

HB

684

HR 681

"Dear Representative Grussendorf:

Under the authority of art. III, sec. 18. of the Alaska Constitution, I am transmitting a bill relating to unemployment insurance. The bill makes several amendments to current law.

A new section is added, AS 23.20.351, which establishes a formula for computing unemployment insurance benefits. Currently, benefits are set by a statutory schedule, any change in which requires legislative action. Under the proposed formula, benefits would be tied to the state average weekly wage, and would be adjusted annually in accordance with changes in wage levels in the state. The proposed formula raises benefits from their current levels, particularly for high wage earners. The new section also liberalizes the law regarding dependents' allowance, removing the provisions which preclude a parent from claiming a dependent already claimed by the other parent until the latter parent's benefit year has expired, even if that parent is not actually receiving benefits.

The bill establishes an employee surcharge (proposed AS 23.20.290(g)) to finance the initial increase in benefits under the proposed formula. For "contributing" employers (AS 23.20.165), any subsequent increase in benefit levels will be borne by both employers and employees in the same ratio as they are now. For nonprofit organizations and government entities who choose to reimburse the department for benefits paid to their former employees, instead of paying contributions under AS 23.20.165, there are two options: (1) they can collect the surcharge and pay an amount determined by the formula in proposed AS 23.20.277(m), or (2) under proposed AS 23.20.277(n), reimburse the department the full amount of their respective shares (as described in proposed AS 23.20.277(b)) of the benefits paid to their former employees, and forego collection of the surcharge.

Under proposed AS 23.20.390(f), individuals who obtain benefits fraudulently incur an additional monetary penalty of 50 percent of the amount improperly received, unless the department waives the penalty. To facilitate collection, proposed AS 23.20.391 establishes a lien in favor of the department on the individual's property, and proposed AS 23.20.393 and 23.20.394 enable the department to attach the individual's property. The proposed amendment to AS 23.20.130(d) provides that any penalties collected go to the training and building fund.

Proposed amendments to AS 16.10.290(a) and AS 23.20.520(13) also enhance the department's ability to collect unemployment insurance contributions from delinquent employers, with AS 16.10.290(a) focusing on fish processors and fish buyers. The department's figures indicate that in 1984, 36 percent of all fish processors and buyers were delinquent in their contributions. Under the proposed amendment, the department may assert claims for contributions against the fish processors' and buyers' surety bonds, such claims having next priority after claims for wages and payment for raw fish.

HB 681

Under current law, an individual's eligibility for unemployment insurance benefits is based upon wages paid to the individual; thus, if an individual works for an employer who files for bankruptcy and does not pay its employees, such an employee does not qualify for unemployment benefits. The proposed amendment to AS 23.20.530(a) rectifies this situation.

This bill also makes some "housekeeping" amendments.

Sincerely,

/s/

Bill Sheffield
Governor"

HB 682

HOUSE BILL NO. 682 by Jenkins, entitled:

"An Act relating to elections."

was read the first time and referred to the State Affairs, Judiciary and Finance Committees.

HB 683

HOUSE BILL NO. 683 by Herrmann, entitled:

"An Act relating to commercial fishing vessel registration; and providing for an effective date."

was read the first time and referred to the House Special Committee on Fisheries and the Resources and Judiciary Committees.

HB 684 *file*

HOUSE BILL NO. 684 by Navarre and M.M. Miller by request, entitled:

"An Act relating to school vehicle safety; and providing for an effective date."

was read the first time and referred to the Transportation, Health, Education & Social Services and Finance Committees.

Introduced: 2/17/86
Referred: Transportation,
Health, Education and Social
Services and Finance

BY NAVARRE AND M.M.MILLER
BY REQUEST

1 IN THE HOUSE

2

HOUSE BILL NO. 684

3

IN THE LEGISLATURE OF THE STATE OF ALASKA

4

FOURTEENTH LEGISLATURE - SECOND SESSION

5

A BILL

6 For an Act entitled: "An Act relating to school vehicle safety; and pro-
7 viding for an effective date."

8 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

9 * Section 1. AS 28.05 is amended by adding a new section to article 2
10 to read:

11 Sec. 28.05.100. SCHOOL VEHICLES. (a) Except as provided in (b)
12 of this section, a school bus or other vehicle for transporting
13 children that is purchased or leased by the state or a school district
14 after the effective date of this Act must

15 (1) be equipped with seatbelts or, if the vehicle is to be
16 used to transport children under four years of age, child safety
17 devices meeting the standards of the United States Department of
18 Transportation for child safety devices for infants; the number of
19 seatbelts or child safety devices in each vehicle must be equal to the
20 seating capacity of the vehicle;

21 (2) be equipped with seat backs that are at least 28 inches
22 high, if the vehicle is over 10,000 pounds gross vehicle weight; and

23 (3) comply with the safety standards of the United States
24 Department of Transportation for school vehicles.

25 (b) The Department of Public Safety may exempt a school vehicle
26 from the provisions of (a) of this section to the extent necessary to
27 accomodate a passenger who is confined to a wheelchair or who requires
28 special equipment to ride in a school vehicle

29 (c) The chief school administrator of each school district and

1 regional educational attendance area shall set standards for instruc-
2 tion in the use of seatbelts and child safety devices.

3 (d) The Department of Public Safety shall provide for periodic
4 inspections of school vehicles to ensure compliance with this section.

5 (e) The driver of a school vehicle is not personally liable for
6 injury to a passenger caused by failure of a passenger in a school
7 vehicle to use a seatbelt or child safety device.

8 * Sec. 2. This Act takes effect immediately in accordance with AS 01.-
9 10.070(c).

Dear Ms Cato,

April 7, 1986

I am writing you in support of the House Bill on Seat Belts for School Buses.

APR 09 1986
My 2 children will be riding on icy hills w/ very narrow roads to school thro
Coming September & without seat belts I & my husband would worry about them & other children. Our children will be going a long distance 24 miles both ways

My oldest daughter has asked me - Why does the bus driver wear a seat belt and we can't? Please see about giving her the right & way to protect herself & other children if they choose. Most of these children have worn belts since they were born - all most wear in cars by a state law. It doesn't make sense the way it is now.

also - I heard a testimony from a spokesman from the Bus Company in Anchorage on the teleconference -
over

last tuesday. He asked for further studies proving the safety of seat belts before this bill can be voted on - Does that mean our children are at risk already because not enough studies have been done?

I hope not but I surely can't trust a person who's seems more concerned about cost than a child's life.

I'm glad you are taking time to consider this bill. It is an important serious issue which needs to be resolved as soon as possible.

the children cannot vote, yet this bill, if not passed, could very much affect their lives forever.

thank you -

Carole Hamik

59155 E End Rd

Homer, Alaska

99603

235-7628

APR 22 1986

PUBLIC OPINION MESSAGE

TO: REPRESENTATIVE BETTE CATO

FROM: TIM POLLARD
BOX 9
SEWARD
224-3181

99664

BILL NO: HB 687

SUBJECT: SEAT BELTS IN SCHOOL BUSES

MESSAGE:

THERE ARE FEW THINGS AS PRECIOUS TO US AS OUR CHILDREN.
AS AN EMERGENCY ROOM DOCTOR AND A FATHER, I URGE YOUR
SUPPORT REQUIRING SEAT BELTS IN SCHOOL BUSES.

DATE: 04/21/86 TIME: 13:13:42 SENT BY: SOLDOTNA LIO

COPIES TO: HOUSE HEALTH, EDUCATION & SOCIAL SERVICES
HOUSE FINANCE
HOUSE TRANSPORTATION
HOUSE RULES

Alaska State Legislature

House of Representatives

Committee on Transportation



Rep. Bette Cato, Chairman

Pouch Y
State Capitol
Juneau, Alaska 99811
(907) 465-4858

DATE: APRIL 23 1986
TO: COMMITTEE MEMBERS
FROM: Staff
RE: BACK-UP INFORMATION RECEIVED ON HOUSE BILL 684

The following is an index of the various back-up information we have received regarding House Bill 684 An Act relating to school vehicle safety. This does not include information provided for previous meetings which is already in your packets.

*From Romaine Kareen of the Department of Education all members were provided a thick packet containing information on the pros/cons of seat belts on school buses; Alaska Info; Other States; National Safety Council; National School Transportation Association; NHTSA; National Transportation Safety Board; Canadian Test; Coalition for seat belts on school buses.

*March 4, 1986 letter from the Pupil Transportation Systems in Anchorage (letter indicates carbon copies to all transportation committee members) regarding "participation in a program to establish a uniform method of investigation and reporting of school bus accident data nationwide. Upon acceptance and implementation, the industry, for the first time, will be furnished injury data broken down into categories that will supply valuable information relative to the construction of school buses and the design and incorporation of associated safety programs...It also indicates that improved procedures must be explored around the bus, where the greater source of problems exist....Request that you do not support HB 684"

*April 2, 1986 letter and large package from Bridget A. Ernst, Chairperson, Bus Safety Committee - Homer PTA and Regional Coordinator - National Coalition for Seatbelts on School Buses (letter and package for members review available in transportation committee office) regarding "unequivocal support for House Bill 684"; letter of support to the Homer Parent Advisory Committee for the installation of seat belts

on the new school buses; letter of support for the installation of seat belts from McNeil Canyon Community Council and Elementary School; letter of support from L. Davidhizar, D.O.; various other letters of support; additional information; 700 signatures obtained in Homer and copies of 1000 signatures of registered voters borough supporting seat belts on school buses.

*April 2, 1986 letter of support from Beth H.K. Lauesin, Project Director, Fairbanks Child Passenger Safety Association with additional information provided.

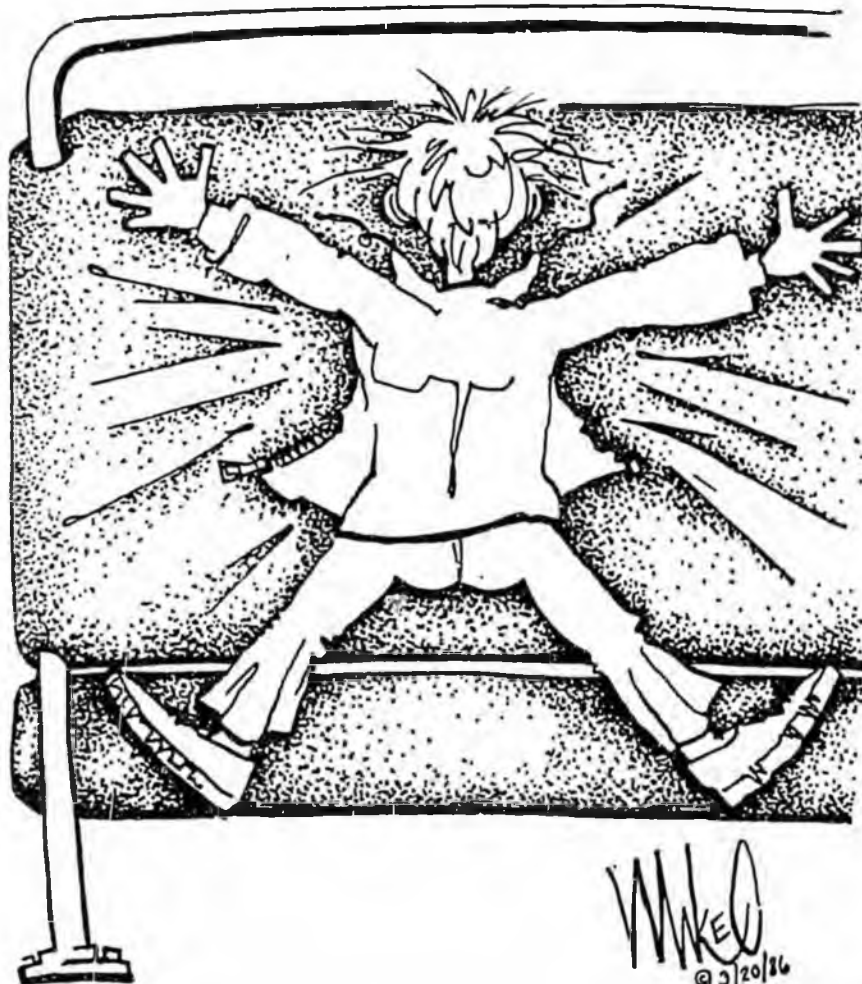
*April 3, 1986 letter from Thomas Hyatt, General manager, Member - Alaska School Bus Safety Commission; President - Alaska School Transportation Association recap of comments made during teleconferences as well as other thoughts. "First of all, there is a serious question of whether seat belts and compartmentalization are compatible...Urge the legislature to consider two recommendations. The first is to urge the the Federal government to immediately implement a comprehensive testing program in two areas: One area would be the retrofitting of existing buses....The second area of testing with a resultant set of standards would be for newly manufactured buses...Another aspect of the school bus seat belt issues is that of priorities...attempted to get a safety minimum standard for school bus driver training. We have also attempted to get funding for a state monitoring and training program for school bus driver training and school bus inspections. We are considering the appropriation and spending of millions of dollars for seat belts, yet we don't have but a minimum effort at best in the areas of school bus driver training and school bus inspections...point is that we must take a strong, emotional, objective look at our priorities and decide where our largest problems are and where our dollars will make the most significant impact...there seems to be two basic issues. First of all, is there conclusive and comprehensive evidence that seat belts in large buses enhance the total safety environment? The second issue is that of priority...."

*April 12 copy of testimony by Laurel Osborn, Chairman, Galena PTSA Safety Committee, Regional Coordinator, National Coalition for Seatbelts on school buses given at teleconference plus additional information. Feels that the department of education's ability to treat this subject fairly is questionable and urge decision-makers to look at all sides of the issue by consulting the Departments of Health and Social Services and Public Safety as well as Education.

*April 3 letter of Laurie Rockstad, Fairbanks supporting HB
684

Homer News March 20, 1986

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The Kenai Peninsula Borough School District passive restraint system.

to consider this point.

Communications is the most important principle among people or groups of people to maintain social order and intelligent pro-

cessional operators from outside, further reducing existing businesses' share of the market and overtaxing already fully utilized facilities and resources?

Sale or lease. Simple! Commercial business. Upgrade.

POSITION PAPER
DEPARTMENT OF EDUCATION
SECOND SESSION OF THE FOURTEENTH LEGISLATURE

HB 684

The Department of Education does not have a position regarding this bill.

4-1-86

for Stuart Kelle
Marshall L. Lind
Commissioner

STATE OF ALASKA 1986 LEGISLATIVE SESSION FISCAL NOTE

Revision Date : _____

REQUEST

Bill/Resolution No. : HB - 684
 Title : ... school vehicle safety...

 Sponsor : Navarre
 Requestor : House Transportation
 Date of Request : April 1, 1986

FISCAL DETAIL

Agency Affected : Department of Education
 BRU : K-12 support

 Components : Pupil Transportation

EXPENDITURES/REVENUES : (Thousands of Dollars)

OPERATING	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING						

CAPITAL						
---------	--	--	--	--	--	--

REVENUE						
---------	--	--	--	--	--	--

FUNDING : (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
TOTAL						

POSITIONS :

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS : Attach a separate page if necessary

This is not a zero fiscal note. The actual cost will depend on whether 28.05.100(a) will apply to contractors who provide pupil transportation services to school districts and whether the cost is based upon two or three belts per seat. Preliminary estimates are between several hundred thousand and several million dollars per year.

Prepared by : Steve Hole Phone : 465-2800
 Division : Commissioner's Office Date : April 1, 1986

Approved by Commissioner : Marshall L. Lind Date : April 1, 1986
 Agency : Department of Education

Distribution (by Agency preparing fiscal note):

- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)

STATE OF ALASKA 1986 LEGISLATIVE SESSION FISCAL NOTE

Revision Date : _____

REQUEST

Bill/Resolution No. : HB 684
 Title : An act relating to school vehicle safety.
 Sponsor : Navarre, M. M. Miller
 Requestor : H. Transportation
 Date of Request : 2/17/86

FISCAL DETAIL

Agency Affected : Public Safety
 BRU : Alaska State Troopers, Alaska Highway Safety Planning Agency
 Components : _____

EXPENDITURES/REVENUES : (Thousands of Dollars)

OPERATING	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	-0-	-0-	-0-	-0-	-0-	-0-

CAPITAL						
----------------	--	--	--	--	--	--

REVENUE						
----------------	--	--	--	--	--	--

FUNDING : (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
TOTAL	-0-	-0-	-0-	-0-	-0-	-0-

POSITIONS :

FULL-TIME	0	0	0	0	0	0
PART-TIME						
TEMPORARY						

ANALYSIS : Attach a separate page if necessary

Prepared by : T. Michael Lewis *Tim L*
 Division : Alaska Highway Safety Planning Agency

Phone : 465-4371
 Date : 3/3/86

Approved by Commissioner : *[Signature]*
 Agency : Public Safety

Date : 3/3/86

Distribution (by Agency preparing fiscal note) :

- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)

DEPARTMENT OF PUBLIC SAFETY
POSITION PAPER - HB 684

SUPPORT

MARCH 3, 1986

"An act relating to school vehicle safety."

The Department of Public Safety supports this legislation because it has the potential to increase the safety of occupants of school vehicles and because it continues the behavior pattern development of regular restraint use introduced by the child restraint law.

Although limited front-end crash tests are inconclusive in regards to the use of restraints in school vehicles, it is considered that restraint use would indeed provide protection in side-angle and rollover crashes. Most bus-related injuries and fatalities, especially in rollover situations, are the result of an unrestrained individual being ejected from the windows or involved with a "second crash" with an object inside the vehicle.

Recommended by: T. Michael Lewis
T. Michael Lewis, Program Director
Alaska Highway Safety Planning Agency

Date: 3/3/84

Approved by: Robert J. Sundberg
Robert J. Sundberg
Commissioner
Department of Public Safety

Date: 3/3/86

SPECULATION ON SEATBELTS IN SCHOOL BUSES

A great many of the arguments against seatbelts in school buses are speculative in nature. Most of the speculation can be laid to rest by the experience of districts which have seatbelts in their large school buses. There are presently seatbelts in school buses in school districts in the states of New York, New Jersey, Illinois, Georgia, Michigan, Oregon, Arizona and Vermont. Greenburgh Central School District No. 7 and Ardsley Union Free Districts in New York report the following facts:

1. Safety belts are installed on the seat frame, not on the floor, so tripping on the anchors is not an issue.
2. The short end of the belt is on the aisle, does not dangle and trip passengers and so is not an issue.
3. No districts report students using safety belts (which are very lightweight) as weapons. This is not an issue.
4. There are no problems with insurance.
5. The belts are color coded, three sets to a seat. When two children ride in the seat, they do not use the middle set.
6. Drivers report fewer discipline problems with belted students.
7. Small children, when belted, no longer slide off the seat.
8. These districts report that 80% of their students wear their belts. Additionally many of the children are now buckling up in their family cars as an extension of what they have learned in their school safety belt program. For example, three teenagers who were avid non-users of seatbelts were involved in serious accidents where seatbelts saved their lives. They directly attributed the wearing of belts to the Ardsley school bus seatbelt program.
9. Students, including kindergarteners, can unbuckle their seat belts in emergency circumstances; they do not need driver assistance. Two separate accidents in 1979 involved school vans which overturned and left very young, belted passengers "hanging upside down". They instantaneously unbuckled their belts and all very quickly and calmly escaped unhurt.
10. No extra time has been added to bus runs. Students have found it possible to take the approximately ten seconds necessary to buckle up without causing any delays.
11. Seatbelts are not expensive. The cost is about \$1000 on a new bus. The cost of retrofitting is about the same--belts cost \$6.25 each, and a district can install them itself with little trouble.

Speculation aside, there are two basic issues in the controversy over seatbelts on school buses which are critical.

1. The NHTSA and the NSTA claim that post 1977 buses utilize the concept of "compartmentalization".
2. The NHTSA and the NSTA claim that "compartmentalization" has been proven in tests to be adequate protection for school children.

Both of these claims are false and are based on misrepresentation and misquotes from studies and tests.

In the paper "The Myth of Compartmentalization, A Deception Which Puts All School Children At Risk," the theory of compartmentalization will be discussed, from its inception at UCLA in 1967 to the final misapplication of the concept to all post 1977 buses.

The National Highway Transportation Safety Administration and the National School Transportation Association quote a number of tests and studies saying that they prove the present school bus seat provides adequate protection for passengers, and that seatbelts are unnecessary and dangerous. Careful examination of these reports reveal the opposite conclusions.

The NHTSA and the NSTA claim that medical opinion is against seatbelts in school buses. They quote one doctor's opinion. That doctor says he has been widely misquoted. Five major medical associations support seatbelts on school buses at this time.

The NHTSA and the NSTA claim that statistically school buses are safer than other modes of transport. It should be noted that statistics involving school bus fatalities and injuries never include accidents which occur on field trips and other extra-curricular activities. The majority of injuries and fatalities occur on field trips.

Some school bus manufacturers say that their post 1977 buses may not be able to withstand seatbelt loads. Federal Standard No. 222 says "The seat is strong enough to take the force of occupants against the seat back if no belts are utilized, or the force of occupants against seat belts if occupants are restrained by belts attached to the seat frame through anchorages provided." These buses apparently do not meet the Federal Standard.

THE MYTH OF COMPARTMENTALIZATION

A DECEPTION WHICH PUTS ALL SCHOOL CHILDREN AT RISK

In the late 1960's the United States Department of Transportation asked the Institute of Transportation and Traffic Engineering at UCLA to undertake a study to find out if crash characteristics of school buses were similar to automobiles and to find out what features of school bus construction cause injury and death during school bus accidents.

The engineers conducted a series of tests and concluded that the major cause of injury in school buses was inadequacy of the bus seat. At that time the seat backs were not padded, were 20" high and had exposed metal bars. The UCLA team determined that a "safety seat" would be the best protection against injuries in school buses.

"An adequately designed, properly structured and anchored high backed contoured (28" or higher well padded back rest) provided with well padded armrests, harness or a lap belt, built into the seat unit with retractable, inertial-lock mechanism, represents the essential features of a safety seat that provides sufficient protection for a bus passenger to sustain, with probably no more than minor injuries, a 30 mph head-on or a 60 mph side and rear end collision as reported in this study."

This was "compartmentalization". Essential to this concept were 28 inch high seat backs, armrests and seatbelts. "Seatback height for all school buses should be at least 28 inches." "High back seats (28 in. or more) greatly contribute to the compartmentalization of passengers thereby reducing the chances of injuries sustained by passengers being hurled against one another, regardless of their size!" "Seats having strong but well padded armrests provide important lateral constraint." "During the bus side-impact experiment, it was observed that armrests provided a significant improvement in passenger safety..."

"These bus experiments, the many actual school bus accidents, investigated by the authors, the many types of collision experiments conducted during the past 16 years clearly establish the value in passenger protection of lap belts when used with high back seats. The greatest single contribution to school bus passenger safety is

the high strength, high back safety seat. Next in importance is the use of a three-point belt, a lap belt or other form of effective restraint. These restraints can be added to the safety seat at very little added cost and their presence provides the continuity needed for proper training of youth concerning habitual use of restraints when riding in any vehicle."

The Department of Transportation then asked UCLA to conduct a second series of tests to develop a seat which would provide protection without the use of a seat belt--a passive seat. The resulting safety seat was massive in construction, had a padded side wall, a heavily padded side arm to compartmentalize the passenger in a side collision and the seat back was made of a mesh yielding material which would absorb the impact of crash forces and virtually catch and contain the child. Unfortunately the mesh had to be replaced after every impact, the seat itself was very expensive and because of its size would have greatly reduced the passenger carrying capacity of the bus.

In 1976 legislation was enacted by Congress to require the NHTSA to set standards to upgrade school bus construction. They were specifically instructed to upgrade the inadequate seat. The resulting seat is well anchored and well padded, but is only raised to a height of 24 inches. It fails to protect the average high school student from whiplash in a rear collision and from neck and chest injuries in a frontal collision. There is no padded side wall, no padded side arm or lateral restraint, and there is no seat belt. The NHTSA's Vehicle Safety Standard No. 222 says:

"The standard relies on compartmentalization between well-padded and well-constructed seats to provide occupant protection on school buses."

But there is no compartment. The NHTSA adopted the word "compartmentalization" from the UCLA studies and applied it to a padded bench seat of inadequate height.

MEDICAL OPINION CONCERNING SEATBELTS IN SCHOOL BUSES

The following medical associations strongly endorse seatbelts in school buses:

1. The American Medical Association
2. The American College of Preventative Medicine
3. The American Academy of Orthopedic Surgeons
4. The American Academy of Pediatrics
5. The Physicians For Automotive Safety

The American Association for Automotive Medicine has been misquoted in a number of papers and articles. In a response to one such article, Elaine Petrucelli, Executive Director for the American Association for Automotive Medicine wrote:

"I recently had occasion to see a news clipping from the Depew Herald dated April 14, 1983 on the subject of seat belts on school buses. In that column you mentioned that the American Association For Automotive Medicine advises against securing young children solely by lap belts in either passenger autos or buses. I do not know the source of your information concerning this Association, but the statement you made is absolutely incorrect. We have never taken a position as you stated in the newspaper article. I would appreciate knowing who or what your source of information is so we may correct this erroneous information."

The medical opinions against seatbelts in school buses are limited to that of one doctor, Dr. H. Raof Noer, an orthopedic surgeon. He is quoted as saying that seat belts crush kidneys and rupture bladders and are unsafe for children under eleven years of age.

The Honorable Ed Mehler, Mayor of the City of Lomita, California, before the sub-committee on Commerce and Finance on Bill HR 4137 (The School Bus Safety Act of 1973) said the following:

"When I talked to Dr. Noer regarding his comments, he said he had been widely misquoted. In talking to me he did not say he was opposed to seat belts in school buses, although he felt other safety requirements should be met first, such as adequate strength of bus bodies, better anchorage of seats and a better seat design such as the one recommended by UCLA and escape hatches. He also felt that the seats should be turned around. He stated that if these things were done, he then would recommend seat belts be provided in all school buses."

TESTS AND STUDIES CONCERNING SEATBELTS IN SCHOOL BUSES

The National Highway Transportation Safety Administration and the National School Transportation Association quote a number of tests and studies saying that they prove the present school bus seat provides adequate passenger protection and that seat belts are unnecessary and dangerous. Careful examination of these reports reveal the opposite conclusions. Even those reports which appear to be against seatbelts in buses stress that more research is needed .

A STUDY RELATING TO SEAT BELTS FOR USE IN BUSES

Southwest Research Institute, San Antonio, Texas

Sponsored by the California Highway Patrol

Printed by the U.S. Department of Transportation 1977

"This program involved a study of farm labor buses, school buses and transit buses in these various categories of new and used buses. The study included visits, inspections and in-depth discussions with bus owners, operators, maintenance personnel, seat manufacturers, belt manufacturers ...

Southwest Research Institute has concluded the study with the recommendation that seat belts not be installed in any category of bus in the State of Calif, until adequate research and design be completed to justify a factual decision in either direction. Sufficient research has not been accomplished to date."

This report was an opinion survey of those persons who do not favor seatbelts in school buses. No tests, experiments or research were conducted in this study.

ACCIDENT DATA ANALYSIS OF VEHICLE CRASHWORTHINESS--TEN PAPERS

Prepared by the U.S. Department of Transportation, National Highway Traffic Safety Administration, April 1981

"The summary cases from the Ultrasystems Inc. report show that the seats and interior panels cause injuries, severity unknown, to the occupants of the school buses. Also, some cases show that the seats dislodged from their mountings due to the severity of the accident."

9. Seat belts recommended for safety seats. These bus experiments, the many actual school bus accidents investigated by the authors, the many types of collision experiments conducted during the past 16 years by the authors and investigations by others, clearly establish the value in passenger protection of lap belts when used with high back seats. The greatest single contribution to school bus passenger collision safety is the high strength, high back safety seat. Next in importance is the use of a three point belt, a lap belt or other form of effective restraint. These restraints can be added to the safety seat at very little added cost and their presence provides continuity needed for proper training of youth concerning habitual use of restraints when riding in any vehicle."

BUS COLLISION CAUSATION AND INJURY PATTERNS

by A.W. Siegel and A.M. Nahum of the Trauma Research Group, University of California, San Diego

D.E. Runge , Automobile Club of Southern California, 1971

The National Highway Traffic Safety Administration provided financial support.

"The authors wish particularly to single out the assistance given by David Soule of the NHTSA."

Restraint Systems and Seats

"In all cases where an individual is ejected from a seat to strike either the forward seat or other areas within the bus, the passenger injury level is increased. It is, therefore, recommended that the seats be padded and that all buses be equipped with restraint systems capable of being activated by each individual. Restraint within the seat area is essential for injury minimization. Restraint must be coupled with removal or reduction of the hazard of the forward front seat back.

For many years certain public and pupil transportation officials have been presenting arguments against installation of restraint systems in buses, particularly school buses. Some insist that it is too costly to retrofit new seats or to pad upper seat backs. Some say that seat structures are too weak, that restraint system maintenance is too difficult, and that bus discipline would be hampered. In part, these arguments are emotional excuses and have delayed needed injury reducing design changes.

Regardless of the cost and the problems, it can be stated quite categorically that the absence of load-distributing, energy-absorbing seats, coupled with the absence of bus passenger restraint systems has and will continue to be directly responsible for the majority of bus injuries and fatalities."

The following report contains the results of a series of tests performed by and for the National Highway Transportation Safety Administration, U. S. Department of Transportation in 1978. The final report is 151 pages long and in a handwritten format. The author very clearly warns of the biases and limitations of the report and stresses that more research needs to be done. All tests were frontal impacts at speeds of 15-20 mph. Unbelted adult dummies suffered serious impact to neck and throat areas, but the author was only allowed to evaluate head, torso, and knee accelerations as potential injuries. The unbelted 6 year old dummy experienced a "severe spinal whipping" on impact, and "All seats fail the injury criteria at 20 mph. For all seat spacings."

Excerpts from:

SCHOOL BUS PASSENGER SEAT AND LAP BELT SLED TESTS

December 1978 Final Report

Prepared for the U.S. Department of Transportation

National Highway Traffic Safety Administration, Washington D.C.

Abstract: Sled tests were performed to determine the response of dummies in simulated frontal collisions with and without lap belts on both route and activity passenger seats; and the effect of increased spacing of passenger seats on occupant protection..

3.2 Injury Criteria

In the evaluation of the test data of reference, it is necessary to establish a set of restraint performance criteria. These criteria will serve as a basis for judging the restraint effectiveness for a given impact event. In this study, the criteria summarized in Table 1 were assumed (head, torso and knee acceleration forces only). It should be noted that these criteria are not all inclusive. That is, there are other potentially harmful body loadings that are not covered by Table 1. This became very apparent when viewing the high speed film documentation of the sled tests... resulted with the dummy impacting the seat back with its throat. There are no currently established injury criteria for this body loading. Another example is reflected in Test #27 (it is apparent in many other tests as well). Of particular interest here is the response of the child dummy (unbelted). Because the knee padding was quite stiff, the dummy's hip was stopped abruptly (relative to the sled) allowing the torso to rotate until the head made contact with the seat back, Once the head made contact with the seat back a violent whipping set in the dummy's spine as it attempted to "beam" the inertial loads of the torso to the knee and head contact points. It is not known if this "whipping action" is unique to the dummy structure or is evidence of a real injury problem. Regardless, there are no existing injury criteria to cover this potential injury mode.

4.0 Evaluation and Discussion of Test Data

The first rather obvious observation that can be made of the data is that the Ward seat appears to greatly outperform the Thomas seat in head protection. However, based on the discussion in section 3.0 there are a number of factors affecting the head response of the dummies. Some of these factors eg. head contact geometry) can lead to other potential injury modes which are not covered by acceleration and force measurements (eg. impacts to the throat.) One key observation that can be made of the data in Table 4 is that there are distinct differences in the head contact geometry between the two seat configurations. These differences appear to be more predominate for the unbelted dummies. ...for the Thomas seat, the head contacted solidly to the mouth and chin whereas for the Ward seats a grazing blow to the dummy's chin results (ie primary blow is taken by the dummy's neck and throat). Thus, other things being equal, the head acceleration can be expected to be higher for the Thomas seat for these test runs. Comparison shows that, in general, the use of the lap belts do not reduce the peak head accelerations but in fact, in most cases, actually cause an increase in peak accelerations. Table 4 indicates that this increase is probably due to the head contact point moving up on the dummy head with the use of the seat belts. It may also be due to the redirection of the head impact into the stiff axis of the seat back structure.

4.1.2 Dummy Torso Response Evaluation

2. The effect of use/non use of lap belts on torso response is insignificant.

4.1.3. Dummy Knee Response Evaluation

4. Use of belts has a decreasing effect on the dummy's knee loading for both seat configurations.

4.1.4 Compartmentalization Evaluation

Compartmentalization is defined herein as the percentage of the dummy remaining within a reference volume during and following impact. The data shows that in general a belted dummy receives more containment than an unbelted dummy both during impact and rebound. It should be noted that all of the sled tests conducted were normal (0°) frontal impacts. It is expected that compartmentalization will be somewhat sensitive to the obliqueness, or angle, or impact (this will be especially true for the unbelted dummy).

4.2.1.1 50th Percentile Adult Dummy

2. The difference in the acceleration response between the Wayne/Carpenter seats and the Blue Bird seats appear to be due to the differences in the head/seat-back contact geometry. (see Table 8). Table 8 shows that the shorter seats (Wayne and Carpenter) result with impacts to the neck and upper chest of the dummies. This results with lower head accelerations due to the relatively "soft" loading point and the longer head stroke caused by the head rotating over the seat back during impact. The Blue-Bird seat results with impacts directed to the chin and mouth of the dummy (a much more solid blow, causing higher head accelerations).

* As explained later, the low accelerations are a result of a "softer" blow to the neck of the dummy. It remains to be proven that this loading is non-injurious.

3.0 The effect of the use of seat belts on head acceleration appears to be insignificant for the Wayne and Carpenter seats (approximately a 20% increase in peak head accelerations.. still well below the design limit). However, the Blue Bird seat appears to show a significant decrease in head accelerations due to the use of seat belts (Figure 16a). This can be explained by looking at Test #38 Table 8 (note 4 indicates floor attachment tore). The noted structural failure could have caused the noted decrease.

4.2.1.2 6 Yr. Child Dummy

1. All seats satisfy the injury criteria at 15 mph impacts.
2. All seats fail the injury criteria at 20 mph. For all seat spacings.

4.2.2.2 6 Yr. Child Dummy

The following observations can be made...

1. The Wayne and Carpenter seats appear* to satisfy the torso injury criteria for both 15 mph and 20 mph impacts. The Blue Bird seat appears* to provide adequate torso protection to 15 mph.
2. Impact speed has a greater, increasing effect on the child dummy as compared to the adult.

* High speed film coverage show that the child dummy's spine undergoes a severe spinal whipping from the "beaming" of the torso inertial loads to the head and knee contact points. There are no currently established criteria for this potential injury mode.

5.0 Conclusions and Recommendations

1. Lap belts do not appear to have a significant effect on the response characteristics of a 50th percentile adult male dummy, for the test conditions considered herein.
2. Seat spacing appears to have only a minor effect on the response characteristics of the adult dummy and only a slightly higher effect on the child dummy.
3. The head response of the adult dummy appears to be dictated by the head/seat back contact geometry. Impacts to the neck and throat of the dummy appear to offer the greatest protection from head accelerations. However, the injury potential of this loading configuration has yet to be determined. FURTHER STUDY IS NEEDED..
4. Impacts involving the child dummy show a severe spinal whipping which seems to be caused by the "beaming" of the torso inertial loads to the head and knee contact points (generally the child dummy's torso does not contact the seat back padding during impact). It is not known if this spinal whipping phenomenon is unique to the dummy structure or if it represents a real injury threat. Additional studies are needed to investigate this area.

note: all emphasis is author's own.



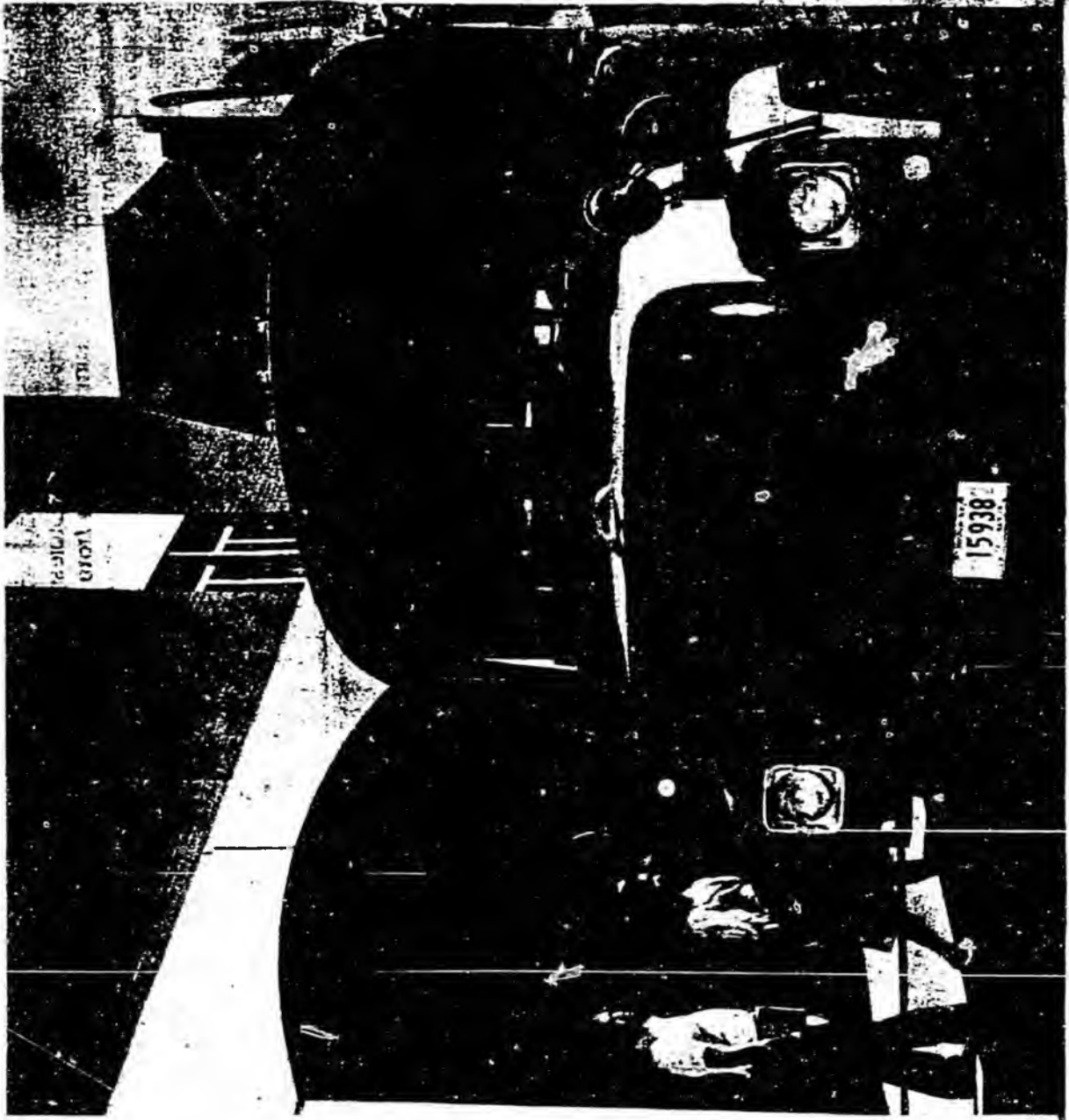
Policy Statement: School Bus Safety

In 1970, the American Academy of Pediatrics, in a supplement to *Pediatrics*, reviewed the laws, regulations, and practices in schoolbusing in the United States.¹ This survey was carried out by Physicians for Automotive Safety. The information available at that time (from 46 states) indicated that 14,709,000 students were being transported in a total of 203,994 vehicles.¹ Recent data now indicate that approximately 22 million pupils are transported daily to and from schools in the United States in nearly 400,000 school buses.²

Based in part on the recommendations resulting from the 1970 survey, the National Highway Traffic Safety Administration in February 1973 issued the Federal Motor Vehicle Safety Standard (FMVSS-222), which became effective in April 1977. That standard prescribed passive protection for school bus passengers and looked specifically at: 1) the seat and seat anchorage strength; 2) the seat and restraining barrier height and surface area; and 3) padding on surfaces within occupants' head space.

The National Highway Traffic Safety Administration subsequently has denied a petition from Physicians for Automotive Safety that the FMVSS-222 include requirements for anchorages for seat belts. Seat belts presently are required in vehicles weighing 10,000 pounds or less with a maximum passenger capacity of 16. Seat belts are not required for larger school buses.

The primary reason given for not requiring seat belts in buses weighing more than 10,000 pounds is that the number of "inside bus fatalities" nationally does not justify the expense and maintenance of seat belts. However, in 1982



injured were students.³ Therefore, should the number of deaths alone not justify changes, the potential for a reduction in the number of injuries, and/or in the seriousness of those injuries, would seem to make further changes in FMVSS-222 highly desirable.

Unsupported arguments have been presented in an effort to prevent seat belt installation on school buses. Among these are:

1. Children can't handle the buckle adequately. (The American Academy of Pediatrics notes that all children, given their familiarity with seat belts and buckles, should be able to satisfactorily buckle and unbuckle seat belts.)
2. The buckles would entrap children and could leave them dangling from the ceiling in accidents in which the bus is overturned. (This is true, but it is still preferable for children to be strapped in rather than thrown out of the seat or the vehicle at the time of an accident.)
3. Wearing seat belts would produce internal injuries. (With the restraints presently available, any school aged child can safely wear a seat belt.)
4. Children could use the belts as weapons. (Children have much better weapons available, including lunch boxes and books. In addition, the newer, lightweight, smaller, retractable seat belts now available are unlikely to be effective as weapons.)

Based on a review of the available and extensive data, the American Academy of Pediatrics supports the following changes in School Bus Safety Standards:

1. **Seat backs** should be elevated to 28 inches. This is four inches above the height now mandated by federal regulations and will support and cushion a child's head and neck.
2. All seat backs and tops should be padded with firm materials that adequately absorb impact. The padding should completely cover the entire rear of the seat in addition to the top rail. The padding also should be placed on all stanchions and "modesty panels." Seat construction should be designed to eliminate sharp

"Seat belts should be required on all newly-manufactured school buses — regardless of their size and the number of pupils transported."

or unyielding objects that could cause or worsen injury.

3. Seat belts should be required on all newly-manufactured school buses — regardless of their size and the number of pupils transported.

4. Adequate and appropriate bus driver training should be mandatory in all school districts and should include provision for health screening on a periodic basis, including vision and hearing evaluations.

Committee on School Health

Joseph R. Zanga, M.D., Chairman
Michael A. Donlan, M.D.
Jerry Newton, M.D.
Maxine M. Sehring, M.D.
Martin W. Sklare, M.D.
John Trieschmann, M.D.

Liaison Representatives:

Janice Hutchinson, M.D., American Medical Association
Betty McGinnis, M.A., CPNP, National Association of Pediatric Nurse Associates and Practitioners
Marjorie Hughes, M.D., American School Health Association
Thomas Coleman, M.D., Section on Child Development
Jerry C. Jacobs, M.D., Section on Rheumatology
Charles Zimont, M.D., American Academy of Family Physicians

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Liaison Representatives:

Andre l'Archeveque, M.D., Canadian Pediatric Society
Gerard Breitzler, D.O., American College of Osteopathic Physicians
Jerry J. Foster, M.D., Section on Emergency Medicine
Joyce A. Scuild, M.D., Section on Otolaryngology
Chuck Williams, Product Safety Association

References:

1. Charles S. Shelness A: How Safe Is Pupil Transportation? Study of Laws, Regulations, and Practices in School Busing in the United States Carried Out by Physicians for Automotive Safety. Supplement to *Pediatrics* January 1970, Part II, 45:1
2. Protection for School Bus Occupants, Issue Paper, U.S. Department of Transportation, September 1981; 83:39-46
3. National Safety Council: School Bus Accidents, 1982. *Accident Facts*, 1983 ed., Chicago, IL, p. 92.

Date of approval by Executive Board: October 1984

Date of publication: February 1985

TABLE IV

SCHOOL BUS RELATED FATALITIES 1977-1983

	1977	1978	1979	1980	1981	1982	1983
Occupants of Bus	21	23	18	15	15	22	19
Killed by Own Bus	31	38	25	21	26	17	23
Killed by Vehicle	23	19	14	9	11	11	8

Source:

Kansas Department of Transportation
 Fatal Accident Reporting System (FARS), U.S. Department of
 Transportation, Washington, D.C.

Conclusions:

The number of deaths in each category per year are not significantly different, suggesting that no one category deserves more attention than another.

note: These statistics represent only a portion of the actual fatalities. Each state reports bus accidents differently, and most do not include fatalities which occur on field trips. The state of Alaska only reports school bus fatalities if four or more children are killed in the accident.

Cost of Seatbelts When ordered (Factory Installed) on
New School Buses

Wayne, Inc.
P.O. Box 1447, Richmond, IN 47374
317-962-7511
Attn: Bob Kurre \$ 1,175.

Carpenter Body, Inc.
Mitchell, IN 47446
812-849-3131
Attn: Larry Arnold \$ 1,650.

American Transp. Corp (Ward)
P.O. Box 849, Conway, AR 72032
501-327-7761
Attn: Jerry Williams \$2,000. (approx)

Blue Bird
P.O. Box 937, Ft. Valley, GA 31030
912-825-2021
Attn: RICHARD MADDOX \$ 1,870.

Es-Built Bus, Inc.
1408 Courtesy Road
High Point, NC 27260
919-989-4871
Attn: BOB PRICE \$ 1,400.

Superior Bus Co. (no longer active in market)

Note: All prices are based on 66 passenger school bus (\$30-35,000),
with installation of belts meeting the 222 seat standard as it is
All prices are subject to distributor's 10-15% markup. met in the
Type II
vehicle

Survey conducted by Barbara Russell, Regional Coordinator
for Ct., Nat'l Coal. for Seatbelts on School Buses
March 1985

BOARD OF EDUCATION

WEST ORANGE, NEW JERSEY 07052

TELEPHONE: 201-736-7900

Ext. 344

179 EAGLE ROCK AVENUE

Robert M. Brown
Transportation Coordinator

March, 1985

TO WHOM IT MAY CONCERN:

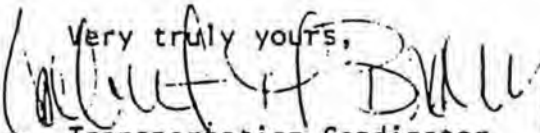
My name is Robert Brown, Transportation Coordinator for the West Orange Board of Education. I have had the experience of using school buses with seat belts, 28" high seat backs and roof hatches for the past school year.

I enthusiastically endorse the concept and urge school boards to implement seat belts, 28" high seat backs and roof hatches on all new school buses purchased in New Jersey.

I have heard all of the arguments offered in opposition to these important safety features and from experience on the road with the children in normal use we have experienced none of these imagined difficulties:

1. Seat belts are not being used as weapons. Fingers are not being caught as the buckles are push-button release type.
2. The children have learned to use them rapidly and free themselves with a flick of the wrist.
3. Discipline has simultaneously improved.
4. Insurance costs have not gone up.
5. In regard to the 28" high seat back, our drivers report no vision problem.

We are very pleased with seat belts, 28" high seat backs and roof hatches, more important is the knowledge that we are offering our children a far safer ride back and forth to school.

