data, and type of injury analysis. Researchers also have been handicapped by a lack of accident data involving restrained children, since, until recently, so few children were restrained. For a comprehensive review of effectiveness studies, read C.J. Kahane, J. Kossar, and G.Y.H. Chi, "Evaluation of Effectiveness of Child Safety Seats in Actual Use," SAE Child Injury and Restraint Conference Proceedings (1983), 113-123. The authors of the study concluded that overall injury reduction for child restraint use (properly and improperly used) appears to be about 25-30 percent and as high as 40-50 percent when the restraints are used properly. Fatality effectiveness may be 40-50 percent overall and 65-75 percent for child restraints used properly.

4/ The Fatal Accident Reporting System (FARS) is a computerized file maintained by the U.S. Department of Transportation's National Highway Traffic Safety Administration which contains data on all fatal traffic accidents occurring each year within the 50 States, the District of Columbia, and Puerto Rico.

Indeed, the number of child passengers, age 10-14, killed in motor vehicle accidents involving passenger cars, vans, and light trucks increased in 1984 compared to 1983. The decline in 1984 of fatalities among child passengers younger than 5 years old is particularly noteworthy since motor vehicle occupant deaths overall increased by 3 percent, reversing the trend of fatality reduction from 1980 to 1983. (Driver fatalities accounted for most of the increase.)

Despite the enactment of child passenger protection laws in all 50 States, child restraint use rates remain too low, although they have increased from prelegislation rates. Only about half of the children under 5 observed in the most recent federally-funded surveys were in child restraints. 5/ Even more disappointing, almost half of the child restraints in use were not being used properly, and thus did not afford the children the full protection of the restraint. 6/

As one step in a program designed to increase use and decrease misuse of child restraints, the Safety Board conducted a one-day symposium in January 1985, during which child passenger safety advocates provided ideas on how to address these problems. The symposium included major addresses on the problems of enforcing existing State child passenger protection laws and the difficulties of translating laboratory crash test data of misused safety seats into real-life expectations. Small discussion groups also were convened on various aspects of the misuse problem and on ways to increase use. (See the symposium program in appendix K for a list of the discussion groups.)

The material that follows this Introduction includes a transcript of much of the symposium proceedings. The remainder of this Introduction provides background information on child restraint use and misuse, summaries of the major points made at the symposium, and recommendations developed by symposium participants.

Misuse of Child Restraints

The Safety Board's major work in child restraints began during 1982-83, when it conducted a Safety Study in which it investigated 53 motor vehicle accidents involving restrained and unrestrained child passengers. 7/ The study provided further evidence of the life-saving value of child restraint use. However, it also highlighted the misuse problem, which has become more of a concern as use rates have increased. The study found that only 6 out of the 34 child restraints involved in these accidents were being used properly. In the accidents involving the 28 child restraints that were misused, the misuse conditions, the accident circumstances, and the impact severity varied. In 19 cases, the

5/ National Highway Traffic Safety Administration (NHTSA) 19-city survey of occupant restraints, January-June 1985.

6/ Researchers at the University of North Carolina Highway Safety Research Center (HSRC) analyzed a sample of North Carolina passenger car crashes involving child passengers younger than 4 and found that misused child restraints, in crashes of all severities, reduced the chance of any injury by 26 percent and of severe head or fatal injury by 48 percent. Properly used restraints, in contrast, reduced the chance of any injury by 59 percent and of a fatality by 81 percent. For more information, see the HSRC report, "The Use of Telephone Interviews to Verify the Reliability of Police Accident Reports in Assessing the Effectiveness of Child Safety Seats," Final Report, May 1984.

7/ National Transportation Safety Board, Safety Study, "Child Passenger Protection Against Death, Disability, and Disfigurement in Motor Vehicle Accidents," (NTSB/SS-83/01), September 7, 1983.

misused restraints provided sufficient protection, under the circumstances of the accidents in which they were involved, to prevent or minimize injury. However, the remaining 9 misused child restraints did not provide sufficient protection to prevent fatality or to minimize injury. In 6 cases, proper use of the child restraint probably would have prevented the death, or prevented or minimized the injury to the child involved.

In 16 cases of misuse, multiple errors were found, usually involving 2 or 3 distinct usage errors; one case involved 5 errors. Any of the individual usage errors identified could have caused the degradation of the protective functions of the child restraint in an accident. However, in the accidents investigated, the actual effect of a particular usage error varied, depending on the specific circumstances of the accident. 8/

Aside from the Safety Board study, in-depth accident investigations documenting the effects of child restraint misuse are scarce. 9/ Routine reports of motor vehicle accidents rarely include any information on child restraint use or misuse. Because of this, researchers have had to rely on laboratory crash tests of child restraints in misuse modes to estimate the decrease in effectiveness of misused restraints. 10/ (This approach has several shortcomings as pointed out by a speaker at NTSB's symposium.)

The most comprehensive misuse data from which national trends may be extrapolated are presented in observational studies conducted by Annemarie Shelness and Jean Jewett for the Physicians for Automotive Safety (PAS) in 1983 and by Goodell-Grivas, Inc., for the U.S. Department of Transportation in December 1984. 11/ 12/ (The U.S. Department of Transportation also collects some misuse data during surveys conducted as part of its semiannual survey of restraint use in 19 U.S. cities.)

8/ In connection with the Safety Study, the Board issued 18 safety recommendations, 10 of which were aimed specifically at combating misuse. Recommendations were issued to manufacturers of child restraints, urging that instructions be revised to be easier to understand and that permanent belt routing labels be affixed to safety seat frames; to States, that they initiate programs and public information and educational activities to combat misuse; to the NHTSA, that it undertake rulemaking and a variety of testing and research programs to explore the consequences of misuse; and to the International Association of Chiefs of Police, that it promote training programs for its members on the proper use of safety seats and improve data collection procedures. (See appendix G for the text of these recommendations.)

9/ For an in-depth analysis of the performance of child restraints in 16 severe crashes, including restraints that were used improperly, see, J. W. Melvin, K. Weber, and P. Lux, "Investigation of the Performance of Child Restraints in Serious Crashes," Final Report, University of Michigan Transportation Research Institute, 1980.

10/ The NHTSA, the University of Michigan Transportation Research Institute, and Calspan have conducted crash tests using child restraints in misuse modes.

11/ Annemarie Shelness and Jean Jewett, "Observed Misuse of Child Safety Seats," SAE Child Injury and Restraint Conference Proceedings (1983), 207-215.

12/ Michael J. Cynecki and Michael E. Goryl, "The Incidence and Factors Associated with Child Safety Seat Misuse," prepared by Goodell-Grivas, Inc., under contract to the National Highway Traffic Safety Administration, U.S. Department of Transportation, December 1984.

In the PAS study, 23 observers in 12 States examined the installation in motor vehicles of 3,233 crashworthy toddler safety seats for errors in seatbelt routing and tether attachment. Observers looked at unoccupied toddler seats in parked cars primarily in parking lots of suburban shopping malls and grocery stores. Seventy-five percent of the toddler seats were not properly anchored to the vehicle; of these, more than 6 percent were not anchored at all. Fifty-one percent of the toddler seats observed required a top tether attachment; correct use of the tether was noted in only 16 percent of the safety seats of this design.

In the Goodell-Grivas study, observers at Hardee's Restaurants in 10 cities across the country collected data on the installation and use of 1,006 child restraints in automobiles. Rooster seats and infant, convertible, and toddler safety seats were examined (in contrast to the PAS study, which focused on toddler safety seats only). In this survey, the child restraints were occupied and adults in the vehicle were interviewed. The Goodell-Grivas study found that 64.6 percent of the child restraints observed were being misused. For the 734 toddler safety seats observed, 40 percent of the children were not harnessed, 33 percent did not have the seat properly secured with the vehicle seatbelt, and 85 percent of the tether-type seats were not tethered. Observers questioned the adults in the car and found that many knew the child restraints were being used improperly, citing inconvenience as a factor. For example, 71 percent of those adults who incorrectly faced the infant safety seat forward knew it was positioned incorrectly. Incorrect belting of the child restraint to the vehicle was the sole exception; approximately 75 percent did not realize seatbelt routing was incorrect. (A summary of this study's findings appears in appendix A.)

These results make it clear that misuse is a widespread and serious problem and that apathy plays a larger part than might previously have been thought.

Certain types of misuse will likely decline as the mix of the types of child restraints on the market changes. For instance, child safety seat models designed to require attachment of a tether no longer dominate the market; tetherless models now make up the majority of sales. ^{13/} Thus, failure to attach a required tether, now the most common form of misuse, should decline in frequency. The National Highway Traffic Safety Administration's (NHTSA) recent proposal ^{14/} to require new tether-type models of child restraints to meet all aspects of Federal Motor Vehicle Safety Standard (FMVSS) 213 testing with the tether unattached will lessen the possible consequences of failure to attach a tether. Tether error is only one form of misuse, however. Improper seatbelt routing, failure to use a required harness or to use it properly, and incorrect safety seat orientation will not be affected by the proposed amendment to FMVSS 213. All of these misuse modes have the potential to degrade seriously the protection offered by the child restraint. To what degree, without knowing the particular accident circumstances, is difficult to determine.

During the symposium, John Melvin of the University of Michigan Transportation Research Institute (UMTRI) pointed out the difficulty of translating laboratory crash tests of misused child restraints to real world expectations. The interaction of the form of misuse, seating position, vehicle configuration, and crash speed is considerably more

^{13/} NHTSA Notice of Proposed Rulemaking, Docket No. 74-09, Notice 17, Child Restraint Systems, 50 F.R. 27637, July 5, 1985.

^{14/} Ibid.

complex than that attainable in lab-generated tests. As the Safety Board's 1983 study documented, misused child restraints, even when used in a way which degrades their protection potential, often provide sufficient crash protection in real crashes. Nonetheless, Dr. Melvin emphasized that safety factors should not be de-emphasized when designing easier-to-use seats.

Three separate workshops at the symposium discussed ways to combat misuse: baseline data collection, education/information exchange aimed at educating parents about the consequences of misuse, and changes in the design of child restraints. Discussion group recommendations included:

- o Improve investigation and reporting on the State and local levels to provide data on use and misuse of child safety seats.
- o Develop a manual outlining standardized procedures for observational surveys.
- o Revise FMVSS 213 to emphasize performance, rather than specifics of design, thus freeing designers to develop more "misuse-free" safety seats; to address potential injury modes other than head; and to address the needs of the older child.
- o Standardize vehicle seatbelts to alleviate incompatibility problems between belts and child restraints which lead often to misuse.
- o Expand the National Child Passenger Safety Association (NCPA) to become the national clearinghouse for information on child restraints and chief advocate for child passenger safety.

The full text of the discussion groups' recommendations starts on page 38.

Increasing Use of Child Restraints

The symposium was not focused solely on misuse, however. Increasing use remains the Board's primary goal, because a child restraint, even when misused, often offers sufficient protection to the child passenger.

The passage of State child passenger protection laws was the first step towards increasing use rates of child restraints, but a law by itself will not save lives. It must be enforced, and in many cases, loopholes in State laws must be eliminated. Forrest Council of the University of North Carolina Highway Safety Research Center (HSRC), one of the symposium's general session speakers, offered suggestions as to how enforcement efforts can be increased and spoke of the need to gain the active support of law enforcement officials. From a police point of view, many child passenger protection laws pose several problems: they have too many exemptions, lack a seatbelt option, and have too low a fine to make enforcement meaningful. Some police officials feel that enforcement of a child passenger protection law takes time away from enforcing laws against more "serious" offenses. Police also must deal with a new group of violators: parents. Mr. Council urged safety advocates to involve police officials in all efforts to upgrade and simplify existing laws and spoke of the need to publicize enforcement efforts, rewarding law enforcement officials for issuing citations, rather than criticizing their lack of effort.

A discussion group on enforcement issues was one of three workshops devoted to discussion of ways to increase use. Other groups discussed the shortcomings of existing legislation and ways to motivate adults to purchase and use child restraints for their children. The principal recommendations of the discussion groups on enforcement, legislation, and education and incentives issues were:

- o Convince law enforcement officials who set policy that enforcement of child passenger protection laws will pay off in good public relations, manpower savings, and community support; enforcement will not be a liability.
- o Simplify and improve existing child passenger protection laws: extend coverage to all drivers, not just parents and guardians; increase age limits for children; increase fines; and add a vehicle seatbelt option.
- o Increase the effort spent in "training the trainers" (i.e., volunteers working in loan programs) and target programs to specific audiences, depending on the age of child passengers (i.e., parents of newborns need different information than parents of toddlers ready to graduate from a safety seat to booster seat).

The importance of education was also stressed by the symposium luncheon speaker, Judy Mann. Ms. Mann, a syndicated newspaper columnist, discussed the phases in her "education" in occupant restraints. She needed to hear many messages before she was convinced of the value and need for occupant restraints, both for herself and her children. Ms. Mann suggested ways by which symposium participants could enlist the help of the media in efforts to educate the public. For example, restraint use should be made a routine part of any television, radio, or newspaper account of a motor vehicle accident.'

In summary, the symposium did not result in a simple solution for attaining 100 percent protection for child passengers, but it did define a number of directions in which specific steps could be taken.

PROCEEDINGS
MORNING GENERAL SESSION

VICE CHAIRMAN GOLDMAN: Good morning. Welcome to the Safety Board's first Child Passenger Safety Symposium. Thank you for coming. I know conditions are crowded this morning, but I think it's a sign of success. We'd expected a much smaller group to attend and not quite this much attention from the press. I had thought child passenger safety was a subject the media was tired of covering, but it looks like I was wrong. The media attention today gives us a good opportunity to continue to get the message across that child restraints save children's lives.

This symposium is a direct outgrowth of the success that you in the audience have achieved in passing child passenger protection legislation in 49 States and the District of Columbia. I understand there is a good likelihood that Wyoming will soon pass child passenger protection legislation and then children in all States will be protected. 15/

However, this symposium is not being held for the purpose of congratulating ourselves that laws requiring young children to be restrained in motor vehicles are almost universal, but the symposium is being held to discuss and remedy the failures that are attendant to this success.

As someone who has worked for a long time in the women's movement, I see a parallel if we look back at suffrage. A lot of people back in the 1920's said we can't get suffrage passed. Well, they were wrong, but equality takes more than passing legislation. We can see, long after the passage of a law giving women the right to vote, that we still have a lot to do. I don't want to see child passenger safety progressing so slowly that 50, 60 years later after enacting the laws we still are talking about what we need to do. I think we can achieve our success a little more quickly.

It has been said, in fact, that failure is a better teacher than success, and that we often find out what will work by finding what will not. I suspect everyone in this room is convinced of the validity of the proper, and I underscore the use of the word "proper," use of child restraints. Clearly, there are still many citizens, unfortunately, who do not believe in that antidote to the killing and maiming of small children. There are many avenues to more universal use of child restraints to explore today.

One avenue, of course, is legislation. While child passenger protection laws are now almost universal in this country, there are many loopholes in the State laws. We are already approaching the sunset of some laws, and to get them renewed, we're going to have to prove our case and to remove such loopholes as the "baby crusher" amendments. 16/

15/ Wyoming since has enacted child passenger protection legislation.

16/ Some State child passenger protection laws exempt children from the restraint requirement if they are being nursed, fed, or diapered. The Safety Board believes it is extremely dangerous for an infant or child to be transported in a motor vehicle without proper protection at any time, under any circumstances. An infant or child in a moving vehicle cannot be restrained and properly protected by being held in the arms of another passenger. The child can be crushed against the vehicle interior by the weight and acceleration of the body of the holder in an accident, at an increased risk of fatal or serious injuries to the child.

A second avenue that needs to be explored is how to increase public awareness and education. Many people remain unconvinced of the lifesaving value of child restraints. If more could be convinced, I am sure usage rates would increase far beyond what they are today. And what about those children who are riding unrestrained?

It is disturbing to read studies that indicate that misuse of child restraints is so common. Some studies show that the overall misuse rate may be as high as 64 percent. Sometimes the misuse is unintentional -- instructions are confusing, the design of the restraints leads to misuse, or users are unaware of the full protection afforded by correct use of the restraint harness, for example.

In far too many cases, and it's hard for me to understand, parents seem to be aware they are taking shortcuts in the way the child restraints are used, but they take these shortcuts anyway. I think we need to convince parents of the implications of those shortcuts. That quick drop-off in the morning to the babysitter or wherever else they are going, can result in injury or death to an improperly secured child if they are in an accident. We cannot have that kind of misuse going on. If we do not successfully combat misuse, the statistics showing the benefits of restraint use will be skewed badly by the results.

So the purpose, therefore, of this meeting is to see what we can do to explore these problems and to come up with solutions. Even people who are promoting child restraints may give out wrong information unintentionally. For example, I recently received a copy of a magazine published by a corporation which is active, not in highway, but in another field of transportation. The magazine contained an article telling how this corporation was promoting the use of child restraints and discussed a success story involving a woman and her child who had been restrained during a crash. The text of the article talked about the good outcome of this accident because the child had been restrained, but the accompanying photographs, which clearly had been taken at a later date, showed a serious misuse problem. The mother was photographed beaming down at the child, who was sitting next to her in a child safety seat, but the safety seat was not secured by the vehicle seatbelt. Plus, the child was not harnessed correctly in the safety seat.

So, while they were trying to give a good message, the message came across incorrectly, at least from a photographic standpoint. I was surprised because the text indicated that the mother must have been using the child restraint properly at the time of the accident, but the photographs just completely negated the good message.

So that's the real world of child restraint use that we all encounter.

I don't need to sell the product of child passenger safety to you. You know the value of restraint use, but we want to explore the problems, and I think we have assembled a good group of people to do just that.

I would now like to introduce our first speaker, John Melvin, one of the early pioneers of child restraint research. I don't know many people who have been involved in the field as long as Dr. Melvin. Perhaps an indication of his youthful look is that this is a relatively new field in safety, but John has been very active in child passenger safety for almost 20 years.

For those of you who don't know him, he is a research scientist and head of the Biosciences Division of the University of Michigan Transportation Research Institute and also is an Associate Professor of Mechanical Engineering. He currently is working on the

development of an advanced adult crash dummy that will allow more precise calibration of what happens to the body during a crash sequence. We are sure what he learns will translate into a better child dummy. We can't begin to design better restraint systems unless we know exactly what happens to the body during the crash. We are at a real handicap today.

Dr. Melvin has been a respected adviser on child restraint design for many years and knows the design shortcomings better than I do. He is going to talk today about the relationship of the laboratory crash tests to the real world.

So, without further ado, I would like to turn the podium over to Dr. Melvin.

**PRESENTATION OF JOHN MELVIN
ASSOCIATE PROFESSOR AND RESEARCH SCIENTIST,
THE UNIVERSITY OF MICHIGAN
DEPARTMENT OF MECHANICAL ENGINEERING AND APPLIED MECHANICS
"Child Restraint: Misuse In Perspective: Laboratory Testing and the Real World"**

DR. MELVIN: Thank you Vice Chairman Goldman, ladies and gentlemen. It is a real honor to be here. I hope what I have to say will give you some insight into what I think to be problems in child restraint design, regulation, and use that we still need to address.

There would appear to be some confusion between the results of laboratory testing and what we see in the real world. I am concerned that people will interpret the successes of child occupant protection that we are seeing in the field as indicating that we have solved all the problems. I would like to point out some reasons why I think we still need to be concerned about proper use of child restraint systems.

Past research and occupant protection, primarily related to adult occupant protection, has taught us some of the basic principles of how to restrain someone in a crash. These principles involve (1) distribution of the crash loads over the body into the regions of the body that are best suited to withstand those loads, (2) limiting the severity of the loads on the body, and, (3) limiting the motions of the occupant to prevent contact with interior structures and to provide what is known as "ride down" of the crash. That is, you are attached to the car and, as it stops, you stop with it. These principles have been embodied in child restraint design for some years, although I would like to point out and emphasize that our confidence in these principles is based primarily on our experience with adults in current restraint systems in automobiles. These restraint systems are mainly three-point harnesses and a limited experience with air bags.

The best way we know to distribute the load is to use rear-facing restraint systems, in which loads are distributed over the back of the person. Astronauts are launched that way. It would be nice if adults could be protected this way, but it is not a very common or practical method in cars. For children, however, and particularly for infants, we have the capability of providing this optimum load distribution using rear-facing child restraints.

Another standard method that has been proven in adult restraint systems, both in aircraft and racing cars, is the five-point harness system. This system is used in child restraints and distributes the load over the shoulder and chest area as well as the pelvic area of the child, putting the loads into the strongest areas of the body.

My last example of a restraint system approach is total load distribution in a frontal situation. An example of this is the Ford Tot Guard, in which the entire front surface of the child is loaded onto the restraint system.

Recent research using laboratory testing of misused conventional restraint systems indicates that we do have some problems if the systems are misused.

The first example is a restraint system which requires the use of a tether but is used without tether in a crash. Large forward excursion of the child occurs because the restraint is secured only by the lap belt. Another common form of misuse is to take a rear-facing infant restraint and install it forward-facing. During an impact test, the lap belt restrains the infant dummy by its neck. This is not the way such infant seats were intended to be used, but we know they are being used that way.

In addition to these kinds of misuse of conventional systems, we have also seen the development of what I would call unconventional ways of restraining children. By "unconventional," I mean methods that have not been used or proven as adult restraints. We have limited experience as to how they might perform in a crash situation, but, with the current quest of trying to produce a system that is easier to use, and thus more likely to be used correctly, these systems have proliferated.

The most common example is the low-shield approach, which would at first look like it would be similar to the large shield of the Ford Tot Guard. Because of its abbreviated nature, however, in an actual test we see that the loading is at the upper abdomen.

For the present federal safety standard (FMVSS 213), the only measurements made with the test dummy are head accelerations and head and knee excursions. There are no measurements required in the abdomen, pelvis, spine, or neck of the dummy. These are shortcomings when we begin to look at some of these conventional methods of restraining the child. We are not making measurements to tell us whether these methods are appropriate or inappropriate.

In addition, the federal safety standard does not address a very common situation we encounter in the field. The standard test uses an infant dummy in rear-facing situation and a "3-year-old" dummy in a forward-facing test. What is not tested is that critical turnaround stage, namely, when the child is too large for the rear-facing situation but certainly well under 3 years old. Restraint system structures are not evaluated under this condition. This is the most common situation during that interim period when the child is 1 to 2 years old.

To test this situation, we took the infant dummy, which represents a 6-month-old infant, spaced him up, and made him heavier to simulate a 1-year-old. In a test of a common child restraint with a nonrestraining armrest, the dummy's head will hit that armrest. The armrest was not designed for contact by the dummy, and in a test with a three-year-old dummy, the head would not touch it. But in the 1-year-old case, the dummy head did strike the armrest and did produce a Head Injury Criteria (HIC) value slightly over the allowable limit.

We have, therefore, some situations in which the standard itself has some shortcomings, particularly when it comes to evaluating unconventional ways of restraining children. This is all based on laboratory testing, however. Does it really mean something? If we look at the field investigations and observational studies, we find that people in the real world aren't using restraint systems properly. It has been well documented that misuse, or lack of proper use, of child restraint systems is the most common state of affairs on the nation's highways. We also have situations in which parents just place their children in these seats without any restraint at all. I would not even call that misuse.

So we know that there are a lot of cars out there with a lot of children in them who are restrained improperly. Yet accident investigation studies show that the effectiveness of child restraints is very high, even including those situations of misuse and nonuse which must be included in the data. That leads to a question of why does the laboratory tell us misuse modes potentially are so bad, while field data tell us that there is not a big problem after all?

I think there are a number of reasons. One thing we are doing very well is telling people to put children in the back seat, and that alone helps quite a bit in any crash. The rear seating position, and the fact that rear-facing seats, even when they are misused, produce a very protective crash environment, result in favorable field data.

We saw this happen, for example, in a case we investigated involving a Pinto in a severe crash. The impact came from the left-front quarter, and a child was in the right-rear seat. The child was harnessed in a Child Love Seat with the lap belt around the base and no tether. This is even a more dangerous misuse mode than the one in which the lap belt is through a frame and no tether is attached. In a laboratory test, the child restraint will tip off the standard bench seat, but in this crash the child survived with minor injuries. Why?

If you ever have been in the back seat of a Pinto, you know there is hardly any forward room. What probably happened is the restraint system was kept from moving very far by the back of the front seat. As a result, we had a good outcome. If the child had been in the front seat in that configuration, however, the child would have interacted with the instrument panel in a severe way and probably sustained serious or life-threatening injuries. The fact that the parents placed the child in its safety seat in the back seat of the car in this particular case was a good thing, even though they did not install the seat correctly.

In another severe crash involving a Toyota, there was an old child restraint system in the rear seat. It had a harness, but it was being used with only the lap belt around it and the child. The child, however, came out of the accident with only a broken arm. Again, the safety seat probably interacted with the back seat. The father in the front seat was severely injured even though he was restricted. The combination of the child being in the back seat and at least being lap-belted provided adequate protection for this crash.

Children very often are placed in the rear seat so this is one reason why field data look so good compared to what we would expect from laboratory testing. Another is the severity of the crashes in which children are involved. If one looks at the U.S. Department of Transportation's National Crash Severity Study data, we find that for frontal crashes, about 97 percent of all occupants are in frontal crashes that are less severe than the 30-mph crash condition of the child restraint standard. Then if we look at accidents resulting in moderate to more severe injuries (AIS-3 and above), about 68 percent of those injuries are produced in crashes of 30 mph and below. Finally, only 37 percent of fatalities occur to unrestrained occupants below 30 mph. The rest are in very severe crashes above 30 mph.

What those statistics are saying is that there are a lot of injuries that can be prevented by the use of restraint systems. At the same time, very severe crashes do occur that can produce severe and fatal injuries to restrained or unrestrained occupants. The better the restraint, however, the better the chance for survival.

Fortunately, such high severity crashes are relatively uncommon. The combination of their rarity and the fact that children are not found in cars late at night driven at high speeds by drunken drivers, but usually are in cars driven around town during the day, result in the crash exposure of children being of a less severe nature. These two factors tend to produce a situation whereby we do not see many severe injuries to children in car crashes, particularly among those who are restrained in some way.

Those are some of the reasons why we might not expect the field data to show us that we have a problem with misuse, and yet I feel strongly that there is a problem, and we need to continue to work toward a remedy.

Some of the conclusions I would draw from this analysis are the following:

- (1) We must have child safety seats that reflect good restraint principles while providing improved ease of use in order to try and solve this misuse problem. But we cannot just focus on ease of use while diminishing the protective nature of the systems based on the principles that we know do work.
- (2) We must improve the methods for evaluating child safety seats. Namely, we need to improve the dummy and develop other dummies that will cover the range of real use modes that are out there in the field.
- (3) We must continue to work for increased rates of proper use in the field.