Very truly yours,

Transportation Coordinator



WILLIAMSON COUNTY HOSPITAL

1320 West Main Street, Franklin, Tennessee 37064 (615) 791-0500

March 26, 1985

Ilene Maslin
110 River Oaks Road
Brentwood, TN 37027

Dear Mrs. Maslin:

In December of 1984, two different school bus accidents occurred in Williamson County. A total of fifteen children were injured in these two accidents. On the basis of my observation of these children on arrival at Williamson County Hospital and from my personnel's descriptions of the mechanisms of injury, I feel that the majority of these injuries would not have occurred had the children been wearing seatbelts.

Sincerely,

A handwritten signature in cursive script that reads "Dakin Cook".

Dakin Cook
Director/Emergency Medical Services

DC:mwr

Box 225
Galena, Ak.
99741

Feb. 28, 1986

Representative Mike Navarre
Pouch V
State Capitol
Juneau, Ak. 99811

Dear Mr. Navarre:

Thank you so much for introducing House Bill #684 which would require seatbelts and ~~28~~ 35 inch high backs on all new school buses. I am Bridget Ernst's co-coordinator for the National Coalition For Seatbelts on School Buses and have been researching the subject for over two years. I am CONVINCED that seatbelts are necessary for the safety of our children.

I have enclosed a copy of my critique of the resolution issued by the Alaska School Bus Safety Committee, an explanation of why 28 inch high seatbacks are not in today's school buses, a copy of my speech at the Department of Education meeting last November in Anchorage and a few other odds and ends.

I have not included the latest comments on the Canadian studies, which I would be happy to forward to you if you wish. It may be that we can dispense with the Canadian Study altogether, as Mark Johnson called Grant Smith of Transport Canada (the Canadian DOT) to ask about Canada's plans to install belts in buses, and Mr. Smith said that the Canadian Study is being misrepresented in the United States and that those studies in no way suggest that seatbelts are dangerous on school buses. Both Bridget and I are trying to get this in writing.

I have a fairly concise statement of the seatbelt in school bus issue which I will send you as soon as I finish. Is there any other specific information which you could use? I have the NHTSA data base computer print outs--this is where the Tables come from. There are clearly 22 "compartmentalized" buses which have had 30 on-board fatalities from 1978-1983. I am trying to get the 1984 data, but NHTSA may have wised up and not send it to me. The accidents were not "catastrophic" in nature (where kids would have been killed belted or not) see Table II. More than half involved rollovers, or side impacts where belts may have prevented the fatalities. The National Transportation Safety Board has not investigated these accidents--I do not know why. There were 578 students who were involved in these 22 accidents who were not killed, and perhaps injured--this we also do not know --tho I am working on it.

I should also soon have a complete copy of 1978 DOT Sled Tests--the last crash tests of school buses done in the U.S. (I now have just a portion of the results). All buses tested failed the injury criteria for the child dummy and several failed for the adult dummies. Those which passed, because of lower head accelerations, did so because they took the impact in the uninstrumented neck, thus lowering head acceleration. The author warns of the potential injury--but this report was never even typed up--the final draft is in poor handwriting and ALMOST illegible. And the industry went right ahead with "compartmentalization" despite the test results--and have not crash tested a single school bus since.

Gov. Sheffield has recently asked DOE and Dept. Health and Social Services to resolve their differing positions on this subject--neither wants to give in.

We have no legislative office here in Galena anymore--can you help me track this bill? Also, what can I do to help? Write letters to legislators in the committees where the bill has to go? Write a general letter to all legislators? What info should I provide them with etc.

Again, thanks for introducing this most important bill.

Sincerely yours,



Laurel Osborne
Chairman, Galena PTSA Safety Committee
Regional Coordinator, National Coalition
For Seatbelts on School Buses



ROCHESTER GENERAL HOSPITAL

UNIVERSITY OF ROCHESTER
SCHOOL OF MEDICINE AND DENTISTRY



JOHN D. STATES, M.D.
CHAIRMAN AND PROFESSOR
DEPARTMENT OF ORTHOPAEDICS

DOCTOR'S OFFICE BUILDING
1445 PORTLAND AVENUE
ROCHESTER, N.Y. 14621
(716) 338-4700

December 26, 1984

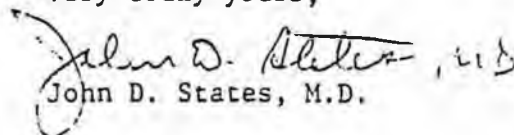
Mrs. Carol Fast, Director
National Coalition for Seatbelts on School Buses
11 Orlando Avenue
Ardsley, N.Y. 10502

Re: Seat Strength for Safety Belt Installation in School Buses
Meeting FMVSS 222

Dear Mrs. Fast:

Contractors providing school buses to users are currently objecting to the installation of safety belts in buses meeting Federal Motor Vehicle Safety Standard 222 because they believe the seats are not sufficiently strong to accept the loads imposed by the belts in a collision. I have reviewed the federal motor vehicle safety standards including 208, 209, 210 and 222, and have examined buses manufactured by Wayne, Thomas and Carpenter which meet FMVSS 222. It is noteworthy that FMVSS 222 requires that the seats provide restraint for the occupants in a headon collision configuration. This restraint is provided by the seat backs which are impacted by the forward moving passengers in a headon impact collision. Based on this strength and performance requirement and my examination of the actual seats in buses manufactured by Wayne, Thomas and Carpenter, I find that the seats are sufficiently strong enough to take the loads imposed by safety belts because they are all ready required to provide restraint through the seat backs for the passengers. The loads may be actually reduced somewhat by the use of safety belts because the moment arm with respect to the floor mounts is shorter thus reducing the peak loads imposed on the seat structures and floor mounts. I can only conclude that the seats in school buses meeting FMVSS 222 have sufficient strength to permit the installation of safety belts.

Very truly yours,


John D. States, M.D.

JDS/rmk

xc: Mrs. Laura G. Schwarz
Mrs. Martha Spital
Dr. Arthur Yeager

ALASKA MOTOR COACHES, Inc.



P.O.Box 952, Delta Junction, Alaska 99737

Telephone (907) 895-4550

March 28, 1986

Dear Dick,

I wasn't sure if we'd be seeing you over the Easter holiday so figured I'd just send this on down to be sure you got it.

As you probably already know, we are opposed to HB 684. We believe that the post-1977 school bus, with compartmentalized seating, is safer for our passengers than lap belts would be. Romayne Kareen of the Department of Education has accumulated reams of material about seat belts in school buses and I hope this has been made available to the House Transportation Committee.

We were dismayed to learn that the Fairbanks North Star Borough School Board voted to install belts on their buses. Unless those buses are already equipped with seats designed to accept seat belts, they're asking for trouble.

The Delta LIO informed me that the House Transportation Committee will be having a hearing via teleconference on HB 684 between 7 and 7:45 am on Wednesday, April 2. At that hour on Wednesday, April 2, I will be busy with getting The Delta Paper distributed and probably also getting ready to drive my school bus route.

I ask that you please view the enclosed VHS video tape at your convenience -- perhaps other members of the committee would like to see it as well -- and consider this as my testimony on 684.

Realize, please, that this tape was prepared by a bus manufacturer. All buses, regardless of the brand name, must meet the same rigid standards. Thomas buses are no better, nor worse, than Blue Bird, Carpenter, Ward, Wayne, etc. And I would also point out that we are discussing the large school bus, not the mini buses like van conversions or vans. All of us feel that belts are needed in these smaller vehicles because they are structurally more like automobiles; especially the van types!

The seat-belts-in-school-buses proponents are vocal and so very emotional in their presentations. They are especially fond of citing deaths and injuries of children and only when asked pointed questions do they reveal that they're talking about unbelted kids in cars!

Specializing in Safe, Dependable School Transportation Since 1956

At the End of the Alaska Highway

Dick Shultz
March 28, 1986

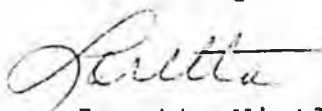
Page 2

The majority of children who are injured and killed in accidents involving school buses or the loading zone, are injured or killed OUTSIDE the bus. A seat belt will NOT do a thing for a kid who's hit by a car while playing in the road at a school bus stop.

Motorists need to be educated about driving with caution near school bus stops. Students need to be educated about safe waiting and safe walking habits. Better school bus driver training will help prevent accidents.

I thank you for your time in reading this and in viewing this tape. Please contact me if there's anything else I can do. I would hate to see Alaska knuckle under to the emotionalists when there are good and valid arguments against seat belts in large school buses.

Sincerely,



Loretta Nistler

P.S. If I'm reading 684 correctly, it only seeks to have seat belts on district-owned or district-leased school buses; it does not appear to apply to buses for which a district contracts with a private contractor. Odd wording, since Alaska has both district-operated and contractor-operated school transportation. Contractor-operated buses are not "leased" to the state or a school district.



April 2, 1986

Representative Cato:

Thank you for the opportunity to testify in support of HB 684.

The following is an example of an actual accident where seat belts on a large school bus were life saving (Child Passenger Protection Report, Spring/Summer 1985):

NHTSA Campaign Update Bus Accident Shows Belts Protect

On April 15, 1985, in Palmetto, Florida, a heavily laden dump truck struck a large school bus, flipping the bus onto its roof. Four of its six occupants—the ones wearing belts—walked away from the crash. The other two, an adult monitor who was not wearing a belt, and a handicapped child restrained in his wheelchair with straps with velcro closures were admitted to the intensive care unit of the local hospital with head injuries. One other child restrained in a wheelchair with a safety belt was among the uninjured. The bus was equipped with belts because it was used for transportation of the handicapped. The Florida Highway Patrol has issued an affidavit stating that the use of belts prevented injuries to those using them.

I urge the State of Alaska to make seat belts on school buses a priority as a positive step, rather than in reaction to a serious accident.

I disagree with the gentleman who stated that putting seat belts on our school buses may not save a single life. Motor vehicle accidents remain the number one killer of children and adults (up to the age of 38). It has been statistically proven that seat belts can reduce fatalities and serious injuries by 50-60%. The carry over effect of buckling up twice a day on the school bus is immeasurable. Seat belts on school buses will not only keep our children safe while being transported to and from school, it provides an opportunity to reinforce a habit that may keep the same persons safe into adulthood.

①


Page 2.

The School Bus Committee of the Fairbanks Child Passenger Safety Association has received the following local endorsements in support of seat belts on school buses:

Fairbanks Medical Association
MADD, Norther Lights Chapter
Alaska Nurses Association, Fairbanks Chapter
North Central Alaska Dental Society

We have also collected over 700 signatures in support of this issue.

I would like to thank you and the Committee again, for the opportunity to address this important issue via teleconference. Please call upon our organization if we can be of further assistance.



Beth H.K. Lauesen
Project Director
Fairbanks Child Passenger
Safety Association

enclosure

②

NHTSA Campaign Update Bus Accident Shows Belts Protect

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Canadian Study Rebutted

The National Coalition for Seatbelts on School Buses has published a position paper on the 1984 Canadian school bus crash study which has been causing a stir around the country. It is available from the Coalition, PO Box 781, Skokie, IL 60076.

More Communities to Belt Pupils

The number of school districts with belts on their buses in Westchester County, NY, will grow from two this year to 14 in upcoming school year. Eighty-seven buses in Fairfax County, VA, will have belts, and the Montgomery County, MD, board of education is reviewing the equipping of its new buses with belts.

The Price Is Right

Barbara Russell, Connecticut Regional Coordinator for the National Coalition for Seatbelts on School Buses surveyed the major school bus manufacturers in March, 1985, regarding factory installation costs of belts on new buses. Here are her findings:

Wayne, Inc.	\$1,175
Carpenter Body, Inc.	\$1,650
Ward	(approx.) \$2,000
Blue Bird	\$1,870
Thomas-Euilt Bus, Inc.	\$1,400

Fix for Locking Belts, from p. 5

The agency is therefore proposing that lap belts or the lap portion of lap-shoulder belts that utilize ELRs in any designated seating position other than the driver's "shall be equipped with a locking means to permit secure restraint of child restraint devices." This is feasible, as there are devices now available that would serve this purpose.

The ruling makes a crucial exception for *right front-seat manual lap-shoulder belts in passenger cars*, because the agency reasons that it should not require manufacturers to modify belts that are going to be phased out as automatic restraints are phased in. This means that all the passenger cars made between now and 1989 (or after, should the automatic restraint requirements be cancelled), which are required by the same standard to be equipped with ELRs for their front seat belts, will come off the assembly line with the same compatibility problems that parents face today.

This rule also would apply *only* to lap belts that are installed for compliance with FMVSS 208, meaning that those used in air-bag equipped cars to meet lateral and roll-over requirements would have to comply, while those installed in conjunction with a single diagonal automatic belt would not have to, as the automatic belt would, itself, fully meet the 208 requirements. This appears contradictory, because child restraints placed in the front seat of either type of automatic restraint-equipped car would need the same lockable belt (see previous story, p. 5).

The bottom line is that the rear seat lap belts of cars made after September 1, 1986 and front seat lap belts will have locking mechanisms added. While this will be of some benefit, it does not go far enough. NCPSA has responded to the proposal by calling on the agency to expand the requirement to include front seat manual lap/shoulder belts and manual lap belts used with automatic belts. The association has also notified all child restraint manufacturers of the rule-making and its potential significance for the compatibility of child safety seats and safety belts.

Congressional Flack for Safety Agency

Both Senate and House members are showing their irritation at the National Highway Traffic Safety Administration's (NHTSA's) handling of the occupant protection standard, FMVSS 208. When questioned during recent authorization hearings in the House, NHTSA Administrator Diane Steed was unable to cite any precedent for states' action causing rescission of a federal rule, as 208 allows. Steed said that NHTSA would not certify any of the state mandatory belt use laws for compliance with FMVSS 208 at this time, saying that the agency wants to see how the laws will be enforced. Rep. John Bryant (D-TX) called the agency's position "preposterous" and decried the situation in which NHTSA could "rig" the rules to accept any law and cancel the automatic protection rule.

In the Senate, a bill requiring manufacturers to install air bags has been introduced by Senator Jack Danforth (R-MO), co-sponsored by Frank Lautenberg (D-NJ), Slade Gorton (R-WA) and Daniel Moynihan (D-NY). Danforth called the kind of weak seat belt use law passed in Missouri "a hoax [that] breeds contempt for the law." He does not want the Department of Transportation to "bury air bags for good by approving toothless state safety belt laws."

Statue Report, May 25, 1985

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American Academy of Pediatrics



TESTIMONY

BEFORE THE
SUBCOMMITTEE ON TRANSPORTATION
COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

ON

MANDATORY SEAT BELTS IN SCHOOL BUSES

PRESENTED BY

Joseph R. Zanga, M.D., F.A.A.P.

MAY 1, 1985

Office of Government Liaison
1331 Pennsylvania Avenue, N.W.
Suite 721 North
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4

APR 04 1986

Box 225
Galena, Alaska
99741

April 2, 1986

Representative Bette Cato
Chairman, House Transportation Committee
Alaska State Legislature
P. O. Box V
Juneau, Alaska 99811

Dear Representative Cato:

Thank you very much for the opportunity to testify before the Transportation Committee today.

As per your request I have enclosed a copy of my testimony.

I have also enclosed a copy of the data referred to in my testimony by Fairbanks residents (Table III). Copies of computer print-outs of the data base for Tables I, II, and III are in my files.

I realize that liability and legal precedent may also be a concern, though this has not proved to be a problem for districts with small and mid-sized school buses equipped with seat belts. I have enclosed a recent letter from the law firm Sherman and Howard to the Denver Board of Education which addresses these concerns.

With respect to seat strength, the Federal Standard states:

"The seat is strong enough to take the force of occupants against the seat back if no belts are utilized, or the force of occupants against seat belts if occupants are restrained by belts attached to the seat frame through the anchorages provided."

However, most bus manufacturers, when installing belts at the factory, use a specially strengthened seat. This is the same seat that is used in small and mid-sized buses (which have been required to have seat belts since 1977). This seat meets Federal Motor Vehicle Safety Standards No. 208, 209 and 210. The seat of a large school bus does not have to meet this standard.

* PLEASE AMEND SECTION 1, ARTICLE 3 TO READ:

(3) meet the Federal Motor Vehicle Safety Standards and Regulations, numbers 208, 209 and 210.

In this way, you will be assured that the manufacturer will provide the strongest seat and anchorages available. I have enclosed a copy of New Hampshire's bill and a copy of the Standards.

If I can provide you with any additional information, please do not
hesitate to contact me.

Sincerely yours,



Laurel Osborne
Chairman, Galena PTSA Safety Committee
Regional Coordinator, National Coalition
For Seatbelts on School Buses

contact phone: 656-1345

Testimony Given In Favor of House Bill 684
Alaska Legislative Teleconference--April 2, 1986

by Laurel Osborne

I am a mother of two girls who ride a school bus every day. I became affiliated with the National Coalition for Seatbelts on School Buses in an effort to make our school bus safer.

I am very concerned by statements made by the pupil transportation industry that "compartmentalization provides ADEQUATE protection and has been PROVEN effective in crash tests.

This statement is INCORRECT.

Compartmentalization, as it exists today, has little resemblance to the original concept created by UCLA in 1968. That seat had a 28 inch high back for whiplash protection, padded side walls and side arms AND seatbelts. The compartmentalized seat specified in the Federal Standard of 1977 is little more than a padded bench seat and may NEVER have been adequately tested. In tests conducted by the United States Department of Transportation in 1978, the seats of all 6 makes of buses FAILED the injury criteria for the child dummy.

The author stressed that more testing was IMPERATIVE. Unfortunately these crash tests were the last ever done on school buses by the United States government.

The National Highway Traffic Safety Administration stated in 1985 that school buses which were compliance tested in 1977 passed the Federal standards. However this agency cannot or will not provide a schedule

of compliance testing of school buses SINCE 1977 and it is likely that none has occurred.

It is unrealistic to expect that the Federal Government will crash test school buses to determine the effectiveness of seatbelts. If they have not crash tested ANY school buses to determine the effectiveness of the standard in EIGHT YEARS.

Data shows that 30 students and drivers have died in compartmentalized school buses since 1977. Most of the accidents involved side impacts and/or rollovers (Table I and Table II). Compartmentalization failed to protect the occupants.

Compartmentalization also did not work in tests performed by the Canadian Government in 1984.

Three out of 11 unrestrained dummies landed in the aisle and one was thrown through a restraining barrier and landed upside down on the door opening mechanism.

Uncertified dummies with exceptionally stiff necks were used in these tests. Seatbelts were fastened but never tightened, thus allowing belted dummies to slide 10 INCHES on the seat before contacting the seatbelt. This slide may have contributed to the head injuries experienced in the smaller buses.

Despite the built-in biases of these tests, the belted dummies in the LARGE school bus outperformed their unrestrained counterparts, one of which received a fatal chest injury.

The most serious question raised by the Canadian tests is WHY DID ALL 3 BUSES TESTED SUFFER MAJOR STRUCTURAL FAILURES? Fuel systems failed, the driver space was obliterated, windows shattered, and restraining barriers tore loose. These buses were all post-1977 buses and SHOULD have met Federal standards.

The intense opposition to seatbelts on school buses by the pupil transportation industry MAY BE MORE OF AN OPPOSITION TO THE SCRUTINY OF SCHOOL BUS STRUCTURAL INTEGRITY which could accompany the installation of seatbelts. If a school bus fails to meet the standards, the Federal Government may ask a manufacturer to recall and fix all buses produced since the previous compliance testing. If the previous compliance testing was in 1977, a recall could have a serious financial impact upon the industry.

I would like to remind legislators that seatbelts are required equipment in all cars and trucks. The Federal Government has required seatbelts in SMALL AND MID-SIZED SCHOOL BUSES SINCE 1977. In these smaller buses, seat spacing is the SAME as in large school buses. The combination of lap belts and closely spaced seats has proved compatible for nearly 10 years on small and mid-sized school buses.

I thank the members of the House Transportation Committee for giving me the opportunity to speak to you. You CAN make the difference. You can decide to provide seatbelts in school buses--and so provide the restraints which are available in EVERY OTHER type of vehicle on the road--and which are ESSENTIAL to the survival of a child in a school bus crash.

TABLE I

SCHOOL BUS OCCUPANT FATALITIES

TYPE I LARGE SCHOOL BUSES--PRE-1977 AND POST-1977

	1977	1978	1979	1980	1981	1982	1983
Drivers	0	3	5	1	2	0	2
Passengers	15	16	12	13	10	10	15
Total	15	19	17	14	12	10	17
Grand total: 104 fatalities							

SCHOOL BUS OCCUPANT FATALITIES

TYPE I LARGE SCHOOL BUSES--POST-1977 "COMPARTMENTALIZED" BUSES

	1977	1978	1979	1980	1981	1982	1983
Drivers	0	2	1	0	2	0	1
Passengers	0	1	3	4	4	6	6
Total	0	3	4	4	6	6	7
Total: 30 fatalities							

Source:

Fatal Accident Reporting System Data Base
 For Accidents Involving a School Bus or Vehicle Used As a
 School Bus When An Occupant Died in the Accident File
 U.S. Department of Transportation, Washington, D.C.

Conclusions:

30/104 or 29% of all large school bus fatalities have
 occurred on "compartmentalized" buses.

TABLE II

SCHOOL BUS OCCUPANT FATALITIES BY TYPE OF IMPACT
FOR ACCIDENTS INVOLVING "COMPARTMENTALIZED" POST-1977
LARGE SCHOOL BUSES

Year of Accident	Year of Bus	State	Occupant	Type of Accident
1978	1977	NC	Driver	Side Impact
1978	1977	PA	Driver	Head-On
1978	1977	TX	Passenger	Sideswipe/Overturn
1979	1977	IL	Driver	Railroad Train
1979	1977	LA	Passenger	Hit Tree
1979	1977	MN	Passengers(2)	Rear-End/Overturn
1980	1978	GA	Passenger	Fell From Bus
1980	1978	OH	Passengers(2)	Rear-End
1980	1978	TX	Passenger	Hit Utility Pole
1981	1978	PA	Driver	Side Impact
1981	1978	TX	Passengers(3)	Overturn
1981	1977	AL	Passenger	Overturn
1981	1978	MI	Driver	Side Impact/Overturn
1982	1978	GA	Passenger	Side Impact
1982	1982	GA	Passenger	Head-On/Rollover
1982	1978	LA	Passenger	Side Impact
1982	1981	MO	Passenger	Hit Culvert/Overturn
1982	1977	TX	Passenger	Sideswipe/Overturn
1982	1981	MS	Passenger	Side Impact
1983	1982	NY	Driver/ Passengers(4)	Sideswipe
1983	1977	OH	Passenger	Overturn
1983	1978	TX	Passenger	Head-On

Source:

Fatal Accident Reporting System Data Base
For Accidents Involving a School Bus or Vehicle Used as a
School Bus When an Occupant Died in the Accident File (1977-1983)
National Highway Traffic Safety Administration
Department of Transportation, Washington, D.C. 20590

REFERENCES

Severy, Derwyn M., Brink, Harrison M., and Baird, Jack D. "School Bus Passenger Safety." Institute of Transportation and Traffic Engineering, University of California at Los Angeles, Society of Automotive Engineers, Inc., Transactions Vol. 76, paper 67004. New York, 1967.

Transport Canada. "School Bus Safety Study", Volume I. Report. Prepared by G. M. Farr, Automotive Safety Engineer, Crashworthiness Section, Ottawa, January 1985.

U. S. Department of Transportation, National Highway Traffic Safety Administration, "School Bus Passenger Seat and Lap Belt Sled Tests. DOT HS-804 985, Washington D. C. 1978.

TABLE III

SCHOOL BUS OCCUPANT FATALITIES BY TYPE OF IMPACT
FOR ACCIDENTS INVOLVING SMALL, MID-SIZED AND LARGE SCHOOL BUSES
1977-1983

Type of Impact	Total No. Fatalities	Secondary Overturn	Ejection
Head-On	1 (.8%)	2	1
Hit tree, pole	11 (8%)	2	1
Culvert, Ditch	22 (17%)	12	0
Embankment	4 (3%)	3	3
Shoulder	1 (.8%)	0	0
Rear-End	16 (12%)	2	1
Side-Swipe	10 (8%)	3	1
Side Impact	26 (20%)	8	6
Railroad Train	3 (2%)	2	1
Fell From Bus	12 (9%)	0	5
Injured in Bus	1 (.8%)	0	0
Primary Overturn	16 (12%)	-	7
	Total 133	34	26 (20%)
		Primary Overturn 16	
		Total Overturn 50 (38%)	

Source:

Fatal Accident Reporting System Data Base
For Accidents Involving a School Bus or Vehicle Used As a
School Bus When An Occupant Died in the Accident File (1977-1983)
National Highway Traffic Safety Administration
U.S. Department of Transportation, Washington D.C.

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February 11, 1986

Denver Board of Education
Denver Public Schools Administration Building
900 Grant Street
Denver, Colorado 80204

Re: School Bus Seat Belts

Ladies and Gentlemen:

We have been asked by our client, Coloradans for Seat Belts on School Buses, to address certain liability issues relating to the installation of seat belts in the new school buses to be purchased this year. We understand that earlier administrators' recommendations to include seat belts have been questioned because of the Board's concern that the fact belts were installed could expand the District's potential liability if students failed to wear the belts properly.

Two Colorado Court of Appeals cases have triggered this concern. One involved a child injured while riding a bicycle home from school contrary to a school policy that permitted only older students to bicycle to and from school.¹ The second involved a kindergarten student injured as she crossed a sometimes guarded intersection that was unguarded at the time of injury.² In each of these cases the trial judge found so little merit in the claims against the school district involved that he did not allow the case to be determined by the jury. The Court of Appeals decision in each was not a decision to impose liability upon the school district; rather, that Court merely decided that the trial court should have permitted the question of liability to be determined by the jury.

It is certainly possible that juries would find liability against school districts under the facts such as those presented in these two cases. Both involved the application of school safety policies: a policy restricting the ages of students allowed to bicycle to school and a policy concerning guarding of crosswalks. Both also involved students among the youngest in

Sherman & Howard

Denver Board of Education
February 11, 1986
Page 2

the school system: a kindergartner and a first grader. It is important to realize, however, that lawsuits likely would have been brought and liability possibly imposed as a result of these accidents even in the absence of these school policies on the theory that safety policies should have been in place.

If a child is killed or injured in a school bus accident, an ambitious personal injury lawyer might attempt to find some way of holding the school board liable. He might assert that when a school district transports pupils it has a duty to do so with reasonable safety.³ Despite the unworkability of doing so, the District might be held to a standard of care commensurate with the age and experience of each of the pupils riding a bus.⁴ The plaintiff's attorney might try to find fault with the way the bus was driven, designed and maintained, with the quality of supervision on the bus and with the way in which students were instructed in the use of safety equipment. If the bus is lacking in safety equipment, that fact could well be raised as an issue in the suit (as it has been raised many times before).

We have conducted a computerized search of reported cases from around the country and have found none in which a school district was held liable because a student failed to buckle a seat belt which was provided.⁵ Further, none of the articles we have consulted describes such a case.⁶ Several cases have held airlines negligent when pilots failed to warn passengers to buckle up because of turbulent weather ahead.⁷ A California appellate court has held that a taxicab company could be held negligent when seat belts installed in its cab slipped behind the seat so that the passenger could not use them.⁸ However, common carriers such as taxicab companies and bus lines may also be subject to liability if they fail to install seat belts and the jury decides that such failure amounts to negligence.⁹ In other words, when scrutiny is very strict, failure to provide seat belts leads to a question of negligence just as failure to make people buckle up may.

Although a school district may not be held to the high standards to which a common carrier is held,¹⁰ if the court allows the jury to decide the amount of care that should be taken, a case could just as well be based on the question of whether seat belts should have been installed when they were not as on failure to insist on proper use if they were installed.¹¹ The two Colorado cases that have caused the Board concern suggest that courts are willing to allow increasingly close jury scrutiny of school district actions, both in terms of that which was done

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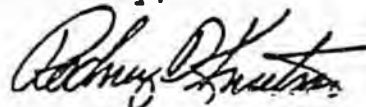
Denver Board of Education
February 11, 1986
Page 3

and that which was left undone. In a case of injury that reaches the jury, we believe it would be persuasive to argue that the school installed safety equipment, taught students how to use such equipment, and urged them to do so. Further, it would not be in the District's best interest for the jury to perceive that safety equipment was omitted because the school district felt that policy would lessen liability or costs.¹²

It also appears likely that the District would decrease its liability exposure if it equipped new buses with seat belts. First, the children wearing seat belts may be less likely to be injured, thereby reducing the total number of plaintiffs. Second, the trend across the country appears to require buses to be equipped with seat belts. If this becomes the standard practice, the argument for liability on a non-equipped bus would be primarily that the District had failed to meet this standard. Since any such standard would surely first arise with respect to new buses, any minimal protection the district might achieve for old buses by leaving belts out of new ones would almost certainly be outweighed by increased exposure were a new, unequipped bus to be involved in a crash. It would, we feel, be much better to argue to a jury that safety devices were being added in a rational and orderly way than to be perceived, whether correctly or not, as omitting them in an effort to avoid liability on a somewhat dubious legal argument.

In sum, we find it difficult to imagine the Board adopting a policy not to use safety goggles in laboratory or shop classes merely because a small number of students occasionally do not use or misuse the equipment. Similarly it seems unlikely that safety equipment such as helmets or face masks for students involved in sports would be eliminated for fear that occasional misuse or nonuse of these items could somehow expand school district liability. Clearly the potential liability for failure to provide the safety equipment has always been perceived to outweigh any concerns over potential school district exposure for isolated abuses of the policies requiring the safety equipment. We are not aware of any legal reason to treat seat belts on school buses differently.

Sincerely,



Rodney D. Knutson

RDK:ld

Attachment: Footnotes

Sherman & Howard

Denver Board of Education
February 11, 1986
Page 5

- 1 Justus v. Jefferson County School Dist. R-1, 683 P.2d 805, 806 (Colo. App. 1984), cert. granted (Colo.) June 25, 1984.
- 2 Gilbert v City of Arvada, 694 P.2d 847, 848 (Colo. App. 1984), cert. granted (Colo.) Jan. 14, 1985.
- 3 There appear to be no Colorado cases saying this in so many words. However, a California court has stated this essentially self-evident truth as follows:

A school district is under no legal duty to supply transportation to its pupils. Once it does so, no one would deny a concomitant obligation to provide a reasonably safe system. Statutory, administrative and judicial expressions demonstrate concern for the safe operation of vehicles engaged in the important business of transporting school children.

31 Cal. Rptr. 847, 853 (Cal. Dist. Ct. App. 1963) (citations omitted). Statutory and administrative expressions of concern for pupil safety in transit appear in C.R.S. §§ 22-51-107, 108 (1985 Supp.) (requiring compliance with safety standards to be set by the Commissioner of Education before a district may participate in the Public School Transportation Fund) and I.C.C.R. §§ 301-25, -26 (setting standards for the construction and operation of school buses). See also Pratt v. Robinson, 336 N.Y.S. 2d 612, 613 (Sup. Ct. 1972) (duty exists, but does not extend beyond point where students leave the bus).

- 4 There is a conflict as to the degree of care required; some authorities require the degree of care required of a common carrier, others require only ordinary care, but taking into account the youth of the students. See generally Annotation, Tort Liability of Public Schools and Institutions of Higher Learning for Accidents Associated With the Transportation of Students, 34 A.L.R. 3d 1210, 1221-22 (1970 & 1985 Supp.). See also 78 C.J.S. Schools and School Districts § 1338 at 1337-39 (discussing the standard of care required of the driver).
- 5 The only case that is arguably close is one in which the school district failed to use a wheelchair tie-down mechanism provided on the bus. Gen. Accident, Fire & Life Assurance Corp. v. Fountain, 112 S.E. 2d 630 (Ga. Ct. App. 1959), rev'd 114 S.E. 2d 120 (Ga. 1960). However, this question was not

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Denver Board of Education
February 11, 1986
Page 6

the central issue in the case. In any event, wheelchairs are plainly a special case. Colorado requires tie-down mechanisms in vehicles intended to carry disabled students. 1 C.C.R. § 301-25(96).

- 6 Annotation, Tort Liability, supra note 4 at 1230-36. See also Annotation Personal Liability of Public School Executive or Administrative Officer in Negligence Action for Personal Injury or Death of Student. 35 A.L.R. 4th 272 (1985 & Supp.).
- 7 Annotation, Liability of Owner or Operator of Motor Vehicle or Aircraft for Injury or Death Allegedly Resulting From Failure to Furnish or Require Use of Seat Belt. 49 A.L.R. 3d 295, 302-04 (1973 & 1985 Supp.).
- 8 McNeil v. Yellow Cab Co., 147 Cal. Rptr. 733 (Cal. Ct. App. 1978). See also Twohig v. Briner, 214 Cal. Rptr. 729 (Cal. Ct. App. 1985) (jury issue of negligence when private vehicle owner removed seat belts from her car).
- 9 Greyhound Lines, Inc. v. Superior Court, 83 Cal. Rptr. 343 (Cal. Ct. App. 1970) (passengers in a bus crash); Tiemeyer v. McIntosh, 176 N.W. 2d 819 (Iowa 1970) (failure to install seat belts in a taxi cab is not negligence as a matter of law, but presents an issue for the finder-of-fact; here, the trial judge's finding that the defendant was not negligent as a

HE 252-FN

STATE OF NEW HAMPSHIRE

In the year of Our Lord one thousand
nine hundred and eighty-five

AN ACT

requiring school buses used in the state which are
manufactured after January 1, 1986, to be equipped with seat
belts and with seat backs elevated to 28 inches.

Be it Enacted by the Senate and House of Represen-
tatives in General Court convened:

1 School Bus Design Requirements. Amend RSA 266:62 as inserted by
1981, 146:1 by striking out said section and inserting in place thereof the
following:

266:62 School Bus Design Requirements and Rules.

I. School Bus Design Rules. The director shall adopt, pursuant to
RSA 260:5, and shall enforce all needful rules to govern the design of all
school buses used for the transportation of school children when owned and
operated by any school district, publicly or privately owned, or operated
while under contract in this state.

*II. All school buses manufactured after January 1, 1986, purchased
or contracted for use in the state shall be equipped with individual seat
belts for each occupant that meet the Federal Motor Vehicle Safety
Standards and Regulations, numbers 208, 209 and 210. The seat backs on
such school buses shall be at least 28 inches in height.

Attach. 1
Apdx. 1
ORDER 11-4

July 1, 1977

Standard No. 124 - Accelerator Control Systems

This standard establishes requirements for the return of a vehicle's throttle to the idle position when the driver removes the actuating force from the accelerator control, or in the event of a breakage or disconnection in the accelerator control system.

Standard No. 205 - Glazing Materials

This standard specifies requirements for all glazing materials used in windshields, windows, and interior partitions of motor vehicles. Its purpose is to reduce the likelihood of lacerations to the face, scalp, and neck, and to minimize the possibility of occupants penetrating the windshield in collisions. It requires, among other things, that windshields be of a type that tend to cushion those that impact them, rather than allowing head penetration and even decapitation - a problem with older windshields. An amendment to this standard added two new categories of glazing materials, amended the certification requirements, and made minor changes to the chemical resistance tests.

Standard No. 207 - Seating Systems

This standard establishes requirements for seats, their attachment assemblies, and their installation to minimize the possibility of failure as a result of forces acting on the seat on vehicle impact. This standard was amended, effective January 1, 1972, to extend applicability to the driver's seat of buses.

* Standard No. 208 - Occupant Crash Protection

This standard amends Standard No. 208, Seat Belt Installations, by specifying requirements for both active and passive occupant crash protection systems for passenger cars, multipurpose passenger vehicles, trucks and buses. Effective January 1, 1972, passenger cars were required to have improved safety belt systems which incorporate automatic adjuster, single point release and a belt use warning system. Effective August 15, 1973, passenger cars were required to provide occupant crash protection for front seating positions by passive means that require no action by vehicle occupants or to provide belt starter interlock systems. Light trucks and multipurpose passenger vehicles were required to have one of these systems after August 15, 1975. An amendment disallowed the starter interlock systems and established requirements for a visual signal, a "Fasten Seat Belt," sign and an audible signal that operates for a 4- to 8 second period after the ignition is operated, effective February 25, 1975, for passenger cars and January 1, 1976 for multipurpose passenger vehicles and light trucks. A recent amendment continues present options for occupant protection in passenger cars until August 31, 1976.

July 1, 1977

Attach. 1
Apdx. 1
ORDER 11-4

* Standard No. 209 - Seat Belt Assemblies

The National Bureau of Standards, Standards for Seat Belts for Use in Motor Vehicles, was originally incorporated only by reference to this standard. On December 24, 1968, the specifications were made a part of this standard. In order to mitigate the results of an accident to a person in a motor vehicle, the standard specifies requirements for seat belt assemblies. The requirements apply to straps, webbing, or similar devices as well as all necessary buckles and other fasteners, and all hardware designed for installing the assembly in a motor vehicle. This standard was amended to upgrade webbing abrasion, buckle crush and emergency locking requirements. It was further amended to reduce the minimum retraction force required of emergency-locking retractor force.

* Standard No. 210 - Seat Belt Assembly Anchorages

This standard specifies the requirements for seat belt assembly anchorages to insure effective occupant restraint and to reduce the likelihood of failure in collisions. Included is a requirement for anchorages for lap and upper torso restraint belts in all forward facing outboard seats (four in standard sedans). This standard was amended extending the requirements to driver's seats in buses and upgrading the test requirements effective January 1, 1972.

Standard No. 217 - Bus Window Retention and Release

This standard establishes minimum requirements for bus window retention and release to reduce the likelihood of passenger ejection in accidents and enhance passenger exit in emergencies. The effective date is September 1, 1973. The standard was amended to exempt certain buses manufactured for the purpose of transporting persons under physical restraint and to clarify marking requirements. It was amended further to require that each school bus have an interlock system which will prevent the engine from starting if an emergency door is locked and an audible warning system which will sound an alarm if an emergency door release mechanism is not closed while the engine is running, effective October 26, 1976.

Standard No. 219 - Windshield Zone Intrusion - Rule (PC (9/1/76). MPV & TR, B of 10,000 lbs. or less GVWR - 9/1/77

The purpose of this standard is to reduce crash injuries and fatalities that result from occupants contacting vehicle components displaced near or through the windshield. The standard regulates the intrusion of vehicle parts from outside the occupant compartment into a defined zone in front of the windshield during a frontal barrier crash test. An amendment changed effective dates as noted above, substituted the term "daylight opening" for "windshield opening."

INTRODUCTION OF BILLS, (House)

Elections
(miscellan.
changes)

HOUSE BILL NC. 682, by Rep. Jenkins. Makes miscellaneous changes to the election code. Under Rep. Jenkins bill:

--a candidate would have to report contributions in excess of \$300 (currently must report contributions in excess of \$100);

--the Alaska Public Offices Commission (APOC) would have to have probable cause to examine papers, books, accounts, etc., of a candidate;

--persons believing violations of campaign law have occurred could file a complaint with the commission and the commission could investigate if it found there was a substantial reason to believe a violation had occurred. If the commission judged a violation had occurred it would immediately report it to the attorney general.

--two or more groups that share a common officer shall be treated as a single group for the purpose of determining whether the group has receive contributions during the year exceeding \$2,500;

--municipal candidates would have 15 days to file the name of the campaign treasurer (currently 7);

--a candidate would have 72 hours to report the death, resignation or removal of a campaign treasurer (currently 48);

--raises amount an individual could contribute to a campaign to \$2,500 (currently \$1,000); groups other than political parties could not contribute any more than \$5,000 to a single candidate. Nothing prohibits a candidate from contributing more than \$2,500 of his own money.

Makes other miscellaneous changes.

Introduced February 17 and referred to State Affairs, Judiciary, Finance.

Fishing Boat
Registration

HOUSE BILL NO. 683, by Rep. Herrmann. Would allow a person to register only one fishing vessel for the commercial capture of salmon for each limited entry permit or interim-use permit held by the person, but the Dept. of Fish and Game would have to adopt regulations providing for the registration of another vessel if the registered vessel sinks, suffers irreparable damage, or incurs mechanical or other problems that make it impossible to continue operations with the vessel. Provide Act takes effect January 1, 1987.

Introduced February 17 and referred to the Special Committee on Fisheries, Resources, Judiciary.

School Vehicle
Safety

HOUSE BILL NO. 684, by Reps. Navarre & M. M. Miller by request. School buses or other vehicle for transporting children purchased or leased after this bill takes effect by the state or a school district would have to be equipped with seatbelts, or if used for children under four, with car seats. The number of seatbelts or car seats in each vehicle would have to be equal to

INTRODUCTION OF BILLS, (House)

HB 684, (cont'd)

the seating capacity of the vehicle. The buses would also have to have back seats meeting specified standards, and comply with safety standards of the U.S. Dept. of Transportation for school vehicles. Vehicles could be exempted to the extent necessary to accomodate wheelchairs.

Introduced February 17 and referred to Transportation, HESS, Finance.

Patronizing
a Prostitute
(crime of)

HOUSE BILL NO. 685, by Reps. Jenkins, Pearce and Hanley. Makes it a crime of patronizing a prostitute if a person offers or agrees to pay another person a fee to engage in sexual conduct; or enters or remains in a place of prostitution with the intent to engage in sexual conduct other than as a prostitute. Patronizing a prostitute is a class B misdemeanor.

Introduced February 17 and referred to Judiciary, Finance.

Native Family
Protection

HOUSE BILL NO. 686, by Reps. Duncan and Goll. Would set up the office of Native family services in the Divison of Family and Youth Services. The office would be headed by a coordinator who is a qualified professional trained and experienced in the administration of social services programs and Indian or Alaska Native affairs.

Introduced February 17 and referred to HESS, Finance.

Appropriation
(special)
(new borns)

HOUSE BILL NO. 687, by Reps. Koponen, Gruenberg & Taylor. Makes a special appropriation in the amount of \$1,500,000 to the newly born children's fund to provide financial assistance for the medical care of newly born children. Provides Act takes effect on effective date of HB 691.

Introduced February 17 and referred to HESS, Finance.

Education
Tax Credits
(schools)

HOUSE BILL NO. 688, by Reps. Gruenberg, Koponen, Ringstad, Boucher, Cato, Clocksin, Collins, Cotten, Duncan, Frank, Grussendorf, Hanley, Hurley, Jenkins, Larson, Marrou, Martin, M. M. Miller, Navarre, Phillips, Pignalberi, Shultz, Szymanski, Taylor, Uehling and Wallis. Allows credit against taxes 50 percent of contributions made by a person engaged in a trade or business to an accredited nonprofit, public or private, in-state two or four year college or university. Tax credits against the tax due on estates are allowed for 10 percent of bequests to those schools. Producers of oil or gas are allowed as credits against taxes due 50 percent of contributions to those schools. Credits may not exceed the amount of tax due.

Credits for 50 percent of contributions are also allowed for taxes due for oil or gas property, mining business taxes, and fisheries businesses taxes.

Introduced February 17 and referred to HESS, Finance.

MEMORANDUM

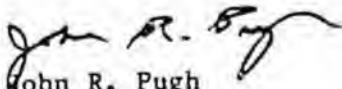
State of Alaska

TO Marshall Lind
Acting Commissioner
Dept. of Education

DATE: March 25, 1986

FILE NO

TELEPHONE NO

FROM 
John R. Pugh
Commissioner
Dept. of Health and Social Services

SUBJECT: Task Force to Address Issue
of Seat Belts on School Buses

In February Ramayne Kareen, Pupil Transportation Officer on your staff, requested that our two departments reconcile our position statements regarding seat belts on school buses. Since that time, Division of Public Health staff have met on two occasions with Ms. Kareen and others to discuss this issue.

At the most recent meeting on March 6, Ms. Sandra Hutchins, who chairs the Alaska School Bus Safety Committee, explained to our staff the rationale on which the committee based its position on seat belts, and also reviewed the scope of the committee's activities and interests, which are much broader than that one issue. It was agreed that the committee should appoint a special task force to address the issue of seat belts on school buses. The task force would include selected committee members, as well as representatives of several groups who are concerned about this particular issue, but who haven't been involved previously in committee decisions. In addition, Ms. Hutchins plans to expand the representation on the regular committee to include some parents of school children.

I believe the establishment of this task force will provide a vehicle for continued study of this complex issue, a forum for discussion in which all views can be heard, and a means for pressuring the federal agencies responsible for setting safety standards to undertake the additional research and crash testing necessary to resolve the many unanswered questions of concern to both proponents and opponents of seat belts on school buses.

This department was requested to submit a list of organizations and suggested representatives to be appointed to that task force. I have enclosed a list with our recommendations.

In addition, I am enclosing a brief outline of activities which we think might be appropriate for this task force to undertake, as well as a list of questions to consider.

I understand that Ms. Hutchins plans to bring up this matter for consideration at the next regular meeting of the Alaska School Bus Safety Committee, which is on March 28.

The Department of Health and Social Services will support any efforts of the Department of Education to foster further consideration of this safety issue, and we look forward to participating in the process.

Attachments

cc: Romaine Kareen
Sandra Hutchins

Attachment A

Recommendations by the Department of Health and Social Services for organizations which should be involved in a task force on seat belts in school buses. These would be in addition to selected members of the Alaska School Bus Safety Committee.

Agency/Organization

Suggested Representative

1. Emergency Medical Services Section
Division of Public Health
Dept. of Health & Social Services

Gloria Way, Planner
EMS/Injury Prevention, EMS Section
P.O. Box H-06C
Juneau, Alaska 99811
465-3141
2. Highway Safety Planning Agency
Dept. of Public Safety

Ellen Moore
HSPA
P.O. Box N
Juneau, Alaska 99811
465-4375
3. Alaska Chapter,
American Academy of Pediatrics

Clint Lillibridge, M.D.
State Chairman
American Academy of Pediatrics
4001 Dale Street, #117
Anchorage, Alaska 99508
563-1984
4. National Coalition for Seat Belts
on School Buses

Bridget Ernst, Regional Coordinator
Box 3331
Homer, Alaska 99603
235-7240

or

Laurel Osborne, Regional Coordinator
Box 225
Galena, Alaska 99741
656-1345

ATTACHMENT B

Suggested Scope of Activities for the Task Force on Seat Belts on School Buses

1. Review and disseminate to all interested parties information on all aspects of the issue: pros and cons of different types of seat belts on different types of buses; feasibility of installation and use; costs; crash test data and conclusions for both large and small buses, etc.
2. Review and disseminate to all interested parties new information on both sides of the issue as it becomes available.
3. Monitor related activities in other states and build up a file on documented experience with seat belts as more school districts opt for installation.
4. Identify areas of concern, and unanswered questions, that require more research and crash testing at the federal level. Push for appropriate action.
5. Identify problems with current federal standards which could be solved by modifying the regulations, and which do not require testing. Push for appropriate action.
6. Research actual number of school bus occupant injuries and deaths in Alaska in recent years, for both home-school trips and field trips: by year (before and after 1977 standards) and type of bus; by circumstances; by type of terrain involved; by type and severity of injury involved. Identify problems and gaps in acquiring this type of information.
7. Identify criteria for recommending the most appropriate protective measures for a given school district depending upon predominant terrain and road system, and other considerations.

PUBLIC OPINION MESSAGE

APR 03 1986

TO: REPRESENTATIVE BETTE CATO

FROM: BECKY JUDD
6230 NEWT
ANCHORAGE
562-3663

99507

BILL NO: HB 684

SUBJECT: SEAT BELTS IN SCHOOL BUSES

MESSAGE:

PLEASE VOTE YES ON HB 684. LETS REINFORCE THE SEAT BELT MESSAGE.