A crash in which a child was seated in the center position in a rear-facing Infant Love Seat without the harness on provides an example of the importance of proper use. We have seen in a number of crash investigations that a rear-facing restraint (even with an unused harness) will produce fairly good results in the front seat because the infant restraint leans against the instrument panel of the vehicle and limits forward motion. In this case, it was a pickup truck, and the instrument panel was too far forward to provide support. The child was ejected on rebound and ended up between the driver and the door, fortunately with only a broken arm. If the window had been open, the child might have been ejected and fatally injured. A properly fastened harness would have prevented even that possibility.

So there are cases in real life where misuse really is going to affect the outcome of a crash. We perhaps are not seeing them in the mass of statistics yet, but we will one way or another.

I might mention a different form of child passenger accident reporting system is developing in the United States now that we have higher restraint use rates. It is not sponsored by the government, but it is related to lawyers and to severe crashes in which restrained children are injured. It is called litigation, and it is beginning to be a way of reporting that these cases do happen, even if they may be fairly rare occurrences.

**VICE CHAIRMAN GOLDMAN
COMMENTS**

Vice Chairman Goldman: Thank you very much. Before I introduce our next speaker, let me make a couple of comments. Our first objective, as you know, was to get child passenger protective laws passed in every State and territory. We are pretty close to that goal, but that's not the end of our efforts to promote child passenger safety by any means. I want you to know the Safety Board is going to continue to be an advocate of child passenger safety, and the entire Board is strongly committed to continuing this work. We must increase the rate of proper usage of child restraints in the United States.

As evidence of that, I would like Patrick Bursley to stand up. He is one of my colleagues on the Board and has been working with us towards this goal. Jim Burnett, our Chairman, is, of course, equally dedicated. He is out in Oklahoma today or else he would be here personally. Other Safety Board staff present are the head of our Highway Accident Investigation Division, Marilynne Jacobs; Frank Ghiorso from our Bureau of Field Operations, who has spearheaded a lot of the field accident investigation data; and Suzanne Stack, Symposium Manager. I want you, the symposium participants, to get to know our staff so you can continue to be a resource for us. We need to know you and the information and results from your programs.

With that, I would like to introduce the next speaker for this General Session, my good friend, Forrest Council. He is Deputy Director of the University of North Carolina Highway Safety Research Institute, and the assistance I've received from Forrest has definitely helped me become better informed about child restraints.

Forrest is the past president of the National Child Passenger Safety Association, has been very active in the Transportation Research Board (TRB), and has worked on the TRB's Occupant Restraint Task Force. He also was recently appointed Chairman of the TRB Subcommittee on Occupant Protection.

Like John Melvin, Forrest has a long history of being involved with child restraints. North Carolina, of course, as we know, had one of the earliest statewide child passenger safety projects and Forrest has been the project manager, starting back in 1976. He and his research center staff also taught the original set of child restraint workshops for NHTSA.

Today, Forrest is going to talk to us about the problems of enforcing existing child passenger protection laws.

PRESENTATION OF FORREST COUNCIL
UNIVERSITY OF NORTH CAROLINA
HIGHWAY SAFETY RESEARCH CENTER
"Issues in the Enforcement of Child Restraint Laws"

Mr. Council: The information that I have put together for today is based primarily on discussions I had with some enforcement people for a 1984 Transportation Research Board session, and conversations with safety officials in four or five States concerning what they are doing in their occupant restraint offices and child safety programs.

This paper originally was presented, at least partially, at the American Association for Automotive Medicine Conference last fall. I tried to update it with some phone calls in the last two weeks. 17/

The bad news is that not a lot has changed. The one thing I could say anecdotally is that New York State may be getting better child restraint law enforcement because police don't want to enforce the adult mandatory seatbelt use law, but figure they should enforce something. Thus, the way to increase child passenger law enforcement may be to pass mandatory adult restraint laws. I am all for it and would like to go on record as saying that.

Currently, 49 States and the District of Columbia have some type of child passenger protection law. (Editor's Note: Since Mr. Council's presentation, Wyoming passed such legislation so now all States have now enacted child passenger protection laws.) Most States are enforcing their child passenger laws at some known or unknown level. I think one problem we have is that the advocate's view of the level of enforcement is quite easily summed up like this:

**"Police WILL, NOT enforce child passenger protection laws."
ARE NOT
HAVE NOT
WILL NEVER
can't**

I think it is pretty clear that most of us feel: "Police are not, will not, have not, and will never enforce child passenger protection laws." The small "can't" represents the minority view held by the police.

Why is there such a strong feeling about enforcement of this law? It is unusual. I don't know of any public outcry for officers to enforce speed laws, for example, or parking laws, or anything else that has to do with traffic safety. There is good reason for this. Child passenger protection laws, unlike most of our traffic laws, were not the result of police asking for a law or a legislative committee simply passing a law, but were the work of advocates in local communities. That's where the movement started. It went from there to the legislature. Those of us who worked hard to get these laws passed have a vested interest in seeing the laws work, and we strongly feel that good enforcement is a necessity -- that is why we are involved.

17/ Mr. Council's symposium presentation is available as a formal paper entitled "Issues in the Enforcement of Child Restraint Laws" from NTSB's Bureau of Safety Programs (SP-10).

There is very little information in scientific literature on enforcement of a child restraint law. Actually, the literature is sparse on enforcement of any kind of occupant restraint law, and, as you might suspect, most of what exists comes from other nations that have mandatory seatbelt use laws.

Today, I want to look at the current levels of enforcement in this country and the problems we face. I talked to Chief Charles Gruber, who will be leading your enforcement workshop this afternoon, and we made a deal. I will bring up all the problems, and he will come up with all the solutions.

Most of us feel we are not seeing an adequate level of child restraint enforcement. I think part of the problem lies in that most of us who are child restraint advocates have no idea of what an adequate level of enforcement for other traffic laws is.

Probably the most publicized and most heavily enforced law today is the driving under the influence (DUI) law. Even with that high level of enforcement, it's probably true that we are only apprehending something in the order of 1 in 200 or 1 in 1,000 of the drinking drivers who are out there.

However, even given the general low level of enforcement for other traffic safety laws, I think we do have some problems with child passenger protection laws. They are being enforced at a lower level than the other laws with the same proportion of violators or with an equal chance of benefit.

Local police enforcement is the major problem. We just aren't getting it and that holds true in just about every State. There are only certain subgroups of officers who are enforcing the law. Administrative delays and procedures within the police departments themselves contribute to the problem -- often no credit is given for a child restraint stop, whereas an officer does get credit for some of the other safety stops he makes.

So what do we do about it? Why do these problems exist? I think the answer is pretty clear: child passenger protection laws are new. It is going to take time for officers to learn how to enforce them just as it did for everything else. Restraint laws are different in that they present a new concept: instead of protecting the other person, protect yourself, or at least protect your child.

We also are talking about new equipment. Child restraints only recently have become popular. It is very clear we are having trouble getting the message across to the consumer concerning how they should use the restraints properly. I think officers are in a position of not knowing all that needs to be known about the equipment they are trying to enforce.

Other problems: child passenger protection laws involve a new group of potential violators and compete with other enforcement activities. This probably is the number one problem on the local level. Local police just don't enforce local traffic safety laws. I have been told they rank just above dog ordinance laws in some towns and cities. Traffic law enforcement as a whole is a very low priority for local police. Even within traffic safety laws, child passenger protection laws are in competition with DUI and other areas.

There are specific difficulties with the legislation that have to do with the age of the violator. As was pointed out by Judy Coleman of Michigan's Office of Highway Safety and the Michigan police, when Michigan's law first went into effect, every child in Michigan suddenly became four years old.

Low fines are another problem. We pushed these laws through our State legislatures by asking for low fines, trying to override public opposition to high fines. Police now say these fines are so low that the law is meaningless. They ask "Why should we enforce something that is worth only a \$5 fine? If it was important, the fine would be higher." We are getting backlash.

Add to that the question of misuse. Every child passenger protection law requires "proper" use. More than sixty percent of the people who put their kids in child restraints are guilty of misusing the restraints even though they are trying to obey the law. What do you do about that in terms of enforcement?

Another issue is the enforcement time required, but I am not sure this is an issue. Tennessee did a study and found police had written about 6,000 tickets for child restraint violations. Since they wrote these citations in conjunction with other traffic stops, Tennessee spent in their State Highway Patrol a possible total of one-half of one man-year for the whole State for the whole year enforcing their law. I'm not sure time is a problem.

Those are some of the problems I feel we have to solve if we are to get increased enforcement of child passenger protection laws. I'm stating the problems because I want you to start thinking about solutions. Solutions can range from very specific to general.

Here's an example of a specific solution to the age problem, i.e., every child passenger suddenly becomes four years old when the policeman checks the child's age. Certain officers now are getting around the problem by asking the child: "How many fingers are you?" The child usually gives the right answer. Another approach is to ask the adult the child's birthdate, not the child's age. It is pretty tough when you have been stopped by a police officer to remember whether you should add or subtract a year to get your child over the magic number.

I think the basic solution, though, has to start at the top of police administration. We are talking about a tough road, but it's a long-term solution that we have to seek. It is going to take us a while. In the meantime, if we can't get all of the 40,000 local police department chiefs -- I think that was the number Chief Gruber gave me this morning -- behind us today, what do we do to work on those that will help us between now and then?

The first thing the police departments can do, I believe, is to start getting the information at least to the groups of officers who will enforce the child passenger protection law. It appears that young police officers who are parents and older police officers who are grandparents are the key groups who enforce the law today. They may be the groups we want to reach in terms of both education and usage policies. We also want to see police departments adopt as policy that a child restraint or seatbelt must be used if a child is transported in police cars. Some States already have that requirement.

The second thing we have to do is include information on child passenger safety in police training programs. We must survey the opportunities that exist and provide inputs. Opportunities for training include the police academies, in-service training, newsletter articles or memos, and the short-term roll call "training" that is done almost daily. These approaches have been tried and they work. They are not new or innovative ideas; they just are not being done everywhere. One key point here, and I want to get back to it later, is that as tough as it is for us advocates to accept, we are not the best trainers for the police. The best trainer for police are police officers. I think that is something we have to remember and really have to work on.

The second major area where I feel we can make more progress through police and advocates working together is public information. One of the biggest problems police officers cite to me is the difficulty inherent in enforcing a child passenger protection law that the public knows nothing about. We obviously didn't do too good a job of informing the public about the new law when it was first enacted. What can we now do when we turn to revising our laws? What else do we need to do with public information and education?

There is more to this problem than just educating the public. We need to come up with a way of combating the negative image of the police as interfering with family life and infringing on a family's rights when they enforce the law. We need to make the police officer look good for enforcing the law.

Some solutions exist. For instance, when you produce the TV spots on child passenger safety in States, why not use police in the TV spots to show they are the people who care about safety and get the message across to the children? Rather than the child safety advocates, or people from the Office of Highway Safety, have the police give child restraint survival rewards. Police can, and should, deliver some of the speeches on child restraint that many of us now do in our local communities. The more often the police are seen as child passenger safety advocates, the better press they will get for enforcing the law.

The language of the law itself poses problems, and there are two specific areas I'd like to discuss: dismissal of charges by judges and the revision of laws. Kathy Weber of UMTRI and I had a long discussion on judicial dismissal in a forum we both attended, and there definitely are strong feelings on both sides of the issue. From the police viewpoint, I believe there are good reasons for having these citations dismissed. These reasons have to do with voluntary compliance, and the fact it really causes the offender to go to court, which makes it a pretty punitive law. That is, if you have to go to court to get off, then you are "punished" more than for most other traffic law stops. We need to remember this.

Then there is the issue of how to revise the law. The following five suggestions come from the police themselves, and, while I am not sure we all will agree with all their suggestions, they are their ideas.

One, if you are going to revise the law, don't weaken it. Regardless of what we thought when we originally pushed for passage, the stronger the law is, the easier it is to enforce. (That goes along with point number three, which I'll get to soon.) Number two is "increase the fines." Number three, "delete the exceptions," which means, make your age groups as wide as possible; take out all of the medical exceptions you possibly can. The fewer people who are exceptions, obviously the easier it is for the police to make a stop and write a citation. Number four, add the seatbelt option to your law if you don't already have it. We still have questions as to whether lap belts work very well in severe crashes, especially in rear seats. I don't think we have resolved that question for children because of the concern over belt fit. While I am not sure that these belts work in very severe crashes, they are a lot better than nothing. Don't get me wrong here. There are some questions on the efficacy of using lap belts as restraints for small children. But I think the evidence points out that anything is better than nothing.

Child passenger protection legislation needs to include the seatbelt option. Police want it there, not only for its benefits but for two other specific reasons. First, it allows police to overcome their hesitancy to issue a ticket to someone who may not be able to afford a child restraint. Second, it means the child can leave the scene of the stop

obeying the law. Without a seatbelt option, after the officer writes the ticket, and if there is not a child restraint in the car, the child leaves the scene and still is a law breaker. (Actually, I should say the parent is still a lawbreaker.) With the seatbelt option, the situation is changed.

Finally, when you revise your law, get police involved early in the revision process. You may disagree with what they say, but if you work these problems out before you go to your legislature, you are going to have a lot more people on your side.

So far, many of my solutions have been police-oriented, but I think it is obvious where we fit in both as local advocates and as state child restraint coordinators. The revision of the law is the most obvious place to start, but there are other avenues or opportunities.

The good news is that each State now has an increased highway safety budget of about 8 percent. This 8 percent money was earmarked by Congress for child restraint programs. Enforcement of the law is emphasized in the writeup as a key part of a good child restraint program.

My interpretation so far is that the States have a lot of flexibility in use of these funds for enforcement. Within reason, and until interpreted differently by NHTSA, you can do anything you want to enhance enforcement of your child passenger protection law. The trick will be in finding innovative ways to use these dollars effectively.

We all have ideas on how to use the new money, of course, but the question is how to get police inputs. How about sponsoring workshops across the State to get your local police involved, bring them in for a free lunch — they'd like that — and get their ideas on what they would include in a revised law? You've got to build up your police constituency.

Another idea: most, but not all, state highway safety coordinators are in an office with a public information specialist. The public information specialist could work with the police departments to develop a plan to get police "good press" on the child restraint issue. A lot of police departments don't have a PR person and they could use some help. You, as a state coordinator, can "volunteer" your PR person's time and guarantee their involvement.

Training materials are another avenue. It is obvious we need to provide police departments with the materials to do the training and, very importantly, fund the police as the trainers. The last point is tough for us to accept, but it needs to be done. The only thing I would add is let's do it in their forums, not only hire their people, but get to the police where they normally get their training. Two or three states, North Carolina is one, have put together statewide child safety conferences on an annual basis for a number of years. They have specific workshops that deal with enforcement, and they've gone out of their way to invite police to attend. North Carolina even had national police training experts conduct parts of the general sessions and workshops.

Unfortunately, you can count the police attendance at child passenger safety conferences on one hand in most States. You can probably count it on two hands, in all States combined. It's clear that law enforcement officers are not going to come to our forums. We might as well forget it.

It looks like -- and this is my opinion -- we should spend that time and that money going out to them in their own places to train. Not everyone agrees with me.

Finally, there is the question as to whether we can fund "STEP" (Selective Traffic Enforcement Program) programs. First, as is done in Canada, I want to call them selective traffic education programs in this country instead of enforcement. The highway safety programs fund such programs in police departments across the United States in the alcohol area, speed enforcement area, and probably other areas. As of now, I don't know of any in the child restraint area. Some police have problems with implementing this just to catch child restraint violators, feeling that it will result in too negative press, and cause public relations problems. How about tying enforcement of child passenger protection laws to part of ongoing programs in alcohol and other STEP areas? Put a clause in the contract that says they are going to have to enforce child restraint laws at the same time or do a little child restraint education as part of a STEP. You, as child passenger safety advocates, should give them money and training so they can do the education plus supply the materials.

How should local advocates work with the police? I think the clearest message from the police is, if you are going to go into the police department, please use the correct approach. As one officer put it, "Why aren't you enforcing the law?" is not a real good opening line. It is not going to win friends. We have to go in with an open mind and willingness to cooperate.

Try contacting the officers' wives with information about why child restraints are needed. You may need police to train the police officers, but you surely can train the officers' wives yourselves. Obviously, the idea is to get the wives trained and involved, and maybe their husbands will become more involved in enforcement in the future.

Another idea: offer to trade off your time. Go with the policeman doing the speeches or trade off speeches with the police trainer (who doesn't have time to do this anyway since he is doing it after he has been out on his regular beat).

These are voluntary "fixes," and this is the direction I want us to try. If all else fails, we do have one other alternative in our local community, and that is to use your political contacts. I say this because many of us know the mayor personally or have friends who sit on the city council, work in city government, etc. Since I am the son of a town manager who was involved with city councils and city governments for a lot of years, I'm aware that to some extent, the city council sets police enforcement policy. If you press for more enforcement in your shopping district, you are probably going to get it. Why not use this same political pressure, if you have to, to get enforcement of child protection laws emphasized?

Done properly, political pressure will accomplish two things. First, it will gain media attention. Work with the local media and have the town council make the announcement that the child restraint law is going to be enforced and state the reasons. This way you get media attention to your whole area, and it gets the police out of the villain role and puts them in the role of health advocate or child passenger safety advocate. The town council is now the one who is saying, "Do it." The negative side, of course, is that if you are a council member, you could get voted out of office next time. (That may be a blessing from what some tell me.) The positives will be we might get the kind of enforcement we need to save lives.

**VICE CHAIRMAN GOLDMAN
COMMENTS**

Vice Chairman Goldman: Thank you very much, Forrest. I would add a couple of things to what Forrest has just said. In preparing for this conference, I was struck by the wide variety of people deeply interested in child passenger safety.

All last week, I had various media stopping in to interview me on aspects of child passenger safety. To help out, I had some child safety seats as props in the corner of my office, and every group of transportation officials who came to see me on other Board business commented on the safety seats -- and every group was non-highway. You might think that's strange since you probably think of us as highway safety oriented, but I can assure you many people think our name is the "National Aviation Safety Board."

At the end of the week, for example, a group stopped in from one of the major aviation manufacturers. We couldn't get back to the subject of wind shear, which is what what they came to discuss, because they asked for demonstrations on how to use a child safety seat properly. This was even though they were all parents and had just finished telling me how they always used child safety seats for their children.

**LUNCHEON
PROCEEDINGS**

**VICE CHAIRMAN GOLDMAN
COMMENTS**

Vice Chairman Goldman: Our speaker today is Judy Mann, one of my heroines. For those of you who don't live in Washington and don't have the joy of having her column syndicated in your local paper, she is a very special person for a variety of reasons. Not only are her columns entertaining to read and informative, but she is very interested in safety and in many of the Safety Board's projects.

For those of you who don't get a chance to read her columns, she is, I think, particularly skillful at weaving her own particular family experiences with her children into her writing. This was one of the reasons why I met her. We had our initial discussion, probably three or four years ago, on child safety seats. Since then we've discussed schoolbus safety and a variety of other issues.

Now for a bit of background on Judy. She is a columnist on the Metropolitan staff of the Washington Post. Since they redid the paper's format, her column now is on the inside page of the Metropolitan Section of the paper. Judy is one of those rare breeds, a true native of Washington, D. C., and she graduated from Washington-Lee High School in Arlington, Virginia, before going on to Barnard College in New York City where she majored in government.

In 1966, she went to work for the Globe Newspapers in Fairfax, Virginia, and shortly thereafter, became an editor. Four days before the 1968 riots, she went to work for the Washington Daily News and worked there as a reporter, assistant city editor, and night city editor until that newspaper folded in 1972.

She subsequently joined the District staff of the Washington Post as a reporter and covered everything from corrections to welfare.

In 1975, she became the day city editor which made her the principal assistant to the city editor. We've been discussing the newspaper hierarchy and how newspapers work during lunch. I can tell you, newspapers would make some of the State and city bureaucracies we have been talking about in law enforcement pale in comparison.

In 1978, Judy Mann began writing her column, which appears on Wednesdays and Fridays. She has won numerous newspaper awards for interpretive writing for a series on Blacks in the suburbs and numerous awards for news stories as well as for her column.

She has also won the American Association of University Women's Mass Media award in the journalism category. She has three children -- two sons, 18 and 9, and a daughter who is 5 and the subject of many of her columns on child restraints.

With that, I'll turn the podium over to Judy Mann.

LUNCHEON SPEECH

**"THE MEDIA'S ROLE IN INCREASING USE OF OCCUPANT RESTRAINTS"
BY JUDY MANN, WASHINGTON POST SYNDICATED COLUMNIST**

MS. MANN: Thank you very much, Pat. I just realized as she was introducing me that two out of the three papers I worked for don't exist anymore.

I think, by most standards, we are very safety conscious in my family. We have smoke detectors in the house, and my children wear seatbelts. I do, too. This was not always the case, and as I look back on my misspent youth, there are certain things I think back on and say: "Oh my God, how could I have done that?"

One of the things that fits this category was how I transported my children. I cringe sometimes remembering what I did, but the change in my family's habits and our attitudes toward safety over the years is real testimonial to the effectiveness of the educational programs that you all are working on and trying to improve.

When my 17-year-old was a baby, I transported him in a car the way most of us did those days. I sat in the front seat and I held him on my lap. My husband drove. When my husband and I were divorced, I treated myself to an MGB and, at that point, I began transporting my child, who was then around 3 1/2, either in the front seat of an MGB without a seatbelt or in the jump seat. When I drove with the top down, I was aware enough, for example, to know that if we got hit it was possible that he'd fall out of the jump seat. So I was always very cautious. I told him to hold on, and I figured if he was holding on that he'd be okay. I had no idea what really would have happened to him if we had been hit. I can look back now and realize with a fair degree of certainty if we had gotten hit that he would have been in very serious trouble.

By the time he was 8 years old, I had remarried and gotten pregnant, and it was clearly time to sell the MGB. If you have ever sat in the seat of an MGB when you were pregnant, you would understand why immediately. Another consideration was this very large 8-year old I was still trying to stash into the jump seat.

We knew the family was expanding, so we bought a Pinto stationwagon--not knowing about rear-end collisions. It had seatbelts. Somewhere along the way, we started using them. They were very uncomfortable, particularly when you are eight or nine months pregnant. But by then, the auto safety campaigns had been widespread enough so we began to be a little bit aware. I also stopped holding little babies on my lap in the front seat of the car. By then I knew the safest way of transporting a baby was to hold him in the back seat, and I did this for awhile.

Somewhere one of my relatives had heard about car seats and decided for Christmas that the family would give us a safety seat for this new baby. So we started using the seat. My husband drilled a hole in the back of the stationwagon for the anchor tether, and we both learned how to put the child in the safety seat. This was not particularly easy because one of the things we had done--and we were trying to be very smart about auto safety here--was to buy a Pinto stationwagon that had just two doors, so that our children couldn't open a door and accidentally fall out. The bad news about all this, however, was that it is absolutely impossible to place the child in the safety seat easily. Picture the contortions I had to go through: you open the passenger door, right? You have the car seat in the back. You have to take the seat, bring it forward, somehow squeeze yourself

back in there with a child and fasten the child inside this safety seat. Anybody knows that once you've had one child, by the time that child is 2 or 3 years old, the mother has a bad back. So you are trying to do all this with a bad back.

I suspect one of the things that would be fairly useful for expectant parents to know is that it is a lot easier to deal with a safety seat when you have a four-door car than a two-door car. I think it would really be very helpful in getting better and more consistent use of child restraints for children. We still had not been fully educated.

By the time my daughter was born 5 years ago, my middle son was nearly 4 years old. He had been out of the safety seat for a while, and he liked to sit in the far back of the stationwagon. We had no ideas that we were turning him into a potential projectile in a crash so we let him.

On the way home from the hospital with the new baby, we placed her in a bed taken from the top of a baby carriage. We put her in the far back of the stationwagon in this bed, essentially totally unrestrained. My son, who was then 4-years old, was sitting in the back with her. The baby started to cry on the way home -- and I remember this scene very well -- and he leaned over and tried to comfort her. The crying continued. Finally, he gave up. He said, "Mom, I think she wants to be back in your tummy."

Several days later, I was feeding her, and he said, "Mom, how long is the baby going to stay with us?" Right then, car safety was the least of my problems, but that ride home from the hospital was the last time, or about the last time, that my little girl ever rode in a car without being restrained properly. The payoff has been worth it. She now will not ride in a car unless she has a seatbelt around her, and if I'm in a hurry, for example, and I start the car and start to drive before she has had time to buckle up, she will holler at me, "Mom, don't move, I don't have my seatbelt on." By contrast, my 9-year old son has to be told every single time that he gets into a car, "Put on your seatbelt."

A few years ago when I started writing columns on car safety and safety seats, one of the men I worked for (whose name I will not mention but he is internationally known) stopped by my office and told me his wife, who was expecting a child, had gotten very involved with this whole motherhood business. She was trying to take care of herself and wasn't smoking or drinking coffee or alcohol. He also said, "She's really gotten into a thing about car safety. She now is insisting that we go out and buy a safety seat. The baby hasn't even been born yet, and she wants a car seat installed in the car so we can ride home from the hospital with the baby in the car seat. Don't you think that is really going a little overboard?" I said, "Well, I'm sorry, but she's right." I reached into my files, and I gave him a bunch of KISS brochures and other literature I accumulated. They bought the child safety seat.

The more I wrote about occupant restraints, the more of a "Nudz" I became around the house about safety. I insisted my son, the teenager, wear a seatbelt. It got to be a joke. "Mom, can I have the car? I have to do an errand." "Yes. Have a nice time; wear your seatbelt." I think with people of his generation who have not grown up restrained the way my little girl has, that constant "Nudz" is probably what it takes to get them to wear seat belts. Again, the payoff was there with him.

Two years ago, he was driving home from school after soccer practice and saw a woman ahead of him starting to pull out of a gas station. He realized she could not see him or hadn't seen him, so he moved over to the middle lane, but she continued to pull out.

I don't know if her head was in the clouds, but she ended up hitting him. He was going 30 or 35 miles per hour, and she hit him with full force of somebody pulling out of a gas station. He got a bad bump on his head, but didn't go through the windshield. The reason he didn't was that that he was wearing his seatbelt.

You know the figures on auto casualties and deaths better than I do. You know that every year some 43,000 people are killed in traffic accidents and you know that many of these deaths and serious injuries could be avoided. Yet -- and this is something that really puzzles me -- we tolerate it. We tolerate a carnage on our highways that claims 12,000 more people each year than died in the entire course of the Vietnam War.

I think we tolerate it partly out of the mixture of an attitude of "It won't happen to me," and "Well, there's really nothing we can do about it." That doesn't make very much sense at all.

People can do something about it. Education is one way that we've started to reach people, and it is certainly something to continue. Myths need to be dispelled about what happens when you wear a seatbelt if your car catches fire or goes into a river. I have a sister-in-law who is one of the brightest people I know, and she will not wear a seatbelt. She feels you can be trapped in some accidents so she doesn't wear a belt.