DATE: 04/02/86 TIME: 08:33:47 SENT BY: ANCHORAGE LIO

COPIES TO: HOUSE MEMBERS

PUBLIC OPINION MESSAGE

APR 03 1986

TO: REPRESENTATIVE BETTE CATO
FROM: PENNY LITTLE
148 NORTH BINKLEY
SOLDOTNA 99669
262-5846

BILL NO: HB 684

SUBJECT: SEAT BELTS IN SCHOOL BUSES

MESSAGE:

IN VIEW OF THE FACTS PRESENTED TO OUR SCHOOL DISTRICT OUR BOARD OF EDUCATION VOTED NOT TO INSTALL SEAT BELTS ON LARGE SCHOOL BUSES, IN SPITE OF PRESSURE FROM VARIOUS GROUPS. A REDESIGN OF BUSES IS NEEDED SO THAT COMPARTMENTALIZATION DOES NOT CONFLICT WITH BELTS BEFORE BELTS SHOULD BE CONSIDERED.

DATE: 04/02/86 TIME: 13:42:52 SENT BY: SOLDOTNA LIO

COPIES TO: HOUSE MEMBERS
SENATE MEMBERS

PUBLIC OPINION MESSAGE

TO: REPRESENTATIVE BETTE CATO

APR 03 1966

FROM: LEE OLSEN
BOX 2563
SOLDOTNA
262-1611

99669

BILL NO: HB 684

SUBJECT: SEAT BELTS IN SCHOOL BUSES

MESSAGE:

I WOULD LIKE TO HAVE THIS BILL TO REMAIN IN COMMITTEE UNTIL FURTHER INFORMATION CAN BE OBTAINED ON TESTS AND STUDIES. DUE TO COMPARTMENTALIZATION A CHILD WILL RECEIVE LESS INJURIES WITHOUT LAP BELTS THAN WITH. I'M IN FAVOR OF RESTRAINTS BUT NOT IN PRESENT DESIGNED SCHOOL BUSES.

DATE: 04/02/86 TIME: 13:47:33 SENT BY: SOLDOTNA LIO

COPIES TO: HOUSE MEMBERS
SENATE MEMBERS

MAR 18 1986



Alaska State Legislature

House of Representatives

Official Business

Pouch V
State Capitol
Juneau, Alaska 99811

March 17, 1986

Ms. Laurel Osborne
Post Office Box 225
Galena, Alaska 99741

file

Dear Ms. Osborne:

Thank you for your letter expressing your concern over school bus safety. House Bill 684 - an act relating to seat belts in school buses is in the House Transportation Committee, Chaired by Representative Cato. When the bill moves from the House Transportation Committee it has a further referral to House HESS and Finance Committees.

This bill will undoubtedly undergo several revisions before it comes to the full House for final action.

I have taken the liberty of forwarding a copy of your letter to the House Transportation Committee for their review and information.

Again, thank you for contacting me with your concerns.

Sincerely,

Representative John G. (Jack) Fuller

Box 225
Galena, AK.
99741

March 10, 1986

Representative Jack Fuller
Alaska State Legislature
Pouch V
Juneau, Alaska 99811

Dear Representative Fuller:

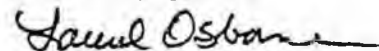
We have a problem. School buses are not safe. Recent school bus crash tests by the Canadian Government resulted in major structural failure of all three buses tested. Fuel systems failed, the driver's compartment was crushed, windows shattered, and restraining barriers tore loose. Three of the unrestrained dummies landed in the aisle and one was thrown through a restraining barrier and landed upside down on top of a door opening mechanism.

The failure of the seating compartment to contain unrestrained passengers in a head-on collision is a clear demonstration that the present seating configuration, known as "compartmentalization", does NOT provide adequate protection for school children.

Alaskan legislators have an opportunity to make school buses safer NOW. House Bill #684 would require seatbelts and 28 inch high seatbacks in all new school buses to be purchased or leased by the state. Alaska's fleet of 600 school buses will be slowly upgraded as the new safer buses are rotated into use. There is always a price to be paid for safety. Approximately \$1,300 will be added to the cost of a \$40,000 bus, which has a life expectancy of 10-13 years.

In the first 6 weeks of 1986 Alaska has already had three school bus accidents. Do not wait for a major crash with multiple deaths and injuries before taking action. Seatbelts are required equipment on all cars, trucks, school vans and mid-sized school buses. Your support of House Bill #684 is crucial to the safety of Alaska's youth.

Sincerely yours,



Laurel Osborne
Chairman, Galena PTSA Safety Committee
Regional Coordinator, National Coalition For
Seatbelts on School Buses

Message Phone- 656-1345

MAR 17 1986

Box 225
Galena, Ak.
99741

March 10, 1986

Representative Bette Cato
Alaska State Legislature
Pouch V
Juneau, Alaska 99811

MAR 17 1986

Dear Representative Cato:

We have a problem. School buses are not safe. Recent school bus crash tests by the Canadian Government resulted in major structural failure of all three buses tested. Fuel systems failed, the driver's compartment was crushed, windows shattered, and restraining barriers tore loose. Three of the unrestrained dummies landed in the aisle and one was thrown through a restraining barrier and landed upside down on top of a door opening mechanism.

The failure of the seating compartment to contain unrestrained passengers in a head-on collision is a clear demonstration that the present seating configuration, known as "compartmentalization", does NOT provide adequate protection for school children.

file
Alaskan legislators have an opportunity to make school buses safer NOW. House Bill #684 would require seatbelts and 20 inch high seatbacks in all new school buses to be purchased or leased by the state. Alaska's fleet of 600 school buses will be slowly upgraded as the new safer buses are rotated into use. There is always a price to be paid for safety. Approximately \$1,500 will be added to the cost of a \$40,000 bus, which has a life expectancy of 10-13 years.

In the first 6 weeks of 1986 Alaska has already had three school bus accidents. Do not wait for a major crash with multiple deaths and injuries before taking action. Seatbelts are required equipment on all cars, trucks, school vans and mid-sized school buses. Your support of House Bill #684 is crucial to the safety of Alaska's youth.

Sincerely yours,

Laurel Osborne

Laurel Osborne
Chairman, Galena PTSA Safety Committee
Regional Coordinator, National Coalition For
Seatbelts on School Buses

Message Phone- 656-1345

MAR 19 1986

 *
 * DELIVER TO: JPOM *
 *
 * ORIGINAL *
 * SENT: 03/18/86 TIME: 14:39 * 15 *
 * FROM: LTCF *
 * SUBJECT: POM/FAIRBANKS AN *
 * PRINT DATE: 03/18/86 TIME: 14:48 *
 *

TO: HOUSE TRANSPORTATION COMMITTEE

REPS: CATO, DAVIS, SHULTZ, HERRMANN, FURNACE, PIGNALBERI,
 MARROU

ALSO: REPS FRANK, M.W. MILLER, KOPONEN, RINGSTAD
 SENS FAHRENKAMP, COGHILL, BENNETT

FROM: ALLISE GUTTENBERG, P.O. BOX 81622, COLLEGE 99708

PHONE: 455-6805 *file*

RE: HB684 SCHOOL BUS SAFETY

PLEASE SUPPORT HB684. STATISTICS SHOW HIGH SEAT BACKS PREVENT WHIPLASH INJURY TO CHILDREN. WITHOUT SEAT BELTS ON SCHOOL BUSES OUR SAFETY LAWS ARE INCONSISTENT. OUR CHILDREN ARE DENIED THE CHOICE OF BUCKLING UP. AFTER ALL THE COST IS SO MINIMAL COMPARED WITH INJURY AND LOSS OF LIFE.

*
* DELIVER TO: JFOM
*
* ORIGINAL
* SENT: 03/12/86 TIME: 11:35
* FROM: ANNIE MEUBAUER
* SUBJECT: SON FRANKIE
* PRINT DATE: 03/13/86 TIME: 13:29

MAR 12 1986

15

TO: HOUSE TRANSPORTATION COMMITTEE
REF: CATO, DAVIS, CHUTE, HERBARD, KURNACE, PIGNALBERT,
MARRON
FROM: SEN. WALTER, SEN. STINEBAUGH
SEN. JAMES GIBBELL, SEN. BENTLEY
RE: ELIOT W. AND MARGARET, 705 4312, FAIRBANKS 99701
SUBJECT: RE: TRUCK VEHICLE SAFETY

WE STRONGLY SUPPORT LEGS TO IMPROVE SCHOOL BUS SAFETY BY PUTTING
SEATBELTS ON SCHOOL BUSES AND INCREASING THE SEAT BACK HEIGHT TO
26 INCHES. THIS WILL INCREASE THE SAFETY OF OUR SCHOOL
CHILDREN AND EDUCATE THEM IN SEAT BELT USE.

file

MAR 18 1986

 *
 * DELIVER TO: JPOM *
 *
 * ORIGINAL *
 * SENT: 03/17/86 TIME: 14:53 *
 * FROM: PAULA GRAY *
 * SUBJECT: POM-FAIRBANKS *
 * PRINT DATE: 03/17/86 TIME: 14:53 *
 *

15

TO: HOUSE TRANSPORTATION COMMITTEE

REPS: CATO, DAVIS, SHULTZ, HERRMANN, FURNACE, PIGNALBERI,
 MARROU

ALSO: REPS FRANK, M.W. MILLER, KOPONEN, RINGSTAD
 SENS FAHRENKAMP, COGHILL, BENNETT

FROM: GRACE PEDERSEN
 1489 JENNIFER DRIVE
 FAIRBANKS, AK, 99701

PHONE: 455-6014-H *ju*

RE: HB 684, SCHOOL VEHICLE SAFETY

MSG: I SUPPORT THE INSTALLATION OF SEAT BELTS ON SCHOOL BUSES.
 SEAT BELTS SAVE LIVES; ALSO IT SENDS A CONFUSING MESSAGE TO OUR
 CHILDREN (AND WORRIES SOME) WHEN WE TEACH THEM THE NEED FOR, AND
 ADVANTAGES OF WEARING SEATBELTS AND THEN THEY FIND THAT ON SCHOOL
 BUSES THERE ARE NO SEAT BELTS TO USE.

FEB 26 1986

 *
 * DELIVER TO: JFOM *
 * *
 * *
 * ORIGINAL *
 * SENT: 02/25/86 TIME: 15:42 * 25
 * FROM: LIKOD *
 * SUBJECT: KODIAK POM *
 * PRINT DATE: 02/25/86 TIME: 15:42 *
 * *

TO: REPRESENTATIVES:
 THOMPSON, ADAMS, RINGSTAD, BINKLEY, COTTEN, DUNCAN,
 FRANK, LARSON, POURCHOT, RIEGER, SZYMANSKI, GRUENBERG,
 KOPONEN, TAYLOR, HANLEY, HURLEY, PETTYJOHN, CATO,
 DAVIS, FURNACE, HERRMANN, MARROU, PIGNALBERI, SHULTZ

FR: KENNETH M. COVEY
 BOX 784
 KODIAK, AK. 99615
 486-4646 (HM) 486-3591 (WK)

RE: HB (684) - SEAT BELTS IN SCHOOL BUSES

THIS BILL IS RIDICULOUS! THIS WOULD DOUBLE THE EMPLOYEES NEEDED TO SUPERVISE KIDS. IT WOULD ALSO DECREASE THE CHILDREN'S CHANCES OF SURVIVAL SHOULD THE BUS GO INTO WATER OR CATCH FIRE. HOW WOULD A DRIVER CARE FOR 60 ELEMENTARY CHILDREN IF THE BUS WAS INVERTED AND IN FURTHER DANGER?

PUBLIC OPINION MESSAGE

APR 09 1986

TO: REPRESENTATIVE BETTE CATO

FROM: DON SWAIN
2400 COUNTRY DRIVE #1202
ANCHORAGE, ALASKA
694-2921

99507

BILL NO: HB 684

SUBJECT: SEAT BELTS IN SCHOOL BUSES

MESSAGE:

RETRO FITTING SEAT BELTS IS NOT THE WAY TO ATTACK THE PROBLEM.
SCHOOL BUSES SHOULD BE DESIGNED FROM THE GROUND UP WITH SEAT
BELTS IN MIND. ALSO, THE ACCIDENT IN DENALI RESULTED IN FATALITIES
BECAUSE THE WINDOWS WERE NOT SCHOOL BUS WINDOWS, THEY WERE FLIP
OUT WINDOWS DESIGNED FOR TOUR BUSES.

DATE: 04/08/86 TIME: 09:24:05 SENT BY: ANCHORAGE LIO

COPIES TO: HOUSE TRANSPORTATION

PUBLIC OPINION MESSAGE

APR 09 1966

TO: REPRESENTATIVE BETTE CATO

FROM: DANIEL ADAMS
BOX 81001
COLLEGE
479-2882

99708

BILL NO: HB 684

SUBJECT: SAFETY BELTS IN SCHOOL BUSES

MESSAGE:

PLEASE SUPPORT HB 684 FOR SEAT BELTS IN SCHOOL BUSES.
A HIGH MINIMUM STANDARD OF SAFETY IS NEEDED FOR
HAZARDOUS DRIVING CONDITIONS IN ALASKA.

DATE: 04/07/86 TIME: 11:43:50 SENT BY: FAIRBANKS LIO

COPIES TO: HOUSE TRANSPORTATION
HOUSE FAIRBANKS DELEGATION
SENATE FAIRBANKS DELEGATION

APR 08 1986

PUBLIC OPINION MESSAGE

FILE

TO: REPRESENTATIVE BETTE CATO

FROM: LOIS DALLE-MOLLE
FOX 65
DENALI PARK
683-2365

99755

BILL NO: HB 684

SUBJECT: SEAT BELTS IN SCHOOL BUSES

MESSAGE:

PLEASE PASS HB684. MY CHILDREN WILL RIDE 64 MILES PER DAY. COMPARTMENTALIZED SEATS PROTECT ONLY IN HEAD ON OR REAR END COLLISIONS. THIRTY EIGHT PERCENT FATALITIES IN LAST EIGHT YEARS ARE DUE TO ROLL-OVER EVENTS--SEATBELTS PREVENT THIS. WE NEED PROTECTION FOR WORST-CASE SCENARIO. PLEASE PASS HB 684.

DATE: 04/07/86 TIME: 08:12:38 SENT BY: FAIRBANKS LIO

COPIES TO: HOUSE TRANSPORTATION
HOUSE FAIRBANKS DELEGATION
SENATE FAIRBANKS DELEGATION

Pupil Transportation Systems

MAR 7 1986

6631 East 9th Avenue

Anchorage, Alaska 99504

(907) 333-5708

Mar. 4, 1986

Rep. Bette Cato
Chairman, House Transportation Committee
Pouch V
Juneau, Alaska 99811

Re: HB 684

Once again it becomes necessary to resurrect old letters (see attached) and write new ones concerning an issue that has become more emotional than viable.

The Coalition for Seat Belts on School Buses is now pursuing the issue on educational grounds rather than as a safety feature, i.e., buckling up on school buses will reinforce the use of the belt in the private automobile, where the law seems more applicable.


There is no doubt that an abundance of material on the subject either has been or will be made available to you, so I will not attempt to reinvent the wheel. The Coalition's effort seems concentrated on faulting available test data, whether staged or an in-field test, and also any expert testimony in opposition. However, there seems to be a definite lack of test data supporting or proving the effectiveness of lap belts in ensuring added protection to the student while inside the school bus. There is, however, an abundance of data providing evidence of increased injuries to students due to lap belt use when applied to the present bus configuration.

Those of us in attendance of the 1985 National Conference on Pupil Transportation to set minimum standards for the industry were excited to participate in a program to establish a uniform method of investigation and reporting of school bus accident data nationwide. Upon acceptance and implementation, the industry, for the first time, will be furnished injury data broken down into categories that will supply valuable information relative to the construction of school buses and the design and implementation of associated safety programs.

Available test data and investigative results indicate that the compartmentalization concept is doing the job for pupil safety aboard the school bus. It also indicates that improved procedures must be explored around the bus, where the greater source of problems exist.

Therefore, I respectfully request that you do not support HB 684.

Sincerely;



Cecil Whitehurst


cc: Reps. Mike Davis
Walter Furnace
Adelheid Herrmann

Andre Marrou
Marco Pignalberi
Richard Shultz

April 30, 1985

MEMORANDUM

TO: ALL LEGISLATORS

FROM: CECIL WHITEHURST, PUPIL TRANSPORTATION SYSTEMS 

SUBJECT: SEAT BELTS ON SCHOOL BUSES

Like the inevitable seasons, the controversy regarding the use of seat belts on school buses has constantly been on the scene for the last several years. The ever present debate continues to cause great trepidation among all people associated or connected with pupil transportation. Countless studies and tests have been accomplished and millions of words have been written and still the dissension exists between the two factions with no solution foreseeable in the near future.

Unfortunately, aside from being controversial, the issue has become very emotional. This is regrettable because emotionalism and/or extreme dedication to a cause usually does not promote an atmosphere of openness and receptiveness necessary toward adopting the ultimate decision relevant to the common good.

Proponents of the use of seat belts on school buses pursue the adoption of that concept almost with blind dedication. Opponents of their use are also very dedicated when presenting their side of the debate. The issue needs to be examined realistically and put in the proper perspective.

Factual data emanating from the results of extensive testing weigh heavily on the side of the opponents of the belts. Reports resulting from studies and tests throughout the nation for at least 13 years have pointed out with emphasis that seat belts for school bus passengers will not address the problem related to fatalities or injuries related to school buses. Agencies and institutions either taking part in the tests or sanctioning the results included the National Highway Traffic Safety Assn., Individual States (N.J.), Universities (U.C.L.A.), National Safety Council, and many independent organizations and private consultants. All resulting factual data is public information and has been published for years by trade journals and official reports.

Crash tests also have proven that school buses cannot be compared with automobiles because of its' structure and design. The specifications for the present seat configuration on school buses was established by the Federal Government as a direct result of crash tests. The seat standard mandates a high back with a 4 in. foam padding presenting a padded barrier in front of each seat. These barriers provide a "compartmentalization" concept that has proved very effective in providing a safe pupil environment without the use of seat belts.

The results of the latest crash test conducted at the Motor Vehicle Test Center in Blainville, Quebec was recently released by the Canadian Department of Transport. This test vindicated the "compartmentalization" philosophy now being incorporated on school buses. The study found that "head injuries were greater for the dummies that were restrained with seat belts" than those unrestrained.

Let us examine the findings from one more test that was conducted as far back as 1972 in the State of New Jersey. Taking part in the test were: Physicians for Automotive Safety, Ralph Nader's Organization, Orthopedic Surgeons, Anthropologists, State Senators and Assemblymen, State Directors of Pupil Transportation, Members of the U.C.L.A. Crash Team, P.T.A. Members, Students, Industry Representatives, N.J. Dental Society, N.J. Board of Education, Superintendents and others. The final decision from this group leaned toward the development of a safer bus environment. However, after in-depth evaluations, it did not recommend seat belts.

Statistical data from test results simply do not supply any evidence substantiating seat belts as an injury preventive device when applied to school buses.

Further examination of the available data reveals the one statistic that I feel is of paramount importance and probably supplies the key to the entire issue. The record will show that 75% of school bus related student fatalities occur off the school bus in an area known as the "death zone", which is approximately 4 feet of adjacent area surrounding the bus. These fatalities are caused either by the bus the student was riding on or motorists passing the bus during the loading or unloading process. The report further reveals that of the remaining 25% student fatalities that occurred on the bus, seat belts would not have been a life saving factor because of the nature of the accidents that involve fatalities on school buses, i.e., railroad crossings, buses falling from heights (such as the one that occurred in Martinez, Calif. when a bus exited an off-ramp too fast, left the highway, fell 30 feet to the ground, and landed on its' top killing 29 students), buses falling into water, etc.

Therefore, if the informational data gleaned from unconnected studies, independent field testing, and accident investigations reveal the same results, the many agencies responsible for reporting results are in lockstep regarding the findings, and the student fatality data reflects a problem not associated with seat belts, then the obvious question has to be asked: Why the continuing controversy?

It becomes even more confusing when it is understood that both the proponents and opponents of seat belts are in pursuit of the same goal of safe transportation. It would appear to be advantageous and very productive if both factions would examine all available data with open minds programmed toward that common goal.

April 30, 1985

Another aspect of the debate is that seat belts on school buses are not cost effective based on the available data. This facet of the debate becomes very emotional because the question of "What price a child's life?" always arises. I certainly endorse that philosophy and agree that cost should not be an issue in this debate. However, my disagreement with proponents of the belts involving costs centers on the dispersment of the funds for maximum benefit.

There are many alternatives to seat belts that have surfaced from the results of field testing. These alternatives have proven their effectiveness toward the prevention of student fatalities. A variety of traffic and student control devices have been designed to attack the "death zone" and promote student safety. This equipment was listed in the January issue of School Bus Fleet magazine and include crossing arms (they swing out from the front bumper and force students to cross the street approx. 8 ft. in front of the bus), better mirror systems, strobe lights, back-up beepers, public address systems mounted outside the bus, and automatic snow/safety chains.

In addition to the equipment mentioned above that focuses on the "death zone", programs to improve driver training, boost mechanic's skills, enhance preventive maintenance procedures, and the improvement of State and District bus inspection programs have each demonstrated their worth in reducing student injury and death. Up-dating these programs would attack the other aspect of the 25% statistic by helping to eliminate this type of accident altogether.

Subsequent to this dedicated effort by all concerned, then the question of "What price a child's life?" can be addressed with sincerity because all monies available would have been utilized productively in proven areas of student safety.

Probably the two most important features of all of the above are the issues of school bus driver training, to ensure maximum efficiency behind the wheel, and bus inspection and maintenance, to ensure a safe vehicle on the road. The driver is the one ingredient that pulls everything together and makes it work. With adequate safety devices, a properly inspected and maintained bus, a fully trained driver, our time, energy, and resources will have been properly applied to alleviate the problem of all types of student injuries and fatalities associated with school buses.

I respectfully urge you not to support legislation directed specifically and only to seat belts on school buses. Rather please consider mandating other programs that address the problem and have proven their effectiveness.

Cecil Whitehurst (Former Director of Transportation, Anch. School Dist.)
6631 Ea. 9th. Ave.
Anchorage, Alaska 99504
(907) 333-5708

April 2, 1986

Alaska State Legislature
Representative Cato
House Transportation Committee
Room 30, Capitol Building
Juneau, AK 99811

Dear Representative Cato:

I would like to state my unequivocal support for House Bill 684. In my opinion, there are two ways to approach the seatbelt on school bus issue. If one approaches this issue thinking school buses are probably safe enough, seatbelts are unnecessary, and the money is better spent elsewhere, you will find evidence to support this supposition. But if you approach it thinking seatbelts do save lives, do prevent injuries, might improve discipline on the buses, and could be a valuable educational tool for our children, you will find overwhelming evidence to support it. As a parent and chairperson of the Homer PTA Bus Safety Committee, I ask that you use this second approach. I ask that you trust your conscience, talk to school districts with actual seatbelt use, talk to doctors, dentists, paramedics, nurses, and parents.

The opponents bring up many reasons not to equip the buses with belts, ranging from they'll be used as weapons or not be used at all, to evacuation hampering, to liability. It seems all of these fears were addressed in 1978 - seatbelts have been in our smaller buses and vans for eight years yet these fears have not materialized. The bus contractors at today's teleconference seemed to imply the possibility of increased injury due to seatbelts. Yet why would our federal government allow seatbelts on large school buses if they weren't safe? The federal government (NHTSA) safety regulations specify only the minimal safety requirements for our buses - nothing prohibits a State from enhancing the safety of the bus. These standards are so minimal that the bus drivers are not even provided with a shoulder harness! Why would the entire medical community throughout the country endorse seatbelts on school buses if they were not safe? Why would the National Transportation Safety Board encourage States and local jurisdictions to install seatbelts if they were not safe?

The bus contractors further alleged the seat spacing of post 1977 buses prohibit the installation of lapbelts. They claim they are spaced too closely. Yet large school buses have identical seat spacing in the smaller buses and vans where lapbelts have been standard equipment for eight years. The Standards 222 enacted in 1978 originally included lapbelts and 28" high seatbacks. This was recommended by their own studies and the UCLA studies of the late 60's. But due to the intense lobbying effort of the National School Transportation Association (NSTA), seatbelts were dropped and the seatback heights were lowered to 24".

This lobbying effort has continued for the past eight years. Our own Dept. of Education circulates anti-seatbelt material produced by bus contractors. The entire school transportation industry has opposed seatbelts on large buses for years - why? Is it a fear of increased cost? Is it a fear of loss of monies to school districts? Is it fear of increased route time? Is it because our school districts allow buses to run 10% overcapacity, which can mean up to six standees on a 66 passenger bus? Certainly, a seatbelt for every passenger would make standees quite inappropriate.

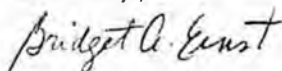
As a parent, I am very frustrated by all of this opposition by our own Dept. of Education. The pamphlet they produced with state funds does not even acknowledge the fact that the American Medical Association, American Academy of Pediatrics, American Academy of Orthopedic Surgeons, American College of Preventive Medicine, Physicians for Automotive Safety, American Academy of Automotive Medicine all support seatbelts on school buses. It does not mention the success of many school districts nationwide who have installed seatbelts, nor does it accept the possibility of the educational opportunity of having the belts in the buses.

I feel my child has a basic right to protect herself in an accident. I feel she has a right to feel secure. During the teleconference a gentleman asked a parent why they just didn't drive their children to school - the gentleman obviously does not understand that we parents and doctors and engineers and safety advocates are not spending time speaking at teleconferences and writing letters and making speeches for our own children only, we are concerned about the safety of all children throughout our boroughs, state, and country. To deny a basic safety device to children is downright unfair. How can we tell our kids seatbelts are good in cars for us adults, but the buses you ride in are safe enough, you don't need them, they're not "cost effective". How can we, as a state, require parents to purchase expensive car seats to protect their children yet when it comes to buying a \$10 seatbelt, we're told they're not necessary.

I am enclosing information for your review. I am also enclosing copies of over 700 signatures obtained in Homer, and copies of 1000 signatures of registered voters borough wide. Also enclosed are several letters of support written during the past year. Please feel free to call me for any additional information. I became affiliated with the National Coalition for Seatbelts on School Buses to obtain statistical information and studies which are not always readily available.

Please, don't say we need to wait for further study. This is not a political issue, it is a safety issue. Our children are being denied this basic right to a safety device now - even passing this bill will only equip the new buses and that will take at least ten years. We need the action now. Thank you.

Sincerely,



Bridget A. Ernst

Chairperson, Bus Safety Committee - Homer PTA

Regional Coordinator - National Coalition for Seatbelts on School Buses

HOMER PARENT ADVISORY COMMITTEE
P.O. BOX 1037
HOMER, AK 99603

October 16, 1984

Jane Hammond, President
Dr. Fred Pomeroy, Superintendent
and Board Members
Kenai Peninsula Borough School District
148 No. Binkley Street
Soldotna, AK 99669

Dear Madam President, Dr. Pomeroy, and Board Members:

The Homer Parent Advisory Committee supports the installation of seat belts on the new school busses.

It is felt that this is an important safety addition to our busses which must travel many treacherous and icy roads. This is especially true in Homer when the bus travels up the East Hill Road, West Hill Road, and McNeil Canyon/East End Road.

Respectfully submitted for the Homer Parent Advisory Committee,

Mari-Anne Gross

MG:gs
!

McNeil Canyon Community Council
McNeil Canyon Elementary School
January 15, 1985

Kenai Peninsula Borough School Board
Soldotna, Alaska 99669

Dear School Board:

The McNeil Canyon Community Council members and concerned parents voted to advocate the installation of seatbelts on all new buses purchased for the Kenai Borough School District after January 1, 1985. At our regular monthly meeting, January 14, 1985, we agreed that the following stipulations be recommended:

1. That by installing seatbelts on school buses, parents are given the CHOICE to require their own children to buckle up. Those parents who are against buckling need not do so.
2. That shoulder/lap harnesses versus just lapbelts be installed as soon as it can be engineered feasibly.
3. That, if nothing else, the driver at least has a shoulder harness installed on all new buses to increase his or her chance of being conscious after an accident.

We further encourage the School Board to more carefully consider all available data on the subject of seatbelts on school buses.

Sincerely,

Susan Cushing
Susan Cushing
Tammy Jones
Committee Chair-Persons
Seatbelts on School Buses Study



FAMILY MEDICAL CLINIC APC
Lavern Davidhizar, D.O. AAFP, John Staudeter, P.A.C.
Paula Dunn, P.A.C.
206 Rockwell Ave
Soldotna, AK 99669

Telephone (907) 262-7566

February 26, 1986

Kenai Peninsula Borough Assembly

Assembly Members Concerned about the
Safety of our School Children

We have heard all the arguments pro and con concerning seat belts in School Buses. We now have a law that requires our children to be buckled in when they are in a private vehicle, but if they are riding a School Bus they are exempted from this law. I encourage the Borough Assembly to have seat belts installed in all new School Buses purchased. The safety of our children should be important to all of us.

Sincerely,

L. Davidhizar, D.O.

LD:sar
cc.

March 3, 1986

Attn: Bridget Ernst

This letter is written in support of a test program for seat belts on school buses. There is considerable diversity of opinion on the subject and the time has come to see if seat belts would be an improvement. I suspect they would increase safety, but would also require additional work, especially by the drivers.

Further, the design of school buses should be examined. Specifically, the visibility in front, side and back appears to be deficient.

Further, there has been coverage in the media on a bill to increase penalties for passing a stopped school bus.

We also need to get the School District support for the crosswalks and getting street lights at every bus stop. The Homer Mayor's Advisory Committee on Safety discussed having the schools consider student walking patterns and safety questions such as lights and crosswalks when schools are initially designed.

Sincerely,


James C. Hornaday

February 28, 1986

Hi, my name is Mariah Maloney and I am a senior at Homer High School. I ride the school bus almost every morning. The bus I ride is filled with kids from ages five the eighteen.

When I ride in a car I always wear my seat belt. I do because I want to be safe and I don't want to break the law. I am sure that almost all of the children that ride the buses also wear their seat belts when they are in cars. My question is why is there an exception to the seat belt law when on a school bus? Is it because people think that the buses will be safe even though they are driven on Alaskan roads that sometimes aren't even passable for four wheel drive vehicles? Or would it just be to expensive to put the seat belts on the buses? Well think about the doctor bills for fifty children hurt in a bus accident, that is not a small number either. The buses that pick up children on West Hill, East End Road East Hill, Anchor Point, and on North Fork are taking very dangerous hills and canyons. Not to mention all of the hair pin curves that are scary to drive around, especially when you know that you are not strapped in and that if the bus rolled you could end up undernieth a thousand pounds of children and books and what ever else was on the bus. What ever the reason may be it sure is not well thought out. I know that my parents would want for me to be safe while I was on my way to school. So I do not understand or agree with the adults who are against seat belts on buses.

If these people really care about the children today on the Kenai Peninsula getting the best possible education that they can then they would start by reinforcing some of the basics that children are taught from year one. WEAR YOUR SEAT BELT!!!! Thank you for your time and I sincerely hope that these seat belts are put on the buses. For everyone's safety.

Sincerely,


Mariah Maloney

August 20, 1985

To Whom it May Concern:

I am 18 years old and have attended Homer school for the last ten years. Last week, I was in a head on collision with a drunk driver. It was the only time I ever wore my seatbelt and it saved my life.

I never learned about wearing seatbelts in school. Something told me to wear it that night; I'm not sure what. Maybe it was all this discussion I've been hearing concerning seatbelts on school buses.

Shouldn't we be teaching our children how to save their lives and prevent injuries in the school, just as we now learn about alcohol and drug abuse, and fire safety, and sexual abuse, etc.

I was a non-user of seatbelts but my accident last week has made a user out of me. The school bus is a perfect place to make "users" out of other kids. I support seatbelts on school buses.

Sincerely,

Traci Nowark

Traci Nowark
Box 1303

Homer, Alaska 99603

March 3, 1986

Dear School Board Members,

I am encouraged that you are once again considering installation of seatbelts on the newly soon-to-be purchased school buses for our district. As a parent and seatbelt advocate, I feel I cannot urge you strongly enough to give our children the option of belting up on our school buses. Consider if you will, the length of time spent on school buses and the regularity of their usage. For me, anytime in transit is a time to be belted in. I feel that new, independent (non-biased) studies are convincing enough to warrant installation of belts as a preventative measure. I will never feel comfortable with sending off my most precious treasures (my children) to school on a bus without seatbelts. Please vote to have them installed. It is a decision our children will live with for many years. Imagine one accident in which a child's life could be saved by a seatbelt. Isn't the precaution worth the small cost?

Most Sincerely,

Adelle Hillis
PO Box 1109
Homer, Alaska 99603

February 28, 1986

Kenai Peninsula Borough School District
Board of Education
148 North Binkley
Soldotna, AK 99669

Ladies and Gentlemen:


As a former teacher (Adak, Alaska), I urge you to approve seatbelts for school buses. I feel this is an important safety and educational issue for our students. Seatbelts are proven lifesavers!

From an educational standpoint, there is a valuable safety lesson to be learned by teaching students to use seatbelts in all vehicles, including school buses. Learning this lesson well could result in the difference between life and death! It is a paradox that children are required by law to wear seatbelts in automobiles but not in school buses. Shouldn't the school set a good example by providing seatbelts in all school vehicles and teaching the students to use them? For a very small expenditure, you can safeguard the lives of our students.

After living in Alaska for ten years, I am well aware of the inclement weather and hazardous road conditions that affect school bus routes. The ice that forms on the roads in our area could easily result in a bus leaving the road and turning over. It has been proven time and again that the greatest risk of injury is when the occupants of a vehicle are not securely belted and are thrown about the vehicle.

I am certainly unconvinced by the School District's arguments against seatbelts in comparison to the overwhelming evidence proving their safety. I would think the District would be concerned about lawsuits charging negligence by not providing a basic, economical, simple safety device which could prevent many injuries or deaths.

Sincerely,



Donna S. Martin

dsm

2-28-86

DEAR SCHOOL BOARD MEMBERS,

I HAVE TWO SONS 1YR AND 4YRS
OLD - I BELIEVE STRONGLY IN 100%
SEATBELT USE. I STRAP MY KIDS
IN WHEREVER WE GO.

I AM CONCERNED ABOUT THE
LACK OF SEATBELTS ON SCHOOL
BUSES. I WANT THEM SIMPLY
MADE AVAILABLE. I DONT BUY
ANY OF THE AGREEMENTS AGAINST THEIR
USE ON SCHOOL BUSES. AND I HOPE
WE DONT HAVE TO WRITE OUR
SEATBELT LAWS IN BLOOD, THE WAY
IT WAS DONE IN THE AIRLINE INDUSTRY

SINCERALLY,

VICTOR HILES
BOX 1109
HOMER, AK 99603

PAUL L. ENEBOE, M.D., A.B.F.P.
WILLIAM H. BELL, M.D., A.B.F.P.
A PROFESSIONAL CORPORATION
4285 HOHE STREET, SUITE 1
HOMER, ALASKA 99603
TELEPHONE (907) 235-8586

*Report
8/1/85*

July 17, 1985

Ms. Jane Hammond, President
Board of Education
Kenai Peninsula Borough School District
Box 7088
Nikishka, AK 99635

Dear Ms. Hammond:

As local physicians actively interested in the health and well being of the children of our community, we would strongly urge the school board to require seat belts on the Peninsula school buses. Nothing could be more tragic than to have a disaster involving our children that would have been preventable by the simple purchase of seat belts for the children. There is no doubt in anyone's minds that seat belts are a major contributor to survival and decreased morbidity in auto accidents.

The state in its wisdom has refused to allow children to ride unbelted in their own parents' cars, so we do not see any moral justification for the Borough saying that they can sacrifice our children even though they are exempted by the letter of the law. It would be difficult for the school board to defend itself should they end up being sued by any parents of children who were injured in a school bus accident if the board continues to deny children even the possibility to voluntarily buckle up in our local school buses.

We cannot strongly enough state our support for the proposal of including seat belts on new buses and retrofitting the old busses for seat belts.

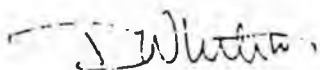
Yours for the health of our children,

Sincerely yours,



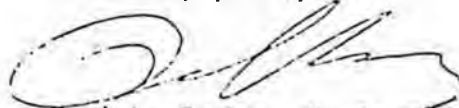
William H. Bell, M. D.

Sincerely yours,



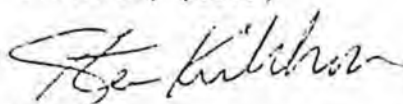
Dan White, M. D.

Sincerely yours,



Paul L. Eneboe, M. D.

Sincerely yours,



Steve Kirkhorn, M. D.

nc

cc: ✓ Bridgette Ernst
Brentley Keene

MEDICAL OPINION REGARDING SEATBELTS ON SCHOOL BUSES

The Medical Case For Seat Belts On School Buses

The Physicians for Automotive Safety believe school buses should have seat belts; high back, padded seats, and compartmentalization do not provide adequate protection.

By Dr. Arthur Yeager, D.D.S.

The leading cause of death of children in the United States is the motor vehicle accident. The National Safety Council reports that for those between the ages of one and 14 traffic accidents claim far more lives than cancer, congenital disease, pneumonia, drowning or fire. They go on to point out that over half these highway deaths could be prevented if the children were properly "buckled up."

Riding restrained prevents occupants from being thrown violently by the crash forces. Seat belts reduce the severity of the injuries and save lives. With this in mind, to date 42 states and the District of Columbia have enacted child restraint legislation requiring the use of child safety seats for infants and seat belts or child restraints for older children. As a result, observational studies indicate a substantial increase in the use of child restraints, and motor vehicle statistics show a significant drop in fatalities. Encouraged by these very positive results, one state has now extended its laws to include children up to the age of 10, and others are considering similar proposals.

Because of this those engaged in

school bus operation are beginning to encounter a new generation of parents who, prior to the enactment of restraint laws, did not seat belt their children in motor vehicles. The over 90 percent who did not buckle their kids preferred to accept the old excuse for not using seat belts to rationalize their inaction. When restraining children in cars became the law, many re-examined their



Dr. Arthur Yeager, D.D.S.

thinking and found out that it is *not only* safer to be thrown clear, that seat belts will *not* harm a child if he is old enough to sit up, that in very rare instances of post-crash fire it is those who are less injured because they were wearing a seat belt who were able to escape and, most importantly, that the trips they

were taking, which they feel are perfectly safe are, in fact, far more dangerous to their children than they ever believed.

Imagine the shock of these parents, now committed to the use of seat belts for their children, when youngsters start school and they find no seat belts on the school bus. When they question "Why not?", think of their chagrin when they hear the same old lame excuses from those in authority. Increasingly parents are not being dissuaded because they know better.

Studies and statistics

During the mid-1960's after becoming convinced that seat belts save lives in automobiles, the United States Department of Transportation ordered that all cars be equipped with seat belts. They then asked the Institute of Transportation and Traffic Engineering at UCLA to undertake a study to find out if crash characteristics of school buses were similar to automobiles and to find out what features of school bus construction cause injury and death during school bus accidents.

The engineers conducted a series of extremely sophisticated tests and concluded that the major cause of injury in school buses was inade-

"Currently a great deal of misinformation is being circulated to oppose the installation of seat belts in school buses."

"When a crash occurs, the passengers are thrown violently by the crash forces until these forces are spent."

quacy of the bus seat. At that time the seat backs were not padded and had exposed metal bars. They were poorly anchored. The 20-inch seat back height was not sufficient to prevent "whiplash" injury, and they had no seat belts. The research demonstrated that school bus seats should be better anchored and padded, with a seat back height of 28-inches. Although the old seats were not able to support seat belts, the research proved that seat belts attached to the better anchored, higher back, well-padded seat would provide substantial additional protection to the child passengers.

Much school bus safety research has followed this classic study, and these conclusions have never been questioned. In a recent letter, Severy, the chief researcher, has reaffirmed his conclusion that seat belts add significant additional protection when used with properly constructed seats.

The Department of Transportation, impressed with the findings but unaware that seat belt use was extremely low, then asked UCLA to conduct a second series of tests to develop a seat which would provide greater protection without the use of a seat belt — a passive seat. The resulting design, a seat with a mesh yielding back to absorb the impact of crash forces and a heavy side arm to compartmentalize during lateral crashes, was produced. Unfortunately, the seat was impractical because it was massive in size, could accommodate only two passengers, and would have greatly cut down the number of rows of seats on the bus.

At about the same time work done by Siegel et al at the Trauma Research Group in San Diego, California focused on accident inves-

tigations of school bus collisions, identified their injury and fatality profiles, and concluded that seat belts on seats with better anchorages, padding, and of significant height would save lives. The automotive engineers went on to point out that only the obstinacy of pupil transportation officials stood in the way of upgrading school buses with a proper seat belt system.

In the meantime, the National Transportation Safety Board was also active in investigating serious school bus accidents. Their specialists, after extremely detailed post-crash study, concluded that the availability of seat belts on school buses would have saved lives.

Safety awareness

As a result of increasing consumer awareness based on these studies and personal experience, legislation was enacted by Congress in 1976 to require the National Highway Traffic Safety Administration (NHTSA) to set standards to upgrade school bus construction. One of the areas the NHTSA was specifically ordered to improve was the inadequate seat. It is most unfortunate that the final standard, although an improvement, fell far short. The resulting seat is well anchored and padded; however, raising the seat back height only four inches fails to protect the average high school student from "whiplash" because he sits head and shoulder above the 24-inch seat. Significantly, NHTSA chose not to test the proposed seat for lateral or rear-end collision effectiveness and sled tested only for low speed front end crashes. Since the seat was designed for frontal impacts, the seat performed adequately.

The UCLA seat conceived for the

1972 series relied on true compartmentalization of children between 28-inch energy absorbing seats with massive side panels. NHTSA raising a seat back four inches and padding it is hardly the same. Obviously there is no containment in lateral crashes, when the bus rolls on its side or roof, or for taller youngsters when the bus is rear-ended.

In 1978 NHTSA did subject manufacturers production seats to testing to compare their seats with and without seat belts. Again they tested at low speed and not for lateral or rear-end accidents. It must be understood that when a crash occurs the passengers are thrown violently by the crash forces until these forces are spent. This may happen if the occupants slam into hostile areas or may be controlled by the seat back envisioned by NHTSA or by a restraint system such as a seat belt. In all cases these forces are absorbed with some trauma; however, the better the control the less the injury.

Test results and misinformation

The experiment indicated that when seat belted the dummies had a slightly higher head force reading as they rotated over their seat belts and hit their heads on the padded seat backs and tops; however, the difference was insignificant. Ironically, in the same tests the researchers found that the dummies of small children flew forward, hitting their foreheads on the seat-backs, flexed their heads sharply backward, arching their backs with severity. Taller dummies hit their knees and rotated forward, striking their throats on the seat tops. Since there was no measuring devices in either the backs or throats, no com-

continued on pg. 48

Medical Case *continued from pg. 27*

parable readings were available, but the failure of the seat belts was evident. It has been more than seven years since the new seat has been produced. By now a significant reduction in injuries should have been noticed. The latest National Safety Council statistics show injuries down slightly, but so is the number of students being transported.

Currently a great deal of misinformation is being circulated to oppose the installation of seat belts in school buses. Either by misunderstanding or by design, the above studies are being misquoted or quoted out of context. Costs have been widely exaggerated and dangers implied. For example, in the recent SCHOOL BUS FLEET "Open Letter to Ralph Nader," [Editor's Note: see the February/March issue, page 64] on the theme "A little learning is a dangerous thing," the editorial claimed that the UCLA study showed that the skeletal structure of five- to seven-year olds can't stand the forces as their bodies slam forward against the belts. Not only did the UCLA study never mention the subject, but the major medical organizations such as the American Academy of Pediatrics, the Physicians for Automotive Safety and the American Association for Automotive Medicine (a group often misquoted to their great distress) strongly disagree. They all favor the use of seat belts for school age children.

Since 1977 Type II vehicles have been equipped with seat belts without problem. When utilized they have worked well, and accident reports have shown they have saved lives. There has been no increase in liability for any operator of these Type II buses or for any district installing belts on the large buses.

Taking another look

To the school bus industry, State Directors, Pupil Transportation Supervisors, Contract Operators, and manufacturers, I would suggest a review of the validity of their information and a rethinking of their position.

At the present time we are active-

ly supporting legislation to require seat belts on only newly manufactured school buses. The installation of seat belts should be supplemented with educational programs by the schools of both parents and children, and with the full backing of school officials.

We do not favor the retrofitting of seat belts on school buses. The seats and floors of units built before the 1977 standard are not strong enough to anchor the belts, and the seat backs are neither padded nor high enough to protect belted students. Although NHTSA has calculated that the better anchored, high back, padded seat on the post-1977 bus can be fitted with seat belts on an aftermarket basis by districts who so desire, experience has shown that proper retrofitting is extremely difficult for some models and impossible for most.

To eliminate the fear of increased liability we will back, as we did successfully with child restraint legislation, language in the law which states that failure to use the provided seat belts shall not be considered negligence, nor shall the failure to use seat belts be admissible as evidence in the trial of any civil action.

Today almost every child rides a motor vehicle almost every day. The lessons learned and the habits formed from child restraint use are not being reinforced on the school bus. For those who wish protection, seat belts are not even available.

Support for seat belts on school buses is growing throughout the nation. In the near future seat belts on school buses will be a reality. Unfortunately, many proposals are unreasonable and would require extensive rebuilding of older buses. Given the pressure of a tragic accident, such a measure could become law.

The industry has a choice to make. Either continue to stonewall, blocking the installation of seat belts for the short term and risking the passage of punitive legislation or to join in and support efforts to provide seat belts on all new school buses in a proper and orderly fashion.

Dr. Arthur Yeager is a dentist who has long been active in school bus safety. He has served as chairman of the national school bus safety committee of the Physicians for Automotive Safety; is a former member of the New York State DOT school bus construction advisory committee (which was instrumental in the development of regulations mandating roof hatches and emergency side doors for school buses); and one of four key individuals in New Jersey who pushed state legislation to raise the drinking age to 21. Dr. Yeager was recently named to the N.J. State Board of Dentistry by Gov. Thomas Kean.



American Academy of Pediatrics



T E S T I M O N Y

BEFORE THE
SUBCOMMITTEE ON TRANSPORTATION
COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES
ON
MANDATORY SEAT BELTS IN SCHOOL BUSES

PRESENTED BY
Joseph R. Zanga, M.D., F.A.A.P.

MAY 1, 1985

Office of Government Liaison
1331 Pennsylvania Avenue, N.W.
Suite 721 North
Washington, D.C. 20004-1703
202-662-7460 / 800-336-5475

Mr. Chairman:

I am Joseph R. Zanga, M.D., Director of the Child and Adolescent Emergency Unit at the Children's Medical Center of the Medical College of Virginia. I am also President of the Virginia Automotive Safety Alliance and a Fellow of the American Academy of Pediatrics. My appearance here today is on behalf of the Academy, a national and international organization of more than 25,000 pediatricians. Those pediatricians and that organization have, as their overriding concern, the health, well-being, and safety of children and youth.