I think people need to be informed about what the odds are when you wear a seatbelt and have an accident, what the odds are when you don't wear a seatbelt and have an accident, and they need to be told over and over again in a wide variety of ways about child restraints and seatbelts for kids and how to use them properly.

The media traditionally has not found these topics to be glamorous, newsworthy, controversial -- the kind of things that readers buy newspapers to find out about. Often these kinds of things are not timely, and they have to compete against breaking news for a limited amount of space and air time.

There are ways around this handicap, though. There is no reason on earth why newspapers should not report whether people involved in accidents were wearing seatbelts or not. Most editors simply haven't thought about doing this, and this is one of the reasons why they don't do it. It seems to me if local organizations interested in promoting car safety were to call up their local newspaper editors and make this simple suggestion, they'd find the editors receptive.

The same traffic safety organizations can call their local police departments and suggest that restraint information be included in accident reports just the way the address of the victim is included in an accident report. Make it a standard piece of information. Local radio and television stations can be approached the same way.

Consider the impact the following kind of paragraph could have in a news story or broadcast: "Four people were killed early this morning in a head-on collision on Route 50 when the driver of a pickup truck apparently fell asleep at the wheel and crossed the median at a high rate of speed. None of the dead were wearing seatbelts."

The message would come across graphically on television if there was footage of the wreck. On the converse, if there were survivors of the crash who were wearing seatbelts, the message could be reinforced positively.

Editors and broadcast executives are responsive to ideas that will help them to improve their community. I can assure you from experience that auto safety is not something that is on their minds most of the time. The idea has to be suggested.

I think it particularly would be worthwhile to contact radio stations that target teenagers and ask them to include this kind of information in their broadcasts about accidents. Public service announcements on these stations, I think, also are worthwhile. With the increase of two-income families, more and more teenagers are being asked to drive their siblings around. It seems to me it would be useful to have announcements that would urge teenagers to make sure their brothers and sisters are buckled up when they are taking them places. Elementary schools now have signs saying "Don't play with matches" hung on classroom walls, so I see no reason why buckle-up for safety signs couldn't be right alongside them.

I happen to be someone who very much is convinced of the merits of mandatory seatbelt use laws. Getting such laws enacted is going to be a tough fight, at least until the results are in from some of the States that have enacted these laws. Meanwhile, there is a long, long way to go in educating the public, all age groups, all across the country about the need for restraint use. I know my family has learned the value of occupant restraints, but I also know it took us a very, very long time and there were lots of different messages that had to get to us before we made it a habit.

The passage of child passenger protection laws in all States is very encouraging. It means an entire generation of young children will spend their formative years in restraints and they, like my daughter, may feel uncomfortable and unsafe if they travel without a seatbelt on.

Then too, parents who make sure their children are buckled up can't help but have second thoughts about their own safety when they get in a car. Maybe in time, they will buckle up voluntarily, and maybe in time, they will be convinced enough that restraint use can mean a difference in an accident so that they then will be more receptive to mandatory use laws.

We are not faced with an intractable problem. Highway deaths are not some mystery disease we are trying to find a cure for. We have citizen support for greater auto safety, there are steps that can be taken to ensure safety, and there is greater citizen awareness of the fact that the highway carnage really isn't necessary. There is something that can be done.

I would like to close by thanking you and people like you who alerted me and educated me about restraint use, not only as a columnist, but more importantly as a parent. I have a son who is here today because he was wearing a seatbelt, and if it hadn't been for people like you, he would have suffered a lot more than a bump on the head from that accident. Thank you.

VICE CHAIRMAN GOLDMAN: Thank you very much, Judy. If you would like, we will try and see if you can clone her and take her back to your communities so she can write columns in your local newspapers. That concludes our luncheon.

AFTERNOON GENERAL SESSION

PROCEEDINGS

VICE CHAIRMAN: Welcome to the final session of our symposium. I am sorry I didn't get to sit in on many of the workshops today. To our surprise, this symposium received a great deal of media attention, and I was called out of the sessions to be interviewed by a tremendous number of the media. I hope these interviews prove to be part of a multiplier effect--getting the public educated on the need for proper use of child restraints--that we so need. I was tremendously impressed, however, by the workshops I did attend.

What I now would like to do is call forth the leaders of each of the discussion groups to present the two top recommendations made in each of their sessions. Then, when they finish their presentations, we can go on to questions and answers.

We very much appreciate the contribution everyone in attendance has made to our symposium today. With that, I would like to call forward Bill Hall, who is a Research Associate at the University of North Carolina Highway Safety Research Center, to discuss the recommendations that were made in the baseline data collection session this morning.

**PRESENTATION OF WILLIAM HALL
LEADER, BASELINE DATA COLLECTION DISCUSSION GROUP**

MR. HALL: This morning when we talked about baseline data collection and the problems involved, we ended up focusing on two prime issues: the need for improved police accident investigation and reporting, and the need for improved and standardized observational survey data collection.

Our top two recommendations were:

First, we recommend that the National Transportation Safety Board take appropriate measures within its authority to press for improved accident investigation and reporting by police and by local or State agencies responsible for construction of data files. We feel that all States should be required to include injury status and restraint usage status for all occupants involved in all accidents as a standard part of their accident reports. Furthermore, "child restraint device" (with proper/improper use designation if possible) should be included as a separate and distinct usage category.

Second, we recommend that a manual outlining standardized procedures for observational data collection be developed and distributed which would provide local groups with a guide for collecting valid and standard observational data relating to restraint usage rates and measure of safety seat misuse. The National Highway Traffic Safety Administration (NHTSA) is currently working on such a manual, and we urge the NTSB to recommend to the NHTSA that they seek and consider inputs from researchers who have conducted previous observational surveys to insure that these guidelines would produce results that would be suitable for as wide a range of purposes as possible. Such guidelines should not sacrifice

valid measures of overall restraint usage rates for the sake of detailed misuse measures, and, thus they should include guidelines for developing, implementing, and reporting a strong sampling design useful for the evaluation of mandatory restraint usage laws. If possible, procedures should be included for obtaining attitudinal as well as behavioral measures.

VICE CHAIRMAN GOLDMAN: Thank you, Bill. It is good to get a taste of our own medicine. We are always making recommendations to others.

The next person I would like to come forward is Kathleen Weber, Senior Research Associate at the University of Michigan Transportation Research Institute, who will talk about recommendations for design changes.

**PRESENTATION OF KATHLEEN WEBER
COLEADER, DESIGN CHANGES DISCUSSION GROUP**

MS. WEBER: Child restraint design obviously is influenced by a number of factors, including safety principles, government regulations, market forces, and manufacturing economics. It soon became clear that it really was not possible, or appropriate, for us to try to redesign child restraints at a short workshop sessions such as this. Child restraint design, or redesign, ultimately is the job of the manufacturers, and they are not insensitive to the problem of misuse. Yet there are a number of things we as child safety advocates can do that will facilitate their job and encourage them in the right direction. We ended up with three main recommendations.

- (1) To revise Federal Motor Vehicle Safety Standard 213 to emphasize performance rather than the specifics of design; to address potential injury modes other than head and chest (for instance, neck and spacing abdomen); and to address the needs of the older child, particularly with regard to upper torso restraint.
- (2) To work toward standardization of vehicle belt configurations to alleviate incompatibility problems, which do lead to misuse.
- (3) To continue to monitor field usage through formal surveys, such as the Goodell-Grivas survey sponsored by the NHTSA, and to provide forums such as NTSB's Symposium on Child Passenger Safety that will facilitate information flow from consumers to the manufacturers.

All of the manufacturers who attended this workshop thought this forum helped them get a handle on what they need to know in order to go back to their companies to redesign child restraints.

VICE CHAIRMAN GOLDMAN: Thank you, Kathleen, and now for the final morning session on education and information exchange. The leaders of this group were Grey Jones, President of FLI Learning Systems, and Mary Beth Berkoff, Director of Public Information and Publications at Northwestern University's Traffic Institute. Grey and Mary Beth, are you both going to do this together?

Mr. JONES: Yes.

MS. BERKOFF: Kathleen said their group came up with three recommendations. We came up with just one, but I'm afraid this one is a lalapalooza.

Mr. JONES: It has 155 parts. No problem.

**PRESENTATION OF GREY JONES, JR., AND MARY BETH BERKOFF
COLEADERS, EDUCATION/INFORMATION EXCHANGE DISCUSSION GROUP**

MR. JONES: First of all, our mandate was very, very broad so the first thing we did was narrow it down to the misuse issue. We need to know how to get across information on proper use of the child restraints to the consumer.

We discussed the reasons for misuse, which range from apathy, which is supported by the report that was just done by NHTSA, to the fact that parents can't understand how to use the restraints because of the difficulty in following the directions, to improper initial instruction on the use of the restraint. The main group we wanted to reach with proper instructions were new parents, and then perhaps even reach the children themselves.

Now, with that in mind, we came up with a single recommendation.

MS. BERKOFF: We tried to focus on some framework for the whole educational process, but it may be an almost impossible undertaking. I think one of the problems we all encounter is that a lot of people do a lot of different things without any system of organization. We came up with a whole shopping list of what public information/education programs should consist of, but what ultimately we focused on was the possibility of working with an existing organization and strengthening it to coordinate educational efforts. That organization is the National Child Passenger Safety Association (NCPA).

Our group believes that we should broaden the scope of NCPA to include many functions of public information and education. We have come up with a couple of ideas about funding which we will discuss and how efforts can go from the national to the State and local levels.

I'll start with some of the functions that we see that a new and expanded NCPA could incorporate. We used NCPA because it exists and because it really was created expressly for public information/education purposes.

Someone has to coordinate the work with the national media. At this point in time, we need to mount an intensive coordinated effort to work with the national media regarding restraint use on children's television programming, national PSAs, and reporting of seatbelt and child safety seat usage in accidents. One function of the expanded NCPA would be to have one person or staff dedicated to working with the national media.

Another function for the expanded NCPA would be to work with national volunteer groups to encourage networking. Yet another function would be to work with the private industry. An example would be working with industry and their internal corporate health and safety programs, again making sure that the information they are disseminating is consistent and that the information is shared between programs. I'll turn the floor over to Grey now.

MR. JONES: On the external side, we talked about the insurance companies reaching out beyond their company limits in terms of premium reductions for proper use. This obviously also could apply to seatbelt use too, but we mainly were talking about child restraint devices. Insurance companies could mail out educational brochures on the proper use of child restraints to their policyholders.

NCPSA also could work with the hospital associations, medical folks, educational associations and the child restraint manufacturers. For example, each manufacturer might establish its own information hotline on the proper use of its restraints as well as provide NCPSA with updates on any modifications in its products in terms of design, etc., as would relate to how they should be used properly.

NCPSA could also work with the State coordinators of the Governor's Highway Safety Offices. This was where we felt the State coordination effort should reside.

MS. BERKOFF: Basically, what we are saying is that NCPSA needs staff and funding to make all of this happen.

Part of the 8 percent money going to the States for child passenger efforts and funds from the car manufacturers, insurance industry, and other private industry could help finance NCPSA's expanded efforts to combat misuse, both nationally and locally.

MS. JONES: The State coordinator, for example, working with the national office, could set up a State hotline effort, so not only could you call the manufacturer, but you could call this hotline for information on proper use. This is needed particularly by parents who bought a convertible safety seat when the infant was born and now have an infant who has grown to be a toddler. The safety seat now needs to be converted, but by this time, the instructions may be lost.

It would be important to advertise that these State hotlines exist and to train the trainers so parents receive a uniform message. The national organization would have to be involved in coordinating the volunteers, coordinating the associations, etc.

VICE CHAIRMAN GOLDMAN: Thank you very much. Obviously, you got very involved. We expect you to achieve all of those results, and I'm sure the points you presented represent a lot of discussion.

Chief Charles Gruber of the Quincy Police Department in Quincy, Illinois, will now present the recommendations of the enforcement workshop.

PRESENTATION OF CHIEF CHARLES GRUBER LEADER, ENFORCEMENT WORKSHOP

CHIEF GRUBER: First, I want to thank everyone who came into the enforcement session and participated because I think it was a very informative session. We had enough diverse people so we were able to get something done. I particularly want to thank the law enforcement personnel who came because they got battered around pretty well.

The enforcement issue probably is the most important issue in child restraints no matter where you go, no matter what state you are in. If there is no enforcement, there is no compliance, not even voluntary compliance to any extent. There has to be some kind of enforcement effort.

How do you get better enforcement? We covered a lot of territory in my group. Basically, we came up with two preliminary recommendations we think would help in the future.

First, we think the local policymakers themselves--administrators, chiefs of police, superintendents of law enforcement--have to be the primary targets of our efforts in each State. We need to get those people to understand the need for proper restraints. We need to do that through training so that policymakers have some idea what the child passenger protection laws are about. Particularly, there are some chiefs of police today who, even though the laws have been in effect for several years, do not know there is a child passenger protection law on the books. They need training.

You need to do that so they understand it is a public relations issue. Police seem to view the child passenger protection laws or enforcement of such laws in a negative light. We need to show them that it can be a very positive program for the police.

We need to get their attention by telling them the amount of liability that is involved in either nonenforcement or negligent enforcement of the child passenger protection law. We need to talk about some of the resources the police chief can use to enforce it, either the immediate resources he has on the streets or the savings in resources he will have by avoiding the liability issues that may come up. In other words, we can appeal to him that he's better off using his scarce manpower to enforce the law now, rather than using them later to defend himself against charges of negligence.

You need grassroots support from the community. People in the community who are interested in child restraints should go and talk with the chief administrator or the local politicians or political subdivision to try and get them to become involved in enforcement efforts. The need for enforcement needs to be communicated to those police administrators through the various police chiefs organizations and groups from around the country and internationally, meaning the International Association of Chiefs of Police. One of the major training resources available for this kind of training is the National Association of State Law Enforcement Trainers (NASLET).

Then child restraint advocates should begin to use law enforcement policymakers for input in the evolution of the laws that they have in their States now. Some laws today are simply very difficult to enforce. I think everybody here will recognize the difficulty that enforcement officers have with a number of laws in States as they are now written.

The second recommendation addressed how best to motivate the actual officer who does the job. A child passenger protection law is not necessarily a popular law. As much as we child restraint advocates would like to think, it is not the most important law on the books. It is not the most important when you look at the number of laws and the number of special interest groups that a policymaker has to respond to, as well as try to get that information across to the individual police officer and motivate him to enforce it. How do we motivate the officer to want to enforce the law? He has his own special set of values when he goes to do his job.

We need to train him, and we need to get him to understand that enforcement of obvious violations will help eliminate misuse of child restraints. By doing early enforcement, we hope to get the public to enforce themselves. We need to have good direction by the policymakers. In other words, we need a commitment from the policymakers and a policy that is clear, concise, and understandable by the officers and supported by the administration. Direction by leadership has to be good.

We need to get some kind of incentives or rewards for officers from local, State, interagency, intra-agency, or community groups. Advocates need to give out more rewards to the individual officer or the police department for taking an active and effective role.

The public relations payoff is not there now for an officer to enforce the child passenger protection law. We need to make the officers feel like they are doing something worthwhile and that it is going to have some impact. I think we can do that. Sergeant Nargalenas did this in Illinois just by showing the reduction in child passenger deaths or injuries that can be accomplished by enforcement.

There should be an activity code for the officers for the enforcement of the child restraint law as well as some kind of block checkoffs on our accident reports to show that the officer has checked for child restraint violations on an accident report and noncrash injuries. That is a small step but necessary. We need to identify those officers who enforce the law and identify the programs to promote proper use that are succeeding.

We need to use as much persuasion as we can with the officers either through media or personal programs that we might have. We need to persuade the officer that enforcement of the law has value. We may be able to do that by showing that saving a life is a greater good than going out and making a burglary arrest, or at least as important as doing a burglary arrest.

I think that pretty well covers it.

VICE CHAIRMAN: Thank you. It takes a law officer to know how to get around from merely reciting the group's recommendations. Thank you very much. I appreciate that.

Chuck Hurley, Executive Director of Federal Affairs for the National Safety Council, is next. Chuck Hurley will present his group's top two recommendations. I don't mean to diminish the importance of other recommendations, but I want to leave time for questions.

**PRESENTATION OF CHUCK HURLEY
LEADER, LEGISLATION DISCUSSION GROUP**

MR. HURLEY: I think it is good to start out by pointing how incredibly far we have come. A number of people have been working on getting child restraint legislation passed since 1978, and some longer than that. If anyone had told us back in the 1970's that we today would have 49 States (now 50) and the District of Columbia with basically good child restraint laws in place, we would have been really pleased with ourselves.

In our discussion group, we started with an update of the existing child passenger safety laws compiled by Nancy Berk of my staff, and then after discussion, we came up with a prime recommendation on a package to strengthen existing laws and also one involving schoolbus seatbelts.

We ended up essentially merging about seven individual recommendations into the first one. There is going to be a tremendous amount of energy devoted to restraint legislation in the States this year; as many as 42 States are considering adult seatbelt use

bills. There will be a lot of opportunities to include child passenger safety provisions, both to strengthen the existing law and perhaps add years to the coverage as they did in New York.

Parts of that first mega-recommendation, if you will, would be to develop a model bill, but not waiting for it, to encourage State enactment of strengthening provisions that would make the current laws more uniform and more simple so that the message is not confusing. Examples would be uniform age levels covered, all drivers (not just parent or guardian) held responsible for child passenger protection, a belt option included to ease the transition from child restraint to safety belt usage, more substantial fines, and also a clause that violations count toward points, insurance surcharges and contributory negligence.

The item that got the second largest number of votes was schoolbus seatbelt legislation, which is a major issue of interest to a number of people. This would again provide an opportunity to add additional support to State legislative efforts and to add child passenger safety provisions that would parallel ones such as in New York State of adding a year at a time, as they did up to age 10 in New York State, and covering things like provisional licensing.

I am sure people would agree while we urge the Safety Board to develop such a model package of legislation, we would encourage States not to wait for that since that takes some months and the legislators are going into session right now.

Those are the provisions we would encourage in strengthening amendments.

VICE CHAIRMAN GOLDMAN: Thank you, Chuck. In fact, we already have a model, but I'm sure it needs updating, just to anticipate what you were going to suggest.

The final section, and then we can get into questions and answers, is the one on education and incentives. I call on Elaine Weinstein, Executive Director of the National Child Passenger Safety Association (NCPA).

PRESENTATION OF ELAINE WEINSTEIN, COLEADER EDUCATION AND INCENTIVES DISCUSSION GROUP

MS. WEINSTEIN: We really only have two recommendations. Before I present them, I want to say I really like Mary Beth and Grey's recommendation about NCPA. We will be collecting money as you leave so we can buy them dinners.

Our two top priority issues in our workshop were education and incentives. We felt there should be some kind of standardization of consumer educational materials so that every State is not out there devising its own brochure, reinventing the wheel so to speak, and spending all its money on that brochure when it could be used for so many different things.

We also got into the who, what, and how. Who should the target audience be? We wanted to take a developmental approach to be sure we were covering the different age groups of children and making the information specific to that particular target audience.

The same thing with the message. Certainly, there are different issues you want to talk to a parent with a newborn infant compared to a parent with a toddler or a 4- or 5-year-old in a seatbelt.

The "how" was really training which we didn't get into as much as we wanted to, but felt there were some real specific issues and differences between how you train parents and how you train the people who are going to train the parents. I think there was some frustration in our group that we didn't get a little more into the issue of how to train the trainers. That is really important.

We also dealt with reaching what we call the unmotivated. There is a group of people who are just nonusers, and there is a core group of people who will consistently misuse their car seats. The thing I found most frustrating about the Hardee's Restaurants study is that parents knew the child restraints were being misused but they didn't care to do anything about it. It is our job in consumer education to change that attitude.

Our second topic was incentive programs which we are just getting into now. They really have not been tried as widespread as we would like to see them. We talked about the different types of incentive programs--health promotion programs, monetary programs, or tangible programs where you give the child or a parent something for following the behavior that you are trying to instill in them. The insurance companies certainly play a big part in incentive programs with possible premium reductions.

These programs we felt, again, should be targeted specifically to the different populations, the different age of the child, and the different age of their parents. There was some talk about using children to influence parents. I think Judy Mann made that point at lunch. Children are very good at telling their parents what to do. We shouldn't let that opportunity go by, and we should use the networks that are out there now to work through these incentive programs.

We also came up with a lot of other recommendations, but we didn't bother writing them down.

VICE CHAIRMAN GOLDMAN: Thank you very much, Elaine. I again want to thank all of you for coming to the symposium. We basically have a half hour left to devote to questions, follow-ups, and other suggestions.

I want to say the Safety Board intends to be a vehicle to help you to the extent we can. I think this has already been a successful meeting because of what you have already accomplished.

When Chuck Hurley mentioned it was beyond our wildest dreams that we would have gotten this far with passage of legislation, Lt. Cotton pointed out to me that (1) the seats are not being used, and (2) they are not being used correctly. The point is that we have the laws. The main problem is the laws are not being enforced. It seems to be a very law-conscious time in our country. Perhaps if we emphasize it's the law, we can persuade more people to restrain their children properly.

I would like to call on the audience to ask questions of discussion group leaders. We have an extra microphone in the front of the room. If you would identify yourself, the reporter can include your name in the record. With that, I turn the session over to you.

QUESTIONS AND ANSWERS

MS. RICHARDS: I am Debbie Richards, American Academy of Pediatrics. My question is really for you, Ms. Goldman. When you say you want to support the ideas coming out of this meeting, what are the ways in which the Safety Board can really do that? I know you investigate accidents, and you do get a lot of press coverage. Are there some other specific ways in which you can do this?

VICE CHAIRMAN GOLDMAN: Several ways. One, we investigate accidents as you pointed out. That results in data collection. During an accident investigation, we may discover problems that we can turn over to your organization or you can let us know about specific problems, and we can see if we can investigate that kind of accident. Mr. Ghiorso, whom I pointed out previously, has been doing a lot of the child restraint accident investigations.

Two, we are empowered to make recommendations. Judy Mann was talking about her "Nudzging." We are the agency appointed to nudzheh. We cannot enforce our recommendations; all we can do is make the recommendations. When we make recommendations to Federal agencies such as NHTSA, they have to reply to us by law within so many days. To be perfectly honest, sometimes they can get away from that compliance by saying: "We got your recommendation. Thanks a lot."

We have the power to go before Congress, and the committees usually ask us who has responded to your recommendations. Are people taking our advice?

We also are looked upon as safety experts and are called to testify before Congress. You pointed out the use of the media and we can get that information out because media will turn out for a Board-sponsored event like today or a hearing we hold. So we are a conduit for getting information out. We depend upon you to help get us that information because you are out there working in the States and all we are doing is funneling that information.

Other questions?

MR. CLARK: Yes, I am Carl Clark, National Highway Traffic Safety Administration. First, we do have the beginning research indications that a 3-year-old in an ordinary lapbelt can be safer than in a safety seat that is misused. There has been some controversy on this subject: do we allow seatbelts to be used anywhere? The testing we have done so far involving observation with simulated tests represents an interesting start to answer this question.

We also have the beginning indications that as you get to more severe stresses on these child safety seats in the misuse modes, they begin to fail. Although we don't require any testing beyond 30 miles an hour, we know very well that child restraints are in crashes at higher speeds. Half of the deaths probably occur above 30 miles an hour change in velocity. It would be very nice if the manufacturers would begin to look at making their restraints sturdier in some way, looking at the test results at higher speeds. I just want to point out to you all that mechanical failures can begin to happen with some of these child restraints at high speed crashes.

I think that Kathy Weber of UMTRI has shown these results in some of her work, and we are seeing it in other studies.

VICE CHAIRMAN GOLDMAN: Thank you for pointing out the real world doesn't always mimic the standard crash test. Yes, Chief Gruber?

CHIEF GRUBER: Pat, is the Safety Board doing any investigations involving car crashes with child restraints in other than head-on collisions?

VICE CHAIRMAN GOLDMAN: Yes, we do investigations of whatever type child restraint accidents are presented to us. We ask law enforcement agencies to inform us about them.

Frank Ghiorisi, do you want to add something to my answer? We did 53 special investigations for our Safety Study on child passenger protection we published in 1983. Even though the study is completed, we are still investigating some child restraint accidents.

MR. GHIORSI: Yes, particularly if the accident involved a reported child restraint failure. We've been taking all accidents of this type, both frontal and side impact.

VICE CHAIRMAN GOLDMAN: In fact, we even investigate "nonaccidents."

MR. GHIORSI: Yes.

VICE CHAIRMAN GOLDMAN: Child passenger deaths or injuries just don't happen in an accident. They can occur in nonaccident situations such as sudden swerves or braking. Any other questions? Everybody must feel satisfied. If that is the case, we will be sending a symposium report to you which will contain all your recommendations.

Thank you very much for attending today. I understand "Good Morning America" is going to do a segment on us tomorrow morning. Let's hope the story got across correctly and thank you again for coming.

We look forward to seeing you the next time we hold such a meeting.

DISCUSSION GROUP RECOMMENDATIONS

Section 1 - Baseline Data Collection

Leader: William Hall, Research Associate
University of North Carolina
Highway Safety Research Center

GROUP RECOMMENDATIONS

1. The National Transportation Safety Board should take appropriate measures within its authority to press for improved accident investigation and reporting by police and by local or State agencies responsible for construction of data files. All States should be required to include injury status and restraint usage status for all occupants involved in all accidents as a standard part of their accident reports. Furthermore, "child restraint device" (with proper/improper use designation if possible) should be included as a separate and distinct usage category.
2. A manual outlining standardized procedures for observational data collection should be developed and distributed which would provide local groups with a guide for collecting valid and standard observational data relating to restraint usage rates and measures of child restraint misuse. The National Highway Traffic Safety Administration (NHTSA) is currently working on such a manual, and we urge the NTSB to recommend to the NHTSA that they seek and consider inputs from researchers who have conducted previous observational surveys to insure that these guidelines produce results that would be suitable for as wide a range of purposes as possible. Such guidelines should not sacrifice valid measures of overall restraint usage rates for the sake of detailed misuse measures and thus they should include guidelines for developing, implementing and reporting a strong sampling design useful for the evaluation of mandatory restraint usage laws. If possible, procedures should be included for obtaining attitudinal as well as behavioral measures.
3. The possibility of utilizing public health data collection efforts, such as data compiled by the Center for Disease Control, to collect motor vehicle mortality and morbidity statistics should be investigated.
4. The possibility of enlisting the aid of emergency medical services personnel in determining restraint usage in crashes should be investigated since EMS technicians often arrive at a crash scene before the police.
5. Collection of misuse data should include child restraint design/type specific data (e.g., infant vs. convertible safety seat, harness vs. shield) whenever possible to provide feedback to educators and manufacturers.
6. Efforts should be undertaken by states to collect data related to enforcement activities.

Section 2- Design Changes

Leaders: Kathleen Weber, Senior Research Associate
University of Michigan
Transportation Research Institute, and

Annemarie Shelness, Executive Director
Physicians for Automotive Safety

GROUP RECOMMENDATIONS

1. Revise FMVSS 213 to emphasize performance rather than specifics of design; to address potential injury modes other than head and chest, e.g., neck and abdomen; and to address the needs of the older child, particularly with regard to upper torso restraint.
2. Work toward standardization of vehicle belt configurations to alleviate incompatibility problems between belts and safety seats.
3. Continue to monitor field usage through formal surveys and to provide forums such as the Safety Board Symposium that will facilitate information flow from consumers to the manufacturers.

Section 3- Education/Information Exchange

Leaders: Grey Jones, Jr., President
FLI Learning Systems, Inc., and

Mary Beth Berkoff, Director of Public Information and Publications
Northwestern University Traffic Institute

GROUP RECOMMENDATIONS

1. Strengthen and expand the existing national organization founded to promote child passenger safety, the National Child Passenger Safety Association (NCPA), so that it can carry out the following functions:
 - a. Be the national clearinghouse for information and chief advocate for child passenger safety with:
 - o National media
(report restraint use in accidents, report positive examples of use, get prime media time)
 - o National volunteer groups
 - o Private industry
(work with internal communications, i.e., corporate safety and health programs and external programs, and with insurance companies to receive special emphasis in regards to premium reductions and copy on child restraints in their brochures to policyholders)

- o Associations
 - o Car seat manufacturers
(set up company hotlines and provide updates
on seat revisions)
 - o State highway safety coordinators
 - o Federal government
 - o Enforcement groups
- b. Lobby for a standardized national child passenger protection law
(similar to Age 21 legislation)
- c. Develop and coordinate training efforts for both trainers and the
general public.

Section 4- Enforcement

Leader: Chief Charles Gruber
Quincy Police Department
Quincy, Illinois

GROUP RECOMMENDATIONS

1. The prime targets for child restraint law support are the law enforcement officials who are policymakers. Steps to convince them of the need to enforce local child passenger protection laws should include:
- o Training in the need for child restraints and their proper use
 - o Emphasis on the public relations payoff from enforcement
 - o Realization of the liability for the department if child passenger protection laws are not enforced
 - o Emphasis on the manpower savings inherent in enforcement rather than nonenforcement, both in the short-term and long-run
 - o Pointing out grassroots support available to police department
 - o Exposure to role models such as IACP and State Chiefs Associations.
2. The second priority must be efforts aimed at motivating the individual enforcement officer. This can be done by
- o Training
 - o Stressing enforcement of obvious violations or misuse in connection with other traffic violations
 - o Direction by leaders

- o Rewards for enforcing law (from local department, State, inter-agency, intragency, and community)
 - o Make reporting of child restraint use/nonuse mandatory on accident report forms. Police activity lists should also include a check-off for child safety law enforcement activities.
3. Law enforcement officials should be consulted at an early stage in any efforts to revise child passenger safety laws. Their input is invaluable.

Section 5- Legislation

Leader: Chuck Hurley
Executive Director
Federal Affairs
National Safety Council

GROUP RECOMMENDATIONS

1. Develop model child passenger protection bill for all States to adopt that is uniform and simple.
2. In its absence, strengthen existing laws. Add amendments to:
 - o Increase age limits
 - o Increase coverage to all drivers, not just parents and guardians
 - o Include a vehicle seatbelt option
 - o Increase fines
 - o Make disobeying law count in terms of heavy fines and points.
3. Schoolbus seatbelt legislation

Section 6- Education and Incentives

Leaders: Terri Siani
Child Passenger Coordinator
Office of Occupant Protection
National Highway Traffic Safety Administration, and

Elaine Weinstein
Executive Director
National Child Passenger Safety Association

GROUP RECOMMENDATIONS

Consumer Education

1. States and local groups should pool resources (time and money) to develop standardized consumer education material, i.e., an all-purpose brochure on the life-saving nature of child restraints.

2. Materials must be carefully written to appeal to specific audience depending on developmental age of child. Message must be different for parents of newborns compared to parents of toddler age children.
3. More attention must be paid to training the trainers.
4. Specific materials must be tailored for nonusers versus misusers.

Incentives

5. All types of incentives should be explored; health promotion, insurance premium reduction, gifts, money, etc.
6. Target programs to specific audience: child, parent, educators, etc.

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

/s/ JIM BURNETT
Chairman

/s/ PATRICIA A. GOLDMAN
Vice Chairman

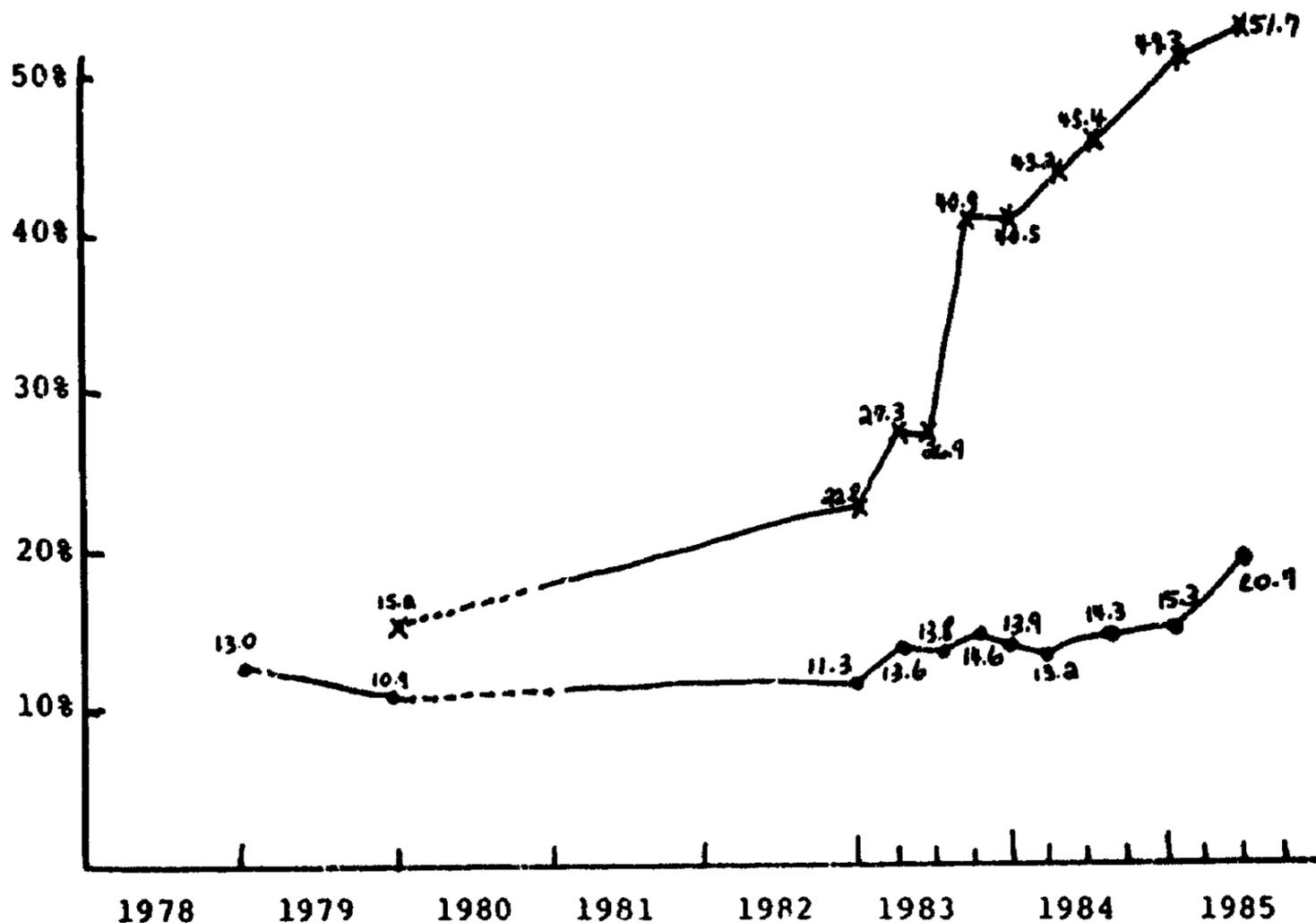
/s/ G. H. PATRICK BURSLEY
Member

September 4, 1985

APPENDIX A

RECENT STATISTICS ON CHILD RESTRAINT USE AND MISUSE

**NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA)
19-CITY SAFETY BELT AND CHILD SEAT USE
OBSERVATION SURVEY
(AS OF JULY 1985)**



The above graph depicts driver safety belt and child safety seat use (children age 4 and under) observed in 19 cities between 1978 and 1985.*

Data collected over the first 6 months of 1985 show driver safety belt use at 19.4 percent based on 47,167 observations. If New York city (where safety belt use became mandatory in January 1985) is excluded from the survey results, usage in the 18 cities was 18.0 percent during the latest reporting periods as compared to 15.8 percent in 1984. Child safety seat use, based on 6,636 observations (579 infants and 6,057 toddlers), was 51.7 percent. When broken down between infants (under 1 year of age) and toddlers (1-4 years), the rates were 66.5 and 50.4 percent, respectively.

*/ Cities included in NHTSA's survey are: Boston, Providence, New York, Baltimore, Pittsburgh, Chicago, Minneapolis/St. Paul, Fargo/Moorhead, Miami, Atlanta, Birmingham, New Orleans, Seattle, San Francisco, San Diego, Los Angeles, Phoenix, Houston, and Dallas.

**CORRECT/INCORRECT FASTENING OF
CHILD SAFETY SEATS (TODDLER SEATS) TO CAR***
JANUARY - JUNE 1985
(based on NHSTA 19-city survey of occupant restraint use)

Usage	Non-Tethered Seats	Tethered Seats
Correct	63.9%	7.3%
Car Belt Not Used	7.6%	-
Car Belt Used Incorrectly	28.5%	-
Car Belt Used Correctly, Tether Strap Not Used	-	48.8%
Car Belt Used Correctly Tether Strap Used Incorrectly	-	0.8%
Car Belt Not Used Tether Strap Used Correctly	-	0.3%
Car Belt Not Used Tether Strap Not Used	-	5.7%
Car Belt Not Used Tether Strap Used Incorrectly	-	0.5%
Car Belt Used Incorrectly Tether Strap Used Correctly	-	3.4%
Car Belt Used Incorrectly Tether Strap Not Used	-	32.6%
Car Belt Used Incorrectly Tether Strap Used Incorrectly	-	5.2%
Total Seats	1,255	383

Overall Used Correctly 50.7%
Overall Not Belted 7.4%
Overall Not Tethered 20.4%

*Seats that require fastening around the child and shield (and are unfastened) are coded as correctly belted.



US Department
of Transportation
National Highway
Traffic Safety
Administration

Research Notes

CHILD SAFETY SEAT MISUSE

Peter N. Ziegler

This paper summarizes the results of a study conducted by Goodell-Grivas, Inc., to assess the extent of child safety seat misuse and to determine the factors and reasons associated with each type of misuse.

A number of studies have shown that, while the use of child safety seats has been steadily increasing, misuse of these seats remains consistently high (1, 2). These data were obtained by observing children traveling in cars (to determine if they were appropriately restrained) and by looking at unoccupied seats in parked cars (to determine if the seats were correctly installed). This study was designed so as to allow observers to inspect safety seat installation and child harnessing simultaneously and obtain information on several issues related to child passenger protection, particularly reasons for the specific types of safety seat misuse encountered.

Data was collected by observing 1,006 children in safety seats in cars entering Hardee's restaurant parking lots in 10 cities around the country and talking to drivers of these vehicles. Findings from this study include the following:

- Overall misuse for all occupied safety seats was 65 percent. Toddler, infant and booster seats were misused at a rate of 66, 59 and 62 percent, respectively.
- The most common error was failure to use a tether. Tethers were not used in 85 percent of the cases where they should have been. For the most part (80 percent of the time) parents were fully aware of the need for using a tether but considered it too much trouble to install.

- For the 734 toddler seats observed, harness or shield misuse consisted of 22 percent non-use and 18 percent incorrect use. The newer seat designs with partial and full shields were used correctly more often than seats with older harnessing systems. In over 95 percent of the misuse cases, parents were aware that the harness should be used and indicated that child resistance to being harnessed was the principal reason for this non-use.
- Infant seats were facing the wrong direction 1/3 of the time and 71 percent of the parents knew the seat was positioned incorrectly. The most common reason given for this error was that they thought the child was old enough to use the seat facing forward.
- Car belts were improperly routed around the child seat 28 percent of the time. Most parents (75 percent) were not aware that the belt was being used incorrectly.

There were a number of factors found to be associated with child seat misuse. For example, non-use of safety belts by the driver was associated with a greater incidence of misusing child seats. Another related factor was the age of the child seat. The longer a seat was owned, the greater was the likelihood that it would be misused. This is probably related to another finding that seats obtained used were more likely to be misused as compared to seats obtained new. As would be expected, people who install child seats without following instructions are more likely to install them incorrectly.

Factors found not to be associated with misuse included: seat position in the car, sex of the parent, who first installed the seat, child's age, and use of the seat in more than one vehicle

The contractor recommended several design changes to make safety seats more comfortable for the child, easier to use, and less vulnerable to misuse. For example, the production of safety seats incorporating full shields or harness pads should be encouraged over seats using straps-and-buckle harnesses. This recommendation was made because of the comparatively higher incidence of harness non-use with child seats incorporating straps-and-buckle harness systems. Harness systems should be designed to prevent children from easily slipping the harness off their shoulders since this is a very common occurrence. To counter the most common installation problems, more prominent warning stickers should be placed on tether type seats indicating the necessity for using the tether strap, and the locations on the child seat through which the car belt should be routed should be clearly marked.

Other recommendations were of an educational nature and were based on the lack of understanding by parents about the use and installation of child seats. Educational efforts should be designed to make parents aware of (a) the consequences of child seat misuse, (b) the common forms of misuse and (c) how to take corrective action.

NOTE: This study was conducted under contract # DTNH22-82-C-07126. Copies of the final report (DOT-HS-806-676) are available through the National Technical Information Services, 5285 Port Royal Road, Springfield, VA 22061.

References

1. Perkins, D. D., Cynecki, M. J., and Goryl, M. E. Restraint System Usage In the Traffic Population. NHTSA Report # DOT-HS-806-582, July 1983.
2. Shellness, A., Jewett, J. Observed Misuse of Child Restraints. 27th Stapp Car Crash Conference, Society of Automotive Engineers, Warrendale, PA, 1983.

January 1985

APPENDIX B

SUMMARY OF STATE CHILD PASSENGER PROTECTION LAWS

U. S. CHILD PASSENGER SAFETY LAWS

September 5, 1985

APPENDIX B

-50-

State/ Effective Date/ Statute	Applies to	Age	Requirements	Penalties	Other Provisions	For More Information
ALABAMA 7/1/82 32-6-222	All drivers	0 to 3 yrs.	Federally approved c.r. in front or back seat of m.v. registered in state.	\$10 per offense	Failure to use c.r. cannot be considered contributory negligence. Violation cannot affect insurance rates. Exempts trucks/busses over 1 ton.	Ruby Noonan, Director Highway & Traffic Safety State Hwy. Bldg., Rm 741 11 South Union Montgomery 36130 (205) 832-5973
ALASKA 6/8/85 AS 28.05	All drivers	0 to 4 yrs.	Federally approved c.r. in front or back seat of m.v.	Infraction, no fine but points may be assessed. Waivable within 30 days for 1st offense only.	Exemption for school bus & emergency m.v. Cannot remove belts to exempt oneself from law. Comm. of Public Safety can issue med. exemption & specify alternative methods of transportation. Loaner/Educ. Programs to be estab. at hospital/ birthing ctrs. by Ofc of Public Safety Cannot sell, install seats not conforming to fed'l regulations. Car rentals to provide c.r. in sufficient quantities	Charles A. Smith Highway Sfty Planning Agency Pouch H Juneau 99811 (907) 465-4371 Alaska CPSA: Barbara Berger (907) 278-3631
		4 to 6 yrs.	Safety belt may be substituted.			
ARIZONA 7/1/83 28-6-15 §28-907,908	Resident parent/ guardian/custodian	0 to 4 yrs. or 0-40 lbs.	Federally approved c.r. in front or back seat of non-commercial m.v. registered in parent's name in state. If more children than belts, at least 1 child must be restrained.	Warning only until 7/1/84. After 7/1/84, max. \$50, waivable.	Failure to use not admissible in any other judicial proceeding. Receipt of acquisition/purchase may be mailed to court in order to waive fine. Vehicle cannot be stopped solely for this offense. Hospitals must provide new parents with copy of law and loaner program infor. Fine money earmarked for c.r. fund to purchase seats for indigents. Exemption if vehicle manufactured without belts.	James S. Creedon Deputy Director Arizona DOT 1801 W. Jefferson Phoenix 85007 (602) 255-3216
ARKANSAS 8/1/83 68:§75.2603	Driver regularly transporting children	0 to 3 yrs.	Federally approved c.r. in front or back seat of passenger m.v., van or pick-up truck.	Warning only between 9/1/83 & 6/30/84. Thereafter \$10-25, waivable.	Failure to use not admissible in any civil action. Exemption for emergencies threatening life of driver or child, or for physical disability of child. Fine money earmarked for c.r. fund to purchase seats. Legislature intends for public info. campaign to be conducted by all involved state agencies & interested organizations. Exemption if all seating positions are occupied.	Tom Parker, Director AR Highway Safety Program 3 Capitol Mall Level 4B Rm. 215 Little Rock 72201 (501) 371-1101
		3 to 5 yrs.	Safety belt may be substituted.			

Prepared by Nancy Berk, National Safety Council, 9/5/85

State/ Effective Date/ Statute	Applies to	Age	Requirements	Penalties	Other Provisions	For More Information
CALIFORNIA 1/1/83 Veh. Code 12-5-3.3 §27351	Resident parent/legal guardian, either as driver or passenger in own m.v.	0 to 4 yrs. or 40 lbs.	Federally approved c.r. in front or back seat of passenger m.v. or truck weighing less than 6001 lbs. registered in state owned/operated by parent/legal guardian.	Waivable for 1st offense, \$50-200 add'l offenses. Parent responsible if in m.v. at time of violation	Retailer may not sell or install c.r. not meeting fed'l standards. Exemption for physical impracticability.	Peter O'Rourke, Director Ofc. of Traffic Safety 7000 Franklin Blvd. Sacramento 95823 (916) 445-0527 <u>CA.CPSA:</u> Sandra Sparks (619) 224-2731
	Parent/legal guardian either as driver or passenger. Any driver (if no parent/legal guardian in m.v.)	0 to 4 yrs. or 40 lbs.	Federally approved c.r. or safety belt when riding in vehicles listed, registered in state.			
COLORADO 1/1/84 42-4-235CRS	Resident Driver	0 to 4 years and under 40 lbs.	Federally approved c.r. in front or back seat of privately-owned non-commercial passenger m.v.	\$25, waivable	Violation shall not constitute negligence per se or contributory negligence per se. Cannot sell, install, etc., c.r. not meeting fed'l standards. Amended in 1984 to allow exemptions for medical emergencies or if all other seating positions are occupied. Original amendment was significantly weaker, would have exempted from compliance non-parents traveling less than 5 miles.	Cordell Smith, Director Division of Highway Safety 4201 E. Arkansas Denver 80222 (303) 757-9301 <u>CO. Coalition for CPS:</u> Diane Emerick (303) 757-5381
CONNECTICUT 10/1/82 14-100c CGS	Driver	0 to 1 yr.	Federally approved c.r. in front or back seat of m.v. (not including r.v., 1 ton trucks or busses)	\$15-100, waivable.	Failure to use does not constitute contributory negligence and cannot be used in civil action.	Morton C. Booth, C.R. Ofc. of Highway Safety, 607 24 Wolcott Hill Road Wethersfield 06109 (203) 566-4299
		1 to 4 yrs.	C.R. in front seat or safety belt in back seat.			
DELAWARE 6/2/82 CD41-Title27 §4199C	Parent/legal guardian	0 to 4 yrs.	Federally approved c.r. in front or back seat of m.v. owned & operated by parent/legal guardian.	\$25, waivable for 1st offense only; no points.	Failure to use not contributory negligence nor admissible in any civil action. Multiple violations arising out of same offense shall be treated as one violation.	Francis A. Ianni, C.R. Ofc. of Highway Safety 9 E. Lockerman St., #309 Dover 19901 (302) 736-4475
DISTRICT OF COLUMBIA 7/1/83 40-1201	Resident drivers or driving m.v. registered in D.C.	0 to 3 yrs.	Federally approved c.r. in front or back seat of m.v. (more than 3 wheels & seating less than 8 people). Taxis, sightseeing, ambulances exempt.	\$25, waivable for first offense only. No points.	Failure to use, not evidence of negligence or contributory negligence nor admissible in civil action. Exemption if # of children in one family exceed # of belts, all belts to be used.	Mr. Corgill, Coordinator Highway Safety Program 415 12th St., N.W. #604 Wash., D.C. 20004 (202) 727-5777 <u>Automotive PSA:</u> Maurica Yeal (202) 728-4585
		3 to 6 yrs.	Safety belt may be substituted.			

State/ Effective Date/ Statute	Applies to	Age	Requirements	Penalties	Other Provisions	For More Information
FLORIDA 7/1/83 316.268	Parent/legal guardian	0 to 4 yrs.	Federally approved c.r. in front or back seat of passenger car, van or pickup truck registered in state.	\$25, waivable.	Failure to use, not negligence or admissible in civil action. DMV to provide notice of law with license plates. legislature intends for public info. campaign to be conducted by all involved state agencies and interested organizations.	Sandra Whitacre Bureau of Highway Safety 2571 Exec. Cir. Circle E. Tallahassee 32301 (904) 488-5455
		4 to 5 yrs.	Safety belt may be substituted.			
GEORGIA 7/1/84 40-8-760CCA	Resident driver, customarily transports children	0 to 3 yrs.	Federally approved c.r. in front or back seat of passenger car, van, or pickup truck registered in state.	\$25, waivable if acquisition within 14 days.	Violation shall not be contributory negligence or negligence per se. Exemption for attending to personal needs of child and for church, school car pools. Gov. Ofc. of Highway Sfty. to implement and coordinate program to inform citizens of need for law.	Winard C. McGuire Dir. Ofc. of Highway Safety 2175 N. Lake Pkwy. Bldg 4, Suite 144 Tucker 30084 (404) 393-7480 GA.CPSA: Joyce Palisz (404) 476-7562
		3 to 4 yrs.	Safety belt may be substituted.			
HAWAII 7/1/83 Ch291 (Use law) Ch235 (Tax Credit)	Driver	0 to 3 yrs.	Federally approved c.r. in front or back seat of m.v. Taxis, emergency, mass transit m.v.s exempt.	Max \$100 Penalty §291C 161 (b)	Failure to use, not contributory negligence. If # of persons exceed # of belts, all belts to be used & unrestrained children in back seat. Exemption for emergency, commercial, for hire, mass transit, school bus vehicles. \$25 income tax credit for purchase of c.r. effective 1/1/82.	Ayokichi Higashionna, Director, DOT 77 S. Hialeah Highway Honolulu 96813 (808) 548-3205 Child Trans. Sfty. Coal.: Jessie Wells (808) 732-7528
		3 to 4 yrs.	Safety belt may be substituted.			
IDAHO 1/1/85 Ch7 Title 49 §49-763	Resident parent/legal guardian	0 to 4 yrs. or less than 40 lbs.	Federally approved c.r. in front or back seat of all non-commercial m.v.	Infraction, max. \$100, waivable.	Failure to use not contributory negligence nor admissible in civil action. Exemption if more passengers than safety belts. Children 0 to 4 yrs. must be in back seat. Exemption for attending to personal needs of child.	William C. Miller Ofc. of Hwy. Safety, DOT P. O. Box 7129 Boise 83707 (208) 334-2533 Coal. for CP Protection: Same as above.
ILLINOIS 7/1/83 Ch91-1/2, 1061-1011	Resident parent/legal guardian	0 to 4 yrs. 4 to 6 yrs.	Federally approved c.r. in front or back seat of m.v. or r.v. owned & operated by parent/legal guardian. Safety belt may be substituted.	1st offense: \$25, waivable. \$50 subsequent.	Failure to use not contributory negligence nor admissible in civil trial.	Larry Wort, Chief Bureau of Safety Programs 2300 S. Dirksen Pkwy. Springfield 62764 (217) 782-4578 IL.CPSA: Garry Gardner, M.D. (312) 455-2064

State/ Effective Date Statute	Applies to	Age	Requirements	Penalties	Other Provisions	For more information
INDIANA 1/1/84 IC9-8-13	Driver	0 to 3 yrs.	Federally approved c.r. in front or back seat of m.v. registered in state.	\$50-500, judge can order person to obtain c.r. in 30 days & then waive fine.	Failure to use not contributory negligence. Court to forward records of violations to DMV. Exemption for school bus, taxicab, rental vehicles, and ambulances.	Ealter Frick, C.R. Div. of Traffic Safety Rm 801, State Ofc. Bldg. Indianapolis 46206 (317) 232-1297 IN.CPSA: Carol Singler (812) 372-0141
		3 to 5 yrs.	Safety belt may be substituted.			
IOWA 1/1/85 321/446	Resident drivers.	0 to 3 yrs.	Federally approved c.r. in front or back seat of m.v. weighing less than 10,000 lbs.	Misdemeanor. \$10 fine, waivable for 1st offense only.	Failure to use c.r. does not constitute negligence nor is failure admissible in civil actions. Physician can issue exemption in certain cases.	Evan Sterner, Director Ofc. of Planning & Programs 523 E. 12th Street Des Moines 50319 (515) 281-3050
		3 to 6 yrs.	Safety belt may be substituted.			
KANSAS 1/1/82 Ch26-75-2601 to 2607 Amended 7/1/84	Resident parent/legal guardian	0 to 4 yrs. (was 0 to 2 yrs.)	Federally approved c.r. in front seat of m.v. registered in state.	\$10 fine, must be waived if acquisition prior to court date (was oral warning only).	Exemption if child transported in temporary substitute vehicle. 1984 amendment deleted provision that "failure to use not negligence per se," also added fine, and raised age limit. KS DOT to make available info. on CPS for dissemination by law enforcement officers.	John B. Kemp, Sec. Kansas DOT State Ofc. Bldg., 7th Flr. Topeka 66612 (316) 296-3461
KENTUCKY 7/15/82 NRS189.125	Resident parent/legal guardian	0-40 inches in height	Federally approved c.r. in front or back seat of m.v. owned/operated by parent/legal guardian. Does not apply to 1 ton trucks or r.v.s.	Warning only.	Failure to use not contributory negligence nor admissible in civil actions.	Joe Ann O'Hara, Commander KY State Police State Ofc. Bldg., #326 Frankfort 40601 (502) 561-7074
LOUISIANA 6/25/84 RS32:295	Resident Driver	0 to 3 yrs.	Federally approved c.r. in front or back seat.	Warning only until 1/1/85; thereafter \$25-50 waivable.	Violation not considered comparative negligence nor admissible in civil action. If more children than belts, unrestrained children to be in back seat. Exemptions for emergencies or emergency m.v.s, or for physical/medical reasons. Cannot be cited more than once in 24 hr. period. Tax credit for full purchase price 1/85.	Steve Young LA Hwy Safety Commission P. O. Box 44061 Cap. Sta. Baton Rouge 70804 (504) 925-6991 Shreveport CPSA: Patti Brannan (318) 865-7365
		3 to 5 yrs.	Safety belt may be substituted in back seat only.			
MAINE 9/23/83 29MRS 136A-B	Resident parent/legal guardian	0 to 4 yrs.	Federally approved c.r. in front or back seat of m.v. registered in state owned/operated by parent/legal guardian.	Warning only first 6 months, thereafter \$25-1st offense, \$50-2nd offense.	Failure to use not negligence nor admissible in civil or criminal violation. Cannot be found in violation 2nd time within 24 hrs. of 1st violation.	Al Coffrey, Director Bureau of Safety 36 Hospital Street Augusta 04330 (207) 289-2581
	Driver, other than parent/legal guardian.	0 to 1 yr.	Same as above			
		1 to 4 yrs.	Safety belt may be substituted. Exempt from compliance if all seats occupied.			