We are a cautious organization which studies issues in great detail before making public pronouncements. It was, therefore, with a great deal of confidence, based on more than 15 years of study, that in February, 1985, we issued a policy statement on school bus safety. During all of those years we looked at school buses, their design and construction, school bus drivers, their qualifications and training, and children who are the passengers on those vehicles. We studied accident reports and the investigations of individuals and organizations interested in school bus safety. We corresponded with school bus manufacturers, local, state and federal transportation safety agencies, consumer groups and the like. I come before you today to reinforce our February statement and tell you what we have learned.

That school buses have an enviable safety record is difficult to dispute unless, of course, you are the parents of one of the 10 or so children killed each year. In Virginia alone, there are 100-200 children injured each year as passengers on buses involved in accidents. Because my emergency room is a trauma center, I have occasion every year to examine 30-40 children injured in relatively minor bus accidents. Not

Bluebird, both indicated that the design on their seats did not lend itself to belt installation. For these companies, it would seem that retooling would be necessary should safety belts be required. Also please note that the Thomas Company is one of the industry leaders in opposition to safety belts.

One of the most interesting things we learned is that there are actually people out there who actively oppose the use of safety belts on school buses. We do not understand that opposition. We have examined the same studies they have and have found different words in those studies than they have quoted. We, therefore, have drawn different conclusions. Even the most recent Canadian study about which I'm sure you will hear, indicated that in an unusually high speed (for a school bus — 65 MPH) front end crash, "even belted children appeared to fare okay." The American Academy of Pediatrics maintains that had the test mimicked a more real-world event, at speeds more usually maintained by school buses with more life-like (non-stiff neck and spine) test dummies, and with instrumented child, rather than adult-size, dummies, there would have been a clear advantage shown for the safety of restrained subjects. Further, if our recommendation on increased seat back height had been followed, the safety advantage of the restrained dummies would have been unquestionably demonstrated. The school bus industry, however, is touting this study as "proving" the "danger" inherent in the use of safety belts on school buses.

Let's move away, though, from the issue of primary injury in school transportation to the broader issue of child safety. Among the things the members of the American Academy of Pediatrics know more about than school buses is school children. We, of course, spend our lives working with, studying and learning more about children. We have observed that children, particularly the young ones, are avid learners; but for those young ones, learning is concrete, not abstract. Children, unfortunately,

Mr. Chairman:

I am Joseph R. Zanga, M.D., Director of the Child and Adolescent Emergency Unit at the Children's Medical Center of the Medical College of Virginia. I am also President of the Virginia Automotive Safety Alliance and a Fellow of the American Academy of Pediatrics. My appearance here today is on behalf of the Academy, a national and international organization of more than 25,000 pediatricians. Those pediatricians and that organization have, as their overriding concern, the health, well-being, and safety of children and youth.

We are a cautious organization which studies issues in great detail before making public pronouncements. It was, therefore, with a great deal of confidence, based on more than 15 years of study, that in February, 1985, we issued a policy statement on school bus safety. During all of those years we looked at school buses, their design and construction, school bus drivers, their qualifications and training, and children who are the passengers on those vehicles. We studied accident reports and the investigations of individuals and organizations interested in school bus safety. We corresponded with school bus manufacturers, local, state and federal transportation safety agencies, consumer groups and the like. I come before you today to reinforce our February statement and tell you what we have learned.

That school buses have an enviable safety record is difficult to dispute unless, of course, you are the parents of one of the 10 or so children killed each year. In Virginia alone, there are 100-200 children injured each year as passengers on buses involved in accidents. Because my emergency room is a trauma center, I have occasion every year to examine 30-40 children injured in relatively minor bus accidents. Not

one of those injured children would have required my services had safety belts been in use on those vehicles. The experience of my colleagues in pediatrics around the country is very much the same.

Lest someone tell you that despite what I have said, the buses themselves are intrinsically safe, and that by "compartmentalization" protect children from the harm of crash events, please recognize that current design safety standards were intended primarily to protect children from the forces of a front end crash (and even there they do an inadequate job). Unfortunately the majority of accidents involving buses have little to do with the front end of the vehicle. Buses are, more commonly, struck from the side at intersections or experience rear end or rollover collisions. These are precisely the accidents in which safety belts would unquestionably be life savers.

We have learned some other things as well. We've learned, for example, that buses manufactured in accordance with Federal Motor Vehicle Safety Standard #222, are fully capable of safely supporting the use of seat belts. As noted in the "Federal Register," Volume 41, #19, January 28, 1976, page 4017, "The strength characteristics of the seats specified by the standard. . . provide the strength necessary to absorb seat belt loads." We learned from school bus manufacturers' testimony that several of them indicated, as early as 1980, a willingness to install safety belts in newly manufactured school buses if those belts were among the specifications in the order they received. The Wayne Company indicated that the seats used on their large buses are identical to those used in the small buses in which belts are required by law. Seat frames have pre-drilled holes to accommodate belt assemblies so that "after market" installation of belts by school districts is easily accomplished. It is interesting to note that in that same 1980 review, two companies, Thomas and

Bluebird, both indicated that the design on their seats did not lend itself to belt installation. For these companies, it would seem that retooling would be necessary should safety belts be required. Also please note that the Thomas Company is one of the industry leaders in opposition to safety belts.

One of the most interesting things we learned is that there are actually people out there who actively oppose the use of safety belts on school buses. We do not understand that opposition. We have examined the same studies they have and have found different words in those studies than they have quoted. We, therefore, have drawn different conclusions. Even the most recent Canadian study about which I'm sure you will hear, indicated that in an unusually high speed (for a school bus -- 65 MPH) front end crash, "even belted children appeared to fare okay." The American Academy of Pediatrics maintains that had the test mimicked a more real-world event, at speeds more usually maintained by school buses with more life-like (non-stiff neck and spine) test dummies, and with instrumented child, rather than adult-size, dummies, there would have been a clear advantage shown for the safety of restrained subjects. Further, if our recommendation on increased seat back height had been followed, the safety advantage of the restrained dummies would have been unquestionably demonstrated. The school bus industry, however, is touting this study as "proving" the "danger" inherent in the use of safety belts on school buses.

Let's move away, though, from the issue of primary injury in school transportation to the broader issue of child safety. Among the things the members of the American Academy of Pediatrics know more about than school buses is school children. We, of course, spend our lives working with, studying and learning more about children. We have observed that children, particularly the young ones, are avid learners; but for those young ones, learning is concrete, not abstract. Children, unfortunately,

can not rationalize the way we adults often do. For them, most issues have no shades of gray.

It has taken 3 years, but fortunately in our country all 50 states in some way protect young motor vehicle passengers by mandating the use of safety seats or belts in private passenger automobiles. Many of our children are thus growing up with the habit of riding safely secured. That habit safely persists, enforced by law, until the first day of school where we literally and figuratively lose these children to an educational system that says it is proper to ride unsecured in a moving motor vehicle. Two trips a day, every weekday, for about 9 months of the year is a powerfully negative learning experience. Our older children, our teenagers and our young adults are killed in massive numbers each year because they have not learned the importance of using a safety belt for every motor vehicle excursion. The potential for powerfully reinforcing the education inherent in the child safety seat laws is also inherent in any federal or state legislative effort which would seek to encourage or mandate the use of safety belts on all of our school buses.

Ladies and gentlemen of this committee, the American Academy of Pediatrics, its members and the children whom we serve, urge you, for reasons of safety and safety education, to consider what we have said today, to review our February statement on school bus safety and the other attached information.

We urge the Committee to request the National Highway Traffic Safety Administration to initiate rulemaking or other programs to mandate seatbelts in school buses. As individual members we ask that you vote in favor of measures such as that introduced by Representative Kostmayer which would provide incentive grants to states to adopt and enforce laws requiring the use of safety belts in school buses.

June 1984

KFB
4/54

AMA Convention (Resolutions)

No. 1 TERMINATION OF LIFE-SUPPORT TREATMENT OF TERMINALLY ILL PATIENTS

Introduced by Delaware Delegation

(Reference Committee on Amendments to Constitution and Bylaws, page 386)

HOUSE ACTION: REFERRED TO BOARD OF TRUSTEES

RESOLVED, That the American Medical Association support the establishment in each hospital of a special committee to examine cases that are brought before it by joint appeal from the patient's next of kin and attending physician, and to issue, where it deems proper, its agreement with the termination of life-support mechanical devices; and be it further

RESOLVED, That the AMA develop model state legislation recognizing these hospital committees and granting any legal protection necessary for this action, and urge all state medical associations to support enactment of this model state legislation.

No. 2 AUTOMATIC (i. e., PASSIVE) RESTRAINTS TO PREVENT INJURIES AND DEATHS FROM MOTOR VEHICLE ACCIDENTS

Introduced by Edward Press, M. D., Delegate

American Association of Public Health Physicians

(Reference Committee B, page 397)

HOUSE ACTION: FOLLOWING SUBSTITUTE RESOLUTION 2 ADOPTED IN LIEU OF RESOLUTIONS 2, 17, 62, 82, 99 AND 102:

RESOLVED, That the American Medical Association:

1. Reaffirm its policy which supports mandatory seat belt utilization laws;
2. Reaffirm support for mandated child passenger restraint laws;
3. Support immediate implementation of a program requiring passive restraints (preferably air cushions) in all new automobiles (domestic and foreign);
4. Support legislative action to promote availability of effective seat belts in all school buses in the United States; and
5. Support legislative action to promote availability of effective seat belts in all motor vehicles in public use, including public and private buses (including school buses), taxicabs, and any other vehicles carrying passengers.

No. 3 AMA CONSULTATION WITH SPECIALTY SOCIETIES

Introduced by American Academy of Neurology

(Reference Committee H, page 449)

HOUSE ACTION: ADOPTED AS FOLLOWS:

RESOLVED, That the American Medical Association Board of Trustees, councils, committees and staff continue to seek the help and advice of appropriate specialty societies as soon as it is recognized that a topic within the probable area of expertise of a specialty society will be the subject of significant deliberation, action or reports by the AMA.

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COLUMBUS GAZLEY

Executive Superintendent of Schools

ANTHONY G. COPPOLA

Director

733-7280

August 1, 1983

Ms. Ann Marie Shelness
Executive Director
Physicians for Automotive Safety
Port Chester, New York 10573

Dear Ms. Shelness:

Mrs. Phyllis Sheps, New Jersey State P.T.A. Chairlady has asked me to bring the following bus incident to your attention.


On June 16, 1983 one of our school buses was involved in a serious intersection accident in our city. A motorist ran a red light and struck our school bus squarely on its side. The bus teetered on two wheels for a moment but luckily did not turn over. Passengers on the bus were twelve pre-schoolers, age 3, the bus attendant and driver.

None of the children were injured because each was held securely in his or her seat by their individual seat belt. God only knows what injuries would have been sustained with three year olds flying all over the bus without the restraint of the seat belt.

This incident demonstrates clearly the life or injury saving value of the seat belt on school buses especially in urban centers.

The Newark Board of Education and I have been advocates of the seat belt on buses for many years.

Sincerely,


Anthony G. Coppola
Director of Attendance/Transportation

AGC/ir

cc: Mrs. Phyllis Sheps
5 Tenney Court
West Orange, N.J. 07052

INSURANCE INSTITUTE FOR HIGHWAY SAFETY

WATERGATE SIX HUNDRED, WASHINGTON, D.C. 20037 • 202/333-0770

WILLIAM HADDON, JR., M.D.
PRESIDENT

October 20, 1983

Francine J. Klenetsky
9341 Lavergne
Skokie, Illinois 60077

Dear Ms. Klenetsky:

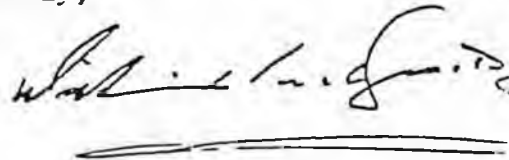
Thank you for your October 13 letter.

The advantage of using seat belts with children is entirely the same as with adults. The child is far more likely to survive the crash, and, in addition, is far less likely to be injured.

I enclose a copy of our publication, "Children in Crashes", which gives additional details, and, in addition, a few other items I hope you will find of interest.

If there is any other way in which we can be of assistance, kindly let me know.

Sincerely,



Handwritten signature of William Haddon, Jr.

Enclosures

AMERICAN COLLEGE of PREVENTIVE MEDICINE

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June 26, 1984

Carol Fast, Director
National Coalition for Seatbelts On School Buses
11 Orlando Ave.
Ardsley, NY 10502

Dear Ms. Fast:

The American College of Preventive Medicine is supportive of efforts to provide seatbelts on school buses. The College recently supported a resolution in the House of Delegates of the American Medical Association which called for seat belts in school buses.

Restraint systems have been proved successful in preventing death and disabling injuries to vehicle occupants involved in accidents. Similar success can be expected in the case of school buses. In addition, the reinforcement learning from "Buckling Up" in school buses will transfer to private vehicles.

The College supports the immediate installation of seatbelts in new school buses as immediate preventive action to protect the health of children.

Sincerely,

William M. Kane

William M. Kane
Executive Director



PHYSICIANS FOR AUTOMOTIVE SAFETY

50 UNION AVENUE, IRVINGTON, NEW JERSEY 07111

Arthur Yeager, D.D.S., Chairman
School Bus Safety Committee

Please respond to:
1 Park Place
Westwood, NJ 07675

March 1, 1985

The Hon. Edward Cavazos
Texas State Legislature
House of Representatives
P.O. Box 2910
Austin, Texas 78769

Dear Mr. Cavazos

On behalf of Physicians for Automotive Safety, let me express our support for HB 158 to provide seat belts on school buses.

Seat belts on school buses reduce injuries by absorbing the energy of crash forces and by keeping young passengers from being thrown about violently during bus accidents. As a result of your child restraint law, children in Texas have already learned to use seat belts. It does not make sense to have them unlearn this important safety lesson and put them at risk as they ride back and forth to and from school.

Because of their injury reducing potential and the valuable lesson they teach, seat belts should be provided on school buses.

Sincerely,

Arthur Yeager D.D.S.



AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS

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(Ex-Officio)
Thomas C. Nelson

September 27, 1984

The Honorable Peter H. Kostmayer
Representative, 8th District,
Pennsylvania
Congress of the United States
House of Representatives
Washington, D.C. 20515

Dear Mr. Kostmayer:

I am writing on behalf of the Academy to inform you of our support of your bill, H.R. 5511, which provides incentive grants for the states requiring installation of seat belts in school buses.

The Academy supports the use of seat belts and, in fact, we recently published "A POSITION STATEMENT" paper on this subject which I have enclosed for your information.

The Director of our Washington, D.C. office, Nick Cavarocchi, stands ready to assist you and your staff in advancing this legislation.

We look forward to working with you.

Sincerely,

Thomas C. Nelson
Executive Director

TCN/ak

Enclosures



**TENNESSEE CHAPTER OF
AMERICAN ACADEMY OF PEDIATRICS
TENNESSEE PEDIATRIC SOCIETY**

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LINDA BASS
112 Louise Avenue
Nashville, Tennessee 37203
Telephone: (615) 327-1451

September 25, 1984

TO WHOM IT MAY CONCERN:

This is to commend and warmly support the "National Coalition for Seat Belts on School Buses" and their current drive to encourage state laws to require seat belts on new school buses.

Although the compartmental concept to create a padded seat environment for school children will provide added protection, the proper use of a seat belt will serve to protect the child even more efficiently, especially in side collisions or roll over conditions. The prevention of death and injury by seat belt use far outweighs the cost of installation, and it seems timely and appropriate that state governments should require its young citizens be so protected.

Sincerely,

Luther Beazley, MD, FAAP
Chairman, Tennessee Chapter

Robert S. Sanders, MD, FAAP
Chairman, Accident Prevention Committee

be



Texas Children's Hospital

PO Box 20269
Houston, Texas 77225-0269

June 27, 1985

Board of Trustees
Houston Independent School District
3830 Richmond Avenue
Houston, TX 77027

Members of the Board of Trustees:

Each year in the United States, 150,000 children less than the age of 15 years are injured or killed in motor vehicle accidents.

Recently, a number of studies in the Pediatric literature have focused on a less known but equally dangerous cause of injury of children in motor vehicles, that of the noncrash event.

The noncrash event is characterized by an accident involving a motor vehicle where there is no collision. Sudden stops or acceleration, turns and swerves of the motor vehicle can cause the unrestrained child to strike against areas of the vehicle or in some cases to be ejected. In addition, passenger behavior, such as changing seats, has also been reported as a cause of these events. Each of these sited etiologies can occur on a school bus.

In a recent California study, 23% of the vehicle injuries to children involved these noncrash events. At Texas Children's Hospital we have seen 2-3 children each year with serious noncrash injuries resulting in long term disability.

* As to the issue of lap belts versus shoulder harnesses, it should be noted that shoulder harnesses are inappropriate for any child less than 55 pounds or 4.5 feet in height according to the American Academy of Pediatrics. Lap belts for the child older than 4 years of age and over 40 pounds in weight are correct, and in this group are certainly preferable to no restraint at all.

Based on the survey of the literature outlined above, I strongly recommend the installment of restraints in school buses.

Sincerely,

Larry S. Jefferson, M.D.
Assistant Professor of Pediatrics
Baylor College of Medicine
Medical Director, Pediatric
Intensive and Intermediate Care Units
Texas Children's Hospital
Chairman, Legislative Liaison Committee
Houston Pediatric Society

STEVEN GOLDSTEIN, M.D., P.A.
BRIAN SCHULMAN, M.D.
HOWARD MARMELL, M.D.
7800 FANNIN, SUITE 402
HOUSTON, TEXAS 77054
TELEPHONE (713) 797-1525

NEUROLOGY

June 19, 1985

Board of Directors
Houston Independent School District

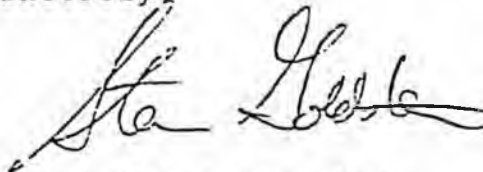
Dear Sirs:

As a neurologist in Houston, I frequently treat people who suffer head injury following motor vehicle accidents.

I have been impressed that the more severe head injuries occur in those individuals not wearing seat belts. I have not yet seen any spinal injury in an accident where the patient was wearing a seat belt in my eight years of practice in Houston.

As a parent and a neurologist I support and recommend the installation and use of seat belts on school buses.

Sincerely,

A handwritten signature in cursive script, appearing to read "Steven Goldstein".

Steven Goldstein, M.D.

PTA SCHOOL BUS SAFETY REPORT CONCERNING SEATBELTS ON SCHOOL BUSES

JOHN PAULDING P.T.A.

SCHOOL-BUS SAFETY

COMMITTEE REPORT

January 15, 1985

Tarrytown, New York

EXCERPT

VII. SEATBELTS

A. OBJECTIVES. The committee strongly advocates the use of seatbelts on Tarrytown school buses for three reasons:

1. TEACHING CHILDREN TO BUCKLE UP. The number-one killer of children and young adults today is the automobile accident. Parents who have been using infant restraints and teaching young children to use seatbelts are dismayed to find that this education is disrupted on the first day of kindergarten when the children step onto the school bus. The school system should not give children a "recess" from safety.

The school years are the ideal time to educate children and to help them develop the safety HABIT--through consistent reinforcement. Now is the time for the schools to help a whole generation of children to think of buckling up in the same way they think of brushing their teeth.

2. KEEPING CHILDREN IN THEIR SEATS. Anyone who has passed a Tarrytown school bus cannot help but notice children standing, crawling over the backs of the seats, and leaning against the windows. The seatbelts will put the children exactly where they should be--in their seats and facing forward. The bus driver will then be able to give his full attention to where it is needed most--to driving his bus safely through the streets of Tarrytown.

3. PROTECTING CHILDREN IN AN ACCIDENT. Passive compartmentalization between well-padded high-backed (28") seats does not provide adequate protection in rear-end, lateral, or roll-over accidents. In either broadside or roll-over collisions, children can be thrown about within the vehicle and possibly even thrown out of windows or emergency doors, causing serious injuries or fatalities. The law

Because of tripping hazards, this committee does not recommend that seatbelts be anchored to the floor. In our supplementary information, we have included a letter from Dr. John States of the University of Rochester, who did preliminary testing of seatbelt usage in automobiles. In his letter, he openly endorses the anchoring of occupant restraints to the seat frames.

D. ENFORCEMENT OF USAGE.

1. Safety education in the school is the most important step in enforcing seatbelt usage. The bus drivers in Greenburgh--recognizing the value of seatbelts--prepared safety booklets. The bus drivers also went into the classrooms to talk to the children about the importance of buckling up.

The Ardsley district, taking advantage of the \$4,000 New York State grant available for seatbelt education, will construct dummy school-bus seats. Children will practice buckling and unbuckling their seatbelts, perhaps as part of the gym curriculum. The Room to Live movie is shown to high-school students, followed by discussion. Seatbelts are used by the high-school physics department as part of the teaching of the law of momentum. Safety education and the importance of seatbelts are integrated into the general school curriculum.

2. In the Ardsley district, a student reported for an infraction such as fighting, not buckling up, smoking, etc., receives one warning. If the student is reported a second time, he or she is suspended from using the bus for a specified time.
3. Both Tarrytown and North Tarrytown Police Departments expressed interest in making "spot checks" on buses once seatbelts are in place. The police would issue warning "tickets" to elementary-school children not buckled up. (These "tickets" could be created and supplied by the PTA.) High-school students could be issued a summons, requiring that they and their parents appear in Youth Court. The Board of Education should explore this possibility with both police departments.

- E. INSURANCE AND LIABILITY. Neither the Greenburgh nor the Ardsley school district has experienced any change in their insurance since installing occupant restraints. Since 1977, there has been a federal requirement for seatbelts on small buses. It makes no sense to believe that the same safety device on a large bus would increase liability.

It is the committee's assumption that as more and more Westchester communities put seatbelts on their school buses, the exposure to liability of those districts who do not provide seat restraints will increase.

- F. SUMMARY. Tarrytown school buses should be equipped with seatbelts for three compelling reasons: 1) They continue our children's education in the importance of always buckling up when in a moving vehicle. 2) They keep children in their seats. 3) They provide protection in case of an accident. We believe that seatbelts on the school buses are crucial in providing safety for our children.

JOHN PAULDING P.T.A.

SCHOOL-BUS SAFETY

COMMITTEE REPORT

January 15, 1985

Tarrytown, New York

EXCERPT

VII. SEATBELTS

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of physics cannot be questioned. A body will fly toward the point of impact and then back in the opposite direction. The life-saving and injury-reducing potential of seatbelts in any moving vehicle cannot be denied.

In 1971, safety engineers from the Trauma Research Group, University of California, San Diego, referred to the effect that the school-bus transportation professions have had on keeping seatbelts out of school buses. The following is a quote from their 1971 study, "Bus Collision Causation and Injury Patterns":

"For many years, certain public and pupil transportation officials have been presenting arguments against installation of restraint systems in buses, particularly school buses. It can be stated quite categorically that the absence of load-distributing, energy-absorbing seats, coupled with the absence of bus-passenger restraint systems has and will continue to be directly responsible for the majority of bus injuries and fatalities."

In 1981, the National Transportation Safety Board (the same board that investigates all fatal airplane crashes in this country) stated in a fatal school-bus Accident Report:

"Since 1967, the safety board has issued 13 safety recommendations requiring the installation and use of seatbelts in inter-city and/or school buses."

The following quote was given by Lomita, California Mayor Ed Mehler in testimony before the Sub-Committee on Commerce & Finance, on Bill HR-4187 (The School-Bus Safety Act). In his testimony, Mayor Mehler quotes Dr. J. Alex Haller, Chief of Pediatric Surgery, John Hopkins Hospital:

"By far, head injuries are the greatest cause of death and serious injury in vehicle accidents. It is very unlikely that there would be internal injuries due to the use of seatbelts. Especially not in children or slender adults. If the impact of an accident is severe enough for a seatbelt to cause injury, then that passenger would be dead without one."

- B. COST OF INSTALLING SEATBELTS. Installing a seatbelt would cost the district approximately \$1,000 per bus. On Tarrytown's 16 large buses, the total cost would be \$16,000. Figuring on a seven-year life span, the annual cost would be \$2,286--less than \$150 per year per bus.
- C. INSTALLATION. This school district owns and maintains Wayne Buses, which are already equipped with pre-drilled anchor holes in the body seat frame. These buses allow seatbelts to be installed with just belts, anchor bolts, and proper tools. To ensure correct fit, K-12, measuring from where the seat cushion joins the seat back, the short end of the belt must be approximately 16" and the long end 29". A uniform method of installing is important. The short end of the seatbelt would be placed on the aisle side. A color code would be helpful to assist students in determining which ends go together.

Because of tripping hazards, this committee does not recommend that seatbelts be anchored to the floor. In our supplementary information, we have included a letter from Dr. John States of the University of Rochester, who did preliminary testing of seatbelt usage in automobiles. In his letter, he openly endorses the anchoring of occupant restraints to the seat frames.

D. ENFORCEMENT OF USAGE.

1. Safety education in the school is the most important step in enforcing seatbelt usage. The bus drivers in Greenburgh--recognizing the value of seatbelts--prepared safety booklets. The bus drivers also went into the classrooms to talk to the children about the importance of buckling up.

The Ardsley district, taking advantage of the \$4,000 New York State grant available for seatbelt education, will construct dummy school-bus seats. Children will practice buckling and unbuckling their seatbelts, perhaps as part of the gym curriculum. The Room to Live movie is shown to high-school students, followed by discussion. Seatbelts are used by the high-school physics department as part of the teaching of the law of momentum. Safety education and the importance of seatbelts are integrated into the general school curriculum.

2. In the Ardsley district, a student reported for an infraction such as fighting, not buckling up, smoking, etc., receives one warning. If the student is reported a second time, he or she is suspended from using the bus for a specified time.
3. Both Tarrytown and North Tarrytown Police Departments expressed interest in making "spot checks" on buses once seatbelts are in place. The police would issue warning "tickets" to elementary-school children not buckled up. (These "tickets" could be created and supplied by the PTA.) High-school students could be issued a summons, requiring that they and their parents appear in Youth Court. The Board of Education should explore this possibility with both police departments.

- E. INSURANCE AND LIABILITY. Neither the Greenburgh nor the Ardsley school district has experienced any change in their insurance since installing occupant restraints. Since 1977, there has been a federal requirement for seatbelts on small buses. It makes no sense to believe that the same safety device on a large bus would increase liability.

It is the committee's assumption that as more and more Westchester communities put seatbelts on their school buses, the exposure to liability of those districts who do not provide seat restraints will increase.

- F. SUMMARY. Tarrytown school buses should be equipped with seatbelts for three compelling reasons: 1) They continue our children's education in the importance of always buckling up when in a moving vehicle. 2) They keep children in their seats. 3) They provide protection in case of an accident. We believe that seatbelts on the school buses are crucial in providing safety for our children.

CONCLUSION

The committee has outlined the policies it recommends for inclusion into Tarrytown's school-bus program: 1) the elimination of standees; 2) increased attention afforded to bus schedules and routes; 3) the presence of bus monitors, especially on those buses transporting younger students; 4) the purchase of new buses equipped with occupant restraints and the retrofitting of older buses within the fleet; 5) increased contact with our police departments to improve student safety; and 6) the implementation of an on-going student safety program on all grade levels. Each of these proposals is feasible and well within the district's means to achieve. Together, these proposals will produce a well-balanced program of bus safety.

One area of safety not covered in this report is that of bus maintenance. Although stringent maintenance procedures are imperative for the safe transporting of Tarrytown's young, no member of the committee felt qualified to make recommendations.

The school administration must have a strong commitment to bus safety and must take an active role in implementing programs to enhance safety. It is appropriate to create within the administration the position of Transportation Director, as has been done, and we strongly encourage the administration to fill the position with a qualified person as quickly as possible. One of the primary duties of the Transportation Director should be coordinating and overseeing the school-bus-safety educational programs throughout the community.

Before the School Board votes on the above recommendations, we urge all members to join the John Paulding PTA (which has endorsed the Bus-Safety Committee's work) and to view several movies, among which will be Room to Live and Broken Bus (a bus-crash study from UCLA). These movies will be screened at John Paulding's March 13th PTA meeting. Because the other PTAs and concerned citizens will be invited, this meeting will be held at Sleepy Hollow High School at 8 p.m.

As the School Board prepares its budget for 1985-86, the committee expects its recommendations to receive priority consideration.

In closing, the committee takes this opportunity to thank the following people, without whose time and assistance this report would not have been possible: Detective Gordon Ferguson, North Tarrytown Police Department; Detective Sergeant Richard Pelliccio, Tarrytown Police Department; Dennis Fitzgerald, Judge, North Tarrytown Youth Court; Carol Fast, School-Bus Safety Committee, New York State PTA; Thomas Gillison, Transportation Director of Hastings, Dobbs Ferry, Ardsley, and Irvington; Fred Spry, Transportation Director, Greenburgh School District; Susan R. Mond, Director, Safety-Belt Child-Restraint Project, National PTA; and Charles Finley, New York State Department of Education.

TESTIMONY DELIVERED BEFORE THE NEW YORK STATE
LEGISLATIVE COMMISSION ON CRITICAL TRANSPORTATION CHOICES - 1983.

SEAT BELTS ON LARGE SCHOOL BUSES

Pages 4 through 14
excerpted from

Testimony Delivered Before the
New York State Legislative Commission
on Critical Transportation Choices
December 8, 1983

by

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belts on buses will I address some of them. Belted children in two separate accidents in 1979 who escaped injury were cited by the National Transportation Safety Board in an August 1982 News Release. Both involved vans that overturned and left very young, belted passengers "hanging upside down." But contrary to old beliefs, they instantaneously unbuckled their belts and all very quickly and calmly escaped, unhurt. If not belted in, they would have been injured or stunned and quick escape would have been greatly slowed down. Because they were not injured, they did not have to be "removed" at all! The NTSB release stated: "Seat belt usage by children in school buses may be not only possible but relatively easy to achieve." "Drivers of both buses had taught their students that unless all belts were fastened, the buses would not be moved." "...Neither driver had been given special training in how to carry out their school's policy of requiring belt usage." "The Safety Board observed that both accidents suggest that the unquestioned benefit of being protected by a seat belt when an accident occurs could be available to our children in their school buses just as it is to us in our private automobiles."

The next point that I will clear up is in regard to unfastened belts being a tripping hazard. If the short ends are always installed on the aisle and the long ends are the proper length and not too long, there is no way that they can reach the aisle floor. While we're discussing the tripping hazard, let me mention that the old fear of the belts being attached to the floor and therefore the anchorages being a tripping hazard no longer exists. We do not recommend installing the belts through the floor. It would be impractical. As for the amount of time required to check belts at each stop being prohibitive, of course we would never ask the driver to do this. He has to do all in his power to see that they are worn within the boundaries of reality. Drivers can stop the bus and spot check. If he/she suspects that there are children who did not have their belts on then he/she can report the entire busload to the principal for action or more education. Greenburgh and Ardsley will be working on creative ways to encourage belt use on buses over this next year. The problem is far greater in the automobile where there is never anyone to "spot check" if the parents are not seat belt users. As for vandalism, it is very difficult to cut through the nylon webbing used in seat belts. The anchorages are inside the seat, so cannot be unbolted. Modern buckles cannot be unthreaded, and NO.... WE'VE NEVER, AND GREENBURGH HAS NEVER, HAD A BELT USED AS A WEAPON. They are too small and lightweight to inflict much pain and other objects, such as lunch boxes and clarinets, make much more effective weapons!!

REITMEIER: "The National Association of Independent Insurers questions the legal liabilities created by buses equipped with seat belts. Insurers are concerned about enforcement in seat belt usage, and anchorages for seat belts as obstructions to children walking in the bus during boarding and disembarking."

REBUTTAL: Suffice it to say that neither district has ever had a problem with their insurers. Suffice it to say that we have had a Federal requirement for seat belts in small buses since 1977. Did the NAII raise these same questions about those buses, or is this another tactic on the part of the school bus industry to keep belts out of big buses?

REITMEIER: "The National School Transportation Association (contractors) computed the cost of safety belt systems in school buses. Their conclusions

REITMEIER: "The Virginia Polytechnic Institute and State University conducted attitudinal studies of seat belts in school buses. Their findings questioned the compliance of children using seat belts and the ability of drivers to enforce seat belt usage. In addition, the legal and educational barriers to seat belt installation were considered factors that would make seat belts impractical for school buses."

REBUTTAL: The word "attitudinal" is the key to this study. This is not a study of something factual. Come and study Greenburgh and Ardsley if you want the answers to the questions raised here. We don't get much more than 11% usage rates in America, but we sure keep requiring seat belts in cars in this country. Why should we deprive our children of the option of safety in the event of a side impact or in the event of a swerve or in the event of a rollover just because ALL of the children can't be expected to comply? The drivers won't have it easy, there is no doubt, but the drivers who are able to maintain good discipline will also be able to convince most of the children that he or she means what he says about seat belt usage. What legal barriers could arise? We have district-owned buses and contracted buses in operation with belts and there were no legal ramifications at all. I'm not sure what Mr. Reitmeier could possibly mean by educational barriers. If he is referring to the curriculum in the classroom, I have enclosed a complete list of all materials used by each grade level in Ardsley and how to get these for your district. Ardsley spent a total of about \$300 as an initial investment. Most things are available free through organizations such as NHTSA and the National PTA. Also, Southern Westchester BOCES gladly purchased the films we wanted.

REITMEIER: "The California Highway Patrol commissioned Southwest Research Institute to study seat belts in school buses and concluded:

- a) The interior of an auto is not similar to that of a bus in that appurtenances such as steering wheels, dashboards, door handles, etc. are not present in bus passenger compartments.
- b) Should a major accident occur in an auto, it is relatively easy to release seat belts and remove passengers from outside the vehicle. Belted passengers in a much larger bus could not be easily removed.
- c) Bus drivers or aides would be tasked with insuring that belts are fastened, as unsecured belts would result in a tripping hazard for other students. Given a bus load of 65 children, the amount of time required to check belts at each stop would be prohibitive.
- d) Factors such as vandalism to belts and the possible use of belts as weapons were also cited by the Highway Patrol as reasons why the device should not be employed."

REBUTTAL: You must realize that this study, printed up under the name of NHTSA upon completion, was simply an opinion survey. To quote the NHTSA Abstract, "The study included visits, inspections and in-depth discussions with bus owners, operators, maintenance personnel, seat manufacturers, belt manufacturers, and bus manufacturers..." Need I say more? Aren't these the very same people who misrepresent and misquote whenever they get the chance in order to defeat seat belts the way they successfully did with the Federal standard? Only because this study brings up some of the oldest and hardest to die arguments against

REITMEIER: "The NHTSA conducted extensive research through crash sled tests. Those crash tests concluded that passengers secured to bench seats in a bus by lap belts suffered the most severe injuries in the event of upset or collision. This was because the height and construction of the bench seats produced injury hazards to the head and upper portions of the passengers seated behind."

REBUTTAL: 1. Yes, the researchers found higher "G" forces on the head of the belted dummy, but not significantly higher and certainly not in the realm of danger.

2. The unbelted dummy, in comparison, was thrown into a yielding seat and therefore showed "G" forces on the knees, chest, and head instead of most on the head...BUT, THEY ALSO NOTICED THAT AFTER THE TORSO ROTATED UP, ALLOWING THE KNEES TO HIT FIRST, THE NECK THEN SLAMMED DOWN OVER THE TOP OF THE SEAT IN FRONT, letting the head fall downward. The neck had no transducer in it, so the forces it took COULD NOT be measured and recorded. THE AUTHORS POINTED OUT THIS DISCREPANCY IN THE STUDY AND CALLED FOR FURTHER RESEARCH ON THIS PHENOMENON. If the transportation supervisors really cared about children's safety, they would have been pointing out that unbelted children may be in a very dangerous position in our "passive" seats, even during a frontal collision. The throat and neck are very vulnerable parts of the body.

3. When doing a study to test the effectiveness of lap belts versus compartmentalization, you of course have to conduct SIDE ANGLE COLLISIONS OR ROLLOVERS. No one will argue with the fact that compartmentalization works beautifully during front end collision. Believe it or not, this is all NHTSA asked for in the study. But does Mr. Reitmeier even mention this? This is very reminiscent of the study that NHTSA did to determine the needed height of a school bus seat. AMF was only asked to do frontal collisions, but went further by stating: "THE MAJOR CONSIDERATION IN DETERMINING CORRECT SEAT HEIGHT MAY BE ONE THAT WAS NOT ADDRESSED IN THIS STUDY: THE WHIPPING OF THE HEAD OVER THE TOP OF THE SEAT BACK IN REAR IMPACTS...A MINIMUM SEAT BACK HEIGHT OF 24" ABOVE THE SEATING REFERENCE POINT (SRP) [OR 28" using the older standard way of measurement] IS NECESSARY TO PROTECT A 50TH PERCENTILE ADULT MALE AGAINST WHIPLASH IN A REARWARD IMPACT." The SAME PEOPLE who quoted this NHTSA "study" against our 28" seat back are the same people quoting the NHTSA front impact "study" against seat belts. Are they lying or are they ignorant? In either case, they have no business quoting this study as evidence for their case.

REITMEIER: "The National Motor Vehicle Research Foundation conducted 200 crash tests with seat belts and concluded that at least 40 inches of unobstructed area must exist in front of the belted passenger in order to protect the passenger from frontal impact. The greatest danger to a seat belted passenger is impact injury to the head. Seats in buses are typically spaced 22 to 28 inches apart."

REBUTTAL: Not ever having seen this study, I can only speculate. In Billie Reynolds' publication, "The Importance of Seat Belts in the Total School Bus Safety Picture," (executive director of the National Contractors' Association) she refers to this study also. "Over 200 tests by the MVR showed seat belts to be ineffective in protecting the head. The belt acted as a fulcrum allowing the head to strike the WINDSHIELD AND DASHBOARD TOP." I can only speculate that these tests were done in cars. What does this have to do with someone's head hitting a fully padded, high-backed seat in front of him? Does this figure mean that Mr. Reitmeier and Ms. Reynolds want all seat belts removed from van buses? After all, vans have belts but have no more than 27" between them, a far cry from 40"!

Next I will list and rebut the remaining issues that Mr. Reitmeier contends will prove that seat belts actually reduce safety and result in greater passenger injuries from impact collisions.

REITMEIER: "The University of California at Los Angeles conducted crash sled tests using seat belted dummies. The greatest injuries occurred to passengers that were seat belted in the bus. The least injuries occurred to passengers who sat unsecured in the bus. These passengers deflected their impact between seat benches."

REBUTTAL: UCLA first conducted crash studies in 1967. I believe you have seen the movie of these studies, "Broken Bus", at the hearing in Albany. A direct quote from that study is: "These bus experiments, the many types of collision experiments conducted during the past 16 years by the authors and investigations by others, CLEARLY ESTABLISH THE VALUE IN PASSENGER PROTECTION OF LAP BELTS WHEN USED WITH HIGH BACK SEATS...THESE RESTRAINTS CAN BE ADDED TO THE SAFETY SEAT AT VERY LITTLE ADDED COST AND THEIR PRESENCE PROVIDES THE CONTINUITY NEEDED FOR PROPER TRAINING OF YOUTH CONCERNING HABITUAL USE OF RESTRAINTS WHEN RIDING IN ANY VEHICLE."

In August of 1972, another study was released that had tested the effectiveness of the newly designed "UCLA Prototype Safety Seat." This seat was to take the place of the seat that the 1967 study had recommended, one with fully padded 28" seat backs and lap belts. The school bus "industry" had so strongly objected to the use of seat belts in school buses that UCLA had then designed a prototype seat with a very large side arm rest that was more like a panel. The seats were to be close together, but were so large that it would have greatly decreased the number of rows of seats able to fit into a bus. The back of the seat was a metal "mesh" that "pocketed" the passenger if he was thrown into it. This stopped the excessive vertical acceleration that normally takes place when a person is thrown into a seat back. Of course, these seats would have had to have been replaced after even slight impact by the knees because of this "mesh" type of flexible seat back. THE COMPARISONS DRAWN IN THE STUDY ARE MISREPRESENTED BY MR. REITMEIER, and by other anti-seat belt persons such as Ms. Billie Reynolds, executive director of the National School Transportation Association, NSTA. The study compares lap belted dummies who are seated behind low back, 22", unpadded "conventional seats to dummies contained in the nearly perfect example of a PASSIVE RESTRAINT SEAT. To quote the study: "This does not mean that lap belts would not be of substantial assistance where collisions include bus upset..." So even with the UCLA Prototype Seat the authors recognize the need for seat belts in a rollover. We (safety advocates) would have agreed to this UCLA seat, even without seat belts, but again the "industry" said NO. They did not want to cut down on the capacity of their bus or have to discard a seat every time a child hit into it, so we now have a WATERED DOWN VERSION OF THE UCLA SEAT FOR OUR FEDERAL STANDARDS: Lower back, no arm rest, no "pocket", very little deflection from LATERAL COLLISION OR ROLLOVER. If we put seat belts on our New York seats, we would have none of the jackknife effect they observed in the study over the 22" seat, and we would have padding to absorb the energy of the head, not unpadded metal seats. Give our children the UCLA Prototype Seat or give them seat belts.

"American Medical Association - Commission on Medical Aspects of Automotive Safety-
Study and Report 1972

Study of 441 pregnant women involved in auto crashes, etc.

'Most injuries caused by seat belts were 'superficial'.'

'Seat belts practically guaranteed against ejection and both mother and fetus had less risk of injury or death when the mother wore a lap belt.'

"Dr. Sheldon Feinberg - American Academy of Pediatrics

"Dr. Seymour Charles - Physicians for Automotive Safety

"Dr. Arthur Yeager - Bergen County Dental Society - assisted Assemblyman C. L. Bassano from New Jersey in writing school bus safety legislation for that state.

"Warren M. Crosby, M.D., and J. Paul Costiloe, M.S.
Report - Safety of Lap-Belt Restraint for Pregnant Victims of Automobile Collisions

'Discussing the advisability of lap belt restraint for pregnant passengers. Study provides no evidence that lap-type restraints increase the mortality of either mother or fetus when pregnant women are the victims of severe collisions. Seat belts...should be recommended for pregnant travelers.'

"Dr. J. Alex Haller - Chief of Pediatric Surgery - Johns Hopkins Hospital

'By far, head injuries are the greatest cause of death and serious injury in vehicle accidents.' 'It is very unlikely that there would be internal injuries due to the use of seat belts. Especially not in children or slender adults. If the impact of an accident is severe enough for a seat belt to cause injury, then that passenger would be dead without one.'

"Dr. Frank Redo - Head of Pediatric Surgery - New York Hospital

'Have not personally observed, or heard of, any problems at all through the use of seat belts.'

CONCLUSION OF THE HONORABLE ED MEHLER'S TESTIMONY

"Dr. Frank Sim, Resident Orthopedic Surgeon at Mayo Bros. Clinic said that in his experience there has been no problem with seat belts producing severe injuries, other than bruises or possibly hip dislocations in high impact crashes. In his words; 'any injury sustained by passengers due to seat belts would, in nearly all cases, be far less severe than the resulting injuries caused by no seat belts being used.'

"Dr. J. Alex Haller, Chairman of the Department of Medicine at Johns Hopkins Hospital is of the same opinion. So is Dr. Frank Redo, Head of Pediatric Surgery at New York Hospital. 'Have not observed any problems at all due to the use of seat belts.'

"Another question raised by David Soule of the Department of Transportation last year is not even worthy of comment. He asked, and I quote, 'How does the bus driver keep the curious child from putting his little finger in the belt buckle and getting it caught.'

"I believe the clincher is when Mr. Soule expresses deep concern that if seat belts were used in school buses - taking into consideration the number of buses involved in roll-over type accidents and the average number of pupils in each bus - we could have a 'frightening' situation. We might have as many as 25,000 kids each year hanging upside down inside their buses. Just think, 25,000 children strapped in, hanging upside down - secured to their seats instead of being ejected from the bus and crushed to death, or smashed from window to post within the bus - with resulting fractured skulls and broken necks.

"William F. Rawley, Jr., MD, Pediatric Ambulatory Services - New England Medical Center Hospital

"Eugene Lariviere, MD, Dept. of Pediatrics - New England Medical Center Hospitals

"Charles W. Dietrich - Traffic Sciences - Bolt, Boranek and Newman, Journal of Pediatrics - June 1971

'A physician who can and should recommend that parents of young children purchase restraining devices, can be assured that the devices will provide effective restraint.' These always include the use of a vehicle seat belt.'

'We encourage physicians with young children to use these proper restraining devices and to consider this area of prevention as important as routine immunizations.'

"E. Michelinakis, MD - July 1971

'Safety Belt Syndrome' - article in The Practitioner

'This article is not a condemnation of safety belts; these patients owe their lives to the use of safety belts.'

'It is essential to remember that these patients would have sustained far more serious, if not fatal, injuries if safety belts had not been worn.'

"Dr. Harold A. Fenner, Jr. - Hobbs, New Mexico - Chairman of the Committee on Medical Aspects of Automotive Safety of the AMA

'Dr. Fenner believes that seat belts would keep students in place and that high back seats would entail noisy interaction.'

The following is part of testimony delivered by the Honorable Ed Mehler, mayor, City of Lomita, California, before sub-committee on Commerce & Finance on Bill HR-411 (The School Bus Safety Act of 1973).

MEDICAL OPINIONS REGARDING SEAT BELT USE
(Including seat belt as possible cause of injury)

"Dr. H. Rolf Noer of the Anderson Orthopedic Hospital in Arlington, Virginia, has been one of the most quoted as opposing the use of seat belts in school buses for medical reasons.

"David Soule, head of the Pupil Transportation Division of the Department of Transportation, has quoted Dr. Noer as saying: '--if you put any kind of lap belt on a young child...things will be torn loose from their moorings, and their moorings include blood vessels; one may bleed to death in the belly without any difficulty at all. I don't really know how you are going to get anything approaching any lap belt that I have ever seen that would be safe to put on a young child, much less effective. I don't know how old a child must be to safely wear a lap belt, but I would guess the age of 10 or 11.'

"Dr. Orville Parish, Director of Transportation for the New Jersey Department of Education, has also quoted Dr. Noer in opposing seat belts for school buses.

"When I talked to Dr. Noer regarding his comments, he said he had been widely misquoted. In talking to me he did not say he was opposed to seat belts in school buses, although he felt other safety requirements should be met first, such as adequate strength of bus bodies, better anchorage of seats and a better seat design, such as the one recommended by UCLA, and escape hatches. He also felt the seats should be turned around. He stated that if these things were done, he then would recommend seat belts be provided in all school buses.

"Mr. Soule, in that same talk in New Jersey, also quoted Dr. Verne Roberts, Head of Biosciences Division at the University of Michigan's Highway Research Institute, as saying that 'children are not miniature adults, they are built differently ...the adult's lap belt is not acceptable for the child.' This quote was used to support Mr. Soule's argument that seat belts should not be used in school buses.

"I called Dr. Roberts and he was appalled that this statement was used out of context. He said he was referring in his statement to toddlers, not to school children; and that he really meant that the belts would not be as effective because of improper fit. He said he was a strong advocate of seat belts for all vehicles, especially school buses. In his opinion, seat belts would be of tremendous value in saving lives and preventing injury in the event of a school bus accident. He said anyone wishing to discuss this in detail may call him.

"Dr. Donald Harrington, Resident Orthopedic Surgeon at Los Angeles Orthopedic Hospital, said that any injury to the hip or back caused by wearing a seat belt occurs only in high trauma - or severe impact accidents - and that any injury occurring in this manner would be minor compared to the extensive injuries that would have occurred if a belt had not been used. He said there is 'no question about seat belts providing greater safety for the school children in buses.' He further stated that this was the general opinion of the doctors with whom he was associated.