State/ Effective Date Statute	Applies to	Age	Requirements	Penalties	Other Provisions	For More Information
MARYLAND 1/1/84 Transp. 22-412.2	Driver	0 to 3 yrs.	Federally approved c.r. in front or back seat of passenger or multi-purpose m.v. registered in state.	\$25, waivable, not moving violation.	Violation is not contributory negligence & cannot be admitted in civil action. Multiple violations arising out of same offense, considered single violation. C.R. or safety belt cannot be used for more than 1 person at a time. Exemption for medical problems, physician must certify. Exemption if # of children exceeds # of positions, positions must be filled by children & add'l children are not in violation of law. DOT and Dept. of Health shall implement law & develop education/preventional efforts.	William Carson, Director Trans. Safety Div. P. O. Box 8755 BWI-Hd. 21240 (301) 859-7157 MD.CPSA: Ken Roberts, M.D. (301) 578-5832
		3 to 5 yrs.	Safety belt may be substituted.			
MASSACHUSETTS 1/1/82 CR90-57AA	Driver	0 to 5 yrs.	Federally approved c.r. or safety belt in front or back seat of m.v.	\$25, waivable.	Violation not used as contributory negligence in civil action. Exemption if # of people exceeds # of positions and all available restraints are used. Exemption if riding in m.v. not equipped with safety belts, or if physically unable.	Terrance Schiavone, Dir. Gov. Highway Safety Bureau 100 Charles River Plaza 9th Floor Boston 02114 (617) 727-5074 Mass. Passenger Safety: Paul Schreiber, M.D. (617) 584-3600
MICHIGAN 4/1/82 257.907-710d	Resident driver	0 to 1 yr.	Federally approved c.r. in front seat of passenger m.v.	Max. \$15, waivable. Civil infraction.	Sec. of State may issue exceptions due to physical difficulties. Exemption while baby is being nursed. Judge may order treatment, educ. or rehab. for violators.	Judy Nyberg Coleman Occ. Rest. Coord., GMSA 111 S. Cap., Lower Level Lansing 48913 (517) 373-8031 MI.CPSA: Mike Bunk (313) 494-5455
		1 to 4 yrs.	Federally approved c.r. in front seat or safety belt in rear seat			
MINNESOTA 1/1/82 369.685 Sub. 4	Resident parent/legal guardian	0 to 4 yrs.	Federally approved c.r. in front or back seat of m.v.	Petty misdemeanor, penalty waivable. Max. \$25 fine for 2nd offense within 1 yr. No points assessed.	Failure to use not admissible in cases involving personal injuries or property damage. Fine was added in 1983 legislation and is effective 8/1/83.	Tom Boerner, Director Dept. of Public Safety 207 Trans. Building St. Paul 55155 (612) 296-6953

State/ Effective Date Statute	Applies to	Age	Requirements	Penalties	Other Provisions	For More Information
MISSISSIPPI 7/1/83 13:63-7-30i	Resident parent/legal guardian	0 to 2 yrs.	Federally approved c.r. in front or back seat of m.v. registered in state.	Max. \$10 per offense, waivable for 1st offense.	Failure to use, not contributory nor comparative negligence. Does not create any duty, standard of care, right or liability between parent and child. State Tax Commission shall notify residents of law via delivery of license tags.	Roy Thigpen, Director Gov. Highway Safety Program 501 George Street Jackson 39201 (601) 354-6792 Cliff Saylor (601) 762-5035
MISSOURI 1/1/84 201.104, 106, 107	Resident Driver	3 to 4 yrs.	Federally approved c.r. in front or back seat of m.v. registered in state. Safety belt may be substituted in back seat at any age.	Max. \$25.	Failure to use c.r. does not provide basis for claim of criminal/civil liability or negligence nor contributory negligence. If # of children exceed # of seat positions, all other children must be transported in car seat. Exemption for taxp. substitute vehicle or taxis. Dept. of Public Safety to develop public information program. 1984 amendment to limit application to parent/legal guardian only failed.	Edward Daniel, Director Dept. of Public Safety P. O. Box 749 Jefferson City 65102 (314) 751-4905
MONTANA 1/1/84 Ch177 Title 61-9-413 to 61-9-323	Resident Parent/legal guardian	0 to 2 yrs.	Federally approved c.r. in front or back seat of m.v. owned/operated by parent/legal guardian (or spouse).	1st violation is warning and no penalty if c.r. is acquired, otherwise \$10-25. 2nd violation, \$25-100.	Evidence admissible without presumption of negligence. Admissible in civil action for personal injury or property damage, but failure to comply does not alone constitute negligence. Highway Division may exempt due to medical or physical problems. No family is required to have more than 3 c.r.s. Exempt are busses, taxicabs, m.v. not required to be equipped with belts, 2-seater cars.	Albert Goss, Administrator Highway Traffic Safety 303 N. Roberts Helena 59620 (406) 449-3412
		2 to 4 yrs or less than 40 lbs.	Safety belt may be substituted.			
NEBRASKA 3/26/83 29-635	Resident driver including day care	0 to 1 yrs.	Federally approved c.r. in front or back seat of m.v.	\$25 fine, waivable for purchase or minimum 1 yr. rental.	Violation does not constitute negligence nor shall compliance constitute defense. Taxis, m.v. manufactured before 1963 are exempt. Dr. can issue medical waiver as exemption. If not shown to police at stop \$10 fine.	Holly Jensen, Director Dept. of Motor Vehicles 301 Centennial Mall S. Lincoln 68509 (402) 471-2281
	Day care only.	1 yr. & older (no upper age specified)	Safety belt can be substituted. Safety belt can be substituted.			
NEVADA 7/1/83 Ch484-1 Amended 7/1/85	Driver	0 to 5 yrs. or over 40lbs	Federally approved c.r. in front or back seat of m.v. registered in state.	\$35-100 fine or waivable within 4 days.	Violation not considered negligence in civil action. Dr. can issue medical waiver, statement must be carried in vehicle. Taxis, school busses, emergency or rented m.v. are exempt. If more occupants than seating positions, preference to be given to 0-3 yr. olds and unrestrained 0-5 yr. olds to be in back seat of m.v.	Mary Lynne Evans DMV, 555 Wright Way Carson City 89711 (702) 885-5728

State/ Effective Date Statute	Applies to	Age	Requirements	Penalties	Other Provisions	For More Information
NEW HAMPSHIRE 7/1/83 RSA265-107a	Driver	0 to 5 yrs.	Federally approved c.r. in front or back seat of m.v.	Max. \$30, waivable upon acquisition and use.	Violation not used as contributory negligence in civil action. Vehicles for hire are exempt. Exemption for children with physical problems.	John McDuffee, Coordinator Highway Safety Agency 117 Manchester St. Concord 03301 (603) 271-2131 NH CPSA: Debra Prun (603) 646-5673
NEW JERSEY 4/7/83 NJSA39:3-76.2a	Driver	0 to 18 mos.	Federally approved c.r. in front or back seat of m.v.	\$10-25 fine waivable.	Failure to use, not contributory negligence nor admissible in civil action. If 8 of children in 1 family exceed 8 of seating positions, unrestrained children must be in back seat.	William Taylor, Manager Highway Safety Ofc. Stuyvesant A. v. CH-048 Trenton 08625 (609) 292-3900
		18 mos. to 5 yrs.	C.R. in front seat or safety belt may be substituted in back seat.			
NEW MEXICO 6/17/83 66-7-368,369	Driver	0 to 1 yr.	Federally approved c.r. in front or back seat of m.v. (car, van or pick-up truck) registered in state.	\$50, waivable.	Violation not evidence of negligence. Emergency m.v., busses exempt. Exemption if all seating positions equipped with belts are occupied. Vehicle cannot be stopped solely for this offense.	John Fenner, Chief Traffic Safety Bureau P. O. Box 1028 Santa Fe 87503 (505) 827-8776
		1 to 4 yrs.	C.R. in front seat or safety belt substituted in rear seat only.			
		4 to 10 yrs.	Safety belt in front/rear seat.			
NEW YORK 4/1/82 Veh. & Traffic Laws 1299-C Amended 4/2/82 Amended 6/83 Amended 12/1/84	Driver	0 to 4 yrs.	Federally approved c.r. in front or back seat of passenger m.v. registered in state.	Max. \$25 waivable	M.V. owner to not allow operation of vehicle unless all children are restrained. School busses exempt. 1984 safety belt law provided for automatic phase-in of rear seat protection up to 10yrs of age. Has to be done incrementally until 1987. ('83 amend.)	William C. Zurke Interdept. Traffic Safety Commission Swan St. Building Albany 12208 (518) 474-5777
		4 to 10 yrs.	Safety belt may be substituted (1984 amendment).			
NORTH CAROLINA 10/1/85 CS20-137.1	Resident parent/legal guardian	0 to 3 yr.	State approved c.r. in front or back seat of m.v. owned/operated by parent and registered in state.	Warning only until 6/30/84, thereafter \$30 fine.	Violation not constitute negligence per se nor contributory negligence. Exemption if child's personal needs being attended. Exemption if all other seating positions equipped with c.r. or belts are occupied.	Edward Guy, C.R. Ofc. Highway Safety 215 E. Lane St. Raleigh 27601 (919) 733-3083 NC CPSA Regional Rep: Donna Settles (919) 962-2202
		3 to 6 yrs.	Safety belt may be substituted.			

State/ Effective Date Statute	Applies to	Age	Requirements	Penalties	Other Provisions	For More Information
NORTH DAKOTA 1/1/86 NDCC39-21 §1	Parent/legal guardian.	0 to 2 yrs.	Federally approved c.r. in front or back seat of passenger m.v.	Max \$20, waivable.	Violation not admissible in any other action. Vehicles manufactured before 1925 are exempt.	Errol J. Behm, Manager Traffic Safety Program 600 E. Blvd. Ave. Bismarck 58505 (701) 224-2453 ND-CPSA: Same as above.
	Any driver including parent/legal guardian.	2 to 5 yrs.	Safety belt may be substituted.			
OHIO 3/7/83 4511.07	Resident parent/legal guardian or day care operator.	0 to 4 yrs. or less than 40 lbs.	Federally approved c.r. in front or back seat of m.v. registered in state.	\$10 fine waivable.	Violation not negligence nor admissible in civil action. Exemption for life-threatening emergencies. Taxis are exempt from compliance. DOT can issue medical or physical exemptions.	George Dufkne Dept. of Highway Safety 240 Parsons Ave. Columbus 43205 (614) 466-3250
		Other resident drivers	0 to 1 yr.			
		1 to 4 yrs.	Safety belt may be substituted.			
OKLAHOMA 11/1/83 Title 47-11-1112	Resident drivers	0 to 4 yrs.	Federally approved c.r. in front seat or safety belt in back seat.	Oral warning.	Violation not admissible in civil action. Buses, taxis, m.v. not required to have safety belts, emergency vehicles, are exempt. Exemption if all seat belts in m.v. are in use, or for medical reasons.	Ralph Graves, C.R. Highway Safety Office 200 N.E. 21st 0001 OK City 73110 (405) 521-3314 BELT: Katy Mitchell (918) 836-8185
		4 to 6 yrs.	Safety belt may be substituted.			
OREGON 1/1/84 ORS483.482 Amended 6/85	Resident drivers or residents of states that have similar laws.	0 to 1 yrs.	State approved c.r.	Warning only until 7/1/84. Thereafter max. \$20, 1st offense waivable.	Violation not neglig. nor admiss. in civil action. Applies to passenger m.v.'s/pick-up trucks. Exemption for medical reasons & emergencies. Law applies to residents of other states that have similar laws. Exemption if all seating positions are occupied.	Gil Bellamy, Administrator Traffic Safety Commission State Library Bldg., 4th Fl. Salem 97310 (503) 378-3469
		1 to 16yrs. (amended from up to 5yrs)	C.R. or safety belt may be substituted.			
PENNSYLVANIA 1/1/84 75 Vehicle §4581	Parent/legal guardian	0 to 1 yr.	Federally approved c.r. in m.v. registered in state.	Max. \$25, waivable. Fine not effective until 1/1/85.	Violation not used as evidence in civil action nor contributory negligence. No criminal proceeding for homicide shall be brought on basis of non-compliance. Exemption for physical/medical reasons. Fine monies to go to Child Passenger Restraint Fund for purchase of c.r. for low-income. Hospital & physician to provide info. on loaner programs to new parents.	Director Bureau of Safety Programs/Analysis Rm. 215 Trans & Sfty. Bldg. Harrisburg 17120 (717) 787-7350
		1 to 4 yrs.	Safety belt may be substituted in back seat only. C.R. in front seat.			

State/ Effective Date Statute	Applies to	Age	Requirements	Penalties	Other Provisions	For More Information
RHODE ISLAND 1/1/80 Gen. Laws §31-22-22	Driver	0 to 3 yrs.	Federally approved c.r. in front or back seat of m.v.	\$15 fine recorded on license, waivable.	Violation not contributory negligence nor admissible in civil action. Back seat provision added in 1981.	Edward Walsh, Coordinator Office of Highway Safety 345 Harris Ave. Providence 02909 (401) 277-3028
SOUTH CAROLINA 7/1/83 1976-56-S-641C	Driver	0 to 1 yr.	Federally approved c.r. in front or back seat of m.v. (incl. pick-up truck, van, r.v.) registered in state or primarily operated on highways of state.	Max. \$25, waivable. Warning only until 7/1/84.	Violation not negligence nor admissible in civil action. Income tax credit allowed for purchase of c.r. Exemption if all seating positions are occupied, priority given to children 0 to 3 yrs. Exemption if child being fed or has medical problem, alternate means to be used if feasible.	Ms. Patrick Noble Ofc. Highway Safety 1295 Pendleton St., #403 Columbia 29201 (803) 758-2237
		1 to 4 yrs.	Federally approved c.r. in front seat of m.v. as above.			
		1 to 4 yrs.	Safety belt may be substituted in back.			
SOUTH DAKOTA 7/1/84 HS1086 (not codified yet)	Resident parent/legal guardian.	0 to 2 yrs.	Federally approved c.r. in front or back seat.	Hazard warning only.	Violation not admissible in civil action. Exemption for attending to child's personal needs. Exemption if all seating positions are occupied.	James Feeney State/Comm. Programs Dept. of Public Safety 118 W. Capitol Ave. Pierre 57501 (605) 773-3675
		2 to 5 yrs.	Seat belt may be substituted.			
TENNESSEE 1/1/78 Amended 1/1/81 §55-9-214(b) Amended 4/85	Resident parent/legal guardian	0 to 4 yrs.	Federally approved c.r. in front or back seat of m.v. registered in state & owned and operated by parent/legal guardian.	\$2-10	Violation not contributory negligence nor admissible in civil action. Exemption if attending to needs or nursing child. 1985 amend. included r.v.s, small trucks in law. Also rental car agencies must make c.r. available at reasonable rate.	Mike Ellis, Director Highway Safety Program J.K. Polk State Ofc. Bldg. #600 Nashville 37219 (615) 761-2589

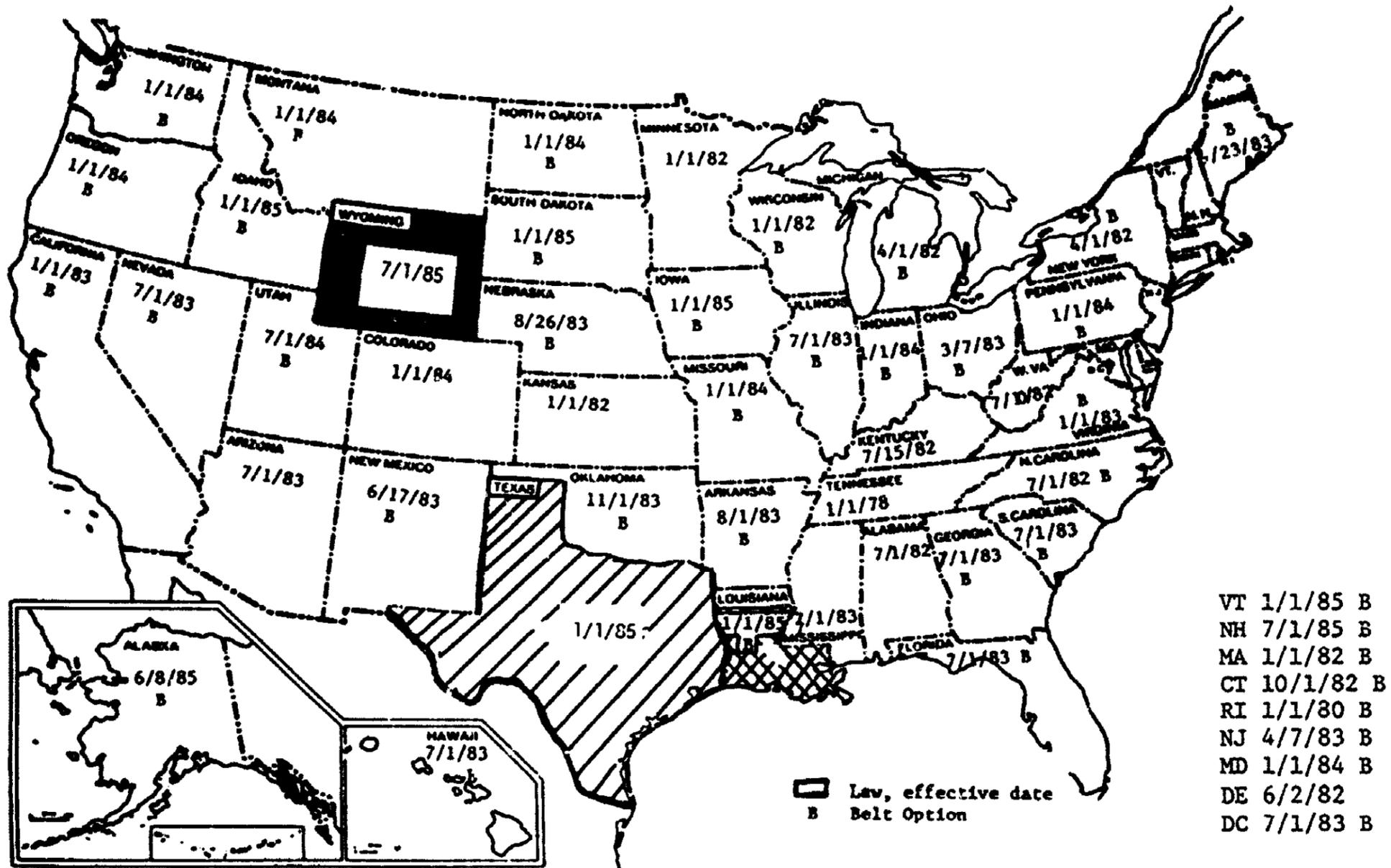
State/ Effective Date Statute	Applies to	Age	Requirements	Penalties	Other Provisions	For More Information
TEXAS 7/12/84 107B, XIII 6701d, Vernon's Tx Civil Statute	Resident drivers	0 to 2 yrs.	Federally approved c.r. in front or back seat of passenger car or light truck.	\$25-50, waivable within 10 days.	Use/Non-use not admissible in civil trial. Exemption if # of children exceeds # of seating positions. Vehicles for hire are exempt.	Bobby Myers, Highways/Public Transport, 11th & Brazos Austin, TX 78701 (512)465-6360
		2 to 6 yrs.	Federally approved c.r. or safety belt in front/back of passenger mv/light truck.			
UTAH 7/1/84 41-6 148.20	Resident parent/legal guardian.	0 to 2 yrs.	State approved c.r. in front or back seat of m.v.	Infraction, max. \$20, waivable.	Violation is not admissible in civil action with regard to negligence. Exemption if all seating positions are occupied.	Robert Parenti, Dir. Twy. Safety Div. 4501 South 2700 West Salt Lake City 84119 (801) 965-4430
		2 to 5 yrs.	Safety belt may be substituted.			
VERMONT 7/1/84 23VSA(4)(4A) 23VSA(125B)	Driver	0 to 1 yr.	Federally approved c.r. in front or back seat of m.v. registered in state.	\$25, waivable for 1st violation only.	Exemption for physical condition. Exemption if # of children exceeds # of belts; all children less than 1 yr. must be restrained and all other belts must be used.	Donald Hamick, Dir. Trans. Planning 133 State St. Montpelier 05602 (802) 828-2706 VT. SEAT: Essie Tellstone (802) 862-5701
		1 to 4 yrs.	Safety belt may be substituted in back seat only.			
VIRGINIA 1/1/83 46.1-5-91 §314.2 to 314.7	Parent/legal guardian	0 to 4 yrs. & under 40 lbs.	State police approved c.r. in front or back seat in m.v. registered in state.	\$25 or \$10 for not carrying physician's exemption.	Violation not negligence nor does it constitute defense for claim against personal injuries. Fine monies earmarked for Child Restraint Device Special Fund to purchase c.r.'s for low-income families. Exemption for medical reasons. Driver to carry physician's statement. Exemption if # of people occupying vehicle make it impractical.	John Hanna, Director Dept. of Transp. Safety 300 Turner Rd. 2 Richmond 23225 (804) 257-6620
		Under 4 yrs. but over 40 lbs.	Seat belt may be substituted.	Waivable for financial inability.		
WASHINGTON 1/1/84 Ch46.37, 46.61	Resident parent/legal guardian	0 to 1 yr.	State approved c.r. in front or back seat in m.v. registered in state & owned and operated by parent/legal guardian.	Warning until 7/1/84. Thereafter min. \$30, waivable within 7 days.	Failure shall not constitute negligence nor admissible in civil action. State Commission on Equipment to adopt standards for c.r. by Oct. 1, 1983.	William Lathrop, Director Wash. Traffic Safety Comm. 1000 S. Cherry St. Olympia 98504 (206) 753-6197
		1 to 5 yrs.	Safety belt may be substituted.			

State/ Effective Date Statute	Applies to	Age	Requirements	Penalties	Other Provisions	For More Information
WEST VIRGINIA 7/10/81 17C-14-46	Driver regularly & customarily transporting children	0 to 3 yrs.	Federally approved c.r. in front or back seat of passenger car, pickup truck, or van registered in state.	\$10-20 fine waivable within 30 days	Violation not negligence in civil cases. H.V.s for hire are exempted.	Alicia Tyler, G.R. Crim. Justice & Hwy. Sfty. 5790-A MacCorkle Ave., S.E. Charleston 25304 (304) 348-8814 <u>WV.CPSA:</u> Robert Foss (304) 293-5801
		3 to 5 yrs.	Safety belt may be substituted.			
WISCONSIN 11/1/82 347.48, 347.50, 347.32(2)bc, 347.48(4), 347.50(3)(4) Amended 1984 AB726	Resident driver (amended from resident parent/legal guardian)	0 to 2 yrs.	Federally approved c.r. in front or back seat of m.v.	If child 0-2, \$30-75 fine. Child 2-4, 1st offense \$10-25, 2nd offense \$25-200. Waiver for 0-2 only.	Evidence of compliance or failure to comply is admissible in civil action but failure to comply does not, by itself, constitute negligence. Busses, taxis, vehicles not required to have belts are exempt. Exemption for medical reasons. No resident required to have more than 3 c.r. in vehicle. 1984 Amendments: if parent is in car, parent will receive violation, otherwise driver is liable; exemption for attending to personal needs of child but only in back seat, and adult must physically restrain child during that time.	Waynard C. Stroehr Highway Safety Coordinator 4802 Sheboygan, Box 7910 Madison 53707 (608) 266-0402 <u>Portage City CPSA:</u> Elaine Kizenski (715) 341-7842
		2 to 4 yrs.	Safety belt may be substituted.			
WYOMING	Parent/legal guardian	0 to 2 yrs	Federally approved c.r.	\$25 fine	Excludes small cars, pick-ups, & vans.	Don Pruter Highway Sfty Analysis Engineer, Safety Branch State Highway Dept. Box 1708 Cheyenne, WY. 82002-9019 307/777-7296

APPENDIX C

EFFECTIVE DATE OF CHILD PASSENGER PROTECTION LEGISLATION

CHILD PASSENGER SAFETY LAWS BY STATE



Prepared by National Safety Council,
June 1984; updated September 1985.

APPENDIX D

**U.S. CHILD PASSENGER FATALITIES BY STATE
AGES 0-4, 1980-1984**

**U.S. CHILD PASSENGER FATALITIES BY STATE
AGES 0-4, 1980-1984**

(passenger cars, vans and light trucks only) 1/, 2/

STATE	YEAR					TOTAL
	81	81	82	83	84	
	N	N	N	N	N	
ALABAMA	15	14	15	20	18	82
ALASKA	1	2	1	2	1	6
ARIZONA	7	7	12	4	9	39
ARKANSAS	8	4	8	10	8	38
CALIFORNIA	54	62	60	69	66	311
COLORADO	10	9	9	11	9	48
CONNECTICUT	1	3	4	3	5	16
DELAWARE	3	2	1	1	2	8
DIST OF COLUMBIA	1	1	1	1	2	6
FLORIDA	44	24	21	26	22	147
GEORGIA	16	25	10	31	17	99
HAWAII	1	3	3	1	1	8
IDaho	7	4	6	4	3	24
ILLINOIS	15	25	25	12	12	89
INDIANA	19	17	18	18	11	83
IOWA	10	9	6	4	6	35
KANSAS	5	16	15	10	1	47
KENTUCKY	18	18	14	15	8	73
LOUISIANA	16	14	17	14	21	82
MAINE	1	2	2	1	1	7
MARYLAND	5	15	4	8	7	39
MASSACHUSETTS	4	2	3	2	3	14
MICHIGAN	24	18	13	13	21	89

(CONTINUED)

**U.S. CHILD PASSENGER FATALITIES BY STATE
AGES 0-4, 1980-1984**

(passenger cars, vans and light trucks only) 1/, 2/

STATE	YEAR					TOTAL
	81	82	83	84	85	
	N	N	N	N	N	
MINNESOTA	11	6	10	8	11	46
MISSISSIPPI	20	10	17	14	9	70
MISSOURI	19	16	15	10	8	68
MONTANA	4	2	3	3	0	12
NEBRASKA	4	3	5	7	5	24
NEVADA	5	3	4	6	3	21
NEW HAMPSHIRE	4	0	2	1	0	7
NEW JERSEY	12	13	10	8	4	47
NEW MEXICO	17	8	18	6	8	57
NEW YORK	22	11	23	15	19	90
NORTH CAROLINA	21	22	19	17	20	99
NORTH DAKOTA	0	1	1	2	3	7
OHIO	25	28	19	26	15	113
OKLAHOMA	17	14	16	25	17	89
OREGON	7	6	11	11	4	39
PENNSYLVANIA	18	15	17	15	15	80
RHODE ISLAND	1	0	0	0	1	2
SOUTH CAROLINA	12	15	6	11	13	57
SOUTH DAKOTA	3	0	3	5	2	13
TENNESSEE	17	13	7	11	15	63
TEXAS	86	65	85	77	65	378
UTAH	2	5	7	8	3	25
VERMONT	2	2	0	0	1	5

(CONTINUED)

**U.S. CHILD PASSENGER FATALITIES BY STATE
AGES 0-4, 1980-1984**

(passenger cars, vans and light trucks only) 1/, 2/

STATE	YEAR					TOTAL
	80	81	82	83	84	
	N	N	N	N	N	N
VIRGINIA	9	12	8	13	11	53
WASHINGTON	19	10	10	10	5	54
WEST VIRGINIA	8	6	5	3	4	26
WISCONSIN	12	16	7	6	14	55
WYOMING	6	4	4	3	5	22
TOTAL	665	603	605	598	532	3004

Prepared by the Bureau of Safety Programs, National Transportation Safety Board, based on data compiled by the Fatal Accident Reporting System, NHTSA.

- Note: This table does not present child passenger fatalities for all motor vehicle accidents. Children killed while passengers in medium or heavy trucks, buses, or on motorcycles, etc., are not included since these vehicles usually are not covered by State child passenger protection laws. Only data for vehicles corresponding to NHTSA 1984 FARS vehicle types coded as passenger cars (01-13), vans (40-55), light trucks (58, 59, 67), and pickup based motor homes (69), are included in the table.
- Entries without data indicate either zero (0) or data not available.

APPENDIX E

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-2 and 3-4, 1980-1984**

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-2 and 3-4, 1980-1984**

(passenger cars, vans and light trucks only) 1/, 2/

STATE	AGE	YEAR					TOTAL
		80	81	82	83	84	
		N	N	N	N	N	
ALABAMA	00-02	12	10	10	14	14	60
	03-04	3	4	5	6	4	22
	TOTAL	15	14	15	20	18	82
ALASKA	00-02	1	2	0	1	0	4
	03-04	0	0	0	1	1	2
	TOTAL	1	2	0	2	1	6
ARIZONA	00-02	4	6	10	2	6	28
	03-04	3	1	2	2	3	11
	TOTAL	7	7	12	4	9	39
ARKANSAS	00-02	5	1	7	5	4	22
	03-04	3	3	1	5	4	16
	TOTAL	8	4	8	10	8	38
CALIFORNIA	00-02	43	48	36	45	37	209
	03-04	11	14	24	24	29	102
	TOTAL	54	62	60	69	66	311
COLORADO	00-02	5	7	5	6	4	25
	03-04	5	2	4	3	5	19
	TOTAL	10	9	9	11	9	44
CONNECTICUT	00-02	0	2	3	3	3	11
	03-04	0	1	1	0	2	4
	TOTAL	0	3	4	3	5	15
DELAWARE	00-02	2	1	1	0	0	4
	03-04	1	1	0	0	2	4

(CONTINUED)

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-2 and 3-4, 1980-1984**

(passenger cars, vans and light trucks only) 1/, 2/

STATE	AGE	YEAR					TOTAL
		80	81	82	83	84	
DELAWARE	TOTAL	3	2	1	0	2	8
DIST OF COLUMBIA	00-02	0	0	0	1	2	3
	TOTAL	0	0	0	1	2	3
FLORIDA	00-02	28	16	14	21	12	91
	03-04	16	8	17	5	10	56
	TOTAL	44	24	31	26	22	147
GEORGIA	00-02	15	16	6	24	7	68
	03-04	3	5	4	7	10	32
	TOTAL	18	21	10	31	17	95
HAWAII	00-02	0	3	3	0	0	6
	TOTAL	0	3	3	0	0	6
IDAHO	00-02	3	3	6	2	2	16
	03-04	4	1	0	2	1	8
	TOTAL	7	4	6	4	3	24
ILLINOIS	00-02	10	16	16	5	8	55
	03-04	5	9	9	7	4	34
	TOTAL	15	25	25	12	12	89
LOUISIANA	00-02	12	5	5	11	8	45
	03-04	7	8	9	7	3	34
	TOTAL	19	13	14	18	11	83
MISSISSIPPI	00-02	7	5	3	3	4	22
	03-04	3	4	3	1	2	13
	TOTAL	10	9	6	4	6	35

(CONTINUED)

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-2 and 3-4, 1980-1984**

(passenger cars, vans and light trucks only) 1/, 2/

STATE	AGE	YEAR					TOTAL
		80	81	82	83	84	
		N	N	N	N	N	
KANSAS	00-02	4	11	7	6	0	28
	03-04	1	5	8	4	1	19
	TOTAL	5	16	15	10	1	47
KENTUCKY	00-02	11	14	12	10	5	52
	03-04	7	4	2	5	3	21
	TOTAL	18	18	14	15	8	73
LOUISIANA	00-02	10	7	14	6	13	50
	03-04	6	7	3	6	8	30
	TOTAL	16	14	17	12	21	80
MAINE	00-02	1	2	1	0	0	4
	03-04	0	0	1	0	0	1
	TOTAL	1	2	2	0	0	5
MARYLAND	00-02	2	8	4	6	5	25
	03-04	2	7	0	2	2	13
	TOTAL	4	15	4	8	7	39
MASSACHUSETTS	00-02	3	2	1	1	3	10
	03-04	1	0	2	1	0	4
	TOTAL	4	2	3	2	3	14
MICHIGAN	00-02	12	13	9	8	15	57
	03-04	12	5	4	5	6	32
	TOTAL	24	18	13	13	21	89
MINNESOTA	00-02	8	4	6	4	5	27
	03-04	3	2	4	4	6	19

(CONTINUED)

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-2 and 3-4, 1980-1984**

(passenger cars, vans and light trucks only) 1/, 2/

STATE	AGE	YEAR					TOTAL
		80	81	82	83	84	
		N	N	N	N	N	
MINNESOTA	TOTAL	11	6	10	8	11	46
MISSISSIPPI	00-02	13	2	11	11	7	44
	03-04	7	7	6	3	2	25
	TOTAL	20	10	17	14	9	70
MISSOURI	00-02	12	8	8	8	5	41
	03-04	7	8	5	2	3	25
	TOTAL	19	16	13	10	8	66
MONTANA	00-02	3	1	1	2	0	7
	03-04	1	1	2	1	0	5
	TOTAL	4	2	3	3	0	12
NEBRASKA	00-02	3	2	3	6	3	17
	03-04	1	1	2	1	2	7
	TOTAL	4	3	5	7	5	24
NEVADA	00-02	4	3	3	4	1	15
	03-04	1	0	1	2	2	6
	TOTAL	5	3	4	6	3	21
NEW HAMPSHIRE	00-02	2	0	2	1	0	5
	03-04	1	0	0	0	0	1
	TOTAL	4	0	2	1	0	7
NEW JERSEY	00-02	5	6	4	8	2	25
	03-04	7	7	6	0	2	22
	TOTAL	12	13	10	8	4	47
NEW MEXICO	00-02	12	8	12	8	7	44

(CONTINUED)

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-2 and 3-4, 1980-1984**

(passenger cars, vans and light trucks only) 1/, 2/

STATE	AGE	YEAR					TOTAL
		E0	E1	E2	E3	E4	
		N	N	N	N	N	
NEW MEXICO	03-04	4	2	6	0	1	13
	TOTAL	17	6	18	6	8	57
NEW YORK	00-02	16	9	15	7	13	62
	03-04	4	2	8	8	6	28
	TOTAL	22	11	23	15	19	90
NORTH CAROLINA	00-02	13	12	17	13	10	65
	03-04	8	10	2	4	10	34
	TOTAL	21	22	19	17	20	99
NORTH DAKOTA	00-02	0	1	1	2	2	6
	03-04	0	0	0	0	1	1
	TOTAL	0	1	1	2	3	7
OHIO	00-02	20	17	11	13	8	69
	03-04	5	11	8	13	7	44
	TOTAL	25	28	19	26	15	113
OKLAHOMA	00-02	14	10	6	17	14	61
	03-04	3	4	10	8	3	28
	TOTAL	17	14	16	25	17	89
OREGON	00-02	5	4	7	5	3	24
	03-04	2	2	4	2	1	11
	TOTAL	7	6	11	11	4	35
PENNSYLVANIA	00-02	13	9	12	7	9	50
	03-04	5	6	5	6	6	30
	TOTAL	18	15	17	15	15	80

(CONTINUED)

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-2 and 3-4, 1980-1984**

(passenger cars, vans and light trucks only) 1/, 2/

STATE	AGE	YEAR					TOTAL
		80	81	82	83	84	
		N	N	N	N	N	
RHODE ISLAND	00-02	1	0	0	0	1	2
	TOTAL	1	0	0	0	1	2
SOUTH CAROLINA	00-02	8	11	4	7	6	36
	03-04	4	4	2	4	7	21
	TOTAL	12	15	6	11	13	57
SOUTH DAKOTA	00-02	1	0	3	4	1	9
	03-04	2	0	0	1	1	4
	TOTAL	3	0	3	5	2	13
TENNESSEE	00-02	12	6	4	5	8	40
	03-04	4	7	3	2	7	23
	TOTAL	17	13	7	11	15	63
TEXAS	00-02	13	45	55	47	38	258
	03-04	22	14	26	30	27	120
	TOTAL	35	59	81	77	65	378
UTAH	00-02	1	6	6	6	3	27
	03-04	1	3	1	2	0	7
	TOTAL	2	9	7	8	3	34
VERMONT	00-02	2	1	0	0	0	3
	03-04	0	0	0	0	1	1
	TOTAL	2	1	0	0	1	4
VIRGINIA	00-02	5	8	5	18	7	53
	03-04	4	4	3	3	4	18
	TOTAL	9	12	8	21	11	71

(CONTINUED)

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-2 and 3-4, 1980-1984**

(passenger cars, vans and light trucks only) 1/, 2/

STATE	AGE	YEAR					TOTAL
		80	81	82	83	84	
		N	N	N	N	N	
WASHINGTON	00-02	25	6	5	7	4	35
	03-04	6	4	1	3	1	15
	TOTAL	19	10	10	10	5	54
WEST VIRGINIA	00-02	5	4	4	2	1	16
	03-04	3	2	1	1	3	10
	TOTAL	8	6	5	3	4	26
WISCONSIN	00-02	7	12	5	5	7	36
	03-04	5	4	2	1	7	19
	TOTAL	12	16	7	6	14	55
WYOMING	00-02	6	2	3	0	4	15
	03-04	0	1	1	2	1	5
	TOTAL	6	3	4	2	5	20

Prepared by the Bureau of Safety Programs, National Transportation Safety Board, based on data compiled by the Fatal Accident Reporting System, NHTSA.

- Note: This table does not present child passenger fatalities for all motor vehicle accidents. Children killed while passengers in medium or heavy trucks, buses, or on motorcycles, etc., are not included since these vehicles usually are not covered by State child passenger protection laws. Only data for vehicles corresponding to NHSTA 1984 FARS vehicle types coded as passenger cars (01-13), vans (40-55), light trucks (58, 59, 67), and pickup-based motor homes (69), are included in the table.
- Entries without data indicate either zero (0) or data not available.

APPENDIX F

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-17, 1980-1984**

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-17, 1980-1984**

(passenger cars, vans and light trucks only) 1/, 2/

STATE	AGE	YEAR					TOTAL
		E1	81	E2	E3	E4	
		N	N	N	N	N	
ALABAMA	00-04	15	14	15	20	18	82
	05-09	5	15	12	10	9	51
	10-14	11	5	14	5	8	43
	15-17	29	31	26	28	17	133
	TOTAL	60	65	63	63	52	303
ALASKA	00-04	1	2	0	2	1	6
	05-09	0	0	0	2	0	2
	10-14	0	1	0	0	0	1
	15-17	3	3	2	5	3	16
	TOTAL	4	6	2	9	4	25
ARIZONA	00-04	7	7	12	4	9	39
	05-09	14	7	2	6	5	34
	10-14	9	7	9	6	3	34
	15-17	23	22	16	15	20	96
	TOTAL	53	43	39	31	37	203
ARKANSAS	00-04	8	4	8	10	8	38
	05-09	3	14	9	4	3	33
	10-14	14	13	7	6	11	51
	15-17	27	14	12	15	19	87
	TOTAL	52	45	36	35	41	209
CALIFORNIA	00-04	54	62	60	65	66	311
	05-09	28	35	30	35	48	180
	10-14	58	42	46	56	44	227

(CONTINUED)

U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-17, 1980-1984

STATE	AGE	YEAR					TOTAL
		80	81	82	83	84	
		N	N	N	N	N	
CALIFORNIA	15-17	147	110	93	106	107	563
	TOTAL	247	250	229	250	265	1281
COLORADO	00-04	10	5	5	11	9	48
	05-09	5	2	4	5	6	22
	10-14	6	6	7	7	8	34
	15-17	22	14	13	24	27	100
	TOTAL	43	31	33	47	50	204
CONNECTICUT	00-04	0	3	4	3	5	15
	05-09	4	4	4	4	1	19
	10-14	1	3	2	5	0	11
	15-17	18	18	14	13	14	77
	TOTAL	25	28	24	25	20	122
DELAWARE	00-04	3	2	2	0	2	8
	05-09	1	1	2	2	1	7
	10-14	2	2	0	1	1	6
	15-17	3	2	1	3	1	10
	TOTAL	9	7	4	6	5	31
DIST OF COLUMBIA	00-04	0	0	0	1	2	3
	05-09	0	0	0	1	0	1
	10-14	2	1	0	0	0	3
	15-17	0	1	0	1	1	3
	TOTAL	2	2	0	2	3	10
FLORIDA	00-04	44	24	21	21	22	147

(CONTINUED)

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-17, 1980-1984**

STATE	AGE	YEAR					TOTAL
		P0	P1	P2	P3	P4	
		N	N	N	N	N	
FLORIDA	05-09	15	20	15	14	14	78
	10-14	28	22	16	15	22	103
	15-17	75	55	43	40	48	261
	TOTAL	162	121	105	95	106	589
	GEORGIA	00-04	16	25	10	31	17
GEORGIA	05-09	13	14	12	12	12	63
	10-14	26	14	16	14	13	83
	15-17	53	45	31	28	63	220
	TOTAL	108	98	69	85	105	465
	HAWAII	00-04	0	3	3	0	0
05-09		1	1	0	0	0	2
10-14		4	1	0	1	0	6
15-17		7	4	1	3	3	20
TOTAL		12	9	4	4	5	34
IDAHO	00-04	7	4	6	4	3	24
	05-09	4	3	3	4	3	17
	10-14	10	2	12	6	8	38
	15-17	11	7	12	7	9	46
	TOTAL	32	16	33	21	23	125
ILLINOIS	00-04	15	25	25	12	12	89
	05-09	8	13	15	10	8	54
	10-14	19	17	19	17	18	90
	15-17	29	33	47	40	37	216

(CONTINUED)

U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-17, 1980-1984

STATE	AGE	YR AF					TOTAL
		80	81	82	83	84	
		N	N	N	N	N	F
ILLINOIS	TOTAL	101	68	106	76	75	449
INDIANA	00-04	19	17	18	18	11	82
	05-09	15	18	7	6	2	48
	10-14	25	10	7	6	12	60
	15-17	37	31	27	24	24	152
	TOTAL	96	74	59	54	59	340
IOWA	00-04	10	9	6	4	6	35
	05-09	5	2	1	5	2	15
	10-14	4	3	4	7	4	22
	15-17	23	20	11	17	11	82
	TOTAL	42	34	22	33	23	154
KANSAS	00-04	5	16	15	10	1	47
	05-09	7	5	1	3	6	22
	10-14	12	7	4	1	8	32
	15-17	15	11	10	12	19	67
	TOTAL	39	39	30	26	34	168
KENTUCKY	00-04	18	18	14	15	8	73
	05-09	6	4	12	4	10	36
	10-14	11	5	15	12	6	59
	15-17	25	35	27	27	24	138
	TOTAL	60	66	68	58	48	300
LOUISIANA	00-04	16	14	17	14	11	62
	05-09	12	3	10	5	5	35

(CONTINUED)

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-17, 1980-1984**

STATE	AGE	YEAR					TOTAL
		80	81	82	83	84	
		N	N	N	N	N	
LOUISIANA	10-14	16	14	16	2	9	57
	15-17	42	53	22	27	21	145
	TOTAL	86	64	45	52	56	323
MAINE	00-04	1	2	2	0	0	5
	05-09	1	2	2	1	3	9
	10-14	3	2	3	2	2	12
	15-17	13	11	2	13	10	49
	TOTAL	18	17	9	16	15	75
MARYLAND	00-04	5	15	4	8	7	39
	05-09	4	3	4	1	4	16
	10-14	4	5	13	8	6	40
	15-17	22	21	18	13	18	92
	TOTAL	35	44	39	30	35	167
MASSACHUSETTS	00-04	4	2	3	2	3	14
	05-09	5	2	1	0	3	11
	10-14	4	6	5	4	4	23
	15-17	35	26	24	24	23	152
	TOTAL	48	56	43	50	43	200
MICHIGAN	00-04	24	18	13	13	21	89
	05-09	13	9	7	10	11	50
	10-14	15	16	14	11	17	73
	15-17	63	35	24	38	44	214
	TOTAL	115	78	64	72	95	424

(CONTINUED)

U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-17, 1980-1984

STATE	AGE	YEAR					TOTAL
		80	81	82	83	84	
		N	N	N	N	N	
MINNESOTA	00-04	11	6	10	2	11	40
	05-09	4	5	5	6	7	27
	10-14	2	5	5	1	3	26
	15-17	23	35	11	14	15	98
	TOTAL	40	51	31	22	36	157
MISSISSIPPI	00-04	20	10	17	14	9	70
	05-09	6	5	6	2	3	22
	10-14	2	5	9	5	7	28
	15-17	16	26	20	16	16	84
	TOTAL	44	46	52	37	41	220
MISSOURI	00-04	19	16	13	10	8	66
	05-09	14	5	3	2	7	31
	10-14	10	20	10	10	18	68
	15-17	37	42	26	20	29	154
	TOTAL	60	83	52	42	62	325
MONTANA	00-04	4	2	3	3	1	13
	05-09	3	2	4	1	1	11
	10-14	1	10	3	6	5	25
	15-17	11	10	13	5	5	44
	TOTAL	19	24	23	15	12	83
NEBRASKA	00-04	4	3	5	7	5	24
	05-09	4	3	1	2	3	13
	10-14	2	2	2	2	9	17

(CONTINUED)

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-17, 1980-1984**

STATE	AGE	YEAR					TOTAL
		E0	E1	E2	E3	E4	
		1980	1981	1982	1983	1984	
NEBRASKA	15-17	15	16	3	5	14	53
	TOTAL	26	24	11	17	21	109
NEVADA	00-04	5	3	4	6	3	21
	05-09	5	3	2	4	4	19
	10-14	4	4	1	2	4	14
	15-17	10	6	4	6	9	34
	TOTAL	24	16	10	18	19	87
NEW HAMPSHIRE	00-04	4	1	2	1	1	7
	05-09	1	2	2	1	1	5
	10-14	1	1	2	1	4	8
	15-17	9	6	8	5	3	34
	TOTAL	13	9	14	10	8	54
NEW JERSEY	00-04	12	13	10	4	4	47
	05-09	3	4	3	3	6	19
	10-14	7	7	16	6	5	41
	15-17	31	39	31	22	19	142
	TOTAL	53	63	60	39	34	249
NEW MEXICO	00-04	17	8	16	6	8	57
	05-09	2	3	1	7	4	17
	10-14	6	3	5	5	6	25
	15-17	18	13	17	12	5	65
	TOTAL	43	27	41	30	23	164
NEW YORK	00-04	22	11	23	15	19	90

(CONTINUED)

U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-17, 1980-1984

STATE	AGE	YEAR					TOTAL
		80	81	82	83	84	
		N	N	N	N	N	
NEW YORK	05-09	14	13	8	7	10	52
	10-14	18	18	23	16	16	91
	15-17	74	50	37	40	38	239
	TOTAL	126	81	68	63	64	402
NORTH CAROLINA	00-04	21	22	19	17	20	99
	05-09	6	7	12	7	13	45
	10-14	21	27	15	17	16	96
	15-17	58	44	37	54	38	231
	TOTAL	106	100	83	95	87	471
NORTH DAKOTA	00-04	0	1	1	2	3	7
	05-09	0	0	2	0	0	2
	10-14	0	1	0	0	1	2
	15-17	6	2	5	4	1	18
	TOTAL	6	4	8	6	5	29
OHIO	00-04	25	28	19	26	15	113
	05-09	17	10	12	11	12	62
	10-14	9	21	15	16	18	79
	15-17	77	65	61	61	54	318
	TOTAL	128	124	107	114	99	572
OKLAHOMA	00-04	17	14	16	25	17	89
	05-09	15	14	15	10	8	62
	10-14	6	14	11	22	10	64
	15-17	77	54	27	21	12	191

(CONTINUED)

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-17, 1980-1984**

STATE	AGE	YEAR					TOTAL
		80	81	82	83	84	
		N	N	N	N	N	
OKLAHOMA	TOTAL	65	76	73	74	47	235
OREGON	00-04	7	6	11	11	4	39
	05-09	5	4	2	2	6	19
	10-14	8	11	8	10	12	49
	15-17	20	22	10	11	20	83
	TOTAL	40	43	31	34	42	190
PENNSYLVANIA	00-04	18	15	17	15	15	80
	05-09	10	12	7	6	11	46
	10-14	14	10	8	12	16	60
	15-17	49	68	46	49	46	258
	TOTAL	91	105	78	82	88	444
RHODE ISLAND	00-04	1	0	0	0	1	2
	05-09	1	0	0	1	0	2
	10-14	1	2	2	0	0	5
	15-17	3	2	3	2	2	12
	TOTAL	6	4	5	3	3	22
SOUTH CAROLINA	00-04	12	15	6	11	13	57
	05-09	8	9	3	13	5	38
	10-14	13	10	7	7	9	46
	15-17	30	22	31	20	10	124
	TOTAL	63	56	47	51	45	262
SOUTH DAKOTA	00-04	3	0	3	5	2	13
	05-09	4	0	3	2	1	10

(CONTINUED)

U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-17, 1980-1984

STATE	AGE	YEAR					TOTAL
		80	81	82	83	84	
		N	N	N	N	N	
SOUTH DAKOTA	10-14	7	3	0	4	2	16
	15-17	8	5	3	1	4	21
	TOTAL	22	12	9	12	9	64
TENNESSEE	00-04	17	13	7	11	15	63
	05-09	11	10	3	6	13	43
	10-14	16	13	12	17	10	68
	15-17	38	43	33	18	20	152
	TOTAL	82	79	55	52	58	326
TEXAS	00-04	86	63	85	77	65	376
	05-09	51	41	34	50	43	219
	10-14	45	55	36	46	42	224
	15-17	112	78	51	58	55	474
	TOTAL	294	237	246	271	245	1293
UTAH	00-04	2	5	7	8	3	25
	05-09	0	3	5	3	2	13
	10-14	3	2	3	3	6	17
	15-17	12	7	5	7	9	48
	TOTAL	17	21	24	21	20	103
VERMONT	00-04	2	2	0	0	1	5
	05-09	1	0	2	1	0	4
	10-14	0	1	6	1	0	8
	15-17	7	5	3	4	5	24
	TOTAL	10	8	11	6	6	44

(CONTINUED)

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-17, 1980-1984**

STATE	AGE	YEAR					TOTAL
		80	81	82	83	84	
		N	N	N	N	N	
VIRGINIA	00-04	9	12	8	17	11	57
	05-09	8	5	10	7	3	33
	10-14	10	14	15	5	9	63
	15-17	35	24	34	21	25	139
	TOTAL	62	55	67	50	48	282
WASHINGTON	00-04	19	10	10	10	5	54
	05-09	7	2	4	7	10	30
	10-14	5	8	15	4	8	40
	15-17	22	31	14	17	16	100
	TOTAL	64	51	43	38	39	235
WEST VIRGINIA	00-04	8	8	5	3	4	28
	05-09	5	4	4	3	11	17
	10-14	3	4	4	2	1	14
	15-17	18	12	16	8	12	66
	TOTAL	34	28	29	18	28	137
WISCONSIN	00-04	12	16	7	8	14	57
	05-09	3	6	4	6	5	24
	10-14	12	9	5	3	9	34
	15-17	47	50	34	20	18	169
	TOTAL	74	81	50	37	46	288
WYOMING	00-04	6	4	4	3	5	22
	05-09	4	1	1	3	6	15
	10-14	1	2	2	3	1	11

(CONTINUED)

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-17, 1980-1984**

STATE	AGE	YEAR					TOTAL
		80	81	82	83	84	
		N	N	N	N	N	N
WYOMING	15-17	5	5	5	4	2	21
	TOTAL	16	13	13	13	8	63

**U.S. CHILD PASSENGER FATALITIES BY STATE,
AGES 0-17, 1980-1984**

(passenger cars, vans and light trucks only) 1/, 2/, 3/

	YEAR					TOTAL
	81	82	83	84	85	
AGE	N	N	N	N	N	F.
00-04	665	602	606	598	532	3004
05-09	382	348	311	336	325	1712
10-14	529	456	474	407	451	2357
15-17	1581	1328	1130	1051	1134	6264
TOTAL	3157	2775	2521	2432	2452	13337

Prepared by the Bureau of Safety Programs, National Transportation Safety Board, based on data compiled by the Fatal Accident Reporting System, NHTSA.