At present, there is another national campaign going on against seat belts in buses, being led by the school transportation officials associations. They are passing out anti-seat belt material, usually listing about nine studies or statements, that they claim prove the hazards of having belts on buses. This was discussed at length at their annual convention in November in New Orleans, according to a report in "School Transportation." A version of this information had been distributed by our own NY State Education Dept. in August of 1983 at a driver trainers refresher course. It was written by James Reitmeier, President, Western NY School Transportation Supervisor's Association. I would like to quote from this material: "The American Association for Automotive Medicine advises against securing young children solely by lap belts in either passenger autos or buses. This is because the abdominal section of young children is not sufficiently developed to withstand the stress caused by lap belts in event of collision."

I contacted the American Association of Automotive Medicine and they have since written to Mr. Reitmeier. The following is a quote from their letter: "I do not know the source of your information concerning this Association, but the statement you made is absolutely incorrect. We have never taken a position as you stated in the newspaper article. I would appreciate knowing who or what your source of information is so that we may correct this erroneous information."

Further proof of the safety involved in use of lap belts in small children can be seen in the fact that many states around the country have passed infant restraint usage laws that allow even babies of 18 months(NJ) to ride in a lap belt alone. Also, many of the presentations given at the Society of Automotive Engineers Conference on Child Injury and Restraint, in San Diego this Fall, dealt with how to best protect 5-10 year olds in cars. There was no new information, from anywhere in the world, presented. NHTSA specifically stated that the safest way to transport young children is to place them in the middle of the back seat in a LAP belt.

David Soule, head of Pupil Transportation Division of NHTSA, has recently been quoted in "American School and University," 9/83, "Buckle UP? The Debate Goes On,": ". . . physicians explain that a child's body is different from an adult's. If a child is accelerated against a lap belt the force is transmitted directly to the abdomen and can cause serious internal injuries, even death."

I feel it is vital to include in my written testimony part of a *testimony delivered by the Honorable Ed Mehler, mayor, city of Lomita, California, before the sub-committee on Commerce & Finance, on Bill HR-4187 (The School Bus Safety Act of 1973), as is. It gives excellent examples of misrepresentations on the part of the people who are not in favor of seat belts, and also includes excellent rebuttals to the misrepresentations.

*Testimony text in part in pages 7 through 9.

problems. I must share a wonderful story with you. Before the belts were re-installed, the monitors and drivers were told to tell the students NOT to wear them yet, because they would not fit correctly. A monitor contacted me to see if she could ALLOW the younger children to use them because they were insisting that they wanted their seat belts on! It was very hard for me to say no. This showed us how easy it is to work with the younger children. Since we've started the actual usage program, the reports from monitors and principals seem to be all positive. We know that there are no problems K-8 but suspect there may be high school students who do not wear them all the time. We are just in the process now of setting up meetings with the drivers to determine if there are "problem" buses. The high school principal is a very strong advocate of this whole program and has scheduled ongoing seat belt education for the students throughout the year in many different departments, and he wants to take any kind of action necessary to enforce belt use on the buses. He will interview the kids to get their opinion as to whether or not their driver has been strict enough in his "reminders" to them and to see if the driver has walked down the aisle of the bus before leaving the school to see that everyone is buckled up. There are many different tactics we will be experimenting with for high school usage and for evaluation of the entire usage program.

Is it carrying over into the high school students' car usage? That we can say a resounding YES to, for the community has reported, through the PTA, that whatever we are doing seems to be right, for their "nonuser" children are now using belts. We know of two accidents locally within the last few weeks where avid nonusers USED their belts and were involved in accidents that totaled their cars. The drivers and passengers -- our high school students -- walked away alive and unhurt. WE TAKE THIS TO REPRESENT INSTANT SUCCESS IN THE PROGRAM. LIVES HAVE BEEN SAVED.

At this point I feel it is time for me to ask a few questions and, at the same time, to rebutt some of the arguments against seat belts. WHY WERE SEAT BELTS AND EVEN SEAT BELT ANCHORAGES ELIMINATED FROM THE ORIGINAL FEDERAL SEAT STANDARD 222?

The national school bus contractors' lobby may explain in their National School Transportation Association Newsletter, and I quote: "NSTA is enjoying a major victory due to the elimination of mandatory seat belt anchorages from Docket #73-3, #5.....

"Docket #73-3 originally contained 28" high backed seats and seat belts. Notice #4 eliminated high-backed seats . . . This was due to the intense pressure applied by the NSTA Board of Directors, working in concert with public school officials. NSTA wishes to say, 'Thanks to all of you for your help, letters, telegrams, trips to Washington,' again and again and again. This effort will save every purchaser of school buses over \$300 per bus.....

"NSTA and its Board Members spent well over \$100,000 over the two and a half year period ... to reach this happy conclusion. If you feel as pleased as we do, NSTA could use some financial assistance to pay the numerous obligations incurred for Docket #73-3, #5."

According to this newsletter it was the school bus contractors' lobbying that influenced NHTSA to lower Standard 222.

I now want to address myself to the issue of seat belts on school buses. The NY State PTA passed Resolution #7 in November of 1982, supporting seat belts on school buses. The 1,000 members attending the PTA convention, representing 360,000 NY State voters, recognized the necessity of equipping buses with belts. The number one killer of children and young adults today is the automobile accident. Only 11-14% of the American riding public wear their seat belts. Obviously, there are very few role models for our children. Obviously, it has been very difficult to convince children to wear their belts. The school years, or formative years, represent the best time to be educating them, but they have not had a chance to "practice" wearing belts. The school bus affords us the best place to do this; the best place to develop a habit. What a great opportunity we have before us to help a whole new generation of children to think of buckling up in the same way they think of brushing their teeth.

Two school districts - Greenburgh Central 7 and Ardsley - are believers in this theory and have put it into practice. Representatives from each district will be submitting testimony regarding HOW their respective districts implemented seat belt education and belts on buses, the costs involved, etc., but I would like to share some feelings with you on our experience, since I live in Ardsley, and am a close neighbor of Greenburgh. We found in both districts that the first thing to be done is to convince the drivers that seat belts save lives in automobiles. This was very easy to do because of the excellent films available today, namely "Room To Live" and "Sudden Stop At The End." After a training session with the drivers, they were able to see how important their role in the program was. They saw that they could help teach the students a HABIT that could save their lives in cars. Greenburgh started in 1979 and Ardsley started in 1983. The drivers in Greenburgh have since written a pamphlet on school bus safety for the children, including the use of belts on the buses. They became actively involved. There are no monitors on the Greenburgh buses, yet the children wear their belts. As was expected, the young ones who have grown up in infant restraints and who now know about the new law that will require belt usage in their cars until they are 10, were much more receptive and are much more "loyal" to the bus seat belt program than the high schoolers. In Ardsley we have monitors on the K-8 runs and of course this is an advantage. The monitors were trained the same way the drivers were. Both drivers and monitors have had training on all the special points one has to remember when teaching the young children how to buckle up. They have to remember to pull the strip down towards the seat, for instance, when trying to tighten the belt correctly. I have enclosed the sheet of information that we used at this particular training session.

The actual usage of the belts on the buses in Ardsley did not start until mid-November due to some problems with the length of the belts that were initially installed. We have now learned that when retrofitting a bus, belts must be ordered with very specific measurements. To insure correct fit, K-12, measuring from where the seat cushion joins the seat back, the short end of the belt must be approximately 16" and the long end 29". Any measurement very different will present

TESTIMONY TO BE ENTERED INTO THE MINUTES OF THE LEGISLATIVE COMMISSION ON CRITICAL TRANSPORTATION CHOICES, PUBLIC HEARING, December 8, 1983, by William Lamb, School Bus Driver and Custodian for the Ardsley Union Free School District

I have been a school bus driver in Ardsley for nearly 25 years now and have always approved of the latest safety features that this district has put on the bus. In 1974 I testified at a public hearing on school bus safety to say that our district ordered one of the first buses made with 28" high back seats. I wanted the legislators to know that discipline had improved since we got the bus and that all the kids in the district were jealous of the one high backed seat bus. The reason they liked it so much was that the kids behind them weren't able to bother them now. They liked being left alone and having privacy.

Today I would like to tell you about another safety feature that Ardsley is insisting on—the seat belt. This year I happen to be driving a van type bus, but the seat belts in it had not been used in the past. In the middle of November I was told that the Board of Education's seat belt usage policy would now go into effect. I drive 15 children from Ardsley who go to a parochial school, in grades Kindergarten through eighth. I explained to the children that seat belts are for their own good. They had not had any lessons on seat belts in their school because they were out-of-district children, and we also have no monitor on this bus to tell them about belts. I had no problems at all getting them to use them. The older kids were terrific and the kindergarteners only had trouble tightening them until I showed them how. Within a couple of days everyone used them without question. I tell them how important it will be to use them in their own cars and to get their parents and family to use them too. I think they understand and that the bus use will carry over to the car.

Because of seat belts in the bus I no longer have any discipline problems. Nobody ever moves out of their seats and if they did, it would be easy to spot, even if it were a large bus, because they would be the only one standing up.

I think there should be a law for seat belts in New York just like the 28" seat back became a law.

Thanks for this chance to tell you about our seat belt program.

Bill Lamb

NATIONAL TRANSPORTATION SAFETY BOARD STUDIES AND REPORTS.

nation's schoolbuses had been manufactured after 1977, and because fatal and injury-producing schoolbus accidents are in any case relatively infrequent, the conclusions of the study were based on inferences drawn from analysis of accidents involving pre-1977 schoolbuses. The study concluded that:

[The post-1977 schoolbus seating and restraint standards] are probably very effective (about 60 percent injury reduction) in the vast majority of schoolbus accidents, which usually involve minor damage to the bus, with at most a few passengers injured at the [minor to moderate injury] level. In the few violent schoolbus accidents that produce fatalities, [the standards have] lower effectiveness—about 29 percent injury reduction. The [standards have] only limited effectiveness in the extremely small subset of very violent accidents involving rollover, crashes with trains, etc.

The Safety Board has reviewed this analysis and believes that the inferences drawn in it are sound. The Board estimates that within about 4 to 5 years, most large schoolbuses on the road will meet the Federal seating standards. Because preliminary analysis indicates that these standards appear to be effective in eliminating or substantially reducing the majority of schoolbus passenger injuries (those which are minor to moderate), the Safety Board does not believe there is sufficient justification at this time to recommend extending the mandatory passenger restraint system requirements to large schoolbuses.

Nevertheless, the Safety Board would strongly support decisions by parents and State and local school authorities to install occupant restraint systems in their large schoolbuses on an after-market basis. The passenger seats in all post-1977 large schoolbuses are required to be designed in such a way that they will support the installation and use of seatbelts. Many pre-1977 schoolbuses can be modified to support seatbelt installation also.

The Board stresses that a decision to install seatbelts in large schoolbuses must be accompanied by a strong and continuing commitment to educate students in the importance of using the seatbelts and using them properly. Such instruction needs to be complemented, in the case of younger children especially, by adequate adult supervision to ensure that seatbelts are properly positioned on each child's body and snugly secured.—

Small schoolbuses and vans, manufactured since April 1977 and sold for school transportation and related events, are required to provide essentially the same enlarged, strengthened, and padded seats required in large schoolbuses. In addition, they are required to provide an installed restraint system at each seating location, in recognition of the fact that the smaller and lighter construction of these vehicles offers less protection in a crash than the bodies of large conventional schoolbuses. As in all buses, the driver's seat must have a restraint system, and both passengers and driver must be required to wear the restraints whenever the vehicle is in motion.

Because of the lesser degree of crash protection provided by the body structure of small schoolbuses and vans, the Safety Board believes that it is important that student passengers in small buses and vans be provided the additional crash protection offered by occupant restraints. As a result of a crash involving a 16-passenger Head Start van in Mississippi in 1981, 4/ the Board recommended that all Head Start programs be explicitly

4/ Highway Accident Report--"Pattison Head Start Center School Van, Run-Off-Bridge and Fire, Near Hermanville, Mississippi, December 17, 1981" (NTSB-HAR-82-5).



8/25/82

AUG 27 1982

Safety Information

FOR IMMEDIATE RELEASE: Monday,

CHILDREN IN VAN SCHOOL BUSES,
TAUGHT TO USE SEAT BELTS,
ESCAPE INJURIES IN ACCIDENTS

**We would like
you to have this
information**

Bob Evans

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C: 20594

Seat belt usage by children in school buses may be not only possible but relatively easy to achieve, the National Transportation Safety Board said today.

Special investigation of a New York City accident last July 27 involving a van-type school bus mirrored the findings of a 1979 investigation -- grade-school children who had been taught to wear their seat belts all had them on and escaped injury when their buses overturned.

Drivers of both buses had taught their students that unless all belts were fastened, the buses would not be moved. Each driver reported that only a few days to a week had been required to teach students how to fasten and unfasten their metal-to-metal seat belts, and for them to become accustomed to "buckling up." Older children were happy to help others and served as an example to the younger ones.

The July 27 accident involved a day camp van occupied by the driver and three campers -- a 14-year-old and two seven-year-olds. The van was struck broadside by a car as the van pulled into the intersection of Rosedale and Storey Avenues in the Bronx with the changing of the traffic light.

The collision impact was not severe, but the van overturned on its right side. One of the seven-year-olds was left hanging from a seat on the high side of the bus, but none of the three children was injured. The driver, who also was wearing a seat belt, suffered only a scratched ankle.

- more -

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

HIGHWAY ACCIDENT REPORT

Adopted: September 29, 1981

ARA SERVICES, INC., TOUR BUS
DENALI NATIONAL PARK AND PRESERVE
(MT. MCKINLEY NATIONAL PARK), ALASKA
JUNE 15, 1981

SYNOPSIS

About 8:00 p.m. A.s.t., on June 15, 1981, a 40-passenger tour bus, eastbound on Denali Park Road, Denali National Park, Alaska, ran off the right edge of the roadway at a very slow speed and rolled to its right down a hillside. Twenty-five of the thirty-two occupants were ejected as the bus rolled 2 1/4 times down the hillside. Twenty-six occupants were injured, five were killed, and the bus sustained moderate damage.

The National Transportation Safety Board determines that the probable cause of this accident was the failure of the student driver to give adequate attention to the driving task and his misjudgment of his lateral position on the road which resulted in the bus leaving the right edge of the roadway and rolling down the hillside. Contributing to the accident was the driver's lack of training and experience in this tour bus operation. Contributing to the severity of the occupants' injuries and to the fatalities was the lack of occupant restraints which permitted the ejection of most of the occupants.

INVESTIGATION

The Accident

At 3:00 p.m. A.s.t., 1/ on June 15, 1981, a 40-passenger 1979 Bluebird Tour bus departed the Denali Park Hotel, Denali National Park, Alaska, with a student driver, instructor driver, and 30 passengers on board. The student driver drove about 65 miles to the Eielson Visitors Center while the instructor driver offered driving suggestions to the driver and used the microphone of the public address system to "interpret" what the bus passengers were seeing along the route. The bus arrived at Eielson Visitors Center about 7:00 p.m. and departed about 7:50 p.m. for the return trip to the hotel. While returning, the student driver drove the bus and used the microphone headset to perform the narrative. The instructor driver sat on the floor in the stepwell near the door so he would not obstruct the view of the passengers.

Within a mile of the visitors center, the student driver stopped the bus to permit the passengers to watch and photograph several caribou that were at the right side of the roadway. After several minutes, according to the student driver, the bus started moving slowly forward so as not to startle the animals. The bus traveled approximately 1/2 mile before leaving the roadway. The student driver believed that the bus was in the center of the road, but realized he was over the road edge when he felt his right front wheel drop down the hillside. He estimated that the speed of the bus at this time was 10 to 15 mph. He tried to return the bus to the road by steering to the left but the wheel in the dirt would not move to the left but went farther right and then dropped lower as gravel

1/ All times herein are Alaska standard, time based on the 24-hour clock.

In the similar 1979 accident, another van-type school bus skidded out of control on State Route 120 in North Castle, N.Y., when it ran over a motor vehicle muffler lying on the highway. The bus overturned on the shoulder of the road, but the driver and all six passengers -- all children 5 to 7 years old -- were wearing seat belts and escaped injury. Most, if not all, of the children were able to release their own belts and walk out of the van unassisted even though three were in "high side" seats.

The driver told Board investigators it had taken her "just a few days" to teach the children to use their seat belts. She reported no serious delays in waiting for children to buckle their belts, and said the use of belts solved the problem of the smallest children sliding off their seats because their feet would not reach the floor, as well as that of dozing children.

The Safety Board said neither driver had been given special training in how to carry out their schools' policy of requiring belt usage.

The Safety Board observed that "both accidents suggest that the unquestioned benefit of being protected by a seat belt when an accident occurs could be available to our children in their school buses just as it is to us in our private automobiles."

"Past suggestions that seat belts would prevent deaths and injuries in school buses have been met with skepticism that children would or could be made to wear them," the Safety Board said. "These cases, involving multi-purpose vans in which seat belts are required, indicate that the added safety of belts may be quite attainable." Seat belts are not required on most school buses.

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Press Contact: Brad Dunbar
(202) 382-6605

2. Minor two-way park roads should have a pavement width not to exceed 20 feet with shoulders not to exceed 3 feet.
3. Major, minor, and special-purpose one-way park roads should have a pavement width not to exceed 12 feet with shoulders not to exceed 2 feet.
4. Interpretive (motor nature) roads should have an overall width not in excess of 14 feet.
5. Administrative roads should be of the minimum width necessary to serve the purpose of the road. In no event may they exceed the guidelines for minor park roads.
6. Where guardrails or guideposts are required for reasons of safety, additional feet of shoulder will be permitted.

Medical and Pathological Information

Two passengers died at the scene. One, found under the bus near the right front wheel, suffered crushing injuries to the head and chest area; the autopsy report listed the cause of death as asphyxiation due to breathing passages blockage. The other fatality was found outside the front of the bus and the autopsy report indicated head and chest area crushing injuries. The cause of death was listed as asphyxiation due to hemorrhaging and blood in the air passages.

A third victim died in surgery at the Fairbanks hospital. She had been ejected along the roll route, as were all the fatalities, and had suffered a fractured skull and fractured ribs. Her heart was bruised and she suffered extensive internal bleeding. Two other victims succumbed to injuries while in the hospital.

Survival Aspects

Of the 32 occupants, 5 were killed and 26 were injured. None of the 27 survivors were able to describe their specific movements within the bus except that they were tumbling around as the bus rolled. The student driver was not injured and the instructor driver was injured by the damaged door. Twenty-five passengers were ejected, and the 20 who survived were not able to describe when or through which opening they were ejected, and no one remembered seeing anyone ejected. The student driver, who was wearing a seatbelt, was the only occupant that remained in place. Restraints were not provided for other seating positions. When the bus came to rest on its right side, the student driver, the instructor driver, and five passengers were still in the bus. They had no trouble exiting through the rear emergency escape opening and the windshield opening. Some occupants considered the possibility of fire and moved injured victims away from the bus; however, there was no fire.

Since the student driver stated he did not know what emergency actions to take after the accident, the instructor driver and surviving passengers with minor injuries assisted those who were more seriously injured using first-aid equipment on the bus. Within 5 minutes after the accident, another bus arrived at the scene, and some of its occupants also rendered aid.

Medically trained persons (nurses and emergency medical technicians) in other buses which stopped administered aid, and additional aid was summoned via the radio at Eielson

The student driver said he attempted to steer to the left to return to the road. The tire track in the loose dirt showed a widening pattern as it proceeded east, verifying the driver's statement. The soil embankment against the inside surface of the right wheel prevented the leftward redirection of the bus and the right front wheel scuffed partially sideways in the loose soil. The wheel maintained a route roughly parallel to the road edge for about the length of the bus and then angled farther down the hillside. At that time, the underside of the bus started scraping the surface of the road and the right rear wheel left the traveled portion of the roadway. Until the right rear wheel left the road, the student driver could have stopped and possibly backed the bus onto the roadway. However, when the soil at the edge of the roadway could no longer support the calculated 6,374-pound right rear wheel load, both the front and the rear right wheels slid sideways at a right angle to the roadway, down the hillside, providing the dropping feeling passengers described as the road collapsing.

The routine maintenance performed on the Denali Park Road provided sufficient compaction for the gravel roadway proper. The natural alluvial fill material that makes up the approximate 1:1 side slope offered resistance to sliding under its own weight but did not have the internal friction necessary to support a 6,374-pound wheel load. The gravel roadway did not collapse under the bus. The noncompacted side slope did give away under the wheel load and permitted the bus to slide until it reached its angle of vertical instability.

Calculations indicate that after the bus rotated past 40°, the center of gravity had shifted to the point where rollover was inevitable. The lateral velocity of the bus in the 2 1/4 turn rollover and its trajectory to its final resting point were a result of the contour of the terrain next to the edge of the road. Physical damage to the bus suggests that the rollover was relatively gentle and deformation to the soil on the hillside indicate that the bus did not become airborne.

Survivability

This accident was survivable. However, the accident highlights the important need to prevent occupant ejection during vehicle rollover, and further supports the Safety Board's belief that the lap belt occupant restraints are a practical deterrent to occupant ejection. 6/ As the bus rolled slowly to the right, the unrestrained occupants tumbled inside the bus. As a result of the impact with the ground and impact from the occupants during the roll action, the windows were either unlatched or broken and separated from the frames. It is possible that one occupant was ejected as the right side of the bus first struck the ground. As the bus continued to roll to the right, an indeterminate number of occupants were ejected. When the right side of the bus struck the ground the second time, some of the right windows were broken, debris was deposited, and possibly other occupants were ejected. When the left side struck the ground during the next roll, the broken and possibly unlatched windows permitted ejection of other occupants and debris along the hillside. As the bus started its last quarter roll, at least one occupant was ejected forward of the bus roll path. Crush injuries to several victims indicated they probably were completely or partially under the bus at some point during their ejection and the bus roll action. Twenty-five of the thirty-two occupants were ejected at some time during the rolling of the bus and many occupants contacted the interior roof area. Had all of the bus occupants been belted, they may have been retained in their seats and would not have been subject to tumbling within the bus. The heads and upper

6/ Highway Accident Report--"Bus Station Wagon Collision Followed By Bus Overturn U.S. Route 66 Near Marshfield, Missouri, October 10, 1971" (NTSB-HAR-73-1).

extremities of the occupants near the windows would have been vulnerable to injury due to their nearness to the ground during rollover sequence, but it is likely that considerably fewer injuries would have been experienced by all occupants. The student driver, who was wearing a seatbelt when the accident occurred, was not injured.

Since 1967, the Safety Board has issued 13 safety recommendations requiring the installation and use of seatbelts in intercity buses and/or schoolbuses. Eight recommendations were addressed to the Bureau of Motor Carrier Safety (BMCS); two to the National Association of Motor Bus Owners (NAMBO) (currently, the American Bus Association); and five to the National Highway Traffic Safety Administration (NHTSA). ^{7/} Numerous conferences between the Safety Board and the agencies resulted in the following actions:

1. The BMCS modified Federal Motor Carrier Safety Regulation (FMCSR) 393.93 (49 CFR 393.93) to require the installation and use of seatbelts by truck and busdrivers in all vehicles used in interstate commerce.
2. The NHTSA developed and published Federal Motor Vehicle Safety Standard (FMVSS) 217, "Bus Window Retention and Release" and FMVSS 209, "Schoolbus Seating and Crash Protection." NHTSA repeatedly responded that seatbelts in intercity buses and schoolbuses were: (a) not cost effective; (b) a major enforcement problem; and (c) occupant containment could be achieved through seat design (FMVSS 209) and window design (FMVSS 217).
3. The BMCS funded the Research Group of Indiana University to study the feasibility of placing restraint systems in buses engaged in interstate commerce. The study concluded that: (a) voluntary use of seatbelts at all positions on a bus would be about 17 percent; (b) the first two rows of seats (8 seats) are the most hazardous as far as bus accident injuries and fatalities are concerned; and (c) for lap seatbelts in the first two rows of seats to be cost effective, it would require a 47 percent voluntary usage; and (d) an alternate method of passenger protection would be the installation of a crash panel between the driver and passenger compartments.

The tour and shuttle bus service in the Denali Park operation is different from that of intercity bus and schoolbus operations. The passengers are adults, or children under the direct control of their parents. The service is more under the direct control of the busdriver. The alternatives provided by window retention and improved crash protection, as proposed by NHTSA, are in conflict with the need for the large window areas to provide visibility for the occupants of the tour bus since the purpose of their taking the tour is to see as much of the environment as possible. The Safety Board believes that the tour bus passengers should be provided the added personal protection through the installation and use of seatbelts in the tour buses.

In rollover accidents, side windows open and windshield extractions occur as a direct result of cross-sectional bus body distortion. In the transverse direction, a motor bus body is strongest at the roof and floor. The vertical seat back and legs provide additional transverse integrity up to the bottom side window sills. When a bus overturns, dynamic loadings are imposed laterally at the roof edge and the normally rectangular bus cross section is deformed into a parallelogram. Major bending occurs at the side window posts (i.e., the weakest point) and the windows break and/or open. The only solution to the problem is to increase the transverse rigidity of the bus with either extremely stout roll bars, or transverse bulkheads. Smaller windows, or changes in the window locking design,

^{7/} In some instances, the same recommendation was issued to more than one agency.

will not prevent a window from opening in a rollover environment. Reducing window size small enough to prevent ejection conflicts with the need for a window opening large enough to be a good viewing area and also an emergency escape route. When the bus remains on its wheels after an accident, side window emergency exit capability is of utmost importance to insure postcrash occupant evacuation. The availability and use of individual occupant restraints provides an answer to the problem of occupant ejection and also prevents the occupant from being tumbled within the bus.



U.S. Department
of Transportation
National Highway
Traffic Safety
Administration

Safety Belts in School Buses

June 1985

EXECUTIVE SUMMARY

School buses are the safest form of surface transportation. In 1983, 42,589 people were killed in traffic accidents. Only 17 were school bus occupants. On average for 1981-1983, 11 passengers and 1 driver were killed in school bus accidents and 30 were seriously injured. The subject of occupant protection in large school buses is complex. Based on extensive research and public rulemaking, the National Highway Traffic Safety Administration (NHTSA) concluded by 1977 that the concept of "compartmentalization" - i.e., strong, well-padded seats with high seat backs and better seat spacing to safely retain and cushion students during a crash - would be an 'automatic' system to protect children effectively in large school buses without requiring safety belts. All available test data and real world accident data indicate that this concept has worked extremely well.

NHTSA believes that the occupant protection required in school buses manufactured after April 1, 1977, plus the inherent safety of a highly recognizable vehicle that travels on a regular route, provide a high level of safety. There is insufficient data available to demonstrate whether safety belts would increase occupant protection. The number of school bus occupant deaths and serious injuries is so low that assessing the extent to which safety belts could either prevent deaths or injury, or cause it, is not feasible.

In view of the effectiveness of the current safety standards, and the excellent safety record of school buses generally, we do not believe that a Federal requirement for safety belts in large school buses is warranted. The National Transportation Safety Board reviewed this matter in 1983 and found that current NHTSA standards appear to be effective in eliminating or substantially reducing the majority of school bus passenger injuries.

Small, van type school buses (under 10,000 pounds gross weight) are required to have safety belts for all occupants as standard equipment. The agency believes that safety belts are necessary and effective in providing occupant protection in those vehicles, because of their similarity to cars, and we encourage all passengers to wear their belts whenever the vehicles are in motion.

It is important to emphasize that the Federal standards specify the minimum safety requirements applicable to school buses. Nothing prohibits a State or local jurisdiction from purchasing buses equipped with safety belts.

For Immediate Release
January 28, 1985

Contact:
David Weiss
202-225-4276

Seatbelts in School Buses

Congressman Peter H. Kostmayer (D-PA) today introduced legislation to encourage the installation of seatbelts in new school buses.

Kostmayer's bill would authorize a total of \$30 million over three years for state-initiated programs requiring seatbelt installation in new school buses.

"More than 4000 students each year suffer injuries related to school buses," said Kostmayer, "and I'm convinced that seatbelts can reduce the number and severity of these injuries."

"I am pleased that 29 Members of Congress have already followed my lead and have cosponsored this bill," Kostmayer noted.

Since the introduction of a similar bill by Kostmayer in April of 1984, more than a dozen communities across the country have begun seatbelt programs for their school buses. These communities report great success with seatbelts and student acceptance is high.

School bus standards were tightened in 1977, requiring higher seats and additional padding to produce the "compartmentalization" features which help protect children in case of an accident. However, seatbelts are needed to keep children within this padded compartment during an accident, reducing chances of serious injury and thus enabling the child to exit the bus quickly.

Kostmayer noted that "The National Coalition for Seatbelts in School Buses, Physicians for Automotive Safety, American Academy of Orthopaedic Surgeons, and others are supporting this legislation. Last year at its convention in Chicago, the American Medical Association endorsed the use of seatbelts in school buses."

Under Kostmayer's bill the seatbelt program would be administered by the National Highway Traffic Safety Administration as part of their overall school bus safety effort. Kostmayer is hopeful that hearings on seatbelts in school buses will be held in early spring.

THE CANADIAN STUDY

National Coalition for Seatbelts on School Buses

THE CANADIAN TESTS

The January 1985 Transport Canada report of school bus crash tests has been widely publicized as proving that seat belts should not be used on the large (Type I) school bus and that the so called "compartmentalized" school bus seat without a seat belt offers better protection for children. Nothing could be further from the truth.

In the Canadian tests a large, a mid-size and a van type bus were subjected to severe 30 mph front end barrier crashes. On each bus there were six 5th percentile adult female anthropometric dummies, three belted and three unrestrained. From previous studies at UCLA and at East Liberty, Ohio it was learned that in such high force front end crashes belted dummies tend to pivot over their seat belts and strike their foreheads on the padded seat backs in front of them. Unbelted dummies on the other hand are thrown forward violently by the crash forces into the seat backs which they face. When measuring devices are placed by the researchers in the head and chest of these dummies, the belted dummies produce higher head readings and the unbelted higher chest readings. Experimentally, Head Injury Criteria (HIC) levels of greater than 1000 and Chest Accelerations of greater than 60 g. are generally accepted as sufficient to produce severe injury or death.

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DUMMY NUMBER	LOCATION IN BUS	SEAT SPACING mm	BELTED	UNBELTED	HIC	CHEST ACCELERATION (g)	
1	Front LH	533		X	*	60.4	LARGE BUS BLUEBIRD 66 PASSENGER Vehicle Wt 8147 kg Vehicle Velocity 48.8 km/h Vehicle Decel. 15 g Dynamic Crush 1371 mm Body Slide 775 mm
2	Front RH	533	X		649	40.8	
3	Centre LH	690	X		629	28.1	
4	Centre RH	690		X	220	34.2	
5	Rear LH	610		X	205	48.2	
6	Rear RH	610	X		731	25.0	
							*Data not valid due to technical problems

The results of the Canadian test of the large bus are above. In this test crash of a 66 passenger bus the only dummy experiencing life threatening forces was dummy number 1 seated unbelted in the front left hand seat with a chest reading of 60.4 g. All belted dummies were well within acceptable limits. The bus met all current federal standards including Standard 222 for school buses.

Since it is well known that the Federal 222 seat offers no protection at all for passengers in side impact and no "whiplash" protection for taller riders in rear end crashes, and that the seat was developed primarily to protect against injury in front end crashes, the failure to protect dummy number one without a seat belt is of particular concern.

In this type of front end test crash, as explained above, belted dummies will produce somewhat higher HIC levels than the unbelted dummies. In addition, the selection of the 5th percentile female which is just the right height to target the dummies head to the area of the seat back where the padding narrowly covers the metal bars of the seat and the use of the type 572 dummy which has been widely criticized for excessive HIC readings in crash tests severely prejudices these tests against seat belt use. In spite of all these test induced disadvantages, the dummies with the seat belts on the Bluebird Bus did remarkably well. On the other hand, in spite of the large area of the seat back to spread the forces, the unbelted dummy in the front seat would have experienced serious or fatal injury.

When film of the crash is viewed, dummy number 4, unbelted in the center seat, is seen to fly forward until its throat strikes the top of the seat back. In a high force frontal crash such as this the resulting throat injury would have been severe or fatal. It is conceivable that the HIC and chest readings were lower on this passenger because the throat and neck absorbed so much of the crash energy. Just how much force was so absorbed was not determined because, unfortunately, the researchers decided not to instrument the necks of the dummies.

higher. As the size of the vehicle crashed gets smaller, the crash pulse becomes greater. The forces on the dummies increase. As a result of these higher forces coupled with the stiff, targeted 572 dummy, HIC levels were increased. Further, it has been documented in the 1978 testing of school bus 222 seats in East Liberty that seats manufactured by the Thomas Bus Company consistently registered HIC levels 2.4 times greater than seats produced by the Ward Bus Company in comparative tests. Thomas seats were used in the mid size and van tests in Canada. The Coalition is convinced that the higher HIC readings in the smaller vehicles was the result of the high crash pulse, the height of the dummy, the stiffness of the type 572, and the use of a Thomas seat.

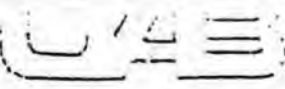
Investigation of real world accidents in van type vehicles with passengers wearing seat belts in 222 seats and forces approximating those used in Canada have not produced injuries of the head anticipated by the test data. The researchers themselves admit that they were confused by the head and chest readings in two of the three belted dummies on the van, calling their own results "inexplicable."

When Canada implemented their Standard 222, seat belts were not ordered on smaller vehicles as was done in the United States because of pressure from those who operate school buses. The Coalition believes that the protocol of these tests was influenced by a desire to support the decision not to place seat belts on small buses. No assessment by crash testing of the safety provided by the 222 seat can be considered a valid measure of passenger protecting ability (compartmentalization) unless the tests include side and rear impacts to simulate the real world of school bus accidents. Any test which measures frontal collisions only must be considered self serving.

The 222 seat was designed to protect in front end crashes, a job which it does reasonably well. The Canadian tests were designed to demonstrate this 222 seat in the best possible way, and, because of the high crash forces, the dummy height and stiffness, the Thomas seat, to show the use of seat belts on

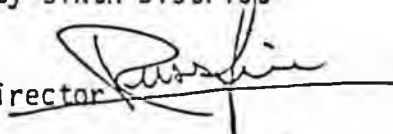
school buses in the worst possible way. In spite of these efforts, the results clearly indicate that the use of seat belts on large (Type I) school buses as advocated by the Coalition, provides superior protection to school children in front end crashes as tested in Canada as well as in all other accidents experienced by children in school buses.

Arthur L. Yeager DDS
Chairman
May 1985


The University of Alabama at Birmingham
Department of Rehabilitation Medicine
Spain Rehabilitation Center
205-934-3334
June 25, 1985

M E M O R A N D U M

TO: Ms. Gloria Molina
Assemblywoman, Fifty-sixth District

FROM: Dr. Russ Fine
Professor and Co-Director 

RE: Canadian School Bus Safety Study

> Based upon all that is known about deceleration injuries and the inherent protection possible from proper restraint systems and appropriate packaging of motor vehicle occupants, it is absurd to dignify the contention that unbelted occupants (specifically children) are at lesser risk of physical injury than belted occupants. Of course, the three-point (viz. lap-shoulder type) passenger belt is safer than the two-point because the fulcrum and arc of upper torso travel (with fixed anchors or inertia reels) is markedly reduced. However, we must reject, summarily, the conclusions of this or any other study that concludes it is safer to be unrestrained than restrained in a vehicular collision... irrespective of "differences" between motor car and buses.

> The ostensible comparisons are, in our opinion, of the apples and oranges genre'. The question as to whether to restrain or not restrain is ludicrous and those responsible for its promulgation simply know better ... and, if they don't, they need to get out of the safety engineering business.

That which constitutes the most appropriate restraint system and seat design (configuration, etc.) is the only appropriate question. The former question does an extreme disservice to automotive safety engineering as a discipline. It is an embarrassment irrespective of the veil of pseudo-scientific credibility in which it is clad.

The issues seized on but only casually alluded to by the anti-restraint advocates are clearly economic and pertain to such things as (1) "existing designs" [and the industry's interest in maintaining them as they are at present for economic reasons], (2) the larger question of responsibility for ensuring that students wear the seatbelts - especially small children [to escape the culpability/negligence issue], etc.

> The authors have, in our opinion, developed a logical sounding argument that is, in reality, predicated upon absurdities.

Moreover, the inquiry restricted the type of crash/collision to one described as a "severe frontal collision." Clearly, data from a singular type crash (which according to their own admission constituted barely more than half the

Ms. Gloria Molina

June 25, 1985

Page 2

crashes by type) should not and cannot be legitimately generalized to the spectrum of collision types in which any vehicle can be involved.

Their argument against belts flies in the face of the accepted practice of restraining airline passengers who are also very scrupulously "compartmentalized" (in keeping with the author's definition of compartmentalization) and who also are at risk of experiencing a deceleration type injury that is almost without exception, of the "severe frontal collision" variety (i.e. nose of fuselage into the ground or water).

Enormous attention within the flight-safety engineering community has been devoted to perfecting and mandating the use of lap type restraint systems for aircraft passengers (including children) who are subject to even more severe g loads and greater decelerative forces than those achieved by school buses traveling not at or near terminal velocity, but rather at or below a ground speed limit twelve to fifteen orders of magnitude below aircraft speed.

> It is our educated guess that a rather strong manufacturer's lobby has engaged the services of a consultant engineer ... and since many of us have served as consultants, from time-to-time, we are painfully aware of the realities that consultants "prove, verify, demonstrate, document or determine" precisely that which they are paid to prove, verify, demonstrate, etc. It is the nature of the consulting game.

> If one reads the article carefully it becomes apparent the conclusions are equivocal and, based on the data, could have been opposite those espoused. It is merely a matter of interpreting data, accepting or rejecting design premises, previously documented research findings, dismissing as unimportant or inconsequential failed instrumentation, ignoring shortcomings associated with the ATDs, with the HIC, ignoring associated injuries, etc.

Unfortunately, it appears that a generation of excellent, scientific achievement - an entire body of information - has been conveniently ignored ... and in a word, "that ain't kosher." In my humble opinion, giants in the field such as John Swearingen, former Chief of the Civil Aeromedical Research Institutes Protection and Survival Section and Colonel John Stapp would not be amused that their pioneering efforts in this field have been dismissed without due consideration.

> We agree that current passenger packaging can and should be improved, because the basic design configuration of the school bus has changed very little, if any, since the first ones appeared many years ago. There is little doubt that recent design modifications have improved the inherent safety (i.e. have reduced risk of injury) of school buses. However, this should not be misconstrued to negate the need for the long-overdue re-design of passenger compartments, seats, seating arrangements, interior configuration(s), restraint systems (passive and active), etc.

Inside:

- Metro - Taxi fare hike urged B1
- State - Voter fraud trial C6
- Sports - Rainy Wimbledon B3
- Business - Import curbs furor C3
- National Court studies libel C5

Also:

- Business C13
- Comics B7
- Deaths C5
- Editorials A4
- Movies A7 TV B2



Dotsch isn't picky about playoff foe
B3

Harbert Corp. does more than build
C1



Birmingham Post-Herald

Final Edition

TUESDAY, JUNE 25, 1985

25 Cents

13 injured as MAX bus loses control, hits bridge abutments

By Kathleen M. Johnston

Post-Herald Reporter

A Metro Area Express bus went out of control yesterday afternoon in Mountain Brook, striking two bridge abutments and injuring 13 passengers and the driver.

Six ambulances transported the injured to three area hospitals — Cooper Green, Baptist Medical Center, Monclair and University Hospitals.

Mountain Brook Police Chief John Haley said the most serious injuries among the passengers involved broken bones. All the injured were treated and released, according to hospital records.

Haley said the accident occurred on Old Leeds Road about 3:44 p.m.

The bus was carrying 23 people when the driver hit some wet pavement while rounding a curve.

"The driver lost control and hit a bridge abutment and careened across the road and hit the bridge abutment on the left-hand side before running off the road," Haley said.

The bus came to rest in a wooded area on the bank of Shades Creek.

No other vehicles were involved in the accident.

Haley said no charges were being considered yesterday.

Haley said the force of the out-of-control bus knocked

both of the abutments partially off the bridge.

Al Richards, general manager for MAX, said the transit system had safety personnel investigating the accident.

Haley identified the driver as Timothy Jones. He said Jones is a new driver who had completed his training two weeks ago.

Richards said indications were that the bad weather and slick road led to the accident.

"He's a new driver and Mountain Brook is a hard area to know and he was a little off schedule. Last time he reported to be was behind schedule."

Mountain Brook police Officer Gary Bailey identified the injured as:

- Daniel Walker, 75, of Harrison Avenue Southwest
- Annie G. Fleming, 54, of 18th Street Southwest, Atlanta
- Cage, 51, of Northland Drive Southwest, Landa Bar
- rell, 31, of 32nd Place North, Fannie M. Shaw, 51, of 30th Avenue North, Louise Dickson, 64, of 12th Avenue West, Mildred Millon, 51, of 37th Avenue North, Sarah Harville, 58, of 27th Court North, Irene Gray, 49, of Ninth Avenue North, the driver, Jones, 38, of 939 Ninth Court West, Ruby Temple, 43, of Cotton Avenue Southwest, Bertha Perry, 67, of Avenue J, and Ruth Glover, 62, of 18th Street North.

Ms. Gloria Molina
June 25, 1985
Page 3

> We enclose a copy of an article from this morning's Birmingham Post-Herald and one from the afternoon's Birmingham News. I spoke personally with the Chief of Police who stated unequivocally that most, if not all, of the injuries that occurred in this strangely coincidental crash would have been prevented (or their seriousness reduced) had the passengers been properly restrained with seat belts.

> There are other areas of the report that warrant criticism, but after a while it's more like beating a dead horse.

We are hopeful you and your fellow seatbelt/viz. lifebelt advocates will be aided by the information contained herein.

Good Luck ... you'll need it.

BIOGRAPHICAL SKETCH OF DR. PHILIP R. FINE

Philip R. Fine, Ph.D., M.S.P.H. is a Professor in the Department of Rehabilitation Medicine at the University of Alabama School of Medicine, Birmingham, Alabama. Since 1975 he has been Director of Research for the Medical Rehabilitation Research and Training Center and Co-Director of the University's Spinal Cord Injury Care System. He holds secondary faculty appointments in the Graduate, Public Health and Nursing Schools. He holds a doctorate in epidemiology and biostatistics, having been trained as a trauma-epidemiologist. In addition, he holds a Master of Science in Public Health degree. Dr. Fine was affiliated with the Federal Aviation Administration's Civil Aeromedical Research Institute in the late 60's before becoming Director of Research, Planning and Development for the Chicago Board of Health. Subsequently, he was appointed to the position of Health Services Coordinator for the Illinois Department of Public Health under former Governor Richard B. Ogilvie - for whom he later served as an aide. Before joining the University of Alabama at Birmingham, Dr. Fine was executive vice president of Master Care Health Plan. He is the author or co-author of over 100 published contributions to the scientific medical literature. In 1982, Dr. Fine was one of two finalists considered for the appointment to the position of Director of the National Institute of Handicapped Research. Dr. Fine is the immediate past Chairperson of the Research Committee of the National Association of Rehabilitation Research and Training Centers and a member of the Joint Ad Hoc Research Committee of the American Academy of Physical Medicine and Rehabilitation and the American Congress of Rehabilitation Medicine.

He is a co-founder of the Jefferson County Chapter of Mothers Against Drunk Driving (MADD), Alabama's first and largest MADD Chapter, and has served on the Board of Directors of the organization since it was chartered in 1982 and is presently the President. Dr. Fine served as the Chairperson of the Governor's Task Force on Drunk Driving for the State of Alabama.

A FRESH LOOK AT
THE ARVIN/CALSPAN
CRASH TEST RESULTS
(The Canadian Report)

A FRESH LOOK AT THE ARVIN/CALSPAN CRASH TEST RESULTS

(The Canadian Report)

This report is prepared at the request of Dr. Stanley Toll, Superintendent of the North Salem School District. It is also intended as an appendage to the "Comprehensive Study of Ways to Increase the Safety of School Children in School Buses".

It is important to point out that the Canadian Government Report included three sections: A literature review, a field investigation and the crash test. The portion of the report which reviewed the available literature draws no conclusions. The authors of the report considered existing studies to contain insufficient data and documentation. The study's investigators researched the experiences of school districts who had installed seat belts on their school buses. They concluded that this evidence supported the use of seat belts. The third and central section consists of an analysis of the crash tests which had been conducted.

We shall address the Arvin/Calspan Crash Test Results by focusing on the actual data itself rather than the Report's conclusions. We shall examine all the information not just isolated portions of the data. We shall provide a fresh look at the material.

The dummies were placed in three buses: Eight in a Type A and six each in a medium size and van conversion bus. Sensors were placed on the heads and chests of the dummies to record velocities and impacts. There was a suspicion that belting the dummies would increase the velocity of the heads of the dummies, so that in a crash they would receive head injuries that would be life threatening. Therefore, a formula was worked out that purported to indicate the

threshold of such injury; proposing that numbers which exceed a 1000 HIC (Head Injury Criterion) would indicate such a traumatic injury. However, as the report itself indicated, "Certainly, a HIC of 1000 is probably not the best value for a limit of human tolerance for children. Unfortunately, the fundamental research necessary to provide a reliable head injury criterion for children had not been completed." (page 14)

Among the oddities of this test's circumstances we note that none of the belted dummies were placed in original equipment. All seating was reinforced and fitted at the site. All belted dummies were seated on one side, with unbelted ones across the aisle, at front, center and rear locations. "The use of one ATD per seat in these tests somewhat limits the scope of the results since different ATD kinematics may have occurred if two or three had been placed in each seat." (Canadian Report, page 51) Six dummies were of a size comparable to a small adult female and two, included in the Type A bus only, were the size of a six year old child.

The data includes an apology for the possible or probable inadequacy of using the adult configuration for the tests, noting the probable difference in results of calculations due to the different "geometry" of children's bodies. Also noted was the inability to account, in the dummies, for the flexibility of human necks. The difference this makes in calculations, wherein the velocity of the movement of the head is very definitely concerned with flex and reaction, is not mentioned. It would seem that a thorough analysis of results would concern itself with such details. The engineers appear to be aware of this inadequacy, though they rather leave it

alone, preferring to couch their conclusions in words of possibility such as may, might and could. They do state on page 70, under Conclusions, #8, "Further collection and analysis of such data should be pursued. In particular, the direction of impact with the bus and the type of injuries encountered should be documented more fully."

The spacing of the seats is in three increments; 533 mm (approximately 22"), 610 mm (approximately 24") and 690 mm (approximately 27"). The actual belting process is not described. The belted dummies experienced an almost universal "slide" of 254 mm (appx. 10") during impact. One wonders whether the testing personnel thought it safe to assume that no occupant would position the seat belt in a good or normal fit. These were not retractable belts and the slide factor was built into the test, but not described or explained except as a description of the dummies behavior during impact. The close seating situations make this slide a considerable factor in the impact sensor reports. Again altering the calculations and therefore, logically, demanding some reservation in evaluating the oft quoted HIC values.

These often quoted conclusions of the tests largely ignore all other indications of injury presented by the test's data. Ignored are such factors as neck and chin contact with, "the area of the barrier or seat in front containing the structural steel tubing." Also ignored are instances of the unrestrained dummies' neck, forehead, chest and knees hitting the seats in front with force sufficient to break either the seatbacks or legs and to dislodge either the cushion in front or the seats themselves. Also ignored is the ultimate "disposition" of the unrestrained dummies. For example: "...ended up laying in aisle." (page 54) "The dummy then rotated to an upside

down position and ended up resting on the door operating mechanism." (page 59) "...dummy was rotated to the right and rebounded into the centre aisle." (page 61) "... the dummy ended up laying partially in the aisle." (page 63) Where are the sensors determining the extent of internal and other serious injuries to these unrestrained dummies? The report of the disposition of the dummies is eloquent and seeing the film, invaluable, in demonstrating what actually happens in an accident!

A. Blue Bird Bus -- Type A

Two out of the five (40%) unrestrained dummies suffered probable serious injury from the compartment itself or from failure of the compartment to contain them.

B. Thomas Mid-Size Bus

100% of the unrestrained dummies suffered probable serious injury from the compartment itself or from failure of the compartment to contain them.

C. Campwagon Bus

100% of the unrestrained dummies suffered probable serious injury from the compartment itself or from failure of the compartment to contain them.

In summary, 8 out of the 11 unrestrained dummies (appx. 73%) suffered probable serious injury. We submit that the "Canadian" tests are, when taken in full, clear proof that by itself the compartmentalization concept is inadequate to provide protection from serious or life threatening injury.

Resēarchers note the inadequacies of HIC values and other elements of the tests. No such apologia accompanies the actual description of the dispositions of the dummies, and we may safely draw our

own conclusions simply by employing a reasonable understanding of the English language.

In conclusion, the time for testing the compartmentalization theory on our children has come to an end. The original intent of the 1977 safety regulations was to implement both the compartmentalization theory and seat restraints. The AMA, the National PTA, the American Academy of Pediatrics and Physicians for Automotive Safety and other interested and informed groups support the belting of children in school buses. As concerned parents we urge the North Salem Board of Education not only to join in this support for seat belts on school buses but to implement their immediate installation.

Nancy Bogel

Angela Eidelman, DESIGN ENGINEER*

Eileen Mendelsohn

Allan Mendelsohn

* Box 72
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The University of Michigan

COLLEGE OF ENGINEERING
DEPARTMENT OF MECHANICAL ENGINEERING
AND APPLIED MECHANICS

321 W. F. LAY AUTOMOTIVE LAB. BLDG.
ANN ARBOR, MICHIGAN 48109-2121

DATE January 23, 1986

TO Colleagues concerned about Child Passenger Safety

FROM Kathleen Weber, MA
John W. Melvin, PhD
The University of Michigan
Department of Mechanical Engineering
& Applied Mechanics

RE Transport Canada School Bus Safety Study

John W. Melvin
Kathleen Weber

The School Bus Safety Study, conducted by Transport Canada in 1984 and reported to the public in January 1985, is being used by opponents of belts on school buses to "prove" that such belts would be dangerous for school bus occupants. We do not agree with the interpretation of the results presented by the authors nor with the secondary interpretations that are being widely communicated to the public. We believe that our collective experience of over twenty years in the occupant protection field makes us qualified to offer our opinions on the topic.

Although there are many questions related to the motivation for the study, the test procedures, the dummies, the significance of the measurements taken, and the validity of the judgements made, we will address primarily the problems of head and neck injury prediction as related to the dummies used. Our discussion will also be limited to the test and results of the large school bus crash.

By way of background, a single crash test using a large Blue Bird school bus was conducted. The bus was occupied by six 5th-percentile female dummies, which approximate the size and weight of a 14-year-old child, and two 6-year-old size dummies. Half the 5th-percentiles were restrained by lap belts and half were unrestrained, but both 6-year-olds were unrestrained. According to a spokesperson for the Road and Motor Vehicle Safety Branch of Transport Canada, the selection of the larger dummy as the primary test device was due to the fact that teenagers were receiving the majority of the injuries in Canadian school bus crashes. The reason given for not including restrained 6-year-olds in the test was that more dummies were not available. Thus we have a situation in which it was known that unrestrained teenagers were already being injured in school buses, and an effort was being made to improve that situation. It is therefore curious that a conclusion from the study that "the passive

occupant protection of the seating system...functions as intended during frontal impacts and provides excellent protection for occupants" could be taken as closing the issue. Clearly the conclusion, if valid, is very limited in its real-world application. It is also unfortunate that one of the 6-year-old dummies was not restrained for comparison purposes, and it should be noted that the bus itself suffered some serious structural failures that affected the test results.

HEAD INJURY. The injury measure used is called the Head Injury Criterion (HIC), and the report correctly states that there is some question "as to whether or not a HIC value of 1000 is a conclusive measure of serious head injury, particularly for children." Although the belted dummies did measure higher HIC values than the unbelted dummies, the highest HIC value was only 731, which is well below the 1000 limit and in the range found with the very best child restraint systems tested at the same impact speed. The reason for the higher values among the restrained dummies is also quite clear and supports the need for occupant restraints on buses. While the restrained dummy heads contacted the padded seatbacks (which, as the report indicates, could have been better padded), the unrestrained dummies hit the top of the seatbacks with their necks instead, where no load cells or accelerometers were mounted. It is interesting that one of the unrestrained dummies "rolled inboard and fell in the aisle, striking its head on the instrumentation box mounted on the floor." This type of uncontrolled occupant motion cannot be tolerated in any public school transportation system. It should also be noted that a shorter belted dummy, such as one representing a 6-year-old child, would probably have missed the seatback entirely while still being safely retained in its seating position.

NECK INJURY. Because of the different interactions with the seatbacks between the restrained and unrestrained dummies, the neck was affected in different ways. As noted above, the unrestrained dummy necks interacted directly with the tops of the seatbacks, but the dummies were not equipped to measure the resulting loads and thus no reliable injury prediction can be made. When the restrained dummy heads hit the seatbacks, the heads rotated rearward causing neck extension (rearward bending) of varying amounts. The dummy in the seat with normal spacing experienced slight bending of the neck. The neck of the dummy in a more narrowly spaced rear seat bent approximately 75 degrees. Finally, the neck of the dummy in the front seat, which was even more narrowly spaced initially from a forward restraining barrier and was pushed considerably closer due to bus structural failure, bent rearward approximately 90 degrees. The report claims in its summary that "The neck extension of several restrained dummies was judged to be life threatening." Nowhere in the report, however, is there any discussion of or reference to the biomechanical justification for this judgement. Furthermore, the analysis section, in

referring incorrectly to "neck flexure" and "flexion" (forward bending), states "There is, however, no criteria available to judge the possible severity of injury that could result from this bending." The report points out that the dummy neck is unrealistically stiff but fails to also recognize that the torso is rigid. This has the effect of transferring the entire upper-body bending motion to the only flexible unit, the neck. The rearward bending of the head observed in these tests is also routinely observed in interactions of dummies with HPR windshields and certain airbag designs. We know from field experience that humans bend differently than these stiff dummies and do not tend to suffer "life threatening" neck injuries in these situations. Finally, the biomechanical research of H.J. Mertz and L.M. Patrick indicates that the human neck can withstand neck extension of at least 80 degrees without injury.

CONCLUSION. We do not believe that the Canadian School Bus Safety Study can be used to draw the conclusion that the use of belts on recent-model large school buses poses a potential danger to the occupants. No case can be made from the results of this test program that belted children will have an increased likelihood of severe head and neck injuries in frontal crashes. Although the best possible occupant restraint system would include a shoulder belt as well as a lap belt, which is the approach now being pursued by Transport Canada, this possibility is probably far in the future. In the absence of any definitive evidence to the contrary, we firmly believe that newly purchased large school buses should be equipped with lap belts to provide their occupants with protection similar to that available in the rear seats of automobiles.



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CHAIRMAN AND PROFESSOR
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December 23, 1985

The Honorable Norman J. Levy
Chairman, New York State Senate
Committee on Transportation
The Capitol
Albany, New York 12248

Dear Senator Levy:

I appreciated being asked to participate in the 12/16/85 Hearing on Safety Belts in School Buses conducted by the New York State Senate Committee on Transportation. The focus of the hearing was on the relevance of the 1984 Canadian Crash Tests in which lap type safety belts were used to restrain one half of the anthropomorphic dummies seated in their experimentally crashed buses.

After review of the written report of these tests conducted by Transport Canada under the direction of Mr. William Gardner and of the video tape widely distributed in the United States, I have concluded that the Canadian tests are not relevant to the United States and, particularly New York State. My reasons are as follows:

1. Anthropomorphic dummies as specified in Part 572 of the United States Department of Transportation Federal Motor Vehicle Safety Standards were used. These dummies do not accurately model the flexibility of the human spine, and particularly the spine of a child. The stiffness of the dummy spine induces excess velocity in the head by the time the head contacts the seat in front of a belted dummy. The additional stiffness also prevents contact of the chest, shoulders and upper extremities with the seat in front. This contact would share loading and reduce the head accelerations and the Head Injury Criterion (HIC). The Part 572 dummy was recognized in the FMVSS in 1972 and has not been upgraded in spite of the availability of much more representative dummies: i.e; the Hybrid 3 dummy.
2. Adult injury criteria were used. The HIC of 1000 is almost certainly not applicable to children. Experimental studies have demonstrated that arterial vessel walls in the brain of children are significantly more resistant to tearing than similar adult tissues. The skulls of children are more flexible and elastic and better able to tolerate impact trauma than the adults. No consensus exists concerning a child's HIC but it is my personal impression that it is greater than 1500 and possibly 2000 rather than the 1000 used for adult.

Honorable Norman J. Levy

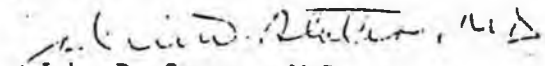
-2-

December 23, 1985

I want to express my gratitude to you for carrying on the pioneering traditions of the NYS Senate Committee on Transportation in traffic safety legislation. I also worked with Senator Edward Spino and more recently with Senator John Cammerer. Enactment of the New York State Safety Belt Use law is a product of your leadership and the traditional dedication of the committee to highway safety for New York State and the nation as a whole.

Sincerely,

JDS/rmk


John D. States, M.D.
Chairman, New York Coalition
for Safety Belt Use, Inc.

Reference: Re - Child Injury Tolerances M. Dejeammes, et al, "Exploration of Biomechanical Data Towards a Better Evaluation of Tolerance for Children Involved in Automobile Accident:", 1983 STAPP Car Crash Conference, Society of Automotive Engineers,
M. Dejeammes, et al, "Road Accident Epidemiology Among Children - Investigation at Marseille's Hospital", Society of Automotive Engineers #831667.

Canadian School Bus Safety Tests
April 1985

The Canadian test results proved several things about bus safety. For those considering installing seatbelts on larger, Type I buses, it proved:

1. that passengers restrained by lap belts in a school bus did remain within their compartment,
2. that restrained passengers and their seats did withstand the force of the collision, and
3. that all belted dummies received HIC (a generally accepted injury level) levels lower than 1000.

As expected, the unrestrained dummies received lower HIC levels than the belted ones in the severe front-end collision, but this study also showed the unbelted dummy in the center of the bus (ATD #4) did not remain within the compartment and actually landed in the aisle of the bus.

Another unrestrained dummy (ATD #1) received a slightly higher than allowable chest acceleration.

Seatbelts on school bus proponents have always stressed the need for the children to stay within the compartment in order for the compartmentalization feature to work. The dummy mentioned above which landed in the aisle and the dummy in a van (ATD #2) which was thrust through the front barrier, contacted the dash, and landed in an upside down position on the door operating mechanism, further demonstrates the need.

Also, seatbelt proponents have also stressed the need for children to be restrained in the event of lateral collisions or rollovers. Unfortunately, this study was limited in its realm and did not study the effects of seatbelted versus nonseatbelted dummies in lateral collisions. Therefore, I feel its findings are inconclusive.

The areas of concern raised by the study surround our smaller buses and vans which have higher acceleration forces during a crash because of their smaller mass. The high HIC levels of the belted dummies need to be further explored but should not be cause for alarm. The NHTSA new car tests on 1984 models reveal similarly high HIC levels for both drivers and passengers, (see attached results) yet we don't see a great number of head injuries to belted occupants in cars. In fact, a Mercedes Benz 300SD equipped with driver air bag and belt tensioning device recorded HIC levels of 890. The Canadian study itself questions the accuracy of these levels for children. They state: "The level of 1000 has been challenged by researchers in France & other countries and the validity of the mathematical expression itself can be questioned.... Certainly, a HIC of 1000 is probably not the best value for a limit of human tolerance."

Besides the fact that the Canadians only tested one type of severe collision, other inadequacies exist. These relate to the dummies used and the stiffness of the seats. Attached is a letter from Dr. John D. States, MD., a member of the National Motor Vehicle Safety Advisory Council 1970-1976, Chairman of the Crashworthiness Committee and a member of the School Bus Body Task Force of the Truck Body & Equipment Association, Inc., in which he further discusses these points.

Bridget A. Ernst
Regional CoCoordinator
National Coalition for
Seatbelts on School Buses

Attachments



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December 27, 1984

The Editor
School Transportation Director
Federal News Services, Inc.
960D National Press Building
Washington, D. C. 20045

To The Editor:

The article, "Seatbelts Flunk Canadian Test" (Volume 4 No.22, December 12, 1984) may be inaccurate and misleading to your membership and other readers who must make decisions concerning the purchase and operation of school buses. At this time no written report by the workers who conducted the tests reported in your article has been made available to the scientific community. Many questions are raised, the answers to which may lead to completely different conclusions from those reported in the above article. Some of my own concerns are as follows:

1. Part 572 dummies were used. It is well known that the neck and spines of these dummies are very stiff and do not model the performance of the human spine at all well. The shortcomings were well recognized by 1972 and an improved version with a more supple, although still quite stiff spine was introduced by Highway Safety Research Institute of the University of Michigan. The stiffness of the neck and spine of the Part 572 dummy will exaggerate head loading because it delays or prevents shoulder and chest contact with the seat back. Shoulder and chest contact should occur in this accident configuration and reduce head loads but can occur only if the spine is sufficiently flexible to permit extension.
2. The particular seats used in the experiment were particularly stiff according to one of the investigators with whom I spoke. These seats should be carefully examined to identify any structure which might increase head loading if the force is delivered from a non-horizontal direction.

There may be other considerations which will grossly alter the interpretation of the raw data that are unidentified at this time. In summary, it is vital that the Canadian study be carefully scrutinized by its own authors and by the scientific community before it is incorporated in administrative and public policy.

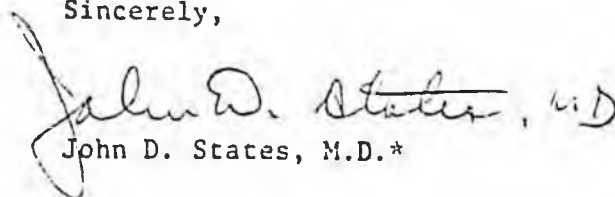
To The Editor

-2-

December 27, 1984

School bus safety belts remain a vital need for our youngest students. Virtually every state in the United States now requires that preschool children use either child restraints or adult restraints while traveling in passenger cars. These young people should be able to continue this life saving habit when they begin traveling to school in school buses. Only by equipping school buses with safety belts will this be possible.

Sincerely,

Handwritten signature of John D. States, M.D. in cursive script, with the initials "J.D." written at the end of the signature.

JDS/rmk

*Dr. States was a member of the National Motor Vehicle Safety Advisory Council 1970-1976, Chairman of the Crashworthiness Committee and a member of the School Bus Body Task Force of the Truck Body and Equipment Association, Inc. 1973-1974.

NHTSA Completes Its Crash Testing Program Of 1984 Car Models

The National Highway Traffic Safety Administration (NHTSA) has completed its 1984 new car assessment program with the release of 15 additional motor vehicle crash tests.

Of the new group, six fared reasonably well: a Toyota van wagon, a 4-door Mercedes-Benz 300 SD equipped with a driver air bag, a 4-door Mercury Grand Marquis, a 2-door Honda Prelude, a 4-door Renault Alliance (though some of the results were unavailable), and a 4-door Toyota Tercel hatchback

The tests, conducted at 35 mph, exceed the government's safety requirements by 5 mph.

All of the above cars listed except the Mercury produced head injury results during the test that were below the 1,000 limit NHTSA has considered the threshold for serious injury. The Mercury Marquis produced results that were slightly in excess of 1,000. However, the chest injury measurement produced by the driver side dummy in the Mercedes test was 63g, slightly in excess of the 60g NHTSA considers to be the desirable upper limit.

Mercedes officials did not disagree with the test results, saying their own tests had produced similar readings, but they argued that the test itself, which was developed for seat belts, isn't appropriate. The dummy does not measure how the crash forces are spread across the chest and the company has asked NHTSA to adopt a different standard for air bags.

The Toyota van also had some difficulty managing the crash forces exerted on both dummies' legs. The forces generated in the crash produced measurements in excess of the levels NHTSA says are likely to produce serious injuries.

The other vehicles tested produced head injury measurements that substantially exceeded the 1,000 limit though none exceeded the limits for chest and leg injury. See listing for details. (For earlier crash test results, see *Status Reports* Vol. 19, Nos. 4 and 9, March 3 and May 26, 1984.)

Update

Louisiana and Texas have become the 48th and 49th states to enact child restraint use legislation. Only Wyoming's legislature has not adopted a restraint requirement for young children.

NHTSA New Car Assessment Program — 1984 Models 35 mph Frontal Crash Test Results

Cars	Head Injury Criterion*	
	Driver	Passenger
Buick Park Avenue 4-Door (1985 model)	1,550	662
Datsun 200SX 2-door hardtop	1,992	582
Ford Mustang 2-door convertible	894	1,112
Honda Prelude 2-door coupe	659	475
Isuzu Impulse 2-door hatchback	1,769	2,454
Mercedes-Benz 300SD 4-door sedan (equipped with supplemental driver air bag and belt tensioning device)	890	734
Mercury Grand Marquis 4-door	1,094	1,019
Mitsubishi Tredia 4-door	1,314	1,521
Renault Alliance 4-door	940	**
Renault Sportwagon 4-door station wagon	2,053	2,721
Toyota Tercel 4-door hatchback	658	492
<u>Utility Vehicles</u>		
AMC Jeep Cherokee 2-door MPV (4x4)	850	1,548
Dodge Caravan	973	1,200
Toyota Van Wagon MPV	984	748
<u>Pickup Trucks</u>		
Ford F-150	1,362	1,443

*The lower the HIC value, the less the risk of head injury.

**Data not available.

SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. Donna Martini	Donna Martini	Box 3253	Homer, AK
2. Cathy Poole	Cathy Poole	PO Box 55250	North Pole, AK
3. Dawn Mabana	DAWN MABANA	Box 1834	Homer, AK
4. Tami Anderson	Tami Anderson	Box 761	Homer, AK
5. Linda Krick	Linda Krick	Box 2966	Homer, AK
6. Laura Todd	Laura Todd	PO Box 688	Homer, AK
7. June Kepner	June Kepner	Box 579	Homer, AK
8. Teresa Sullivan	Teresa Sullivan	Box 39	Anchor Point
9. Christy Matthews	Christy Matthews	Box 39	Anchor Point
10. Trudy Ritchie	TRUDY RITCHIE	Box 3266	Homer
11. Mary Trimble	Mary Trimble	Box 193	Anchor Pt. 996
12. Carla Salvin	CARLA SALVIN	Box 2908	Homer
13. Deborah Poore	DEBORAH POORE	Box 1443	Homer
14. Pauline Henningham	AUD WINDHAM	Box 9975	Homer
15. Sue Roberts	Same	Mile 153 Sterling Hwy.	Anchor Pt.
16. Greg Prescott	Same	617 Fairview	Homer
17. Joyce Bennett	JOYCE BENNETT	Box 214	Anchor Point, AK 99551
18. Bill Murphy	BILL MURPHY	4712 Tamarac St	Homer
19. William Krick	William Krick	P.O. Box 2966	Homer
20. Norma J. Faust	NORMA J. FAUST	PO Box 818	Homer
21. Frances Burke	Frances Burke	Box 1257	Homer
22. Brenda Kjesman	Brenda Kjesman	Bx 15153 FCB	Homer
23. Colleen Frommer	Colleen Frommer	Box 941	Homer
24. John Frommer	John Frommer	"	"
25.			

SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. <i>Anna Maria</i>	ANITA MERRAZ	4042 Pennock St	Homer AK
2. <i>Caroline M. Sullivan</i>	CORINNE SHELDON	Box 2734	HOMER
3. <i>Heina Hayward</i>	NINA HAYFORD	Box 2734	Homer
4. <i>Annmarie Holmes</i>	Annmarie Holmes	Box 1894	Homer 235-6869
5. <i>SO Nielsen</i>	JOHN NIELSON	Box 2543	Homer
6. <i>Kathleen M. Johnson</i>	KCR 34780	BEAR COUNTRY	HOMER
7. <i>W C K</i>	3812	SABINA	HOMER
8. <i>Sue Y Leebale</i>	1995	HOMER	
9. <i>Theresa</i>	Box 157		
10. <i>Joe Simmons</i>	JOE SIMMONS	1482 Bay Ave	Homer.
11. <i>Steve Jones</i>	STEVE JONES	250 Pennock St	Homer
12. <i>John F. Anderson</i>	Box 3741	Saldotua	John F. Anderson
13. <i>Dorise Harris</i>	Box 1643		Homer
14. <i>Yvonne Fox</i>	Box 905		Homer
15. <i>Sue Sullivan</i>	P.O. Box 3246		HOMER
16. <i>Walter Duff</i>	P.O. Box 1272		Homer, Ak 99603
17. <i>John M. M. M.</i>	P.O. 1251		Homer AK
18. <i>Shirley C. C.</i>	P.O. Box 2195		Homer Alaska 99603
19. <i>Vera Bertoglio</i>	P.O. Box 114		Homer Alaska 99603
20. <i>Russell H. H.</i>	Box 101		Homer AK
21. <i>Tom Denton</i>	P.O. Box 1562		Homer AK 99603
22. <i>Jennie Springer</i>	Box 2644		Homer AK 99603
23. <i>Rene Radini</i>	Box 114		Homer, AK 99603
24. <i>Eric Elison</i>	Box 114		HOMER Alaska 99603
25. <i>Richard A. Gutglue</i>	Box 114		Homer AK 99603

SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. [Signature]	7 BEAN	Box 15096	Homer AK
2. [Signature]	WIKI PLAVIN	Box 2049	Homer, AK
3. [Signature]	RICHARD INGERS	Box 1511	HOMER AK
4. Pat McBride	PAT McBRIDE	Box 282	Homer, AK
5. [Signature]	BETTYANN STECIW	Box 11650	Homer AK
6. Nancy Wise	Nancy K. Wise	Box 2262	Homer
7. Wm. Wise	William Wise	Box 2262	Homer
8. [Signature]	Barbara Wray	Box 2693	Homer
9. Charles W Radford	Charles Radford	450 N. WILSON ST	Homer AK
10. Craig A. Schlosser	CRAIG A. Schlosser	Box 3603	HOMER AK
11. Wanda Lang	Wanda Lang	P.O. Box 1894	Homer AK
12. [Signature]	[Signature]	Box 831	Homer AK
13. Gerald Jones	Gerald Jones	704 Kensington St	Homer
14. Les Lee Luby	LES LEE LUBY	4075 Mattel	Homer
15. [Signature]	B. J. MECHELS	69277 E. 1st Ave	Homer
16. Michael [Signature]	Michael [Signature]	P.O. Box 2166	Homer AK
17. Margaret Lavigne	MARGARET LAVIGNE	Box 1925	Homer AK
18. Lee Ann Poro	LEE ANN PORO	Bx 2147	HOMER AK
19. Trent Mechels	Trent Mechels	3558 Lake St	Homer
20. Dan Jerald	Dan Jerald	Bx 502	Anchorage Pt.
21. Sharon Roth	Sharon Roth	P.O. Box 2491	
22. Jeff Leake	JEFF LEAKE	PO Box 3011	
23. Steve Christian	Steve Christian	PO Box 1256	Homer AK
24. Nancy J Christian	Nancy J Christian	PO Box 1256	Homer
25. Donald K. Sanders	Donald K. Sanders	678 Sandview Ave.	Homer AK

SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. <i>Kim Gilliam</i>	Kim Gilliam	Box 15305 F.C.B.	Homer AK
2. <i>Carol Simpson</i>	Carol Simpson	Box 1538	Homer
3. <i>Staci Murphy</i>	Staci Murphy	4712, Tamra Home	
4. <i>Dane A. Morgan</i>	Dane A. Morgan	E Rd	Homer AK
5. <i>Billy Pepper</i>	Billy Pepper	Spencer Rd	Homer
6. <i>James Bradley Hood</i>	James Bradley Hood	General Delivery	Homer, AK
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. Laura Israel	Laura Israel	Box 2945	Homer
2. Judy Bradley	Judy BRADLEY	4781 Shannonct	Homer AK
3. Anne Babski	ANNE BABSKI	Box 3115	Homer, AK
4. J. F. Babski	JAMES F. BABSKI	Box 3115	Homer, AK
5. Susanne Barker	Susanne Barker	Box 1621	Homer, AK
6. Marion Brewster	MARION BREWSTER	Box 1233	Homer AK
7. Herbert Brewster	HERBERT BREWSTER	Box 1233	Homer
8. Kimberly Winslow	Kimberly Winslow	Box 15073 FCB	Homer
9. Juliana M. Amos	Juliana M. Amos	Box 2324	Homer
10. Cheryl Ware	Cheryl Ware	629 Kensington	Homer
11. William O. Russel	William O. Russel	Box 1144	Homer
12. Tom J. Early	TOM J. EARLY	SEA Box 508	HOMER, AK
13. Mary Graham	Mary Graham	Box 643	" "
14. Jan R. Wilbanks	JAN R. WILBANKS	Box 1190	Homer
15. Errett Richards	Errett Richards	Box 1440	Homer
16. Judy Fairbanks	Judy Fairbanks	Box 122	AP.
17. Aleta Gibson	ALETA GIBSON	Box 2116	Homer
18. Betty Gilmore	GILMORE, C	Box 4169	Soldotna 99609
19. Helen Keim	Helen Keim	SR Box 1263	Anchor A. 99556
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. <i>[Handwritten Signature]</i>	John Hengstler	Box 42	Anchorage, AK
2. <i>[Handwritten Signature]</i>	CHRIS CLOUGH	Box 2426	SOLDOTNA AK
3. <i>[Handwritten Signature]</i>	KATE WARRICK	Box 276	SOLDOTNA AK
4. <i>[Handwritten Signature]</i>	WINSTON RICE	SR2 Box 1553	SOLDOTNA, AK
5. <i>[Handwritten Signature]</i>	Nancy Manser	Box 3137	Kenai, AK 99611
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. Paul Anderson	PAUL ANDERSON	P.O. 2774	Homer, AK
2. Alice Miles	Alice Miles	P.O. Box 2031	Homer, AK
3. Mark Lawson	MARK LAWSON	P.O. Box 2192	Homer, AK
4. Mary Jefferson	MARY JEFFERSON	P.O. Box 1946	Homer, AK
5. Shirley Wilbanks	Shirley Wilbanks	P.O. Box 1190	Homer, AK
6. Becky Roe	BECKY ROE	P.O. Box 15196	FRITZ CREEK
7. Carol Rea	Carol Rea	Box 1133	Homer
8. Greg Ragon	GREG RAGON	Box 3008	Homer
9. Ken Landflect	KEN LANDFLECT	PO 2013	Homer
10. Donna Goodman	DONNA GOODMAN	1316 Ocean	Homer
11. Maury Hafford	MAURY HAFFORD	1113 NEVA CR.	EAGLE RIVER, AK
12. Donald Yerly	DONALD YERLY	Box 251	ANCHOR POINT, AK
13. Bill Porter	Bill Porter	P.O. Box 2071	Homer, AK
14. Lori Hanson	LORI HANSON	Box 192	P.P. AK
15. Colette Whitman	Colette Whitman	Box 2015	Homer
16. Stewart Brown	STEWART BROWN	Box 1400	Homer
17. Barbara L. Wyatt	BARBARA L. WYATT	Box 587	HOMER
18. Deana N. Smith	P.O. Box 1004	Livingwood	
19. Tim Fikstun	4042 Calhoun St.	Homer, AK	99603
20. John W. Juntala	Box 15082	Homer, AK	
21. Barry Wisnom	BARRY WISNOM	Box 1821	Homer
22. Tom Crawford	TOM CRAWFORD	Box 1259	Homer
23. Gail Crawford	Gail Crawford	P.O. Box 1259	Homer
24. Meg Mitchell	Meg Mitchell	Box 1842	Homer
25. Kathleen Stier	Kathleen Stier	Box 1136	Homer
26. Joyce T. Elscoumb	Joyce T. Elscoumb	Box 833	Homer
27. Sherry Gindner	Sherry Gindner	190 Riverview	Soldotna
28. Roni Ladriani	Roni Ladriani	Box 1154	HOMER, AK

SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. Anne Jackson	Anne Jackson	Box 2201	Homer, AK 99603
2. Jim English	Jim English	Box 3511	Homer, AK 99603
3. Brenda Steenblock	Brenda Steenblock	Box 808	HOMER AK 99603
4. Susan [unclear]	Susan [unclear]	[unclear]	[unclear]
5. Marie DeGraffeurien	Marie DeGraffeurien	Box 3527	Homer AK 99603
6. Janice Suoja	JANICE SUOJA	Box 1271	Homer 99603
7. Elizabeth Johnson	LIZABETH JOHNSON	Box 144	Homer 99603
8. Candace Ewell	Candace Ewell	Box 2863	Homer
9. Paul Sayer	Paul Sayer	Box 9353	Homer AK 99603
10. Dan Hennick	Dan Hennick	Box 28A	Homer AK 99603
11. Barbara Hrenchir	Barbara Hrenchir	4370 Pleasant Wy.	Homer
12. [unclear]	[unclear]	[unclear]	[unclear]
13. William R. Edelen	William R. Edelen	3921 Calhoun St.	Homer
14. Drew Stewart	Drew Stewart	Box 1498	Homer AK
15. Roberta Highland	ROBERTA HIGHLAND	Box 512 FCB	Homer AK
16. Charles Freeman	Charles Freeman	Box 60-A SRA	Homer AK
17. Rebecca Richardson	Rebecca Richardson	Box 2102	Homer
18. [unclear]	[unclear]	Box 1312	Homer
19. [unclear]	[unclear]	Box 2235	Homer
20. Rocky Johnson	Rocky Johnson	Box 261	Niivilchik
21. CAPEN FALL			HOMER, AK
22. Bonnie Schwensen	Bonnie Schwensen	1532 Ocean	Homer
23. Jenny L. Bradley	Jenny L. Bradley	4751 Shannon Ct	Homer
24. Susan Hanks	SUSAN HANKS	4360 Calhoun Ct.	Homer
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

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Signature	Printed Name	Address	City, State
1. Lisa C. Ellington	Lisa C Ellington	HCR 69645 Pitzman Ave	Homer AK
2. John Schmidt	John Schmidt	Box 2018	Homer, AK 99603
3. Connie R. Schmidt	Connie R. Schmidt	Box 2018	Homer, AK 99603
4. Mervyn A. Royce	Mervyn A. Royce	Box 1537	Homer AK 99603
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. Katherine M. Dawson	KATHERINE M. DAWSON	Box 1067	Homer, AK
2. David Garcia	David Garcia	Box 1481	Homer
3. Neal H. Harris	Neal H. Harris	Box 1528	*
4. Star Hoas	Star Hoas		
5. Ken Crumpine	Ken Crumpine	White Road Rt 40	Homer, AK
6. T.A. Cooney	T.A. Cooney	Box 1590	Homer
7. Elaine Waldron	Elaine Waldron		Homer, AK
8. D. Jones		Box 1492	HOMER
9. Lori Zimmerman	Lori Zimmerman	Box 2309	Homer AK
10. Beverly Stolen	Beverly Stolen	HR 40625	HOMER, AK
11. Maurice F. Bullard	MAURICE F. BULLARD	422 Eldersburg Ct.	Homer, AK
12. Debbie Bullard	DEBBIE BULLARD	"	"
13. GADY M. DENALI	GADY M. DENALI	Box 101	HOMER, AK
14. Nancy Kulice	Nancy Kulice	Box 22102	Homer, AK
15. TAM GREENWELL	TAM GREENWELL	Box 606	HOMER
16. Teresa Broome	Teresa Broome	Box 847	"
17. MAUREEN GATES	MAUREEN GATES	Box 766	Homer
18. RAYMOND GATES	RAYMOND GATES	Box 766	HOMER
19. STEVEN A. WILKINSON	STEVEN A. WILKINSON	Box 294	HOMER
20. John Fernandez	John Fernandez	Box 2656	Homer
21. Amy Morris	Amy Morris	Box 1410	Homer
22. Sandy Lauritsen	Sandy Lauritsen	" 562	AK PT
23. KRISANU MEYER	KRISANU MEYER		
24. KRISANU MEYER	KRISANU MEYER	Box 1675	HOMER
25. ANNA L. FLYNN	ANNA	Box 1959	HOMER

SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
<i>Robert R. Hobson</i>	ROBERT R HOBSON	Box 2505	HOMER AK
<i>Kathy O'Quinn</i>	KATHY O'QUINN	337 FAIRVIEW	HOMER
<i>Margaret Sander</i>	MARGARET SANDER	PO 1055	HOMER AK
<i>Jodi L. Schei</i>	Jodi L. Schei	Box 782	Homer AK.
<i>Carol A. Humbert</i>	CAROL A HUMBERT	Box 1103	Uman, Me
<i>Lynn Whitmore</i>	LYNN WHITMORE	P.O. Box 355	ANCH. PT.
<i>Ray E. Peters</i>	RAY E. PETERS	SRA Box 29-B	HOMER, AK.
<i>Gisela V. Agdamag</i>	Gisela V AGDAMAG	P.O. Box 362	Homer, AK
<i>Jan Baird</i>	JAN BAIRD	Box 2130	Homer AK 99603
<i>Teresa Harrington</i>	Teresa Harrington	Box 1984	Homer AK 99603
<i>Carol E. Jones</i>	CAROL E JONES	Box 545	HOMER AK
<i>Elsie Albertson</i>	Elsie Albertson	Box 472	Homer, AK
<i>N. L. Stery</i>	N. L. STERY	Box 1147	HOMER, AK
<i>T.H. Keffler</i>	T.H. Keffler	Box 1033	Homer AK
<i>M.E. Gross</i>	M.E. GROSS	SRA Box 84	Homer AK
<i>Richard E. ...</i>	Richard E. ...	PO Box 797	Homer, AK.
<i>Susan D. Seaford</i>	SUSAN D SEAFORD	Box 1214	Homer, AK
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. Meryl Schneider	Meryl Schneider	Box 975	Homer AK
2. Violet Rogers + Ron Rogers	Violet Rogers + Ron Rogers	Box 2196	Homer AK
3. Adele Hiles	ADELE HILES	Box 1109	Homer AK
4. Marie Arthur	Marie Arthur	Box 1927	Homer
5. Diana LeBrun	DIANA LEBRUN	Box 1050	HOMER AK
6. Dale Ray VanDerMark	Dale Ray VanDerMark	Box 1662	Homer AK 99603
7. Timothy A. Greer	TIMOTHY A. GREER	SRA Box 78	HOMER AK
8. Elizabeth A. Herculice	Elizabeth Herculice	Box 1245	Halliburton AK 99603
9. Robin Zipfman	Robin Zipfman	SRA 37C	Homer 99603
10. Jane Wingquist	JANE WINGQUIST	237 CITYVIEW	HOMER 99603
11. [Signature]	[Printed Name]	[Address]	[City, State]
12. [Signature]	[Printed Name]	[Address]	[City, State]
13. Carrie Byrne	Carrie Byrne	Box 3552	Homer AK
14. Kenton Bloom	KENTON BLOOM	Box 1141	HOMER, AK
15. John Shew	John Shew	SRA 35-B	Homer, AK
16. Bob Schiro	Bob Schiro	Box 1924	Homer AK
17. Helen Loosli	Helen Loosli	Box 3154	Homer
18. Pam Black	PAM BLACK	Box 1058	Homer
19. John Byerly	JOHN BYERLY	4486 Early Springs	Homer
20. Ed Carl Jr	ED CARL JR	PORRYLOCK	Homer AK
21. Dorothy Vaughan	Dorothy Vaughan	Box 673	Homer AK
22. Victor H. Hiles	VICTOR H. HILES	Box 1109	Homer AK
23. Kevin Wyatt	Kevin Wyatt	Box 587	Homer
24. Brian Kennerly	Brian Kennerly	Box 3074	Homer
25. Teri Wisdom	Teri Wisdom	Box 1821	Homer AK

SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. <i>[Signature]</i>	FARRIE E. MEYER	Box 2841	Homer AK
2. <i>[Signature]</i>	LINDA EASON	Box 893	Homer, AK.
3. <i>[Signature]</i>	PHILIP DROLLINGER	Box 793	Homer AK
4. <i>[Signature]</i>	JULIE HICKMAN	Box 793	Homer AK.
5. <i>[Signature]</i>	STACEY CLARK	Box 282	Homer AK
6. <i>[Signature]</i>	RENÉE ROND	Box 3130	Homer AK
7. <i>[Signature]</i>	ROBERT BOND	Box 3130	Homer
8. <i>[Signature]</i>	MRS THOMAS M HAEG	3882	KATCHEMIK WA
9. <i>[Signature]</i>	CLINT MYERS	4657 Early Spring	SP. 32
10. <i>[Signature]</i>	CECILIA DUNHAM	4657 EARLY SPRING ST	
11. <i>[Signature]</i>	3936 Suedlund	AK	
12. <i>[Signature]</i>	John Hatfield	Box 2120	Homer, AK
13. <i>[Signature]</i>	Ron Pauka	Box 286	Anchor Pt AK
14. <i>[Signature]</i>	HILKER THIES	Box 976	Homer AK
15. <i>[Signature]</i>	DANIEL HEJL	Box 2089	Homer AK 99603
16. <i>[Signature]</i>	PO BOX 181	Homer AK	99603
17. <i>[Signature]</i>	CHRIS MAKEDA	P.O. Box # 908	Homer 99603
18. <i>[Signature]</i>	MARION BELLAMY	Box 1459	Homer 99603
19. <i>[Signature]</i>	Buddy DROLLINGER	Box 793	Homer 99603
20. <i>[Signature]</i>	CECILIA		Homer 99603
21. <i>[Signature]</i>	CATHY HANKINS	Box 1039	Homer AK.
22. <i>[Signature]</i>	Denise E. Felch	Box 2468	Homer, AK 99603
23. <i>[Signature]</i>	Vern J. McKinney	Box 1474	Homer
24. <i>[Signature]</i>	DANN SIMS	3735 W 35 th	ANCH 99503

SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. <i>[Signature]</i>	Michael R. Whiting	Box 10	Homer
2. <i>[Signature]</i>	Sharon York	4647 Rochelle	Homer
3. <i>[Signature]</i>	Francie Roberts	Box 1134	Homer
4. <i>[Signature]</i>	Jeff Mitchell	Box 3143	Homer
5. <i>[Signature]</i>	Dr. Michael Allan Appenys	P.O. Box 342	Kasilof
6. <i>[Signature]</i>	Paula Ghies	Box 976	Homer
7. <i>[Signature]</i>	Clint Drollinger	Box 2578	Homer
8. <i>[Signature]</i>	C.L. Hamerle	Box 101	Homer
9. <i>[Signature]</i>	BETTYANN STEWART	Box 1650	Homer
10. <i>[Signature]</i>	JoAnn Beer	Box 3211	Homer
11. <i>[Signature]</i>	Conyle Langlois	Box 101	Homer
12. <i>[Signature]</i>	DANIEL MULLER	Box 111	Homer
13. <i>[Signature]</i>	TIMOTHY F. KRATZ	Box 101	HOMER
14. <i>[Signature]</i>	MARILYN GAMMA	Box 2144	HOMER
15. <i>[Signature]</i>	Craig Schbesser	Box 3603	"
16. <i>[Signature]</i>	Andy Gilliam	Box 15205	FCB Homer
17. <i>[Signature]</i>	Judith Hardesty	Box 282,	Anchor Pt., AK.
18. <i>[Signature]</i>	JAMES L STEWART	Box 137	Anchor Pt AK
19. <i>[Signature]</i>	MARY NAUMANN	Box 1409	Homer AK 99606
20. <i>[Signature]</i>	John Paul	32760 Falls Cr.	Red Homer AK
21. <i>[Signature]</i>	Vannae Wallace	Box 2578	Homer, AK.
22. <i>[Signature]</i>	Sharon Grutschow	P.O. Box 2571	Homer
23. <i>[Signature]</i>	Thomas Nelson	P.O. Box 1634	Homer AK
24. <i>[Signature]</i>	ELIZABETH CHAPPLE	2664 Sterling Hwy	Homer, AK
25. <i>[Signature]</i>	GARLAND BLANCHARD	535 Fairview - West	Homer, AK

SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
<i>Janet K... Carroll</i>	JANET KETTING CARROLL	Box 1858	Homer Alaska
<i>Carole Hamill</i>	CAROLE HAMILL	54155 E. 11th Rd	Homer AK 99603
<i>L.D. Spence</i>	L.D. SPENCE	39960 HIGHWYEN	HOMER AK
<i>Jill Maerdu</i>	Jill Maerdu	POV 3552	" "
<i>Robert P. James</i>	ROBERT P. JAMES	S.P.A. Box 43	Homer AK
<i>Jay C. Failing</i>	JAY C FAILING	SRA BOX 68	HOMER
<i>Ray Hodge</i>	RAY HODGE	248 W. Pioneer Ave	HOMER AK
<i>Kathie B. Gibancy</i>	Kathie B. Gibancy	Box 1807	Homer AK 99603
<i>Sharon Keese</i>	Sharon Keese	6555 S. Kanare Cr	Kenai
<i>Joyce Jalo</i>	Joyce Jalo	323 N. Homer St	Homer AK
<i>Helen Rankin</i>	Helen Rankin	P.O. Box 2141	Homer 99603
<i>Kathy Clarkson</i>	Kathy Clarkson	P.O. Box 91	Homer AK
<i>Susan McKay</i>	SUSAN MCKAY	Box 2803	Homer AK
<i>Gail Morrison</i>	GAIL MORRISON	P.O. Box 15004	F.C.B. Homer AK
<i>Kenneth L. Hoyt</i>	Kenneth L. Hoyt	Po Box 2772	Homer, AK
<i>Samuel D. Miller</i>	SAMUEL D. MILLER	Box 1098	Homer
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. Dennis Peliver	Dennis Peliver	Box 15271	FCB Homer
2. Friedrich Guider	FRIEDRICH GUIDER	1920 EAST RD	HOMER
3. Sara C. Mearns	SARA C. MEARNS	Box 34E East	Homer
4. LISA Herschleb	LISA HERSCHLEB	14930 Kachemok Dr	Homer
5. BECKIE Noble	BECKIE NOBLE	Box 1551	HOMER, AK
6. Carol Griswold	CAROL GRISWOLD	Box 1915	Homer
7. Jody Seitz	JODY SEITZ	Box 3595	Homer
8. Katherine Carter	KATHERINE CARTER	SEAFLEX C	HOMER
9. Bruce Robertson	BRUCE ROBERTSON	Box 1827	Homer AK 99603
10. TOM MARRAKOWITZ	TOM MARRAKOWITZ	BOX 3354	HOMER AK 99603
11. SUSAN KRAMOVICH	SUSAN KRAMOVICH	Box 2412	HOMER AK 99603
12. SCOTT D BURBANK	SCOTT D BURBANK	PO Box 2412	HOMER AK 99603
13. DAVID J. SUNDSTADT	DAVID J. SUNDSTADT	500 SWIFT CR	HOMER
14. KIRK A. VASEY	KIRK A. VASEY	Mile 1 1/2 East End	Homer
15. REBECCA L. TAYLOR	REBECCA L. TAYLOR	P.O. Box 1061	HOMER AK
16. MILDRED BART	MILDRED BART		
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school bu

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Signature	Printed Name	Address	City, State
1. [Handwritten Signature]	[Handwritten Name]	P.O. Box 1237	Homer, AK
2. [Handwritten Signature]	[Handwritten Name]	Box 999	Homer AK
3. [Handwritten Signature]	EDWARD BERNARDI	Box 1524	Homer
4. [Handwritten Signature]	SANDRA WILSON	Box 1454	Homer
5. [Handwritten Signature]	HERRITIA LEDGER	St. Anne's	Brookline
6. [Handwritten Signature]	WICKI HILL	Box 1805	Homer AK
7. [Handwritten Signature]	Kim Smith	Box 3235	Homer, AK
8. [Handwritten Signature]	Julie Stephenson	Box 6474	H.C. A. 99605
9. [Handwritten Signature]	Sallie Butters	Box 1223	H
10. [Handwritten Signature]	Scott Lowe	P.O. 192	Homer
11. [Handwritten Signature]	David Garcia	PO 1481	Homer
12. [Handwritten Signature]	PATRICIA SIREY	Box 2227	"
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. Linda M. Stine	LINDA M. STINE	Box 2594	HOMER, AK.
2. [Handwritten Signature]	ATZ H. [Handwritten]	" 3125	" "
3. Julie Derry	Julie Derry	Box 951	Homer, AK
4. Charlene Ditten	Charlene Ditten	Box 601	Homer, AK
5. Barbara Gibson	Barbara Gibson	Box 2393	Homer AK
6. John R Gibson	John R Gibson	Box 2393	Homer AK
7. Candace L. Hendrix	Candace L. Hendrix	Box 2066	Homer, AK
8. Betsy Pitzman	Betsy Pitzman	Box 1188	Homer AK
9. Jean Berns	JEAN BERNIS	SRA BOX 980,	ANCHOR POINT AK
10. Kathryn Royo	Kathryn Royo	Box 1989	HOMER, AK
11. Mark Robl	Mark Robl	Box 15154 FCS	Homer AK
12. P. A. Snyder	TERESA A. SNYDER		Homer
13. Finn Bower	Finn Bower		Homer
14. Cathy Crumrine	Cathy Crumrine		Homer.
15. Brian Cunningham	Brian Cunningham		Homer
16. Kathy Day	Kathy Day		Homer, AK
17. Tony Salazar	TONY SALAZAR		HOMER, AK
18. Macianne Snowden	MACIANNE SNOWDON	PO 1058	Homer
19. Dianne T. Martin	Dianne T. Martin	P.O. 662	Homer
20. [Handwritten Signature]			
21. [Handwritten Signature]			
22. Fred E. Daniels	FRED E. DANIELS	193 DARRIEU DRIVE	
23. M.L. Marshall	M.L. MARSHALL	SRA Box 47 - Homer, AK	99603
24. John Mario	John Mario	PO 1251	Homer Ak 99603
25.			