- Note: This table does not present child passenger fatalities for all motor vehicle accidents. Children killed while passengers in medium or heavy trucks, buses, or on motorcycles, etc., are not included since these vehicles usually are not covered by State child passenger protection laws. Only data for vehicles corresponding to NHSTA 1984 FARS vehicle types coded as passenger cars (01-13), vans (40-55), light trucks (58, 59, 67), and pickup based motor homes (69), are included in the table.
- Entries without data indicate either zero (0) or data not available.
- Does not include drivers. During 1980-84, a total of 5,525 drivers, age 14-17, were killed in motor vehicle accidents while driving a car, van, or light truck. The number of 14-17 year-old drivers fatally injured each year during the 5-year period were 1,380 in 1980; 1,200 in 1981; 953 in 1982; 962 in 1983; and 1,034 in 1984.

APPENDIX G

NTSB SAFETY RECOMMENDATIONS RELATING TO
CHILD PASSENGER SAFETY

RECOMMENDATION NUMBER: H-85-026
DATE OF ISSUE: November 1985
ADDRESSEE: NHTSA

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: CONDUCT SPECIAL TRAINING FOR NATIONAL ACCIDENT SAMPLING SYSTEM ACCIDENT INVESTIGATION TEAMS ON THE TYPES OF THE CHILD RESTRAINTS IN USE, THE WAYS THEY ARE MISUSED, AND FIELD INVESTIGATION TECHNIQUES.

RECOMMENDATION NUMBER: H-85-025
DATE OF ISSUE: November 1985
ADDRESSEE: NHTSA

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: ENCOURAGE STATES TO CONDUCT WORKSHOPS FOR LOCAL POLICE PRECINCTS AND STATE POLICE ON CHILD RESTRAINTS AND THEIR PROPER USE AND INSTALLATION.

RECOMMENDATION NUMBER: H-85-024
DATE OF ISSUE: November 1985
ADDRESSEE: NHTSA

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: REVISE NATIONAL ACCIDENT SAMPLING SYSTEM DATA FORMS TO RECORD ADDITIONAL INFORMATION ON THE TYPE OF MISUSE, SPECIFICALLY HARNESS ERRORS, VEHICLE SEATBELT ROUTING ERRORS, IMPROPER POSITIONING OF THE CHILD RESTRAINT, AS WELL AS TETHER NONUSE OR MISUSE.

RECOMMENDATION NUMBER: H-85-023
DATE OF ISSUE: November 1985
ADDRESSEE: NHTSA

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: REVISE FATAL ACCIDENT REPORTING SYSTEM DATA FORMS TO INCLUDE THE CATEGORIES "CHILD RESTRAINT--USED PROPERLY" AND "CHILD RESTRAINT--USED IMPROPERLY," ALONG WITH "CHILD RESTRAINT--UNKNOWN IF USED PROPERLY."

**NTSB SAFETY RECOMMENDATIONS RELATING TO
CHILD PASSENGER SAFETY**

RECOMMENDATION NUMBER: H-85-022

DATE OF ISSUE: November 1985

ADDRESSEE: ALABAMA, GOVERNOR
ALASKA, GOVERNOR
AMERICAN SAMOA, GOVERNOR
ARIZONA, GOVERNOR
ARKANSAS, GOVERNOR
CALIFORNIA, GOVERNOR
COLORADO, GOVERNOR
CONNECTICUT, GOVERNOR
DELAWARE, GOVERNOR
DISTRICT OF COLUMBIA, MAYOR
FLORIDA, GOVERNOR
GEORGIA, GOVERNOR
GUAM, GOVERNOR
HAWAII, GOVERNOR
IDAHO, GOVERNOR
ILLINOIS, GOVERNOR
INDIANA, GOVERNOR
IOWA, GOVERNOR
KANSAS, GOVERNOR
KENTUCKY, GOVERNOR
LOUISIANA, GOVERNOR
MAINE, GOVERNOR
MARYLAND, GOVERNOR
MASSACHUSETTS, GOVERNOR
MICHIGAN, GOVERNOR
MINNESOTA, GOVERNOR
MISSISSIPPI, GOVERNOR
MISSOURI, GOVERNOR
MONTANA, GOVERNOR
NEBRASKA, GOVERNOR
NEVADA, GOVERNOR
NEW HAMPSHIRE, GOVERNOR
NEW JERSEY, GOVERNOR
NEW MEXICO, GOVERNOR
NEW YORK, GOVERNOR
NORTH CAROLINA, GOVERNOR
NORTH DAKOTA, GOVERNOR
OHIO, GOVERNOR
OKLAHOMA, GOVERNOR
OREGON, GOVERNOR
PENNSYLVANIA, GOVERNOR
PUERTO RICO, GOVERNOR
RHODE ISLAND, GOVERNOR
SOUTH CAROLINA, GOVERNOR
SOUTH DAKOTA, GOVERNOR
TENNESSEE, GOVERNOR
TEXAS, GOVERNOR
UTAH, GOVERNOR
VERMONT, GOVERNOR
VIRGIN ISLANDS, GOVERNOR
VIRGINIA, GOVERNOR
WASHINGTON, GOVERNOR
WEST VIRGINIA, GOVERNOR
WISCONSIN, GOVERNOR
WYOMING, GOVERNOR

**NTSB SAFETY RECOMMENDATIONS RELATING TO
CHILD PASSENGER SAFETY**

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE GOVERNORS OF THE 50 STATES, 4 U.S. TERRITORIES, AND THE MAYOR OF THE DISTRICT OF COLUMBIA: INCORPORATE IN STATE AND LOCAL ACCIDENT RECORDS INFORMATION REGARDING USE OF RESTRAINTS AND INJURY, IF ANY, OF ALL CHILD OCCUPANTS (INJURED AND UNINJURED) COVERED BY THE STATE CHILD PASSENGER PROTECTION LAW. ALSO, INCORPORATE IN ACCIDENT REPORT FORMS A CATEGORY FOR CHILD RESTRAINT USE SEPARATE FROM ANY CATEGORY FOR VEHICLE SEATBELT USE AND RECORD WHETHER THE CHILD RESTRAINT WAS USED PROPERLY OR IMPROPERLY, AND THE MODE OF MISUSE.

RECOMMENDATION NUMBER: H-83-064
DATE OF ISSUE: November 30, 1983
ADDRESSEE: NATIONAL CHILD PASSENGER SAFETY ASSOCIATION

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE NATIONAL CHILD PASSENGER SAFETY ASSOCIATION: ASSIST THE STATES IN DEVELOPING EFFECTIVE PROGRAMS TO IMPLEMENT CHILD PASSENGER PROTECTION LAWS.

RECOMMENDATION NUMBER: H-83-063
DATE OF ISSUE: November 30, 1983
ADDRESSEE: INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE: PROMOTE THE USE OF STATEWIDE TRAFFIC ACCIDENT DATA SYSTEMS TO COLLECT AND ANALYZE SPECIFIC DATA IDENTIFYING THE USE AND MISUSE OF CHILD SAFETY SEATS AND SAFETY BELTS IN MOTOR VEHICLES INVOLVED IN ACCIDENTS AND THE CONSEQUENCES OF SUCH USE AND MISUSE.

RECOMMENDATION NUMBER: H-83-062
DATE OF ISSUE: November 30, 1983
ADDRESSEE: INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE: COORDINATE AND PROMOTE THE DEVELOPMENT OF TRAINING PROGRAMS FOR STATE AND LOCAL LAW ENFORCEMENT OFFICERS ON THE USE AND MISUSE OF CHILD SAFETY SEATS AND SAFETY BELTS FOR LAW ENFORCEMENT AND ACCIDENT INVESTIGATION PURPOSES.

**NTSB SAFETY RECOMMENDATIONS RELATING TO
CHILD PASSENGER SAFETY**

RECOMMENDATION NUMBER: H-83-061

DATE OF ISSUE: November 30, 1983

ADDRESSEE: CENTURY PRODUCTS, INC. (CHILD SAFETY SEAT MANUFACTURER)
COLLIER-KEYWORTH COMPANY (CHILD SAFETY SEAT MANUFACTURER)
COSCO-PETERSON (CHILD SAFETY SEAT MANUFACTURER)
FORD MOTOR COMPANY (CHILD SAFETY SEAT MANUFACTURER)
GRACO CHILDREN'S PRODUCTS (CHILD SAFETY SEAT MANUFACTURER)
INTERNATIONAL MANUFACTURING COMPANY (CHILD SAFETY SEAT MANUFACTURER)
KOLCRAFT PRODUCTS, INC. (CHILD SAFETY SEAT MANUFACTURER)
NISSAN MOTOR CORPORATION (CHILD SAFETY SEAT MANUFACTURER)
PRIDE-TRIMBLE CORPORATION (CHILD SAFETY SEAT MANUFACTURER)
QUESTOR JUVENILE FURNITURE COMPANY (CHILD SAFETY SEAT MANUFACTURER)
RUPERT INDUSTRIES (CHILD SAFETY SEAT MANUFACTURER)
STROLEE OF CALIFORNIA, INC. (CHILD SAFETY SEAT MANUFACTURER)
THE WELSH COMPANY (CHILD SAFETY SEAT MANUFACTURER)
VOLVO OF AMERICA CORPORATION (CHILD SAFETY SEAT MANUFACTURER)

RECOMMENDATION:

THE NTSB RECOMMENDS THAT EACH CHILD SAFETY SEAT MANUFACTURER: ATTACH PERMANENT LABELS TO SAFETY SEATS TO IDENTIFY CORRECT SAFETY BELT ROUTING POINTS, HARNESS ROUTING POINTS, AND CORRECT RECLINE POSITIONS FOR USE IN MOTOR VEHICLES.

RECOMMENDATION NUMBER: H-83-060

DATE OF ISSUE: November 30, 1983

ADDRESSEE: CENTURY PRODUCTS, INC. (CHILD SAFETY SEAT MANUFACTURER)
COLLIER-KEYWORTH COMPANY (CHILD SAFETY SEAT MANUFACTURER)
COSCO-PETERSON (CHILD SAFETY SEAT MANUFACTURER)
FORD MOTOR COMPANY (CHILD SAFETY SEAT MANUFACTURER)
GRACO CHILDREN'S PRODUCTS (CHILD SAFETY SEAT MANUFACTURER)
INTERNATIONAL MANUFACTURING COMPANY (CHILD SAFETY SEAT MANUFACTURER)
KOLCRAFT PRODUCTS, INC. (CHILD SAFETY SEAT MANUFACTURER)
NISSAN MOTOR CORPORATION (CHILD SAFETY SEAT MANUFACTURER)
PRIDE-TRIMBLE CORPORATION (CHILD SAFETY SEAT MANUFACTURER)
QUESTOR JUVENILE FURNITURE COMPANY (CHILD SAFETY SEAT MANUFACTURER)
RUPERT INDUSTRIES (CHILD SAFETY SEAT MANUFACTURER)
STROLEE OF CALIFORNIA, INC. (CHILD SAFETY SEAT MANUFACTURER)
THE WELSH COMPANY (CHILD SAFETY SEAT MANUFACTURER)
VOLVO OF AMERICA CORPORATION (CHILD SAFETY SEAT MANUFACTURER)

RECOMMENDATION:

THE NTSB RECOMMENDS THAT EACH CHILD SAFETY SEAT MANUFACTURER: REVIEW AND REVISE INSTRUCTIONS FOR USE OF CHILD SAFETY SEATS AND OTHER CHILD RESTRAINT DEVICES AS NEEDED TO IMPROVE THE CLARITY OF THE INSTRUCTIONS AND TO ESTABLISH SPECIFIC HEIGHT, WEIGHT, OR OTHER THRESHOLDS FOR REQUIRED ACTIONS WHICH DEPEND ON A CHILD'S PHYSICAL CHARACTERISTICS (SUCH AS CONVERSION BETWEEN FORWARD AND REAR-FACING MODES AND HARNESS REROUTING ON CONVERTIBLE CHILD SAFETY SEATS).

**NTSB SAFETY RECOMMENDATIONS RELATING TO
CHILD PASSENGER SAFETY**

RECOMMENDATION NUMBER: H-83-059
DATE OF ISSUE: November 30, 1983
ADDRESSEE: NHTSA

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: CONDUCT CRASH TESTS AND ACCIDENT RESEARCH TO EXAMINE THE USE AND ACCIDENT PERFORMANCE OF SAFETY BELTS WITH CHILDREN AT VARIOUS AGES TO BETTER IDENTIFY THE BENEFITS AND LIMITATIONS OF SUCH USE.

RECOMMENDATION NUMBER: H-83-058
DATE OF ISSUE: November 30, 1983
ADDRESSEE: NHTSA

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: CONDUCT RESEARCH TO EXAMINE THE POTENTIAL FOR OTHER RESTRAINED OR UNRESTRAINED VEHICLE OCCUPANTS TO SUSTAIN INJURIES IN ACCIDENTS FROM CONTACT WITH A CHILD SAFETY SEAT WHEN USED IN A MOTOR VEHICLE AND TO DETERMINE WHETHER ADDITIONAL SAFETY REQUIREMENTS MAY BE NECESSARY AND PRACTICABLE TO PREVENT OR MINIMIZE POTENTIAL INJURIES.

RECOMMENDATION NUMBER: H-83-057
DATE OF ISSUE: November 30, 1983
ADDRESSEE: NHTSA

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: CONDUCT RESEARCH AND DEVELOPMENTAL CRASH TESTING TO EXPLORE THE FEASIBILITY AND DESIRABILITY OF DEVELOPING ABDOMINAL AND NECK LOAD CRITERIA, ANTHROPOMORPHIC DUMMIES, AND TEST PROCEDURES FOR CHILD SAFETY SEATS AND OTHER CHILD RESTRAINT SYSTEMS.

NTSB SAFETY RECOMMENDATIONS RELATING TO
CHILD PASSENGER SAFETY

RECOMMENDATION NUMBER: H-83-056
DATE OF ISSUE: November 30, 1983
ADDRESSEE: NHTSA

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: AMEND FEDERAL MOTOR VEHICLE SAFETY STANDARD 213, CHILD RESTRAINT SYSTEMS, TO REQUIRE THAT CHILD SAFETY SEATS AND OTHER CHILD RESTRAINT SYSTEMS INCLUDE ON THEIR CERTIFICATION LABELS, INFORMATION FOR OBTAINING A REPLACEMENT COPY OF THE MANUFACTURER'S DETAILED INSTRUCTIONS FOR USE.

RECOMMENDATION NUMBER: H-83-055
DATE OF ISSUE: November 30, 1983
ADDRESSEE: NHTSA

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: EXAMINE THE INCIDENCE OF NONUSE AND MISUSE OF A TETHER STRAP WITH CHILD SAFETY BOOSTER SEATS WHEN USED IN A REAR VEHICLE SEAT AND THE CONSEQUENCES IN ACCIDENTS OF SUCH NONUSE OR MISUSE TO DETERMINE WHETHER THE ADVANTAGES OFFERED BY SUCH BOOSTER SEATS OUTWEIGH THE DISADVANTAGES.

RECOMMENDATION NUMBER: H-83-054
DATE OF ISSUE: November 30, 1983
ADDRESSEE: NHTSA

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: EXAMINE THE CONSEQUENCES IN ACCIDENTS OF NONUSE AND MISUSE OF TETHER STRAPS WITH SAFETY SEATS REQUIRING USE OF TETHER STRAPS TO DETERMINE WHETHER SUCH SAFETY SEATS SHOULD BE REQUIRED TO MEET ALL THE REQUIREMENTS OF FEDERAL MOTOR VEHICLE SAFETY STANDARD 213, CHILD RESTRAINT SYSTEMS, WITHOUT THE TETHER STRAP ATTACHED.

**NTSB SAFETY RECOMMENDATIONS RELATING TO
CHILD PASSENGER SAFETY**

RECOMMENDATION NUMBER: H-83-053
DATE OF ISSUE: November 30, 1983
ADDRESSEE: NHTSA

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: EXPEDITE THE ISSUANCE OF A FINAL RULE REQUIRING THAT NEWLY-MANUFACTURED VEHICLES UNDER 10,000 POUNDS GROSS VEHICLE WEIGHT BE EQUIPPED WITH TETHER ANCHORAGES OR PREDRILLED HOLES FOR THE INSTALLATION OF SUCH ANCHORAGES AT ALL REARMOST SEATING LOCATIONS.

RECOMMENDATION NUMBER: H-83-052
DATE OF ISSUE: November 30, 1983
ADDRESSEE: ARIZONA, GOVERNOR AND LEGISLATIVE LEADERS
ARKANSAS, GOVERNOR AND LEGISLATIVE LEADERS
COLORADO, GOVERNOR AND LEGISLATIVE LEADERS
DISTRICT OF COLUMBIA, MAYOR AND CHAIRMAN OF THE COUNCIL
GEORGIA, GOVERNOR AND LEGISLATIVE LEADERS
HAWAII, GOVERNOR AND LEGISLATIVE LEADERS
INDIANA, GOVERNOR/LEGISLATIVE LEADERS
MAINE, GOVERNOR AND LEGISLATIVE LEADERS
MARYLAND, GOVERNOR AND LEGISLATIVE LEADERS
MISSISSIPPI, GOVERNOR AND LEGISLATIVE LEADERS
MISSOURI, GOVERNOR AND LEGISLATIVE LEADERS
MONTANA, GOVERNOR AND LEGISLATIVE LEADERS
NEBRASKA, GOVERNOR AND LEGISLATIVE LEADERS
NEVADA, GOVERNOR AND LEGISLATIVE LEADERS
NEW HAMPSHIRE, GOVERNOR AND LEGISLATIVE LEADERS
NEW JERSEY, GOVERNOR AND LEGISLATIVE LEADERS
NEW MEXICO, GOVERNOR AND LEGISLATIVE LEADERS
NORTH DAKOTA, GOVERNOR AND LEGISLATIVE LEADERS
OKLAHOMA, GOVERNOR AND LEGISLATIVE LEADERS
OREGON, GOVERNOR AND LEGISLATIVE LEADERS
PENNSYLVANIA, GOVERNOR AND LEGISLATIVE LEADERS
SOUTH CAROLINA, GOVERNOR AND LEGISLATIVE LEADERS
WASHINGTON, GOVERNOR AND LEGISLATIVE LEADERS

**NTSB SAFETY RECOMMENDATIONS RELATING TO
CHILD PASSENGER SAFETY****RECOMMENDATION:**

THE NTSB RECOMMENDS THAT THE GOVERNOR AND LEGISLATIVE LEADERS OF ARIZONA, ARKANSAS, COLORADO, GEORGIA, HAWAII, INDIANA, MAINE, MARYLAND, MISSISSIPPI, MISSOURI, MONTANA, NEBRASKA, NEVADA, NEW HAMPSHIRE, NEW JERSEY, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PENNSYLVANIA, SOUTH CAROLINA, WASHINGTON AND THE MAYOR AND CHAIRMAN OF THE COUNCIL OF THE DISTRICT OF COLUMBIA: INCLUDE, AS PART OF A STATEWIDE CHILD PASSENGER SAFETY PROGRAM, PUBLIC INFORMATION AND EDUCATION ACTIVITIES SPECIFICALLY AIMED AT COMBATING MISUSE OF CHILD SAFETY SEATS.

RECOMMENDATION NUMBER: H-83-051

DATE OF ISSUE: November 30, 1983

ADDRESSEE: ALABAMA, GOVERNOR AND LEGISLATIVE LEADERS
CALIFORNIA, GOVERNOR AND LEGISLATIVE LEADERS
CONNECTICUT, GOVERNOR AND LEGISLATIVE LEADERS
DELAWARE, GOVERNOR AND LEGISLATIVE LEADERS
FLORIDA, GOVERNOR AND LEGISLATIVE LEADERS
ILLINOIS, GOVERNOR/LEGISLATIVE LEADERS
KANSAS, GOVERNOR/LEGISLATIVE LEADERS
KENTUCKY, GOVERNOR/LEGISLATIVE LEADERS
MASSACHUSETTS, GOVERNOR AND LEGISLATIVE LEADERS
MICHIGAN, GOVERNOR AND LEGISLATIVE LEADERS
MINNESOTA, GOVERNOR AND LEGISLATIVE LEADERS
NEW YORK, GOVERNOR AND LEGISLATIVE LEADERS
NORTH CAROLINA, GOVERNOR AND LEGISLATIVE LEADERS
OHIO, GOVERNOR AND LEGISLATIVE LEADERS
RHODE ISLAND, GOVERNOR AND LEGISLATIVE LEADERS
TENNESSEE, GOVERNOR AND LEGISLATIVE LEADERS
VIRGINIA, GOVERNOR AND LEGISLATIVE LEADERS
WEST VIRGINIA, GOVERNOR AND LEGISLATIVE LEADERS
WISCONSIN, GOVERNOR AND LEGISLATIVE LEADERS

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE GOVERNORS AND LEGISLATIVE LEADERS OF ALABAMA, CALIFORNIA, CONNECTICUT, DELAWARE, FLORIDA, ILLINOIS, KANSAS, KENTUCKY, MASSACHUSETTS, MICHIGAN, MINNESOTA, NEW YORK, NORTH CAROLINA, OHIO, RHODE ISLAND, TENNESSEE, VIRGINIA, WEST VIRGINIA, AND WISCONSIN: INCLUDE, AS PART OF A STATEWIDE CHILD PASSENGER SAFETY PROGRAM, PUBLIC INFORMATION AND EDUCATION ACTIVITIES SPECIFICALLY AIMED AT COMBATING MISUSE OF CHILD SAFETY SEATS.

**NTSB SAFETY RECOMMENDATIONS RELATING TO
CHILD PASSENGER SAFETY**

RECOMMENDATION NUMBER: H-83-050
DATE OF ISSUE: November 30, 1983
ADDRESSEE: ALASKA, GOVERNOR AND LEGISLATIVE LEADERS
AMERICAN SAMOA, GOVERNOR AND LEGISLATIVE LEADERS
GUAM, GOVERNOR AND LEGISLATIVE LEADERS
IDAHO, GOVERNOR/LEGISLATIVE LEADERS
IOWA, GOVERNOR/LEGISLATIVE LEADERS
LOUISIANA, GOVERNOR AND LEGISLATIVE LEADERS
PUERTO RICO, GOVERNOR AND LEGISLATIVE LEADERS
SOUTH DAKOTA, GOVERNOR AND LEGISLATIVE LEADERS
TEXAS, GOVERNOR AND LEGISLATIVE LEADERS
UTAH, GOVERNOR AND LEGISLATIVE LEADERS
VERMONT, GOVERNOR AND LEGISLATIVE LEADERS
VIRGIN ISLANDS, GOVERNOR AND LEGISLATIVE LEADERS
WYOMING, GOVERNOR AND LEGISLATIVE LEADERS

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE GOVERNORS AND LEGISLATIVE LEADERS OF ALASKA, IDAHO, IOWA, LOUISIANA, SOUTH DAKOTA, TEXAS, UTAH, VERMONT, WYOMING, AMERICAN SAMOA, GUAM, PUERTO RICO, AND THE VIRGIN ISLANDS: INCLUDE, AS PART OF A STATEWIDE CHILD PASSENGER SAFETY PROGRAM, PUBLIC INFORMATION AND EDUCATION ACTIVITIES SPECIFICALLY AIMED AT COMBATING MISUSE OF CHILD SAFETY SEATS.

RECOMMENDATION NUMBER: H-83-049
DATE OF ISSUE: November 30, 1983
ADDRESSEE: ALASKA, GOVERNOR AND LEGISLATIVE LEADERS
AMERICAN SAMOA, GOVERNOR AND LEGISLATIVE LEADERS
GUAM, GOVERNOR AND LEGISLATIVE LEADERS
IDAHO, GOVERNOR/LEGISLATIVE LEADERS
IOWA, GOVERNOR/LEGISLATIVE LEADERS
LOUISIANA, GOVERNOR AND LEGISLATIVE LEADERS
PUERTO RICO, GOVERNOR AND LEGISLATIVE LEADERS
SOUTH DAKOTA, GOVERNOR AND LEGISLATIVE LEADERS
TEXAS, GOVERNOR AND LEGISLATIVE LEADERS
UTAH, GOVERNOR AND LEGISLATIVE LEADERS
VERMONT, GOVERNOR AND LEGISLATIVE LEADERS
VIRGIN ISLANDS, GOVERNOR AND LEGISLATIVE LEADERS
WYOMING, GOVERNOR AND LEGISLATIVE LEADERS

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE GOVERNORS AND LEGISLATIVE LEADERS OF ALASKA, IDAHO, IOWA, LOUISIANA, SOUTH DAKOTA, TEXAS, UTAH, VERMONT, WYOMING, AMERICAN SAMOA, GUAM, PUERTO RICO, AND THE VIRGIN ISLANDS: ENACT LEGISLATION REQUIRING THE PROPER PROTECTION OF CHILDREN TRAVELING IN MOTOR VEHICLES, FOLLOWING AS CLOSELY AS POSSIBLE THE ELEMENTS SET FORTH BY THE NATIONAL TRANSPORTATION SAFETY BOARD IN ITS SAFETY STUDY, "CHILD PASSENGER PROTECTION AGAINST DEATH, DISABILITY, AND DISFIGUREMENT IN MOTOR VEHICLE ACCIDENTS."

NTSB SAFETY RECOMMENDATIONS RELATING TO
CHILD PASSENGER SAFETY

RECOMMENDATION NUMBER: H-82-060

DATE OF ISSUE: December 7, 1982

ADDRESSEE: ALASKA, GOVERNOR
ARIZONA, GOVERNOR
ARKANSAS, GOVERNOR
COLORADO, GOVERNOR
GEORGIA, GOVERNOR
HAWAII, GOVERNOR
IDAHO, GOVERNOR
INDIANA, GOVERNOR
IOWA, GOVERNOR
LOUISIANA, GOVERNOR
MAINE, GOVERNOR
MARYLAND, GOVERNOR
MISSISSIPPI, GOVERNOR
MISSOURI, GOVERNOR
MONTANA, GOVERNOR
NEBRASKA, GOVERNOR
NEVADA, GOVERNOR
NEW HAMPSHIRE, GOVERNOR
NEW JERSEY, GOVERNOR
NEW MEXICO, GOVERNOR
NORTH DAKOTA, GOVERNOR
OKLAHOMA, GOVERNOR
OREGON, GOVERNOR
PENNSYLVANIA, GOVERNOR
SOUTH CAROLINA, GOVERNOR
SOUTH DAKOTA, GOVERNOR
TEXAS, GOVERNOR
UTAH, GOVERNOR
VERMONT, GOVERNOR
WASHINGTON, GOVERNOR
WYOMING, GOVERNOR

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE GOVERNORS OR GOVERNORS-ELECT OF ALASKA, ARIZONA, ARKANSAS, COLORADO, GEORGIA, HAWAII, IDAHO, INDIANA, IOWA, LOUISIANA, MAINE, MARYLAND, MISSISSIPPI, MISSOURI, MONTANA, NEBRASKA, NEW HAMPSHIRE, NEW JERSEY, NEW MEXICO, NEVADA, NORTH DAKOTA, OKLAHOMA, OREGON, PENNSYLVANIA, SOUTH CAROLINA, SOUTH DAKOTA, TEXAS, UTAH, VERMONT, WASHINGTON, AND WYOMING: DEVELOP A STATEWIDE CHILD PASSENGER SAFETY PROGRAM INCLUDING AGGRESSIVE ENFORCEMENT OF LAWS REQUIRING USE OF CHILD SAFETY SEATS, PUBLIC INFORMATION AND EDUCATION PROGRAMS ON THEIR NEED AND PROPER USE, CHILD SAFETY SEAT LOAN OR SIMILAR PROGRAMS, AND ONGOING EVALUATION OF SUCH ACTIVITIES.