SEATBELTS ON SCHOOL BUSES

Animal
Crackles

The undersigned support the installation of seatbelts on school buses

Signature	Printed Name	Address	City, State
1. Mary Naylor	MARY NAYLOR	Box 1270	HOMER AK 99603
2. Kathleen A High	KATHLEEN S HIGH	4500 EARLY SPRING RD	HOMER AK
3. Debbie Seymour	Debbie Seymour	Box 3010	Homer AK
4. Christy Mershon	CHRISTY MERSHON	Box 1677	HOMER AK.
5. B. Elaine Gregoire	B. ELAINE GREGOIRE	Box 241	HOMER, AK.
6. Linda Grainger	LINDA GRAINGER	SRA Box 55	HOMER
7. Beverly Smith	BEVERLY SMITH	NCR 56605 E. Rd.	Homer
8. Barb Benson	BARB BENSON	STAR RT. Box 909	ANCHORAGE POINT, AK.
9. Helen Delle	HELEN DELLE	5276 GIBBS AVE	HOMER
10. Timothy S. White	TIMOTHY S. WHITE	4586 EARLY SPRING RD	HOMER, AK.
11. Nancy M. G. White	NANCY M. G. WHITE	4586 EARLY SPRING RD	HOMER, AK.
12. Barbara McLean	BARBARA MCLEAN	Box 1629	HOMER, AK
13. Melissa Condon	MELISSA CONDON	Box 15063	FCB HOMER AK
14. Marilyn Breakfield	MARILYN BREAKFIELD	Box 454	HOMER, AK
15. Kathi Duncan	KATHI DUNCAN	Box 1244	HOMER AK
16. John G Baird	JOHN G. BAIRD	Box 2130	HOMER AK
17. Deborah S Wallin	DEBORAH S WALLIN	Box 593	HOMER AK
18. Paul Wallin	PAUL R. WALLIN	Box 593	HOMER AK.
19. D. Layton	D. LAYTON	Box 2211	
20. D. Walker	D. WALKER	Box 2017	HOMER AK
21. Patricia M. Wood	PATRICIA M. WOOD	Box 2579	HOMER AK
22. [Signature]			
23. R. L. Edelen	R. L. EDELEN	3921 Lakeside Ct.	
24. Paula Widmer	PAULA WIDMER	Box 2126	HOMER
25.			

SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. April DeGraffenried	April DeGraffenried	P.O. Box 3257	Homer AK
2. Julie Arnold	Julie Arnold	P.O. Box 491	Homer, AK
3. Edward M. Muekoolani	DARIN McBride	PO Box 282	Homer AK
4. Edward M. Muekoolani	Edward M. Muekoolani	P.O. Box 257	Anchorage AK
5. John W. ...	John W. ...	324 Alaska 99603
6. Kim Gilliam	Kim Gilliam	P.O. Box 15205 FCB	Homer AK
7. Luther P. Chute	LUTHER CHRISTOPHER	SRT B F 58	HOMER
8. Donna Putman	DONNA PUTMAN	P.O. Box 573	HOMER, AK
9. Brigitte Kent	Brigitte Kent	P.O. Box 2492	Homer AK 99603
10. Sherri L. ...	Sherri L. ...	P.O. Box 1-2768	Homer AK
11. Adde Staines	Adde Staines	P.O. Box 2147	Homer AK 99603
12. Chad Neumann	Chad Neumann	P.O. Box 1424	Homer AK 99603
13. Joe Hagel	Joe Hagel	Box 105	Branell 99605
14.
15. Nancy Foster	Nancy Foster	P.O. Box 15221 FCB	HOMER AK 99603
16. Bernard Hagala	Bernard Hagala	Box 105 Branell	99603
17. Carol Ames	Carol Ames	126 ...	Homer 99603
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SEATBELTS ON SCHOOL BUSES

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The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. <i>[Signature]</i>	SARA E ALLISON	Box 3180	Homer AK
2. <i>[Signature]</i>	BILL HALL	Box 475	A.P. AK
3. <i>[Signature]</i>	ROXANNE VELSKO	SR Box 80	A.P. AK
4. <i>[Signature]</i>	ERNEST J SACATHE	PO Box 160	AD AK
5. <i>[Signature]</i>	ARN E. ROTH	Box 24	Anchor Point AK
6. <i>[Signature]</i>	MIKE KEENA	Box 3176	Homer AK
7. <i>[Signature]</i>	DAVID ANDERSON	Box 215	CP. AK
8. <i>[Signature]</i>	KEITH NELSON	Box 603	A.P. AK
9. <i>[Signature]</i>	Bill Lander	Box 185	Ap. AK
10. <i>[Signature]</i>	KEVIN A NELSON	Box 605	AK
11. <i>[Signature]</i>	FRANCIS NELSON	Box 480	AK
12. <i>[Signature]</i>	MARSHA ROUGLEY-MUE	Box 99	A.P. AK
13. <i>[Signature]</i>	GORDON JONES	Box 2233	Homer AK
14. <i>[Signature]</i>	RICHARD DAVID	Box 1705	Homer AK
15. <i>[Signature]</i>	NORMA BELAND	Box 1705	Homer AK
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. <i>Jim A. Bolt</i>	James H. Bolt	Box 446	H.P. AK
2. <i>Burlene A. Little</i>		3601 MAIN ST.	BOX 1
3. <i>James F. Weston</i>	James F. Weston	3953 Bartlett St.	Homer
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on sch

Signature	Printed Name	Address	City, Sta.
1. <i>Nina Harford</i>	NINA HARFORD	Box 2081	Homer
2. <i>Anna M. Babski</i>	ANNIE M. BABSKI	Box 3115	Homer
3. <i>James F. Babski</i>	JAMES F. BABSKI	Box 3115	Homer
4. <i>Steve Gibson</i>	STEVE GIBSON	SRA Box 50-D	Homer
5. <i>John Brown</i>	John Brown	Box 443	Homer
6. <i>Jeff Sinner</i>	JEFF SINNER	Box 2917	Homer
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. <i>Tammy ...</i>	Tammy ...	Box ...	Okla
2. <i>Chaire E. Deitz</i>	CHAIRE E. DEITZ	Box 586	Homer, Okla
3. <i>Diana Dalton</i>	DIANA DALTON	Box 2498	Homer, Okla 99603
4. <i>Rose Specht</i>	ROSE Specht	Box 1439	Homer, Ok 99605
5. <i>Sara C. ...</i>	S. C. ...	HCR 54965	East Homer, AK 99603
6. <i>Mary Jane Fox</i>	MARY JANE FOX	Box 1912	Homer AK 99603
7. <i>Laura Peters</i>	Laura Peters	SEA Box 29-03	Homer AK 99603
8. <i>Barb Post</i>	Barb Post	Box 1069	Homer 99603
9. <i>Jacqueline Hull</i>	Jacqueline Hull		
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
<i>Donald East</i>	Donald East	135 Cityview	Homer, AK
<i>William H. Bell</i>	William H. Bell	Box 894	Homer AK
<i>Sally C Keene</i>	SALLY C KEENE	SRA Box 552 Homer A	Homer, AK
<i>Kristal McAtee</i>	Kristal McAtee	Box 3006	Homer, AK
<i>Terry Anderson</i>	Terry Anderson	SRA Box 76	Homer, AK
<i>Dale Willhite</i>	DALE WILLHITE	P.O. Box 457	Homer, AK.
<i>Martha A. Schmidt</i>	Martha Schmidt	P.O. Box 732	Homer, AK 99602
<i>Debbie Bullard</i>	DEBBIE BULLARD	422 Elderberry Ct.	Homer, AK.
<i>Dean R. Heuser</i>	DEAN R. HEUSER	1264160 Pitman Ave,	Homer, AK
<i>Cornie Georgel</i>	Cornie Georgel	Box 1412	Homer AK.
<i>W.E. Murphy</i>	W.E. Murphy	Box 597	Homer
<i>John Haugstorn</i>	John Haugstorn	Box 42	Anchorage AK.
<i>Jodi Kartington</i>	Jodi Kartington	Box 776	Homer AK
<i>A.J. Joseph</i>	A.J. JOSEPH	Box 1581	Homer, AK.
<i>M. Groesbeck</i>	M. GROESBECK	3281 KACHEMAK DR.	
<i>David J. Otness</i>	DAVID OTNESS	Box 883	PETERSBURG, AK 9982
<i>Rachel Gannaway</i>	Rachel Gannaway	Box 653	Homer, AK 99603
<i>Natalie Lerch</i>	NATALIE LERCH	Box 1558	HOTKER
<i>Virginia Cudiff</i>	Virginia CUDIFF	4115 Seelingshof	Homer
<i>Melanie Williams</i>	Melanie Williams	P.O. Box 3558	Homer
<i>Paul R. Hodgdon</i>	Paul R. Hodgdon	P.O. Box 1450	Homer Alaska
<i>Melissa Cloud</i>	Melissa Cloud	Box 2756	HOMER AK
<i>Melissa Condon</i>	Melissa Condon	Box 15063 R13	Homer AK.
24. Are you going to put them on the kindergarten kids?!			
<i>R. J. McKinstry</i>	R. J. MCKINSTRY	P.O. 1525	HOMER, AK.
<i>Kimber Shingley</i>	Kimber Shingley	SRA Box 7-B	Homer, AK
<i>Tamra J. Quett-Person</i>	TAMRA J. QUETT-PERSON	Box 155	Anchorage 99552 (28)
<i>Terry Jones</i>	TERRY JONES	471A RING	Homer Alaska 99603

What happens when the kids cut out the seat belts? WO

SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
<i>Kathy Herald</i>	KATHY HERALD	4006 MULLIKIN	HOMER AK
<i>Hugh Littrell</i>	HUGH LITRELL	4600 W. 11th St. Ld.	HOMER AK
<i>Debra Turkington</i>	Debra Turkington	Box 1101	Homer AK
<i>Cathy R. Conn</i>	CATHY R. CONN	Box 1155	Homer AK
<i>Publica Hauquon</i>	HOUQUON	Box 3409	Homer AK
<i>Rhoda Reed</i>	Rhoda Reed	679 Fairview Unit N	Homer AK
<i>Laura W. Narton</i>	LAURA W. NARTON	Box 1960	Homer AK
<i>Barbara Annette M. Barrett</i>	BARBARA ANNETTE M. BARRETT	35230	SOLDOTNA AK
<i>Anthony Smith</i>	Anthony Smith	PO Box 101	Anchor Point AK
<i>Elaine M. Grabowski</i>	ELAINE M. GRABOWSKI	Box 1744	HOMER AK
<i>Emmitt Trimble</i>	Emmitt Trimble	Box 193	Anchor Pt.
<i>T.D. GEE</i>	T.D. GEE	Box 15023	FRITZ CRISK
<i>Ken Ellis</i>	KEN ELLIS	P.O. BOX 15242	FC HOMER, ALASKA
<i>Peggy Frazier</i>	Peggy Frazier	P.O. Box 39025	Nimichik, AK
<i>Dianne Hardy</i>	Dianne Hardy	P.O. Box 15253	FCB HOMER AK
<i>Tom ...</i>	Tom ...	Box ...	HOMER AK 99603
<i>Frank ...</i>	Frank ...	Box 6446	Ullibatone AK 996
<i>John ...</i>	John ...	Box ...	HOMER AK 99603
<i>Jean Howard</i>	Jean Howard	Box 1977	Homer 99603
<i>Cindy Ellis</i>	Cindy Ellis	Box 15242	FC Homer
<i>Kenneth L. Crumaine</i>	Kenneth L. Crumaine	White PLDERCT 4-0	HOMER AK
<i>John W. Bushell</i>	John W. Bushell	534 W. Cowles	Homer, AK 99603
<i>Kathy Garrison</i>	Kathy Garrison	4014 Ben. Walters Ln	Homer
<i>Dianne Tremain</i>	Dianne Tremain	P.O. Box 728	Homer
<i>Tom LAING</i>	TOM LAING	SRA 47-B,	HOMER
<i>J Drawdy</i>	J Drawdy	HER 1193	Anchor Pt. (28)
<i>P. ...</i>	P. ...	Box 57920	HOMER

SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. <i>Karen Maloney</i>		P.O. Box 486	Homer Alaska 99603
2. <i>Darlene Shackelford</i>		4703 Rockwell	Homer AK 99603
3. <i>Mae Johnson</i>		P.O. Box 1823	Homer AK 99603
4. <i>Cyndi Varsos</i>		Box 1885	Homer AK 99603
5. <i>Jim Varsos</i>		Box 1885	Homer AK 99603
6. <i>Linda R Ellsworth</i>		Box 833	Homer AK 99603
7. <i>Dianne Degan</i>		Box 1186	Homer AK 99603
8. <i>Barbara Logan</i>		4234 Sledlund St.	Homer, AK 99603
9. <i>John Lee</i>	" " "	" " "	" " "
10. <i>Christina P. Hunt</i>		394 East Fairview	Homer AK 99603
11. <i>Peter Friend</i>	" "	" "	" "
12. <i>Patt J. Whelan</i>		Box 640	Homer
13. <i>D. DeBruin</i>		Box 15204	Homer AK 99603
14. <i>Cristy D. Law</i>		P.O. B. 815	Homer, AK 99603
15. <i>Kurt [Signature]</i>		Box 1745	Homer, AK 99603
16. <i>Mary Pallard</i>		Box 901	Homer AK 99603
17. <i>Bob Pallard</i>		Box 901	Homer AK 99603
18. <i>Bernadette D. Wilson</i>	BERNADETTE D. WILSON	4676 SIBONIA RD	HOMER ALASKA 99603
19. <i>Brenda L. Richardson</i>	BRENDA L. RICHARDSON	6535 DIAMOND RING RD.	HOMER ALASKA 99603
20. <i>Bruce R. Forster</i>	BRUCE R. FORSTER	BX 1021	HOMER, AK 99603
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. <i>Vernon Holman</i>	Vernon Holman	500 E. 20th St	Home A.K.
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. <i>Marianne Markelz</i>	MARIANNE MARKELZ	Box 2329	HOMER, AK
2. <i>Maei Powell</i>	MAEI POWELL	SEASIDE	ANCHORAGE, AK
3. <i>Camden C. Wall</i>	Camden C. Wall	Box 1898	HOMER, AK
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses

Signature	Printed Name	Address	City, State
1. <i>Willie Stewart</i>		<i>Box 3061</i>	<i>Hotchkiss AK</i>
2. <i>Faye Campbell</i>		<i>2912</i>	<i>Hotchkiss AK</i>
3. <i>Peggy LeMay</i>			
4. <i>Sherry Warner</i>		<i>489 Elderberry</i>	<i>Dr. Homer AK</i>
5. <i>James D. Doughty</i>		<i>196</i>	<i>Hotchkiss AK</i>
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. Lisa Stroh	LISA STROH	Box 3578	Homer AK
2. Renee K. Steiner	Renee K Steiner	Box 622	Homer, AK
3. Elizabeth H. Tolwell	Elizabeth H. Tolwell	General Delivery	Homer
4. Terilyn Gee	Terilyn Gee	po 2034	Homer
5. Bradley Wilkins	BRADLEY WILKINS	Box 2887	Homer
6. Gary Catlett	GARY CATLETT	Box 1509	Homer
7. James Catlett	JAMES CATLETT	Box 1509	Homer
8. Anne C. Whitney	ANNE C. WHITNEY	PO Box 1525	Homer
9. Ted Benhardt	Ted Benhardt	P.O. Box 106	Anchor Point
10. Therese Elkins	Therese Elkins	PO Box 353	Homer
11. Kathy M. Johnson	KATHY M. JOHNSON	P.O. Box 1595	Homer, AK
12. Elaine Brown	Emt Brown	PO BOX 1404	Homer AK
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. <i>Nancy K. Wise</i>	Nancy K. Wise	Box 2702	Homer
2. <i>Deborah A. Schuster</i>	Deborah A. Schuster	PO Box 524	Homer AK
3. <i>John Child</i>	JOHN CHILD	Box 543	Homer AK
4. <i>Judith Gier</i>	Judith Gier	Ext. 3670	Homer AK
5. <i>Paul Banks</i>	PAUL BANKS	4456 E. HURD	Homer
6. <i>Katy White</i>	Katy White	Box 2887	Homer
7. <i>Jeanne K. Stewart</i>	Jeanne K. Stewart	POB. 1495	Homer
8. <i>Denise Harris</i>	Denise Harris	Box 1643	Homer
9. <i>David Webster</i>	David A. Webster	15251 FCB	Homer
10. <i>Cornie Warkola</i>	CORNIE WARKOLA	Box 3603	Homer
11. <i>Nancy Chastain</i>	Nancy Chastain	Box 3184	Homer
12. <i>Betty J. Finboe</i>	Betty J. Finboe	Box 194	Homer
13. <i>Karen Mumford</i>	KAREN Mumford	Box 1293	Homer
14. <i>Denise M. Donald</i>	Denise M. Donald	SEA Box 342	Homer
15. <i>Ardis Acuff</i>	ARDIS ACUFF	PO. Box 3	ANCHOR PT.
16. <i>Kitri Euler</i>	Kitri Euler	SEA Box 78	Homer
17. <i>Ann Schwenson</i>	Ann Schwenson	ADP 9296	Homer
18. <i>James W. Wickersham</i>	James W. Wickersham	24650 Lishy Road	Homer
19. <i>Peggy S. Hock</i>	Peggy S. Hock	Box 2096	Homer AK
20. <i>Patricia Hurley</i>	Patricia Hurley	SEA Box 672	Anchor Pt.
21. <i>Carl Thomas</i>	Carl Thomas	PO. Box 3486	Homer
22. <i>Lucia P. Christensen</i>	Lucia P. Christensen	209 Cityview Ave.	Homer, AK
23. <i>Bob Schiro</i>	Bob Schiro	Box 1924	Homer
24. <i>Judith Summers</i>	Judith Summers	Box 2415	Homer
25. <i>Maryjane Murphy</i>	Maryjane Murphy	PO Box 3185	Homer
26. <i>Dennis W. Wade</i>	Dennis W. Wade	SEA Box 444	Homer

SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
<i>[Handwritten Signature]</i>	Kayl Roberts	1031527	Homer, AK
<i>[Handwritten Signature]</i>	JANE WINGGREN	6500 DIMOCK	KITAS Homer, AK
<i>[Handwritten Signature]</i>	Helen Serrano	1504 1505	Homer, AK
<i>[Handwritten Signature]</i>	James M. Palmer	3015 3 Main #10	Homer, AK
<i>[Handwritten Signature]</i>	Charles Colston	3124	Homer, AK
<i>[Handwritten Signature]</i>	BARBARA T. DAVIS	Box 1866	Homer, AK
<i>[Handwritten Signature]</i>	DAVID M. FERGUSON	Box 451	Homer, AK
<i>[Handwritten Signature]</i>	Paul E. Scher	1002954	Homer, AK
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SEATBELTS ON SCHOOL BUSES

undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
<i>Stanley Clark</i>	STANLEY CLARK	Box 282	Homer AK
<i>Alycia Quinlan</i>	ALYSIA QUINLAN	Box 872	Homer AK
<i>Michael C. Whelan</i>	MICHAEL C. WHELAN	Box 627	Homer AK
<i>Cathryn S. Sutherland</i>	CATHRYN S. SUTHERLAND	Box 2869	Homer AK
<i>Philip Dröllinger</i>	PHILIP DRÖLLINGER	Box 793	Homer AK
<i>Art Wilder</i>	ART WILDER	Box 1210	Homer, Alaska
<i>Greta Dröllinger</i>	GRETA DRÖLLINGER	Box 793	Homer, AK
<i>Alice Dröllinger</i>	ALICE DRÖLLINGER	Box 793	HOMER, AK 99603
<i>Ken Harper</i>	KEN HARPER	Box 2448	Homer, AK 99609
<i>Teresa Moe</i>	TERESA MOE	Box 2166	Homer AK 99603
<i>Kathy Euker</i>	KATHY EUKER	Box 2747	Homer AK 99603
<i>Buddy Dröllinger</i>	BUDDY DRÖLLINGER	P.O. Box 793	Homer, AK 99603
<i>Julie Hickman</i>	JULIE HICKMAN	P.O. Box 793	Homer AK 99603
<i>Terry Finlayson</i>	TERRY FINLAYSON	Box 1754	Homer 99603
<i>Linda Munns</i>	LINDA MUNNS	Box 3361	Homer AK
<i>Marion H. Roth</i>	MARION H. ROTH	Rt #1260	Anchor Point AK
<i>Jan Farrell</i>	JAN FARRELL	401 Stearns	Point Barrow AK 99556
<i>Tom Witcher</i>	TOM WITCHER	Box 807	Homer AK 99603
<i>Roger Duncan</i>	ROGER DUNCAN	Box 1244	Homer AK 99603
<i>Deanna Johnson</i>	DEANNA JOHNSON	Box 1047	HOMER, AK 99603
<i>Norma Williams</i>	NORMA WILLIAMS	Box 766	HOMER AK 99603
<i>Bob Williams</i>	BOB WILLIAMS	P.O. Box 766	HOMER AK 99603
<i>Jean Howard</i>	JEAN HOWARD	Box 1977	99603 JEAN HOWARD
<i>Lorraine Franks</i>	LORRAINE FRANKS	Box 2200	Homer, Lorraine FRANKS
<i>C. Gladys Taylor</i>	C. GLADYS TAYLOR	Box 2511	Homer AK

SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. Sheila L Gallagher	Sheila L Gallagher	PO Box 3562	Homer, AK
2. Eleanor G. Murphy	Eleanor G. Murphy	P.O. Box 15296 FCB,	Homer, AK
3. Nancy Cubby	NANCY CUBBY	P.O. Box 3306	Homer AK
4. Judy Tharinger	JUDY THARINGER	Box 2764	HOMER
5. Edgar Bailey	EDGAR BAILEY	POB 2994,	Homer
6. Nina Faust	NINA FAUST	Box 2994	Homer
7. J.W. Cross	JAN W CROSS	459 Bonanza	Homer
8. Joseph M Gallagher	JOE GALLAGHER	PO Box 3562	Homer
9. Catherine Henry	Catherine Henry	450 Rangeview	Homer
10. Diane Shultz	DIANE SHULTZ	Box 1694	Homer AK
11. Helga Ackmann	Helga Ackmann	Box 38	Anchor Pt.
12. Linda Gintler	Linda Gintler	Box 7492	Homer
13. Bertha Hansen	BERTHA HANSEN	Box 1068	HOMER
14. Pat Doyle	Pat Doyle	Box 3507	Homer AK
15. Julie A. McCormick	Julie McCormick	2163 Frisbee	Homer
16. Lisbeth Hejl	Lisbeth Hejl	Box 2087	Homer
17. Judy Marley	Judy Marley	183 Review	Homer
18. Louise Marley	Louise Marley	Box 955	Homer
19. Shirley Ferguer	Shirley Ferguer	#C41545 Dewberry Pl.	Homer
20. Cindy Hendrickson	Cindy Hendrickson	Box 1700	Homer
21. Teresa Hayden	Teresa Hayden	Box 3220	Homer, ak.
22. Jackie Adams	Jackie Adams	Box 217	Anchor Pt.
23. Larry Stone	LARRY STONE	P.O. 1442	HOMER
24. Nancy Dupier	Nancy Dupier	987 Hillfair	Homer AK
25. Kathy Guy	Kathy Guy	877 Mattox Ct	Homer

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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. <i>Patricia Jay</i>	PATRICIA JAY	Box 1101	Homer AK
2. <i>Edna Seekins</i>	EDNA SEEKINS	Box 1689	Homer AK
3. <i>Cindy Lou Currier</i>	CINDY CURRIER	Box 901	Homer
4. <i>Barbara McBride</i>	BARBARA MCBRIDE	Box 1857	Homer, AK
5. <i>Marvin Butze</i>	MARVIN BUTZE	Box 1241	Homer, AK
6. <i>Toni Cobb</i>	Toni Cobb	Box 1597	Homer, AK
7. <i>Mavis E. Wall</i>	MAVIS E. WALL	Box 1216	Homer, AK
8. <i>Chris Loring</i>	CHRIS LORING	Box 4713	Homer, AK
9. <i>Lynn Storey</i>	LYNN STOREY	Box 1287	Homer, AK
10. <i>Cris Beebe</i>	CRIS BEEBE	Box 13	Seldovia, AK
11. <i>Kathy Stedell</i>	KATHY STEDELL	Box 235 SR11	Homer, AK
12. <i>Beverly Stolen</i>	BEVERLY STOLEN	RCR 40625 Hancock Dr	Homer, AK
13. <i>Bernice Robinson</i>	BERNICE ROBINSON	998 LAKESIDE DR.	Homer
14. <i>Dora Jones</i>	DORA JONES	Box 272	Homer
15. <i>Hedra Smith</i>	HEDRA SMITH	PO Box 1177	Homer, AK
16. <i>Louis Audette Jr</i>	LOUIS AUDETTE JR.	Box 803	Homer
17. <i>Lorraine Murphy</i>	LORRAINE MURPHY	Box 597	Homer, AK
18. <i>Susan Fischer</i>	SUSAN FISCHER	Box 2098	Homer, AK
19. <i>Sue M. Hill</i>	SUELYN M. HILL	Box 6	Anchor Point, AK
20. <i>Kelley Hill</i>	Kelley Hill	Box 500	Anchor Pt AK
21. <i>Irene Bonar</i>	IRENE BONAR	Box 25	Homer, AK
22. <i>Kathleen H. Belmonze</i>	KATHLEEN H. BELMONZE	Box 57205 E. End Rd.	Homer, 99603
23. <i>Lynette Jones</i>	LYNETTE JONES	3476 MAIN ST.	Homer, AK
24. <i>James Christy</i>	JAMES CHRISTY	Box 2560	Homer, AK
25.			

SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. Bridget A Ernst	Bridget A. Ernst	135 Columbus	Homer
2. Connie Matthiesen	CONNIE MATTHIESEN	BX 1646	Homer
3. Arminda Myhill	OD Arminda Myhill	Box 3171	Homer AK
4. Rebecca Myhill	Rebecca Myhill	485 W. Fairview	Homer AK 99603
5. Mary E. Lytle	MARY W. LITTLE	Box 131	Nome, AK
6. Kim Merrill	Kim Merrill	Box 685	Homer, AK
7. Barbara J. Ambie	Barbara Ambie	Box 15128	Homer, AK
8. Diane Lind	Diane Lind	Box 1592	Homer
9. Colleen Leavitt	Colleen Leavitt	Box 1082	Homer
10. Debra Jensen	Debbie Jensen	Box 3607	Homer, AK
11. Cheryl Gray	CHERYL GRAY	Box 2160	Homer AK
12. Charlotte Bickley	Charlotte Bickley	Box 923	Anchorage, AK
13. Richard J. Stangley	Richard H. Stangley	SRA Box 7-B	Nome, AK
14. Char Moss	Char Moss	Box 1206	Homer
15. Jeff Daily	Jeff Daily	Box 2513	Homer
16. Randy K. Uno	Randy K. Uno	Box 459	Anchorage point 99556
17. Francine Russell	FRANCINE RUSSELL	Box 2353	Homer AK 99602
18. Charles R Hart Jr	Charles R Hart Jr	Box 880	Homer
19. Ellen Bice	Ellen Bice	Box 912	Anchorage Point, AK
20. Sabrina Hillstrand	Sabrina Hillstrand	Box 1609	Homer
21. Mary E. Hopson	Mary E. Hopson	560 Soundview	
22. Sandra Early	Sandra Early	SRA Box 503	Homer AK
23. Tina Section	Tina Section	SR Box 1253	Cook's Point AK
24. Jacque Daily	JACQUE DAILY	Box 2513	Homer, AK
25. Sherry Owens	Sherry Owens	Box 3089	Homer, AK

SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
1. Mollie O'Donnell	Molly O'Donnell	Box 388	Anchor Point
2. Michelle Robbins	Michelle R Robbins	Box 1317	Homer 99603
3. Charles Ryan	Charles Ryan	Box 255	" "
4. R. Broshes	R.E. BROSHES	Box 1445	Homer 99603
5. T. Craig	T. Craig	Box 919	Homer 99603
6. Mary A. Smith	MARY A. SMITH	Box 2919	Homer
7. Catherine R. Birton	CATHERINE R. BIRTON	P.O. 3233	HOMER
8. Gail E. Cornett	Gail Cornett	White Alder 2 C	
9. J. R. Lillback	J. R. Lillback	Box 1190	Homer.
10. Darlene E. Emery	Darlene E. Emery	P.O. Box 1491	Homer
11. Pat Emery	PAT Emery	P.O. Box 1081	Homer
12. Bonnie Forster	Bonnie Forster	Box 1021	HOMER
13. M. Liddan	488 Soundview	Homer AK	99603
14. Dave Brann	DAVE BRANN	Box 1901	HOMER, AK. 99603
15. Dee Tausky	Dee Tausky	P.O. Box 1128	Homer, AK. 99605
16. Claire E. Deitz	CLAIRE E. DEITZ	Box 876	Homer, AK 99603
17. Charlie Stempnich	CHARLIE STEMPNICH	P.O. Box 2591	HOMER, AK. 99603
18. Kimber Stringley	S.R.A. Box 7-B	Homer AK	99603
19. Larry Holman	S.A. Box 46 B	Homer AK	99603
20. Theresa Roll	THERESA ROLL	Box 15154 FLB	Homer AK 99603
21. Mike Kammerer	MIKE KAMMERER	P.O. Box 3352	Homer AK
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SEATBELTS ON SCHOOL BUSES

The undersigned support the installation of seatbelts on school buses.

Signature	Printed Name	Address	City, State
<i>[Signature]</i>	HELEN COONEY	Box 3285	Homer AK
2. <i>[Signature]</i>	MIKE PUCILLE	2421 Benzonia	Indh. 47
3. <i>[Signature]</i>	ANNIE M JOHNSON	4600 Early Spring Rd.	Homer
4. <i>[Signature]</i>	ELAINE THOMAS	BOX 280	Anchor Point
5. <i>[Signature]</i>	MELINDA FREEMAN	P.O. Box 2755	Homer AK
6. <i>[Signature]</i>	KAREN NUSSTARN	Box 799	Homer AK
7. <i>[Signature]</i>	BILL MANN	PO Box 1641	Homer
8. <i>[Signature]</i>	MONICA WINDOM BOB 3035	HOMER	
9. <i>[Signature]</i>	BOB MATH	Homer	
10. <i>[Signature]</i>	147 E Pioneer	Homer	
11. <i>[Signature]</i>	ALICE M DANBY	Box 582	HOMER ALASKA
12. <i>[Signature]</i>	BETSY HURT	Woodside Ave.	Homer AK
13. <i>[Signature]</i>	BOB 72	Anchor Pt.	AK 99556
14. <i>[Signature]</i>	LAUREN D. COLE	Box 39132	Nimitz AK 99603
15. <i>[Signature]</i>	THOMAS DENTON	P.O. Box 1562	Homer AK 99603
16. <i>[Signature]</i>	JUDITH BURNES	P.O. Box 3122	Homer AK 99603
17. <i>[Signature]</i>	KALLIE BURNS	Box 1090	Homer AK 99603
18. <i>[Signature]</i>	SEAN PULLER	Box 95	Anchor Pt 99556
19. <i>[Signature]</i>	BOB 7189	Homer	99603
20. <i>[Signature]</i>	512 137	Anchor Pt	99556
21. <i>[Signature]</i>	PO Box 2402	Homer AK	99603
22. <i>[Signature]</i>	Box 2612	Homer	99603
23. <i>[Signature]</i>	Box 2250	"	"
24. <i>[Signature]</i>	Box 1272	Homer AK	99603
25. <i>[Signature]</i>	TERRE STANDING Box 1957	"	"

We, the undersigned qualified (registered) voters, living within the Kenai Peninsula Borough, do hereby petition the Assembly of the Kenai Peninsula Borough to place the following question on the Oct. 1, 1985, ballot:

"Shall the Kenai Peninsula Borough School District be required to equip new school buses with seatbelts?"

STATEMENT OF WARNING AS TO DISQUALIFICATION. A person may not sign a name other than his or her own on the petition, or knowingly sign more than once for the same proposition as one election. A person who signs the petition must be a qualified voter. The signatures must be legible and signed in ink or indelible pencil, and dated.

SIGNATURE OF VOTER	PRINTED NAME	DATE	ACTUAL RESIDENT ADDRESS	PRECINCT
1 Fred Morris	FRED MORRIS	7/31/85	Bear Creek Drive	Fritz Creek
2 C. T. Ingham	C. Ingham	31 July 85	9.5 Mile E. Rd.	Fritz Creek
3 Gary E. Kirby	GARY E. Kirby	7/31/85	213 LEE DR.	HOMER
4 Elizabeth M. Kirby	Elizabeth M. Kirby	7/31/85	213 Lee Dr.	Homer
5 Sally J. Gliser	Sally J. Gliser	7/31/85	Spruce Circle Dr.	Anchor Point
6 Catherine Adkins	CATHERINE ADKINS	7/31/85	11 miles E. N. Fork Rd.	Anchor Point
7 Marie S. Walli	MARIE S. WALLI	7/31/85	Hidden Hills N. Fork Rd.	Anchor Point
8 Alice R. Swain	Alice R. Swain	7/31/85	4 mile North Fork Rd.	Anchor Pt.
9 Patricia Richards	Patricia Richards	7-31-85	Hidden Hills N. Fork Rd.	Anchor Pt.
10 Maryjane Murphy	Maryjane Murphy	7-31-85	Hidden Hills N. Fork Rd.	Anchor Pt.
11 Fred Baden	Fred Baden	7-31-85	Mi. 6.5 N. Fork Rd.	Anchor Pt.
12 Debi Bodett	Debi Bodett	7-31-85	4.1 mile N. Fork Rd.	Diamond Bridge
13 Victor H. Hiles	VICTOR H. HILES	7-31-85	HIDDEN HILLS	ANCHOR PT.
14 Adele Hiles	ADELE HILES	7-31-85	HIDDEN HILLS N. FORK RD.	Anchor Pt.
15 Sara C. Murnane	SARA C. MURNANE	7-31-85	5466 EAST RD	HOMER AK.
16 David Garcia	DAVID GARCIA	7/31/85	399 GRUBSTAKE	HOMER AK.
17 Chuck W. Wulke	Charles Wulke	7/31-85	4178 KACHAMAK WY	HOMER AK.
18 Susan Gingrich	Susan Gingrich	8-1-85	58590 Bruce Dr.	Homer
19 Rick Robbins	RICK ROBBINS	8-1-85	Box 1317	Homer
20 Lorry G. Hildreth	Lorry G. Hildreth	8-1-85	Box 653	Homer
21 Edna Anderson	EDNA ANDERSON	8/1/85	Box 441	HOMER
22 Cheryl Mike Climo	Cheryl Mike Climo	8/1/85	Box 2910	Homer
23 M. Phyllis Cooper	M. Phyllis Cooper	8/1/85	Box 562	Homer
24 Michelle R. Robbins	Michelle R. Robbins	8/1/85	Box 1317	Homer
25 Kenneth A. Dubber	KENNETH A. DUBBER	8-1-85	Box 352	HOMER
26 Roger Duncan	ROGER DUNCAN	8-1-85	Box 1241	Homer
27 Bill Conin	BILL CONIN	8-1-85	Box 256	Homer
28 Robin Hayes	Robin Hayes	8-1-85	Box 2552	Homer
29 R. T. Austin	R. T. Austin	8-1-85	Box 584	Anchor Point
30 Pat Case	Pat Case	8-1-85	3931 Nielson Court	Homer

AFFIDAVIT:

State of Alaska)
Third Judicial District)

The undersigned, being first duly sworn, hereby certify that the parties whose signatures appear above were identified as residents of the Kenai Peninsula Borough, personally signed the petition in his/her presence on the date set out above, and stated that the address given was their present residential address.

Signature: _____

Sworn and Subscribed to before me this _____ day of _____, 1985.

My commission expires _____.

Notary Public in and for Alaska.

We, the undersigned qualified (registered) voters, living within the Kenai Peninsula Borough, do hereby petition the Assembly of the Kenai Peninsula Borough to place the following question on the Oct. 1, 1985, ballot:

"Shall the Kenai Peninsula Borough School District be required to equip new school buses with seatbelts?"

STATEMENT OF WARNING AS TO DISQUALIFICATION. A person may not sign a name other than his or her own on the petition, or knowingly sign more than once for the same proposition as one election. A person who signs the petition must be a qualified voter. The signatures must be legible and signed in ink or indelible pencil, and dated.

SIGNATURE OF VOTER	PRINTED NAME	DATE	ACTUAL RESIDENT ADDRESS	PRECINCT
<i>Lynn Mettill</i>	LYNN METTILLE	8-3	JONES ST	STERLIN
<i>John Osborne</i>	JOHN OSBORNE	8-3	VIEW ST	SOLDOTNA
<i>William Kitchens</i>	WILLIAM KITCHENS	8-3	FARRIST LANE	SOLDOTNA
<i>Peter F McGrane</i>	PETER F McGRANE	8-3	366 CHAGACH	SOLDOTNA
<i>Lorraine Travens</i>	Lorraine Travens	8-3	3603 PO Box	Kenai
<i>Beverly Merrill</i>	Beverly Merrill	8-3	K-Beach	KALITONSKI
<i>Tammy J. Blackburn</i>	TAMMY J. BLACKBURN	8-3	THERESA WY	SOLDOTNA
<i>Nancy Bergevin</i>	NANCY BERGEVIN	8-3	MURRAY LANE	SOLDOTNA
<i>Linda Morris</i>	LINDA MORRIS	8-3	MURRAY LANE	SOLDOTNA
<i>Marvin Royster</i>	MARVIN ROYSTER	8-3	292 REDWOOD CT.	SOLDOTNA
<i>Barbara Burgess</i>	BARBARA BURGESS	8-3	Box 3277	SOLDOTNA AK
<i>Su L Mowpek</i>	SU L MOWPEK	8-3	BOX 8102	NIKISKI
<i>Allison Schrier</i>	ALLISON SCHRIER	8-3	BOX 1051	SOLDOTNA
<i>Buck Marsters</i>	Buck Marsters	8-3	Box 34	STERLING
<i>Aileen Clause</i>	AILEEN CLAUSE	8-3	PO Box 1675	SOLDOTNA
<i>Marie Golley</i>	Marie Golley	8-3	Rt 2 Box 170	SOLDOTNA
<i>Gary Adams</i>	Gary Adams	8-3	124-18X105	SOLDOTNA
<i>Barbara Prince</i>	Barbara Prince	8-3	Box 1087	SOLDOTNA
<i>Jack Gamble</i>	Jack Gamble	8-3	Box 1358	Kenai, ALASKA
<i>Sandra Brown</i>	Sandra Brown	8-3	Box 1824	SOLDOTNA AK.
<i>Debbie Gault</i>	Debbie Gault	8-3	PO Box 1007	Kenai Soldotna
<i>Mike Dutton</i>	Mike Dutton	8-3	Box 214	Nikiski AK.
<i>Karen L Stone</i>	KAREN L. STONE	8-3	Box 1103	SOLDOTNA
<i>Linda Fletcher</i>	LINDA FLETCHER	8-3	1504 T. Van Way	Kenai
<i>Chuck Perrine</i>	Chuck PERRINE	8-3-85	S.R. 2 Box 316	SOLDOTNA
<i>Richard Sibon</i>	RICHARD SIBON	8-3-85	1112 Second ST	Kenai
<i>Eunice Young</i>	EUNICE YOUNG	8-3-85	1100 Hillside	Kenai AK 99603
<i>Gordon S. Dimes</i>	GORDON S. DIMES	8-3-85	3140 Rte Duke St	NIKISKI AK 99603
<i>Daniel D. Calapp</i>	Daniel D. Calapp	8-3-85	3840 Wildrose	Kenai AK 99601
<i>Corrine Zettler</i>	Corrine Zettler	8-3-85	P.O. Box 4823	Kenai AK

AFFIDAVIT:

State of Alaska)
Third Judicial District)

The undersigned, being first duly sworn, hereby certify that the parties whose signatures appear above were identified as residents of the Kenai Peninsula Borough, personally signed the petition in his/her presence on the date set out above, and stated that the address given was their present residential address.

Signature: _____
Sworn and Subscribed to before me this _____ day of _____, 1985.

My commission expires _____
Notary Public in and for Alaska.

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SIGNATURE OF VOTER	PRINTED NAME	DATE	ACTUAL RESIDENT ADDRESS	PRECINCT
Troy Tautfest	TROY TAUTFEST	8-3-85	mile 80.5 Sterling Hwy	STERLING
Judith Warton	J.R. WARTON	8-3-85	SR2 BOX 158-A SOLDOTNA	STERLING
Theresa Kuasnikoff	THERESA KUASNIKOFF	8/19/85	113 W. COORAVI AVE APT #11 SOLDOTNA AK	
Gary Wivell	GARY WIVELL		K-Beach (Gosnell)	
Rick Manley	RICK MANLEY	8-3-85	3939 Haldenight Trail	Stalin
Janet E. Cannon	JANET E. CANNON		322 Redoubt Ave #1 SOLDOTNA AK	
Cynthia S Allen	CYNTHIA ALLEN	8-3-85	127 N Kobak	Soldotna
Judy Moccenbeck	JUDY MOCCENBECK	8-3-85	P.O. Box 3836	Soldotna
Robin Walsh	ROBIN WALSH	8/3/85	304 Sterling Pl.	Kenai
Ruth Braden	RUTH BRADEN	8/3/85	337 RIVERSIDE	Sold.
Gwen J. Clouse	GWEN J. CLOUSE	8/3/85	Box 1677	Soldotna
Audie Bennett	AUDIE BENNETT	8/3/85	P.O. Box 2975	Homer Alaska
Carol Kalar	CAROL KALAR	8/3/85	Box 953 Kenai	Ridgeway
Anita D. DeRiek	470 ANITA DERIEK		Box 3636 Kenai	
Dorothy Craft	DOROTHY CRAFT	8-3-85	Ten Lane	K-Beach
Shirley M Davis	SHIRLEY M DAVIS	8/3/85	M3 Island K Rd	N. Kiski
Kathleen T M Dowell	KATHLEEN T M DOWELL	8-3-85	415 Upernivik	Soldotna
Lloyd Gregory	LOYD GREGORY	8-3-85	84 7085 NIKISKI AK	
Arilla Hetherington	ARILLA HETHERINGTON	8/3/85	mile 14.6 Sterling Hwy	Anchor Pt.
Doris M. Wilson	P.O. Box 2577		Kenai Alaska	99611
Dorinda E. Murata	P.O. Box 34		Stirling AK	99672
Ernest L. Murata	P.O. Box 34		Stirling AK	99672
Harold K. Peterson	Box 152		Waschuk AK	97554
Jerry Wilson	Box 194		SOLDOTNA AK	99669
Marlene Ross	Box 3117		Homer AK	99611
Shirley Woods	SHIRLEY WOODS	8-3-85	1508 Jovan Way	Kenai 99611
Marian Perrine	MARIAN PERRINE	8-3-85	SR2 BOX 316	SOLDOTNA AK 99669
Paula Murphy	PAULA MURPHY	8-3-85	P.O. Box 462	Kenai AK 99611
Anita Nessman	ANITA NESSMAN	8/3/85	1625 FATHERS	Kenai
Faye Green	FAYE GREEN	8/3/85	1605 Bumblebee Lane	Kenai

AFFIDAVIT:

State of Alaska)
Third Judicial District)

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Sworn and Subscribed to before me this _____ day of _____, 1985.

My commission expires _____.