**NTSB SAFETY RECOMMENDATIONS RELATING TO
CHILD PASSENGER SAFETY**

RECOMMENDATION NUMBER: H-82-059
DATE OF ISSUE: December 7, 1982
ADDRESSEE: ALASKA, GOVERNOR
ARIZONA, GOVERNOR
ARKANSAS, GOVERNOR
COLORADO, GOVERNOR
GEORGIA, GOVERNOR
HAWAII, GOVERNOR
IDAHO, GOVERNOR
INDIANA, GOVERNOR
IOWA, GOVERNOR
LOUISIANA, GOVERNOR
MAINE, GOVERNOR
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SOUTH DAKOTA, GOVERNOR
TEXAS, GOVERNOR
UTAH, GOVERNOR
VERMONT, GOVERNOR
WASHINGTON, GOVERNOR
WYOMING, GOVERNOR

RECOMMENDATION:

THE NTSB RECOMMENDS THAT THE GOVERNORS OR GOVERNORS-ELECT OF ALASKA, ARIZONA, ARKANSAS, COLORADO, GEORGIA, HAWAII, IDAHO, INDIANA, IOWA, LOUISIANA, MAINE, MARYLAND, MISSISSIPPI, MISSOURI, MONTANA, NEBRASKA, NEW HAMPSHIRE, NEW JERSEY, NEW MEXICO, NEVADA, NORTH DAKOTA, OKLAHOMA, OREGON, PENNSYLVANIA, SOUTH CAROLINA, SOUTH DAKOTA, TEXAS, UTAH, VERMONT, WASHINGTON, AND WYOMING: INCLUDE IN YOUR 1983 LEGISLATIVE PROGRAM, LEGISLATION TO REQUIRE USE OF CHILD SAFETY SEATS FOR CHILD PASSENGERS FROM INFANCY THROUGH AGE 4 TO REDUCE THE LIKELIHOOD OF DEATH, DISABILITY, OR DISFIGUREMENT IN MOTOR VEHICLE CRASHES.

APPENDIX H

CHILD RESTRAINT MANUFACTURERS*
(alphabetical by company name)

Mr. Michael D. Rucker
President
Century Products, Inc.
1366 Commerce Drive
Stow, OH 44224

Mr. Robert Keyworth
President
Collier-Keyworth Company
Post Office Box 258
Gardner, MA 01440

Mr. John Moeller
President and General Manager
Cosco Juvenile Products
2525 State Street
Columbus, IN 47201

Mr. Louis Shamie
Delta Enterprise
972 Dream Street
Brooklyn, NY 11238

Mr. D. E. Mitchell
President
Evenflow Juvenile Furniture
1801 Commerce Drive
Piqua, OH 45356

Mr. R. Bruce Sampson
President
Fisher-Price Toys
636 Girard Avenue
East Aurora, NY 14502

Mr. D. E. Petersen
President
Ford Motor Company
World Headquarters Building
The American Road
Dearborn, MI 48121

Mr. Charles Wilke
President
Gerry Baby Products
12520 Grant Avenue
Denver, CO 80233

Mr. Derial Sanders
President
GRACO Childrens Products
Post Office Box 100
Everson, PA 19520

Mr. Morris I. Goldberg
President
International Manufacturing Company
2500 Washington Street
Boston, MA 02119

Mr. Sanford Koltun
President
Kolcraft Products, Inc.
3455 West 31st Place
Chicago, IL 60623

Mr. Tetsuo Arakawa
President
Nissan Motor Corporation in U.S.A.
Post Office Box 191
Gardena, CA 90247

Mr. James W. Thompson
President and General Manager
Pride-Trimble Corporation
Post Office Box 450
Southern Pines, NC 28387

Mr. Charles J. Murray
President
Rupert Industries
Post Office box 624
Wheeling, IL 60090

Ms. Jean Simmons
President
Stroce of California, Inc.
Post Office Box 5786
Ranch Dominguez, CA 90224

Mr. A.D. Welsh
President
The Welsh Company
1535 South 8th Street
St. Louis, MO 63104

*Manufacturers marketing federally approved
child restraints in the United States
as of May 1, 1985.

APPENDIX I

STATE CHILD PASSENGER PROTECTION ASSOCIATIONS



Executive Offices: 1705 DeSales St.
Suite 300, Washington, D.C. 20036

NATIONAL
CHILD PASSENGER SAFETY
ASSOCIATION

CHILD PASSENGER SAFETY ASSOCIATIONS

ALASKA

Alaska CPSA
c/o Barbara Berger
P.O. Box 101245
Anchorage, AK 99510

907-278-3631

CALIFORNIA (cont.)

Humboldt CPSA
c/o Roseann Bass
529 I Street
Eureka, CA 95501

707-445-2473

COLORADO

Colorado Coalition for Child Passenger
Protection
c/o Diane Emerick
Division of Highway Safety
4201 East Arkansas
Denver, CO 80222

303-757-9381

GEORGIA

Georgia CPSA *
c/o Joyce Palasz
5338 Zachary Drive
Stone Mountain, GA 30083

404-476-1562 (chapter's ans. mach.)
404-469-3219 (Joyce's Home)

CALIFORNIA

California CPSA *
c/o Sandra Kay Sparks
3320 Kemper Street
Suite 102
San Diego, CA 92110

619-224-2731

CALIFORNIA (cont.)

L.A. Area CPSA
c/o Stephanie Tombrello
2938 Santa Rosa
Altadena, CA 91001

213-204-1100

DISTRICT OF COLUMBIA

Automotive Passenger Safety Assn.
c/o Maurice Veal
415 12th Street, NW
Room 314
Washington, DC 20004

202-724-4585

HAWAII

Hawaii Child Transportation Safety
Coalition
c/o Jesse C. Wells
548 Kapahulu Avenue
Honolulu, HI 96815

808-732-7528

* NCPsa members

STATE CHILD PASSENGER PROTECTION ASSOCIATIONS

IDAHO

Idaho Coalition for Child Passenger
Protection
c/o Office of Highway Safety
Box 7129
Boise, ID 83707

208-334-3533

INDIANA

Indiana CPSA
c/o Carol Dingley
P.O. Box 40815
Indianapolis, IN 46240

812-372-0141

MARYLAND

Maryland CPSA
c/o Kenneth B. Roberts, MD
Sinai Hospital of Baltimore
Baltimore, MD 21215

301-578-5832

MICHIGAN

Greater Lansing CPSA
c/o Judy Nyberg
Office of Highway Safety
7150 Harris Drive
Lansing, MI 48913

517-373-8011

MICHIGAN (cont.)

Michigan CPSA
c/o Mike Runk
Childrens Hospital of Michigan
Continuing Education
3901 Beaubien Blvd.
Detroit, MI 48201

313-494-5455

MISSISSIPPI

C.A.N.D.Y
c/o Dr. Cliff Seyler
4511 Hospital Road
Tascagoula, MS 39567

601-762-5035

ILLINOIS

Illinois CPSA *
c/o Garry H. Gardner, MD
805 Plainfield Road
Darien, IL 60559

312-655-2084

LOUISIANA

Shreveport Chapter CPSA *
c/o Patti Brannan, Treasurer
520 Pierremont
Shreveport, LA 71106

318-865-7365

MASSACHUSETTS

Massachusetts Passenger Safety
c/o Paul Schreiber, MD
24 Pearl Street
Brockton, MA 02401

617-586-3600

MICHIGAN (cont.)

Jackson CPSA
c/o Cheri Calvello
1727 Probert Road
Jackson, MI 49203

517-787-3409

MICHIGAN (cont.)

Washtenaw County CPSA
c/o Eve Overmars
2165 Blaney Drive
Ann Arbor, MI 48103

NEW HAMPSHIRE

New Hampshire CPSA *
c/o Debora M. Prum
M & C H, Dartmouth Medical School
Hanover, NH 03756

STATE CHILD PASSENGER PROTECTION ASSOCIATIONS

NORTH CAROLINA

North Carolina CPSA *
c/o Donna Suttles
UNC Highway Safety Research Center
CTP-197A
Chapel Hill, NC 27514

919-962-2202

NORTH DAKOTA

North Dakota CPSA *
Traffic Safety, NDSHD
600 E. Blvd. Avenue
Bismarck, ND 58505

701-224-2453

OKLAHOMA (cont.)

Parents for Child Passenger Safety
c/o Vicki Kaufman
2224 NW 120th
Oklahoma City, OK 73120

405-751-4260

TEXAS

Texas Coalition for Child Passenger
Safety
Attn: Texas Department of Health
1100 W. 49th
Austin, TX 78756

512-458-7111

TEXAS (cont.)

TOTS *
c/o Dr. Greg Jackson
1st Texas Medical Center
2509 Scripture
Denton, TX 76201

817-382-2521

WISCONSIN

Adams County CPSA
c/o Edie Felts-Grabarski
Adams County Extension Office
Box 217, Court House
Friendship, WI 53934

608-339-7811

NORTH CAROLINA (cont.)

Yadkin County CPSA
c/o Patricia James
Rt. 1, Box 7K
Yadkinville, NC 27055

919-679-8373

OKLAHOMA

BELT
c/o Katy Mitchell
9179 E. Marshall Street
Tulsa, OK 74115

918-836-8185

TEXAS (cont.)

Greater Austin CPSA
c/o Linda Wilson, R.N.
Brackenridge Hospital
P.O. Box 4204
Austin, TX 78765

512-476-6461 ext. 2807

VERMONT

Vermont SEAT
c/o Essie Tellstone
115 Colchester Avenue
Burlington, VT 05401

802-862-5701

WISCONSIN (cont.)

Appleton/Outagamie CPSA, J.
c/o Leonard E. Rudie, Director
Appleton Health Department
1024 S. Lawe Street
Appleton, WI 54915

414-735-6429

STATE CHILD PASSENGER PROTECTION ASSOCIATIONS

WISCONSIN (cont.)

CPSA of Brown County, Inc.
c/o Ann Marie Davis
321 David Drive
Green Bay, WI 54303

414-498-2020

WISCONSIN (cont.)

Columbia County CPSA
c/o Rosemarie Gritzmacher, R.N.
Columbia County Community Health
Nursing Service
711 East Cook
Portage, WI 53901

608-742-8558 ext. 251

WISCONSIN (cont.)

Eau Claire CPSA, Inc.
c/o John Bachrach, M.P.H.
Director, City-County Health Dept.
720 Second Avenue
Eau Claire, WI 54701

715-839-4718

WISCONSIN (cont.)

Manitowoc County Project Child Safe
c/o Orville T. Panosh
1025 S. 9th Street
Manitowoc, WI 54220

414-683-4222

WISCONSIN (cont.)

Portage County CPSA *
c/o Elaine Kizewski
P.O. Box 635
Stevens Point, WI 54481

715-341-7842

WISCONSIN (cont.)

S. E. Wisconsin Restraint Network
c/o Al Luzi, Director
Concerned Consumers League, Inc.
614 W. National Avenue
Milwaukee, WI 53204

414-645-1808

WISCONSIN (cont.)

Chippewa CPSA
c/o Sue Holm
707 W. Columbia Street
Chippewa Falls, WI 54729

715-726-1096

WISCONSIN (cont.)

CPSA of Dodge County
c/o Janice Rambo, R.N.
Waupun Memorial Hospital
Waupun, WI 53963

WISCONSIN (cont.)

Fond du Lac County CPSA
c/o Kathy Johnson
Fond du Lac County Public Health
Nursing Service
Administrative Center Annex
160 S. Macy Street
Fond du Lac, WI 54935

414-923-1564

WISCONSIN (cont.)

CPSA of Oconto County
c/o Geraldine Peterson, Pres.
420 Green Bay Avenue
Oconto Falls, WI 54154

414-846-2512

WISCONSIN (cont.)

Project Tyks
c/o Bonnie Sabrowsky
W.I.C. Nutrition Program
608 Superior Street
Antigo, WI 54409

715-627-4133

WISCONSIN (cont.)

Walworth County CPSA
c/o Marian Slattery
615 W. Lincoln Street
Elkhorn, WI 53121

414-723-4335

STATE CHILD PASSENGER PROTECTION ASSOCIATIONS

WISCONSIN (cont.)

Washington County CPSA
c/o Sgt. King J. Riffel
West Bend Police Department
325 N. 8th Avenue
West Bend, WI 53095

414-334-7886 ext. 39

WISCONSIN (cont.)

Winnebago County CPSA
c/o Marsha Brightman, Director
Winnebago County Health Department
Park View Health Center
P.O. Box 60
Winnebago, WI 54985

414-235-5100 ext. 204

WISCONSIN (cont.)

Waukesha CPSA
c/o David Zwicky, President
Waukesha Memorial Hospital
725 American Avenue
Waukesha, WI 53186

414-544-2011

WEST VIRGINIA

West Virginia CPSA
c/o Robert L. Foss
Dept. of Sociology
West Virginia University
Morgantown, WV 26506

304-293-5801

APPENDIX J

NATIONAL CHILD PASSENGER SAFETY ASSOCIATION SHOPPING GUIDE FOR CHILD RESTRAINTS, 1985

National Child Passenger Safety Association

CHILD SAFETY SEAT SHOPPING GUIDE -- 1985

Choosing and Using Safety Seats

Child safety seats are designed to spread the crash forces across the child's body in an accident and to keep the child from striking the interior of the car. There are many different models of safety seats currently on the market. All safety seats restrain the child's shoulders and hips by a safety harness, a shield or a combination of the two. (Some safety seats are available with an armrest which is not part of the safety restraint system). All seats must pass the same federal crash test requirements.

A misused safety seat is *much less effective* than a properly used seat. To ensure full protection for your child you must use the seat properly each time. Selecting a seat that is easy to use and comfortable for your child is of utmost importance.

When buying a safety seat, the National Child Passenger Safety Association recommends that you first decide whether you need an infant, toddler, convertible, or child auto booster seat.

Second, consider the following ques-

tions while examining the different seats available. If possible try the seat in your car before purchasing it.

- Are the instructions easy to understand?
- Is the harness or shield easy for you to use?
- Will it be easy to put a child into the seat several times a day?
- Is the cover easy to clean?
- Can you move the seat easily from car to car, if necessary?
- Will you install and use the tether strap correctly if the seat requires one?
- Will the seat fit in your car in the position where you want to use it?
- Can you anchor it securely with the seat belt in that position?

When buying a safety seat for a toddler or older child narrow your choice down to a few favorites. Then bring your child to the store to try out the seats. A toddler or older child will have feelings about the comfort of a particular seat which should be taken into consideration prior to purchase.

Other Considerations

RETRACTABLE SAFETY HARNESS

Several of the new safety seats have retractable (inertial reel) harness systems. One type, the emergency locking retractor (ELR), allows the child to move forward and back while in the restraint. The ELR locks up in a crash, holding the child securely in place. The other type, the automatic locking retractor (ALR), allows the harness to be extended fully before being buckled. Once the harness is fastened, the ALR tightens up to the snug length. Retractable harness systems have been used successfully in vehicles for many years and are considered safe for use in child safety seats.

AIRLINE POLICIES

All seats made after February, 1985, should be labeled as certified for both motor vehicle and aircraft use. Seats made between January 1, 1981 and February 26, 1985 must have stickers certifying FAA approval for use on airplanes. Pre-1981 models are not permitted. NOTE: Airlines are NOT REQUIRED to accept safety seats.

Types of Seats

INFANT SAFETY SEATS

The infant safety seat is a small seat designed for a child up to 20 pounds. The infant faces the rear of the car in a semi-reclined position. Facing rearward is extremely important so that in an accident no pressure is put on the child's delicate chest or abdomen. The longer you can keep a child facing rearward the better. Once the child outgrows the infant safety seat a toddler or convertible safety seat must be purchased.

CONVERTIBLE SAFETY SEAT

A convertible safety seat is designed for use from birth to about 43 pounds. The seat reclines and faces rearward in the infant position. It converts to sit upright and face forward for the toddler

position. Conversion of the seat may involve adjusting the shoulder straps and rerouting the vehicle seat belt. Be sure to read the manufacturer's instructions prior to converting the seat.

TODDLER SEATS

Toddler seats are designed for use by a child who can sit up unassisted and weighs about 20-43 pounds. Toddler seats face forward since the child's shoulders and hips are developed enough to withstand the forces of a crash. There are only a few toddler seats available.

CHILD AUTO BOOSTER SEATS

Booster seats are designed to provide forward impact protection for children who have outgrown their convertible or toddler seats. A booster seat can be used with the adult lap and shoulder belt. If

no lap and shoulder belt is available, the vehicle lap belt is used in conjunction with a special safety harness or shield. Without the special harness or shield, a booster seat used with a lap belt does not provide adequate protection.

Booster seats, depending on the model, are marketed for use by children who weigh between 20 and 60 pounds. However, the National Child Passenger Safety Association suggests that a convertible or toddler safety seat be used until a child weighs at least 30 pounds because of the additional protection and comfort provided by the design of these seats.

Child Safety Seat Shopping Guide is an annual publication of the National Child Passenger Safety Association, P.O. Box 841, Ardmore, PA 19003. 1985 Edition; may be reproduced with attribution.

**NATIONAL CHILD PASSENGER SAFETY ASSOCIATION
SHOPPING GUIDE FOR CHILD RESTRAINTS, 1985**

National Child Passenger Safety Association

CHILD SAFETY SEAT SHOPPING GUIDE - 1985

All of the seats on this list have been certified as meeting the current federal motor vehicle safety standards (FMVSS 213) in effect as of March, 1985. BE SURE TO READ AND FOLLOW THE MANUFACTURERS' INSTRUCTIONS.

Name of Seat	Manufacturer	Comments
INFANT SAFETY SEATS (Birth to approximately 20 pounds)		
Cuddle Shuttle	Collier-Keyworth	
Dyn-o-mite	Evenflo (Questor)	two harness positions
First Ride	Cosco	
Infant Carrier	Ford	
Infant Love Seat	Century	
Rock 'N' Ride	Kolcraft	two harness positions
Snugg Seat	Graco	three harness positions
CONVERTIBLE SAFETY SEATS (Birth to approximately 43 pounds)		
Astroseat 9100A	International	harness
Astroseat 9300A	International	harness/armrest
Bobby-Mac Deluxe	Evenflo (Questor)	harness/separate shield
Century 100	Century	harness
Century 200	Century	harness/body pad
Century 400XL	Century	modified inertial reel (ALR) harness/shield
Commander	Cosco	harness/shield
Fisher-Price	Fisher-Price	inertial reel harness (ALR)/body pad
GT 100	Graco	harness
Guardian	Gerry	inertial reel harness (ELR)/body pad
Hi Rider XL2	Kolcraft	harness/armrest
Nissan	Nissan	inertial reel harness (ELR)/body pad
One Step	Evenflo (Questor)	harness/shield
Pride Ride 820	Pride-Trimble	harness
Pride Ride 830	Pride-Trimble	harness/armrest
Quickstep	Kolcraft	harness for infant; shield for toddler
Roundtripper	Collier-Keyworth	harness
Safe & Snugg	Cosco	harness/shield
Safe & Sound	Cosco	harness/shield
Safe N Easy	Cosco	harness
Safe-T-Seat	Cosco	harness for infants; shield for toddlers
Travel Tot	Welsh	harness/separate shield
Wee Care 999, 609, 612	Strolee	harness
Wee Care 610, 618	Strolee	harness/armrest
TODDLER SEATS (20 to 43 pounds)		
Bobby-Mac Lite	Evenflo (Questor)	requires shield
Britax	Evenflo (Questor)	suitable for handicapped or large children up to 80 lbs. or 60 inches
Child Love Seat	Century	requires tether
EZ On Vest	Rupert	suitable for handicapped or large children up to 80 lbs. or 60 inches
Safe Guard	Evenflo (Questor)	
CHILD AUTO BOOSTER SEATS (20 to 70 pounds)		
The National Child Passenger Safety Association suggests that a convertible or toddler safety seat be used until a child weighs at least 30 pounds.		
Astroseat 6000	International	tethered harness; or lap/shoulder belt
Cald Cushion	Volvo	use only with lap/shoulder belt
Commander	Century	multiple shield positions
Co-Pilot	Collier-Keyworth	multiple shield positions
Explorer	Cosco	adjustable shield rests on child's body
Fly 'n Go	Kolcraft	adjustable shield rests on child's body
Quick Click	Strolee	multiple shield positions
Quickstep	Kolcraft	adjustable shield rests on child's body
Safe-T-Rider I, II	Century	tethered harness; or lap/shoulder belt
Tot Guard	Ford	two base/shield positions
Tot Rider XL	Kolcraft	tethered harness; or lap/shoulder belt
Travel Hi Lo	Cosco	tethered harness; or lap/shoulder belt; high-back model available
Voyager	Collier-Keyworth	multiple shield positions; belt goes through base
Wee Care 602	Strolee	tethered harness; or lap/shoulder belt
Wee Care 604	Strolee	belt goes through base with separate tethered harness; or lap/shoulder belt
Wings	Evenflo (Questor)	adjustable shield rests on child's body

APPENDIX K

SYMPOSIUM PROGRAM

**NATIONAL TRANSPORTATION SAFETY BOARD
CHILD PASSENGER SAFETY SYMPOSIUM
L'ENFANT PLAZA HOTEL, WASHINGTON, D. C.
JANUARY 28, 1985**

8:45-9:30 Registration

9:30-10:35 **GENERAL SESSION (Lafayette Salon)**

Welcome and Opening Remarks, Patricia A. Goldman,
NTSB Vice Chairman

"Child Restraint Misuse in Perspective. Laboratory Testing and
the Real World" John Melvin, Associate Professor, Mechanical
Engineering, and Research Scientist, University of Michigan
Transportation Research Institute

"Issues in the Enforcement of Child Restraint Laws"
Forrest Council, University of North Carolina
Highway Safety Research Center

Break

10:40-12:30 **DISCUSSION GROUPS**

"Ways to Decrease Misuse of Child Restraints"

Section 1 (La Salle Salon). Baseline Data Collection
Leader: William Hall, Research Associate,
University of North Carolina
Highway Safety Research Center

Section 2 (Marquette Salon). Design Changes
Leader: Kathleen Weber, Senior Research Associate,
University of Michigan
Transportation Research Institute, and
Annemarie Shelness, Executive Director,
Physicians for Automotive Safety

Section 3 (Montealm Salon). Education/Information Exchange
Leaders: Grey Jones, Jr., President, FLI Learning Systems, Inc., and
Mary Beth Berkoff, Director of Public Information and
Publications, Northwestern University Traffic Institute

12:30-2:00 **Lunch (Quorum Room)**

"The Media's Role in Increasing Use of Occupant Restraints"
Judy Mann, Washington Post, syndicated columnist

2:00-3:50

Discussion Groups
"Ways to Increase Correct Use of Child Restraints"

Section 4
Leader:

(La Salle Salon). Enforcement
Chief Charles Gruber
Quincy Police Department
Quincy, Illinois

Section 5
Leader:

(Marquette Salon). Legislation
Chuck Hurley, Executive Director, Federal Affairs,
National Safety Council

Section 5
Leaders:

(Montcalm Salon). Education and Incentives
Terri Siani, Child Passenger Coordinator,
Office of Occupant Protection
National Highway Traffic Safety Administration, and
Elaine Weinstein, Executive Director, National Child Passenger
Safety Association

3:59-5:00

General Session (Lafayette Salon)
Discussion group leaders present recommendations

APPENDIX L

SYMPOSIUM ATTENDEES

Dr. Phyllis Agran
Department of Pediatrics
University of California Irvine Medical School
101 City Drive South
Orange, California 92668

Mrs. Robert L. Bauer, Sr.
Kinderscat Program
682 Todhunter Road
Monroe, Ohio 45050

Ms. Jill Berington
Occupant Restraint Coordinator
Ohio Department of Highway Safety
Post Office Box 7167
Columbus, Ohio 43205

Ms. Nancy Berk
Legislative Analyst
National Safety Council
1705 DeSales Street, N.W.
Suite 300
Washington, D. C. 20036

Ms. Mary Beth Berkoff
Director of Public Information
and Publications
The Traffic Institute
Northwestern University
405 Church Street
Evanston, Illinois 60204

Dr. John G. Birch
Pediatric Orthopaedist
Texas Scottish Rite Hospital
2222 Welborn
Dallas, Texas 75219

Dr. Marshall J. Blondy
President
AAAM
8286 Huntington
Huntington Woods, Michigan 48070

Ms. Becky Brack
Child Passenger Safety Director
East Tennessee Department of Health
and Environment
1522 Cherokee Trail
Knoxville, Tennessee 37920

SYMPOSIUM ATTENDEES

Mr. Dick Brown
Ford Motor Company
Room 233
WHQ The American Road
Dearborn, Michigan 48121-1899

Mr. Michael Brownlee
Director, Office of Occupant Protection
NHTSA
400 7th Street, S.W.
Washington, D. C. 20590

Dr. Marilyn J. Bull
Director, Automotive Safety
for Children Program
James Whitecomb Riley Hospital
for Children, Room P-121
702 Barnhill Drive
Indianapolis, Indiana 46223

Mr. Carl C. Clark
Office of Vehicle Structures Research
NHTSA (NRD-12)
400 7th Street, S. W.
Washington, D. C. 20590

Lt. Raymond D. Cotton
Maryland State Police
1201 Reistertown Road
Baltimore, Maryland 21208

Mr. Forrest Council
Deputy Director
Highway Safety Research Center
University of North Carolina
Chapel Hill, North Carolina 27514

Ms. Jo Lynn Cunningham
The University of Tennessee, Knoxville
Department of Child and Family Studies
Knoxville, Tennessee 37996-1900

Mr. Sam Daniel
Rulemaking, Crashworthiness
NHTSA (NRM-12)
400 7th Street, S.W.
Washington, D. C. 20590

Mr. Leon DeLarin
Rulemaking Crashworthiness Division
NHTSA (NRM-12)
400 7th Street, S.W.
Washington, D. C. 20590

SYMPOSIUM ATTENDEES

Ms. Carol Dingley
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