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1 David Calhoun	DAVID CALHOUN	8/2	Box 2834 Homer	-
2 Annie Calhoun	ANNIE L. CALHOUN	8/2	Box 1014 Seldovia	-
3 Gloria Taylor	GLORIA TAYLOR	8/2	Box 3288 Homer	-
4 Donna Hood	DONNA HOOD	8/2	1119 Collins St	-
5 Don Smith	Don Smith	8/2	103 Littleton Ave Homer	-
6 Chris Athusa	CHRIS ATHUSA	8/2	1298 Lake Shore Dr	-
7 Sharon Fromm	SHARON FROMM	8/2	Box 2173 - Homer	-
8 Harold S. Grant	HAROLD S. GRANT	8/2	11611 55320 EASTERN RD	-
9 Joseph K. Sloan	Joseph K Sloan	8/2	Box 131 Homer AK 99603	-
10 Hazel Curran	HAZEL A CURRAN	8/2	Box 3118 Homer AK 99603	-
11 Roy H. Grant	ROY H. GRANT	8/2	Box 170746 ERIC RIVER AK 99501	-
12 Robert M. Eideheart	ROBT. M. EIDEHEART	8/2	Dob 4655 - Seldovia	K beach
13 Darlene Phillips	DARLENE PHILLIPS	8/2	Box 2572 Anchor Pt.	-
14 Carol Evans	CAROL EVANS	8/2	Box 765 Homer	-
15 Lucinda Sidelinger	LUCINDA SIDELINGER	8/2	Box 6430 Kalibut Cove	-
16 Violet Daniels	VIOLET DANIELS	8/2	193 DANVIEW HOMER AK	-
17 Ephim H. Moovin	EPHIM H. MOOVIN	8/2	GEN. DEL. ENGLISH BAY AK	-
18 Lynda Krasnikoff	LYNDA KRASNIKOFF	8/2	Box 176 Ninilchik AK	-
19 Marie L. Hunt-Bourgeois	MARIE L. HUNT-BOURGEOIS	8/2	1311/2 E 16th Anch. AK 99501	-
20 M. B. Doss	M. B. DOSS	8/2	514 Overland Ave Kenai AK	-
21 R.O. Crumley	R.O. CRUMLEY	8/2	190 CAROL ST. Seldovia	-
22 D.D. Willett	D.D. WILLETT	8/2	304 forest Kenai	-
23 Deborah K. Stuart	DEBORAH K. STUART	8/2	Ridgeway Trl. AK Seldovia	-
24 P.O. Box 2593	P.O. BOX 2593	8/2	Kenai AK 99611	-
25 M. B. Doss	M. B. DOSS	8/2	Box 224 KASLOF AK 99610	-
26 Marjorie Jones	MARJORIE JONES	8/2	PO Box 983 Kenai AK Kenai	-
27 Betty Palma	BETTY PALMA	8/2	1101 Le Land, Cune h 9950	-
28 Mabel V. Howes	MABEL V. HOWES	8-3	151 W. Corral - Seldovia City	-
29 Rocklyn U. Johnson	ROCKLYN U. JOHNSON	8/2	P.O. Box 261 Ninilchik AK 99639	-
30 John Johnson	JOHN JOHNSON	8/2	PO Box 261 Ninilchik AK	-

APPROVIT:
 State of Alaska)
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<i>[Signature]</i>	JAMES B. NAYLOR	8/1/85	APPLEBERRY ST HOMER	ANCHOR PT
<i>[Signature]</i>	JAMES C WILSON	8/1/85	SABRINA RD. HOMER	HOMER
<i>[Signature]</i>	Doretta L. Myers	8/1/85	" "	"
<i>[Signature]</i>	VIRGINIA VANWAGONER	8/1/85	1258 HIGHLAND DR	"
<i>[Signature]</i>	FRANCES C. VAN SANDT	8/1/85	59135 E. SKYLARK DR. HOMER	HOMER
<i>[Signature]</i>	SuAnne Finney	8/1/85	Box 2636 Homer	HOMER
<i>[Signature]</i>	CARLA SALMUN	8-1-85	GREER RD HOMER	HOMER
<i>[Signature]</i>	CATH. S ROGERS	8-1-85	4047 MAIN ST. HOMER	"
<i>[Signature]</i>	Connie C. Simmons	8-1-85	P.O. BOX 2358 HOMER	HOMER
<i>[Signature]</i>	MIKE KAMMERER	8-1-85	POB 3352 HOMER AK	HOMER AK
<i>[Signature]</i>	MA LINDER	8-1-85	378 E PUMPKIN HOMER	HOMER
<i>[Signature]</i>	LINDA FEAUPEE	8-1-85	2520 Hillview: HOMER	HOMER
<i>[Signature]</i>	DIANA DRAKE	8-1-85	Box 30	ANCHOR PT
<i>[Signature]</i>	HELEN DRAKE	8-1-85	Box 69	ANCHOR PT.
<i>[Signature]</i>	DAVID SUTHERLAND	8-1-85	Box 1707	HOMER
<i>[Signature]</i>	STEVE DAWSON	8-1-85	Box 1067	HOMER
<i>[Signature]</i>	LELAND HANKINS	8-1-85	Box 1039	HOMER
<i>[Signature]</i>	Cathy Hankins	8-1-85	Box 1039	HOMER
<i>[Signature]</i>	Linda Huebner	8-1-85	Box 917	HOMER
<i>[Signature]</i>	KATHRYN KEYO	8-1-85	Box 1089	"
<i>[Signature]</i>	DAVID A WICKSTEAD	8-1-85	Box 1529	FCB via Homer
<i>[Signature]</i>	ARTHUR H GREGORY	8-1-85	110239400 Bluebuck Pt. HOMER	HOMER
<i>[Signature]</i>	SUSAN MORRIS WILLIAMS	8-2-85	P.O. Box 151	ANCHOR POINT
<i>[Signature]</i>	DAUG ANDERSON	8-1-85	4751 Station Dr	ANCH. AK
<i>[Signature]</i>	MARSHA RENAGHY-MOR	8-2-85	Box 99	ANCHOR POINT
<i>[Signature]</i>	TERRY VAN DYKE	8/1/85	4387 KACHIAK BAY Pt. HEVY	HEVY
<i>[Signature]</i>	VICKY PETERS	8/2/85	101 W BUNNELL	HOMER
<i>[Signature]</i>	Dorely K. Simmons	8/2/85	P.O. Box 2358	HOMER AK
<i>[Signature]</i>	PAUL FEFELCO	8/2/85	Box 223	ANCHOR PT. AK
<i>[Signature]</i>	JAMES L. GILL	8/2/85	P.O. Box 272	ANCHOR PT. AK

AFFIDAVIT:

State of Alaska)
Third Judicial District)

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<i>Bruce Klum</i>	Bruce Klum	8/2/85	High 13 Oldglen - Home	
<i>Ernest Thomsen</i>		8/2/85	Box 2658 Home	
<i>Linda White</i>	Linda White	8/2/85	2400 Sigmund Lane Homer	
<i>Charles H. Brenton</i>	CHARLES BRENTON	8/2/85	P.O. Box 2413 - Homer	
<i>Dorothy D. Kline</i>	Dorothy D. Kline	8/2/85	P.O. Box 2297 Home	
<i>Connie M. Donley</i>	CONNIE DONLEY	8/2/85	167 Franklin Home	
<i>Nancy K. Wise</i>	Nancy K. Wise	8/2/85	Mc. 4 Northfield Homer	
<i>Elizabeth Billette</i>	Elizabeth Billette	8-2-85	1015 E - Homer	
<i>Patty Crum</i>	Patty Crum	8-2-85	Box 268 Crocker Point	
<i>Barbara Edwards</i>	Barbara Edwards	8-2-85	Box 15014 Fatty Creek Home	
<i>Deanna Gillham</i>	Deanna Gillham	8-2-85	4254 Soodlund Homer	
<i>Laurie Greer</i>	LAURIE GREER	8-2-85	PO Box 637 Home	
<i>Janet Hall</i>	Janet Hall	8-2-85	4076 Bannock St - Homer	
<i>Laurie Langston</i>	Laurie Langston	8-2-85	PO Box 2225 Home	
<i>Elizabeth Fitzpatrick</i>	ELIZABETH FITZPATRICK	8-2-85	Box 695 Home	
<i>Dana Chamberlain</i>	Dana Chamberlain	8-2-85	P.O. Box 2497 - Homer	
<i>Mary Naylor</i>	MARY NAYLOR	8/2/85	Box 1270 Home	
<i>Spike Christopher</i>	SPIKE CHRISTOPHER		Box 514 5th Home	
<i>Jennie Owen</i>	JENNIE OWEN		4634 S. Lewis Home	
<i>Tricia Beazzani</i>	TRICIA BEAZZANI		P.O. Box 15124 FCB Homer	
<i>Marion H. Smith</i>	MARION H. SMITH		P.O. Box 240 Crocker Pt.	
<i>Arminda Myhill</i>	ARMINDA MYHILL		Box 3121 Homer	
<i>Beryl Myhill</i>	Beryl Myhill		485 W. Fairview Home	
<i>Margaret Manchester</i>	Margaret Manchester		Box 201 Helo Home	
<i>Helen Gillespie</i>	Helen Gillespie		Rt. 2 Box 560-17 Clam Pt.	
<i>Cathy Thompson</i>	Cathy Thompson		Box 308 Vix St Soldotna AK 99602	
<i>Karen R. Gordon</i>	Karen R. Gordon		Echolake Rd K-Beach	
<i>Clara Snell Anderson</i>	Clara Snell Anderson		355 Endicott - Soldotna	
<i>Claudia Anderson</i>	Claudia Anderson		1500 Parabara Dr Kenai	

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Bernadette D. Wilson	BERNADETTE D. WILSON	8/1/85	4676 Sabana Rd Homer, AK	
Marcia J. Hackett	MARCIA J. HACKETT	8/1/85	972 Lakeside Dr. Homer	
Monica M. Windom	MONICA M. WINDOM	8/1/85	978 Lakeside Dr. Homer	
Peter C. Norton	PETER C. NORTON	8/2/85	4251 HOHE ST. HOMER AK	
Kathleen Steberl	KATHLEEN STEBERL	8/2/85	MIle 14 E. END RD Homer, AK	
Joseph M. Gallagher	JOSEPH M. GALLAGHER	8/1/85	3675 Jannetys Place Homer, AK	
Sharon G. Papp	SHARON G. PAPP	8-3-85	275 Creston Soldotna	
Barbara Flynn	BARBARA FLYNN	8/3/85	P.O. Box 3263 Soldotna, AK	
Ana Maatoo	ANA MAATOO	8-3-85	Box 3451 Soldotna, AK	
Kathy P. Rice	KATHY P. RICE	8/3/85	4422 Sterling Hwy #8 Soldotna, AK	
Jeanette Bush	JEANETTE BUSH	8/3/85	Box 235 Kaslof, AK	
Shirlene Tyhroski	SHIRLENE TYHROSKI	8-3-85	RT 2 Box 333 Soldotna, AK	
Anni Schmoke	ANNI SCHMOKE	8/3/85	395 KNIGHT ST. SOLDOTNA	
Seamus Geri	SEAMUS GERI	8/3/85	Box 1264 Homer	
Kay Knapp	KAY KNAPP	8/3/85	Box 712 Sterling	
Sally A. Burns	SALLY A. BURNS	8-3-85	Box 1090 Homer AK	
Terry Buty	TERRY BUTY	8-3-85	4135 Hohe Homer, AK	
Terry Buty	TERRY BUTY	8-3-85	4135 HOHE ST Homer	
Joanne F. Liner	JOANNE F. LINER	8-3-85	RT. 2 Box 703 Kaslof, AK	
Beth Fowler	BETH FOWLER	8-3-85	412 Forest Kenai	
Leslie Fowler	LESLIE FOWLER	8-3-85	109 Walker Ln Kenai	
Lucille Harder	LUCILLE HARDER	8-3-85	530 Ash Kenai, AK	
Barbara L. Moore	BARBARA L. MOORE	8-3-85	19 1/2 N. Rd Kenai Ck	
Juanita McQuay	JUANITA MCQUAY	8-3-85	Shoot Lane KRBSU - Kenai	
Queen Carady	QUEEN CARADY	8/3	111 Retreat Ave Kenai	
Betty Osborn	BETTY OSBORN	8-3-85	423 Rogers Rd Kenai	
Maureen Vincent	MAUREEN VINCENT		P.O. Box 65 Kaslof, AK	
Mary Fowler	MARY FOWLER		" 4185 Kenai	
Shelley Ramsey	SHELLEY RAMSEY		P.O. Box 8521, NIKISKI	
Kimberly Spalding	KIMBERLY SPALDING		PUBOX 3964 KENAI	

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<i>[Signature]</i>	Dennis J. Truller	8/3/85	1234 1st St Kenai	Kenai
<i>[Signature]</i>	Jeanette Packius	8/3/85	1222 L. St. Kenai	Kenai
<i>[Signature]</i>	MORRIS E. MURAN	8/3/85	SNOW HARBOR DR	Kenai
<i>[Signature]</i>	KATHY L. SMITH	8/3/85	1011 E. 11th	Kenai
<i>[Signature]</i>	Pam Lasenby	8/5/85	1000 California	Kenai
<i>[Signature]</i>	Barbara H. Tolson	8-3-85	Box 2555 Kenai	Kenai
<i>[Signature]</i>	KAREN J. BEAUDIN	8/3/85	Box 431 Kaslof Rd	99610
<i>[Signature]</i>	R L Scott	8/3/85	3080 Kim N Ave	Kenai 99601
<i>[Signature]</i>	Cathy Ulinen	8/5/85	60305 Mission Rd.	Homer
<i>[Signature]</i>	Robin Lane	8/5/85	P.O. Box 2921	Homer 99603
<i>[Signature]</i>	JESSE BROOKS	8/5/85	P.O. Box 2131	Homer
<i>[Signature]</i>	Stammun DeJulin	8/5/85	P.O. Box 761	Homer
<i>[Signature]</i>	Vicki Peterson	8/5/85	4042 Calhoun St.	Homer, AK
<i>[Signature]</i>	Barbara Plourd	8/5/85	5 Miles E. End	Homer
<i>[Signature]</i>	Betty P. Byckly	8/5/85	Chandlers	Homer
<i>[Signature]</i>	Rebekah C. Joest	8/5/85	6 Miles E. End	Road Homer
<i>[Signature]</i>	P.J. Coll	8-5-85	Box 565	HOMER
<i>[Signature]</i>	LISA GORDON	8-5-85	SOUTH SLOPE DR	HOMER
<i>[Signature]</i>	Patricia A. Mitchell	8-5-85	222161	Homer
<i>[Signature]</i>	Judy Bradley	8-5-85	4781 SHANNON CT	HOMER AK
<i>[Signature]</i>	C.R. BRADLEY JR.	8/5/85	4781 SHANNON CT.	Homer AK
<i>[Signature]</i>	Liz Kottell	8/5/85	Meadowood Subdivision	Homer AK
<i>[Signature]</i>	KATHERINE AMITHELL	8/5/85	KATHERINE & TR	HOMER
<i>[Signature]</i>	Ernest Sunja	8/5/85	East End Road	HOMER
<i>[Signature]</i>	Janice Suoja	8/5/85	First End Rd.	Homer
<i>[Signature]</i>	WANDA BIBBUPS	8/5/85	4662 Keckemah	Homer
<i>[Signature]</i>	Sharon Aiba		P.O. Box 143	Homer AK
<i>[Signature]</i>	John Taylor		Main St.	Homer AK
<i>[Signature]</i>	Sharon Shealy		West Hill	Homer AK
<i>[Signature]</i>	Vickie Sibson		Diamond Park	Homer, AK

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<i>Bridget A. First</i>	Bridget A. First	7/31/85	155 Atkinson Ave., Homer	
<i>Cynthia Vargas</i>	CYNTHIA VARGAS	8/1/85	Box 1885 Homer	Anchor Pt
<i>Joe Thomas</i>	JOE THOMAS	8-1-85	20 miles east End Road	
<i>John E. Danilow</i>	JOHN E. DANILOW		107 DANILOW	
<i>Evelyn J. Bradley</i>	EVELYN J. BRADLEY		103 Danilow	
<i>Mazon Owens</i>	Mazon Owens		617 Fairview W.	
<i>Laraine Hunt</i>	Laraine Hunt	7/31/85	4142 Matlov St.	Homer
<i>Jeanette Dick</i>	JEANETTE DICK	8-1-85	4645 SARINA Rd	HOMER
<i>Barbara Leichtung</i>	BARBARA LEICHTUNG		HCR 4260 KACHEMAK DR	
<i>Ellen Bire</i>	ELLEN BIRE		HCR 4060 KACHEMAK DR.	HOMER
<i>Robert Sundeen</i>	ROBERT SUNDEEN		PO Box 101	HOMER
<i>Catherine Lapin</i>	CATHERINE LAPIN		Box 94	ANCHOR POINT, AK
<i>Peggy Cobb</i>	PEGGY COBB		Box 882	Seward
<i>Charles Ullman</i>	CHARLES ULLMAN		517 BKA	Box 89D
<i>Tanice B. Needham</i>	TANICE B. NEEDHAM		4350 KACHEMAK DR	HOMER AK
<i>Marti Anderson</i>	Marti Anderson		P.O. Box 820	HOMER, AK 99603
<i>James O'Reilly</i>	JAMES O'REILLY	1-5-83	7414E WY. AVE.	AK 99507
<i>Leslie Wieland</i>	LESLIE WIELAND		BOX 773	HOMER, AK 99603
<i>Mimi Tolva</i>	MIAMI TOLVA		Box 2117	HOMER AK 99603
<i>David Hatch</i>	DAVID HATCH		8190 KA	ANCHOR PT.
<i>Ronald D. Parke</i>	Ronald D. Parke		Box 285	ANCHOR Pt 99556
<i>Lois E. French</i>	Lois E. French		P.O. Box 1198	HOMER, AK 99603
<i>Lura L. Clark</i>	Lura L. CLARK		274 Lee Dr	HOMER
<i>Marilyn Wyatt</i>	Marilyn Wyatt		335 Beluga	Soldotna
<i>Robert Wyatt</i>	ROBERT WYATT		335 Beluga	Soldotna
<i>Edna Ullman</i>	EDNA ULLMAN		41570 KACHEMAK DR	HOMER
<i>Charlene Dittus</i>	Charlene Dittus		West Hill Rd.	HOMER
<i>Mary Painter</i>	Mary Painter		Box 5010	Anchor Pt
<i>Marsjorie Klein</i>	MARJORIE KLEIN		Box 62	Anchor Pt
<i>Ivan R. Reutov</i>	IVAN R. REUTOV		Box 82	Anchor Pt

AFFIDAVIT:

State of Alaska)
Third Judicial District)

The undersigned, being first duly sworn, hereby certify that the parties whose signatures appear above were identified as residents of the Kenai Peninsula Borough, personally signed the petition in his/her presence on the date set out above, and stated that the address given was their present residential address.

Signature: _____
Sworn and Subscribed to before me this _____ day of _____, 1985.

My commission expires _____.

Notary Public in and for Alaska.

We, the undersigned qualified (registered) voters, living within the Kenai Peninsula Borough, do hereby petition the Assembly of the Kenai Peninsula Borough to place the following question on the Oct. 1, 1985, ballot:

"Shall the Kenai Peninsula Borough School District be required to equip new school buses with seatbelts?"

STATEMENT OF WARNING AS TO DISQUALIFICATION. A person may not sign a name other than his or her own on the petition, or knowingly sign more than once for the same proposition as one election. A person who signs the petition must be a qualified voter. The signatures must be legible and signed in ink or indelible pencil, and dated.

SIGNATURE OF VOTER	PRINTED NAME	DATE	ACTUAL RESIDENT ADDRESS	PRECINCT
Nancy Kleine	Nancy Kleine	8/1/85	11CR 39955 Highview	F.C.
Amy Marris	Amy MARRIS	8/1/85	SPENLER DR.	Kachemac
Denise Bates	Denise Bates		Range View Ave	High School
Sandra L Glidden	Sandra L Glidden	8-1-85	485 Sandview Ave	High School
Jackie Cochran	JACKIE COCHRAN		BENCH CIRCLE	KACHEMAC CRT
Kathy Smith	Kathy Smith	8-1-85	Fairview Ave	F.C.
Kent Fisher	KENT FISHER	8/1/85	Mission Road	Diamond Ridge
Krisann Meyer	KRISANN MEYER	8/1/85	6110 BIDARKI DR.	
Joyce Turkington	Joyce Turkington	8/1/85	4500 Saal Rd	Kachemac City
Jean Berns	JEAN BERNIS	8/1/85	North Fork Rd.	Anchor Point
Penny Schneider	Penny Schneider	8-1-85	Bay Ridge Drive	Diamond Ridge
Joy Post	JOY POST	8/1/85	Kachemac Drive	Senior Center
Linda Eason	LINDA EASON	8/1/85	Mission Road	Diamond Ridge
Susan Walton	Susan Walton	8/1/85	Mission Road	Diamond Ridge
Dawn Walton	Dawn WALTON	8/1/85	Mission Rd.	Diamond Ridge
Eileen Whipple	EILEEN WHIPPLE		703 1/2 Cranberry	Anchor Point
Louisa Murphy	Louisa Murphy	8/1/85	110 Old Sterling Hwy.	Anchor Point
Abby Warren	ABBY WARREN	8/1	Old Sterling Hwy.	Anchor Point
Kiki Abrahamson	Kiki Abrahamson	8/1	SR 979	Anchor Point
Thomas Baggett	Thomas Baggett	8/2/85	42M3 N Fork Rd	Diamond Ridge
Bruce L. Barnes	BRUCE L. BARNES	8/2/85	N Fork Rd	Anchor Point
Carole Demers	Carole Demers	8-3-85	N Fork Rd.	Anchor Pt.
Michele Boarnville	Michele Boarnville	8/4/85	6125 CROSSMAN RIDGE RD	Homer
Judy Winn	JUDY WINN		PO BOX 1277 HOMER AK	FC
Ronda Dietrick	Ronda Dietrick		PO BOX 15003 FC	Homer AK FC
Gordon Jones	GORDON JONES		Box 2233	HOMER AK
Katy White	Katy White		40220 Kent St	Homer AK 99603
J.K. Canale	J.K. Canale		Box 1858	HOMER AK 99603
J.M. Calhoun	J.M. Calhoun		Box 566	Homer, AK 99603
Dennis Abrahamson	Dennis Abrahamson		9795 R. Anchor Pt.	AK 99556

AFFIDAVIT:

State of Alaska)
Third Judicial District)

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Signature: _____

Sworn and Subscribed to before me this _____ day of _____, 1985.

My commission expires _____.

Notary Public in and for Alaska.

We, the undersigned qualified (registered) voters, living within the Kenai Peninsula Borough, do hereby petition the Assembly of the Kenai Peninsula Borough to place the following question on the Oct. 1, 1985, ballot:

"Shall the Kenai Peninsula Borough School District be required to equip new school buses with seatbelts?"

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SIGNATURE OF VOTER	PRINTED NAME	DATE	ACTUAL RESIDENT ADDRESS	PRECINCT
1 <i>Sharon Mead</i>	Sharon Mead	8-3-85	563 Pine Kenai	
2 <i>Laura O. Finch</i>	Laura O. Finch		Elly East Kenai	
3 <i>Deberak (Hansen)</i>	Deberak K. Adamson		209 Portlock St.	#1
4 <i>Cathy Haas</i>	Catherine Haas		46840 Base Rd	K-Beach
5 <i>Catherine</i>				
6 <i>Violet Kellas</i>	Violet Kellas		Bernice Lake Estates	NIKISKI AK ⁹⁹⁶
7 <i>James W. Wile</i>	JAMES WILE		BOX 715	SOLDOTNA
8 <i>Lottie Edelman</i>	Lottie Edelman		Mc 11.5 Kalitowski	SOLDOTNA
9 <i>Bill Hearn</i>	BILL HEARN	8/3/85	509 BLUFF #6	Kenai
10 <i>R. Joe Sutter</i>	R. JOE SUTTER	8-3-85	BOB MILE 12.5 K-HEPOM	KENAI
11 <i>Paul E. Beecher</i>	Paul E. Beecher		Rt 2 P.O. 504 Ocean Beach	Pe 406E
12 <i>David C. Carrier</i>	David C. Carrier		Seward AK	50 1499
13 <i>Dolores Sackman</i>	Dolores Sackman		M.6 28 1/4 North Rd.	N. Kishka 996:
14 <i>Karen Dempsey</i>	Karen Dempsey	8-3-85	Duke St.	NIKISKI AK.
15 <i>Linda A. Calap</i>	Linda A. Calap	8-3-85	2840 Wilfrase	Kenai AK 99601
16 <i>Bunny Kout</i>	BUNNY KOUT	8-3-85	Forest Sub.	NONAKENIA
17 <i>Toni Cobb</i>	Toni Cobb	8-6-85	800 Clover ^{6mi. east end}	Homer AK
18 <i>Bud Jones</i>	BUD JONES	8/6/85	542 Grubstake	" "
19 <i>O. L. Bailey</i>	O. L. BAILEY	8/6/85	3267 E. St.	Homer
20 <i>Patricia G.</i>	Patricia G.	8/1/85	54355 Wilder Ln	Homer
21 <i>Margie H. Meacham</i>	MARGIE H. MEACHAM	8/6/85	60855 Skyline Dr.	Homer AK
22 <i>Tim Murnane</i>	TIM MURNANE		HCR 54865 EAST RD	HOMER FRIZZ
23 <i>Jay Fanning</i>	JAY FANNING		HCR 54845 TRAPPER LANE	HOMER AK
24 <i>Katherine Norberg</i>	KATHERINE NORBERG		616 Ocean Dr.	HOMER AK
25 <i>Robert F. Evans</i>	Robert F. EVANS	8-6-85	Rogers Loop Rd	Homer
26 <i>Margaret Chipnik</i>	Margaret Chipnik	8-6-85	251 Dawson	Homer
27 <i>Ruby S. Collins</i>	Ruby S. Collins	8-6-83	Box 909	Homer
28 <i>John R. Rohr</i>	John Rohr	8-6-83	P.O. 2621	Homer
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AFFIDAVIT:

State of Alaska)
Third Judicial District)

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Signature: _____

Sworn and Subscribed to before me this _____ day of _____, 1985.

My commission expires _____.

Notary Public in and for Alaska.

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"Shall the Kenai Peninsula Borough School District be required to equip new school buses with seatbelts?"

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SIGNATURE OF VOTER	PRINTED NAME	DATE	ACTUAL RESIDENT ADDRESS	PRECINCT
<i>[Signature]</i>	Alina H. Schmalzer	8-23-85	7421 Tangle Ct Anchorage, AK 99504	
<i>[Signature]</i>	Debbie K. Readi	8/3/85	K-Beach Rd.	
<i>[Signature]</i>		8-3-85	Soldotna	
<i>[Signature]</i>	J. Curry	8-3-85	Soldotna	
<i>[Signature]</i>	Cynthia Erick	8-3-85	Soldotna	
<i>[Signature]</i>	Barbara Rice	8-3-85	Kenai	
<i>[Signature]</i>	Jill	8-3-85	Soldotna P.O. Box 4195	
<i>[Signature]</i>	Daisy Christaker		Box 8492	N. KISKI, AK 99603
<i>[Signature]</i>	Barbara Schmidt		Box 358	K-Beach
<i>[Signature]</i>	ENID CRAIG	8/3/85	Box 431	Stelling, Ak
<i>[Signature]</i>	BOV 8553		N. KISKI CLK.	8/3/85
<i>[Signature]</i>	Box 2946		Kenai AK	8/3/85
<i>[Signature]</i>	Box 4644		Soldotna	8-3-85 (Pickaway)
<i>[Signature]</i>	Rt. 1 Box 1540		Kenai	AK 99611
<i>[Signature]</i>	PO Box 194		Kenai	AK 99611
<i>[Signature]</i>	1511 E. 2nd St		Kenai	AK 99611
<i>[Signature]</i>	810 Pine		Kenai	AK 99611
<i>[Signature]</i>	Ken Seaman		Box 2070	Kenai Spur + Willow Kenai
<i>[Signature]</i>	Linda K Gjovund	8/3/85	Box 647	Homer, AK. 99603
<i>[Signature]</i>	CARDLYN WILDER		Box 1210	Homer AK 99603
<i>[Signature]</i>		8/5/85	Box 194	Kenai Pt. 99554
<i>[Signature]</i>		8/1/85	Box 194	Kenai Pt. 99554

AFFIDAVIT:
 State of Alaska)
 Third Judicial District)
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Signature: _____
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 My commission expires _____
 Notary Public in and for Alaska.

Call the Seatbelts Are For Everyone (SAFE) Committee at 235-7240 for more information or petition pick up, or mail petition to P.O. Box 3331, Homer, Alaska 99603.

We, the undersigned qualified (registered) voters, living within the Kenai Peninsula Borough, do hereby petition the Assembly of the Kenai Peninsula Borough to place the following question on the Oct. 1, 1985, ballot:

"Shall the Kenai Peninsula Borough School District be required to equip new school buses with seatbelts?"

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SIGNATURE OF VOTER	PRINTED NAME	DATE	ACTUAL RESIDENT ADDRESS	PRECINCT
<i>Karen's Kohlbeck</i>	Karen Kohlbeck	8/1/85	4723 Early Spring St.	
<i>Jim Vaas</i>	Jim Vaas	8/1/85	Rochelle Rd.	Anchor Pt
<i>Veronica Marin</i>	Veronica Marin	8/1/85	147 Heritage Hotel	Homer
<i>Peggy C Millage</i>	Peggy C Millage	8-2-85	Rochelle Rd	Homer AK
<i>Sharon Harris</i>	Sharon Harris	8/2/85	4201 Kachomak Way	Homer
<i>E. Johnson</i>	E. Johnson		4810 Shannon Court	Homer AK
<i>Dale H. Myhill</i>	DALE H MYHILL	8/2/85	787W Fairview	Homer
<i>B. Buzzelli Ault</i>	B. Buzzelli Ault	8/2/85	Box 15315 FCB	Homer AK
<i>GARY AULT</i>	GARY AULT	8/2/85	BOX 15315 FCB	HOMER AK.
<i>Tom Henry</i>	Tom Henry	8/2/85	450 Koyuk View Apt 1	Homer AK
<i>Jenny Rasmussen</i>	Jenny Rasmussen	8/2/85	Box 2292	Homer AK
<i>Jane G Beck</i>	Jane G Beck	8/2/85	PO 15044 FCB	Homer AK
<i>Alex + Anna Flynn</i>	ALEX + ANNA FLYNN		PO Box 1959	Homer Alaska
<i>Patricia Ann French</i>	Patricia Ann French	8/2/85	1007 Second St	Kenai
<i>Marian J. Friedrich</i>	Marian J. Friedrich	8/2/85	1735 Virginia Ave	Homer Diamond Ridge
<i>Margie Castillo</i>	Margie Castillo	8/2/85	4540 Corda	Anchor Point
<i>LEE POST</i>	LEE POST		KACH DEWE + EASTEND ROAD	HOMER
<i>Michelle Perdue</i>	Michelle Perdue	8/2/85	2.7 mi. Old Str.	Anchor Pt.
<i>Michael B. Perdue</i>	MICHAEL PERDUE	8/2/85	2.7 Old Str.	Anchor Pt.
<i>Bill Stewart</i>	Bill Stewart		8-2-85 Box 3061	Homer
<i>Christine Hoffman</i>	Christine Hoffman	8/2/85	Box 557	Homer
<i>Steve Chandler</i>	Steve Chandler	8/2/85	Box 3724	Homer
<i>Sandi Page</i>	Sandi Page	8/2/85	White Alder	Q 12-D
<i>Cynthia Stine</i>	Cynthia Stine	8-2/85	" " "	Apt 5-D
<i>Susan M Ledger</i>	Susan M Ledger	8-2-85	North Fork Rd	Anchor Point AK
<i>MARY BARBER</i>	MARY BARBER	8-2-85	Anchor Point	
<i>Sam Summeria</i>	Sam Summeria	8-2-85	Seward	Box 369
<i>Virginia M Espenshade</i>	Virginia Espenshade	8-2-85	70 1752	Homer AK -
<i>ANTONIA RICCIARDI</i>	ANTONIA RICCIARDI	8-2-85	PO BOX 2590	Homer

AFFIDAVIT:

State of Alaska)
Third Judicial District)

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Signature: _____
Sworn and Subscribed to before me this _____ day of _____, 1985.

My commission expires _____.

Notary Public in and for Alaska.

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We, the undersigned qualified (registered) voters, living within the Kenai Peninsula Borough, do hereby petition the Assembly of the Kenai Peninsula Borough to place the following question on the Oct. 1, 1985, ballot:

"Shall the Kenai Peninsula Borough School District be required to equip new school buses with seatbelts?"

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SIGNATURE OF VOTER	PRINTED NAME	DATE	ACTUAL RESIDENT ADDRESS	PRECINCT
<i>Harry Drew</i>	Harry Drew	8/9	Lowell Canyon	Seward
<i>Arline S. Hornbeck</i>	Arline S. Hornbeck	9/11	235 3rd Ave Apt 46	Seward
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AFFIDAVIT:

State of Alaska)
Third Judicial District)

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Signature: _____
Sworn and Subscribed to before me this _____ day of _____, 1985.

Notary Public in and for Alaska. My commission expires _____.

We, the undersigned qualified (registered) voters, living within the Kenai Peninsula Borough, do hereby petition the Assembly of the Kenai Peninsula Borough to place the following question on the Oct. 1, 1985, ballot:

117

"Shall the Kenai Peninsula Borough School District be required to equip new school buses with seatbelts?"

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SIGNATURE OF VOTER	PRINTED NAME	DATE	ACTUAL RESIDENT ADDRESS	PRECINCT
Gordon S Burton	GORDON S BURTON	8/10/85	P.O. Box 9 MOOSE PASS	MOOSE PASS
Clara J. Elge	CLARA I. ELGE	8/10/85	MILE 24 1/2 Seward Hwy	MOOSE PASS
Gloria J. Bandt	GLORIA J. Bandt	8/10/85	MILE 28 1/2 SEWARD Hwy	MOOSE PASS
Margaret P. Woods	MARGARET Woods	8/11/85	MILE 29 Seward Hwy	MOOSE PASS
Delbert Wolfe	DELBERT WOLFE		PO Box 1097 Moose Pass	
Peggy Condit	Peggy Condit	8/11/85	Mile 27 7/8 Seward Hwy	MOOSE PASS
Taylor Crimes	TAYLOR CRIMES	8/11/85	MILE 19 1/2 SEWARD Hwy	MOOSE PASS
Caryn Standley	Caryn Standley	8-11-85	Box 56	MOOSE PASS
Jeff Rutkowski	JEFF RUTKOWSKI	8/12/85	MILE 35 1/2	MOOSE PASS
Lela A. Reed	LELA A. REED	8/12-85	Box 372 Seward Hwy	MOOSE PASS
Katharine Glaser	Katharine Glaser	8/12/85	St. Rt. Box 460 Seward AK	99664
Vanessa Shockey	VANESSA SHOCKEY	8/13/85	HCR 64 Box 570 Seward AK	99664
Marcus P. Smith	Marcus P. Smith	8/13/85	Mile 29 Seward Hwy	MOOSE PASS
Dana A. Lane	Dana A. Lane	8-14-85	mile 23 Seward Hwy	AK 99664
Teddy Bevaland	Teddy Bevaland	8-14-85	Mile 28 Seward Hwy	99631
Kevin Shaffer	Kevin Shaffer	8-14-85	" 28 Seward Hwy	MOOSE PASS
Dennis C. Owens	DENNIS C. OWENS	8-14/85	MILE 28.5 Seward Hwy	MOOSE PASS
Dawn E. Campbell	Dawn E. Campbell	8-15-85	Mile 28 1/2 Seward Hwy	MOOSE PASS
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Julie Owens	Julie Owens	8-15-85	mile 28.5 Seward Hwy	MOOSE PASS
Diane Burke	Diane Burke	8-15-85	mile 27	" "
Susan Sorensen	Susan Sorensen	8-16-85	Mile 29	MOOSE PASS

AFFIDAVIT:
 State of Alaska)
 Third Judicial District)
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Signature: _____
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My commission expires _____
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The undersigned qualified (registered) voters, living within the Kenai Peninsula Borough, do hereby petition the Assembly of the Kenai Peninsula Borough to place the following question on the Oct. 1, 1985, ballot:

"Should all the Kenai Peninsula Borough School District be required to equip new school buses with seatbelts?"

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SIGNATURE OF VOTER	PRINTED NAME	DATE	ACTUAL RESIDENT ADDRESS	PRECINCT
<i>C. McIlroy</i>	C. McIlroy	8/12/85	West Hill Rd	
<i>Lynn B. Stolen</i>	Lynn B. Stolen	5.4 mi.	East End Rd	
<i>Cynthia K. Barker</i>	Cynthia BARKER	8-8-85	.552 BOWANZA	HOMER
<i>William Krick</i>	William Krick	8-12-85	496 BOWANZA	HOMER
<i>Kathleen V. Schmidt</i>	Kathleen V. Schmidt	8/13/85	25 mile N. Fork Rd	Anchor Pt.
<i>Martin Friedman</i>	MARTIN FRIEDMAN	8/13/85	10.5 Miles - Home	
<i>Joan D. Widdicombe</i>	JOAN WIDDICOMBE	8-13-85	Ruth Way, Homer	DIA Ridge
<i>Sally C. Keene</i>	Sally C. Keene	8-13-85	Diamond Ridge	Homer AK
<i>Wm Bell</i>	Wm Bell		OCEAN DRIVE	HOMER AK
<i>Janet C. Fink</i>	Janet C. Fink	8-14-85	M. 4. North Fork	Anchor Pt
<i>Norma J. Foust</i>	NORMA J. Foust		4020 Clover Ct	HOMER
<i>Aelra Knapp</i>	Aelra KNAPP	8/15/85	West Hill Rd	HOMER
<i>Marjorie Huft</i>	Marjorie Huft	8/15/85	2 1/2 mile E. End Rd	HOMER
<i>Cleo D. Webb</i>	Cleo D. Webb	8/16/85	6 Mi East Rd	HOMER
<i>Kathy L. Johnson</i>	Kathy L. Johnson	8/20/85	318 Lee Dr.	HOMER
<i>Joyce Grills</i>	Joyce Grills	8-20-85	2543 Judge Rebecca	HOMER
<i>Lou Anne M. Nelson</i>	Lou Anne Nelson	8-20-85	Box 49 A.D., AK	Anchor Point

FIDAVIT: I, _____, Clerk of the State of Alaska, Third Judicial District, do hereby certify that the undersigned, being first duly sworn, hereby certify that the parties whose signatures appear above were identified as residents of the Kenai Peninsula Borough, personally signed the petition in his/her presence on the date set out above, and stated that the address given is their present residential address.

Signature: _____
I am and Subscribed to before me this _____ day of _____, 1985.
My commission expires _____.
Notary Public in and for Alaska.

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43
AK

"Shall the Kenai Peninsula Borough School District be required to equip new school buses with seatbelts?"

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SIGNATURE OF VOTER	PRINTED NAME	DATE	ACTUAL RESIDENT ADDRESS	PRECINCT
<i>Eric W. Weatherly</i>	Eric W. Weatherly	8/3/85	30095 Hill Top Road Mile 100 Sterling Hwy	Kal-forsky
<i>Karen Weatherly</i>	Karen Weatherly	8/3/85	30095 Hilltop Road Mile 100 Sterling Hwy	Kal-forsky
<i>Mary Dean</i>	Mary Dean	8/5/85	Rodoubt Townhouse	Kenai
<i>Mitzie Lane</i>	Mitzie Lane	8/5/85	Mile 19	K-Beach
<i>Kathleen Samora</i>	Kathleen Samora	8/9/85	Box 7297 Nikiski	Nikiski
<i>Sheila Borden</i>	Sheila Borden	8/9/85	Box 345-1	Nikiski
<i>David W. Opth</i>	David W. Opth	8-15-85	7/0 Scow Lake Loop	Sterling, Ak
<i>Midge Crawford</i>	Midge Crawford	8-20-85	115 Harbor Ave.	Kenai
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AFFIDAVIT:
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SIGNATURE OF VOTER	PRINTED NAME	DATE	ACTUAL RESIDENT ADDRESS	PRECINCT
1 <i>James A. Best</i>	James H. Best	5/16/85	Anchor Pt.	
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<i>Susan MacLaine</i>	SUSAN MACLAINE	8-6-85	HCR 64755 LAUREA	Diamond Ridge Homer
<i>John Hatfield</i>	John Hatfield	8-6-85	Box 2120 Homer AK	Frite Creek
<i>Bonnie Forstar</i>	BONNIE FORSTAR	8/6/85	Box 1021 Homer AK	Diamond Ridge
<i>Barbara T. T. T. T.</i>	BARBARA T. T. T. T.	8/6/85	355 W. ...	Homer AK
<i>Tom Marakowitz</i>	TOM MARAKOWITZ	8/6/85	1 MILE BUNNELL	HOMER, AK
<i>William O. Russell</i>	William O. Russell	8/6/85	9776 ATHAN LANE	HOMER
<i>Arvid S. Hayward</i>	ARVID S. HAYWARD	8/6/85	377 W. FARVIEW	HOMER AK
<i>Loki Hanson</i>	LOKI HANSON	8/6/85	Mi. 155.5 S. Sterling	A.P. AK
<i>Patricia Ann McGenere</i>	PATRICIA ANN MCGENERE	8/6/85	1434 MI. E. END RD	Frite Creek
<i>Clarence A. Morgan</i>	CLARENCE A. MORGAN	8/6/85	4069 MULLIKIN	
<i>Tom Ballard</i>	TOM BALLARD		3.5 MI NEK Lp Rd	Anchorage PT
<i>Patricia L. Moss</i>	PATRICIA L. MOSS		62475 JEFFREY AVE	Diamond Ridge
<i>Paula Farley</i>	Paula Farley	8/8/85	HCR 54845 Trapper Ln	Homer
<i>Tackie Henley</i>	Tackie Henley	8/8/85	282 E. Bayview	Homer
<i>Marcia J. Macrone</i>	MARCIA J. MACRONE	8/8/85	GARDEN DALE	HOMER AK 99603
<i>L.D. Spence</i>	L.D. SPENCE	8/8/85	39960 HIGHVIEW CT.	HOMER AK
<i>Laura W. Norton</i>	LAURA W. NORTON	8/8/85	4251 HOME ST	HOMER
<i>Archi Anco</i>	Archi Anco	8-8-85	POB 2234	HOMER AK
<i>Karen Clifton</i>	Karen Clifton	8-8-85	POB 1091	HOMER AK
<i>Sandra Collins</i>	Sandra Collins	8-9-85	POB 1091	HOMER AK
<i>Cathryn S. Sutherland</i>	Cathryn S. Sutherland	8-9-85	P.O. Box 2869	HOMER, AK
<i>Nancy E. Rector</i>	Nancy E. Rector	8-9-85	P.O. Box 2869	HOMER, AK
<i>Paula H. Widner</i>	Paula H. Widner		Box 2626	HOMER
<i>David M. Gustafson</i>	DAVID M. GUSTAFSON	8/8/85	PO Box 7679	HOMER AK 99603
<i>Helene E. Cochinos</i>	HELENE COCHINOS	8/6/85	229 Alexander St.	"
<i>Julie Cesarin</i>	Julie Cesarin		2.5 Mile East End Rd.	"
<i>Fred W. Pfeil</i>	FRED W. PFEIL	8/9/85	NOVIEW AVE	HOMER AK

AFFIDAVIT:

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<i>Sonya Price</i>	SONYA PRICE	8-9-85	404 Ben Williams Lane D-2	HOMER
<i>Mary Pollard</i>	MARY POLLARD	8-9-85	Box 961	HOMER
<i>Bob Pollard</i>	BOB POLLARD	8-9-85	Box 961	HOMER
<i>Dennis Leach</i>	DENNIS LEACH	8/9/85	Box 144	HOMER
<i>Darlene Walkden</i>	DARLENE WALKDEN	8-9-85	PO Box 2017	HOMER
<i>Cheryl Mac</i>	CHERYL MAC	8/9/85	4114 Main	HOMER
<i>Robert Wallace</i>	ROBERT R WALLACE	8/9/85	Box 1344	HOMER
<i>Don Tonkovich</i>	DON TONKOVICH		Box 80	ANCHOR POINT
<i>Victoria Wine</i>	VICTORIA WINE		HC R 1215	ANCHOR POINT
<i>Robert Lord</i>	ROBERT LORD	9 AUG 85	2745 BAY VISTA	HOMER
<i>Robert Gutterhead</i>	R. GARD GUTTERHEAD			HOMER
<i>Johanna Williams</i>	JOHANNA WILLIAMS	8/9/85	PO Box 2912	HOMER
<i>Pauline Metcalf</i>	PAULINE METCALF	8/9/85	PO Box 3402	HOMER
<i>Norma E. Godfrey</i>	NORMA E. GODFREY	8/9/85	POB 1839	HOMER
<i>B. J. Mechels</i>	B. J. MECHELS	8/9/85	HC 64277	EAGLE VIEW DR
<i>Susan Kirn</i>	SUSAN KIRN	8-9-85	Box 2493	DIAMOND RLY - HOMER
<i>Peggy Murphy</i>	PEGGY MURPHY	8-9-85	Box 2672	HOMER
<i>Julia Clymer</i>	JULIA CLYMER	9 AUG 85	Box 3312	HOMER
<i>Rebecca Scenic</i>	3953 MAIN ST #9	8/9/85		HOMER
<i>Heath P. Heath</i>	HEATH P. HEATH	8-9-85	PO Box 518	HOMER
<i>Hillette Jones</i>	3476 MAIN ST.			HOMER, AK
<i>Toni Bean</i>	Toni Bean	15096	Homer AK	9 mile east end rd HOMER
<i>Betty Wilkins</i>	BETTY WILKINS			ELWOOD HOMER
<i>Judy Hanson</i>	JUDY HANSON		Box 490	HOMER
<i>Ronald Bradley</i>	RONALD BRADLEY		SRB 1265	ANCHOR PT
<i>Carolyn Bradley</i>	CAROLYN BRADLEY		S.R. BOX 1265	ANCHOR PT.
<i>Edua Morris</i>	Edua Morris		Box 758	HOMER ALASKA
<i>Sherry Owens</i>	Sherry Owens	8-10-85	3 mile Diamond Ridge	HOMER AK
<i>Jeanette Ferrod</i>	Jeanette Ferrod	8-10-85	Box 338	HOMER
<i>Ann Cornelius</i>	ANN CORNELIUS	8-11-85	2055 W. 4th St	HOMER AK

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<i>Linda Munns</i>	Linda Munns	8/2/85	Mile 9 - East Rd.	NOISEK
<i>[Signature]</i>	[Name]	[Date]	[Address]	
<i>Lynne Bertie</i>	LYNNE WALLACE	8/5/85	Diamond Ridge	
<i>Janice Thompson</i>	JANICE THOMPSON	8/6/85	Anchor Point	
<i>[Signature]</i>	JULIA MUNNS	8-7-85	Mile 9 EAST Rd	FRIZ CREEK
<i>[Signature]</i>	Erin F. Greene	8/7/85	Diamond Ridge	
<i>Margaret Terner</i>	MARGARET TENER	8/8/85	3179 LAKE ST.	Homer #2
<i>Kay Plourd</i>	Kay Plourd	8/8/85	4014 Birdwalkers Ln.	Homer
<i>Evelyn Sprague</i>	EVELYN SPRAGUE	8/8/85	1022 OCEAN DR LOOP S	
<i>Linda Coughenover</i>	Linda Coughenover	8/8/85	Box 619	Homer
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<i>Clara Belle Taylor</i>	Clara Belle Taylor	6 Aug 85	314 Pioneer Rd Kenai	
<i>Christine R. Rame</i>	CHRISTINE RAME	Aug 6-85	70 484 Anchorage AK	
<i>Debra T. Hays</i>	Debra T. Hays (White Bull)	8/5/85	HOUSE R MAJORAK (WHITE BULL)	HOAK
<i>Ruby M. M. ...</i>	RUBY M. M. ...		WILKINSON C P.O. BOX 11543	Homer Alaska
<i>Les Lee Looby</i>	LES LEE LOOBY	8/7/85	4047 main Homer, Ak.	99603
<i>John Hangstee</i>	John Hangstee	8/11/85	2 mile North Fork Rd	Anchorage Pt. AK 99556
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SIGNATURE OF VOTER	PRINTED NAME	DATE	ACTUAL RESIDENT ADDRESS	PRECINCT
<i>Karen Wesil Friedman</i>	Karen Friedman	Aug 2 1985	SEA Box 61 Homer 10 1/2 mile E. Rd	Fritz Creech
<i>Lee Graham</i>	Lee Graham	8/2/85	Box 63	Anchor Pt.
<i>Donna McCubbins</i>	Donna McCubbins	8-3-85	Box 1056	Homer AK
<i>Suzanne M Barker</i>	Suzanne Barker	4-5-85	P.O. Box 1621 Homer	District Ridge
<i>Holly Byerly</i>	Holly Byerly	8-5-85	4486 Early Spring St	Homer
<i>Tina Seaton</i>	Tina Seaton	8-7-85	Lot 5 Bk 3 Cranberry Hills	Anchor Pt.
<i>Paul K. Seaton</i>	Paul K. Seaton	8/7/85	Lot 5 Bk 3 Cranberry Hills	Anchor Pt.
<i>Barbara L. Hennicott</i>	Barbara L. Hennicott	8/8/85	(Bx 2996) 605 W. Rangeview	Homer 9960
<i>MOON CLOUD</i>	MOON CLOUD	8/8/85	HCE 33620	JONES DR. HOMER
<i>Linda A. Roupe</i>	LINDA SCHEIDER ROUPE	8/4/85	313 Shoreline Drive	Seldovia 9966
<i>Dorothy Spence</i>	Dorothy Spence	8-14		
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<i>Susan Cushing</i>	SUSAN CUSHING	8/14/85	37760 Falls Creek Rd	Fritz Cr.
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<i>Rebecca Kessinger</i>	Rebecca Kessinger	Aug 18 85	4122 ³⁵⁷⁰⁰ Homer AK	Fitzgerald
<i>Valerie Collins</i>	Valerie Collins	8-18-85	370 Red Mt Ave Seldotna	Seldotna #1
<i>Julie A. McCormick</i>	Julie A. McCormick	8-18-85	2163 Friober Homer	Homer #2
<i>Lia Fierro</i>	Lia Fierro	8-18-85	HCR 5520 Homer	
<i>KATHLEEN BERNAN</i>	KATHLEEN BERNAN	8-18-85	4122 Homer Cir Kenai	
<i>TACY SISEMORE</i>	TACY SISEMORE	8-18-85	Box 1055	Homer
<i>Ronald E. Smith</i>	Ronald E. Smith	8-18-85	Box 7020 Nikiski Alaska	
<i>M.P. King</i>	M.P. King	8-18-85	Box 2711 Soldotna AK.	
<i>Beatriz Cole</i>	Beatriz Cole	8-18-85	Box 3025 Soldotna, AK.	
<i>Sherida Carpenter</i>	Sherida Carpenter	8-18-85	Box 4322 Soldotna, AK.	
<i>William Popp</i>	William Popp	8/18/85	810 setnet Dr. Kenai	
<i>Paulette Culbertson</i>	Paulette Culbertson	8/18/85	(Mooseberry Rd. off Leechanuk) 605 Marine Dr. Kenai	
<i>EVERETT BRASS</i>	EVERETT BRASS	8/18/85	KENAI AK	Nikiski 1
<i>PAM SWANSON</i>	PAM SWANSON	8/16/85	Clan Gulch AK	Nikiski
<i>Patricia DeBusschere</i>	Patricia DeBusschere	8/16/85	1112 1/2 Tal	Kal. Park
<i>Helena Back</i>	Helena Back	8/16/85	here Box 38	
<i>Sandy Stubblefield</i>	Sandy Stubblefield	8/18/85	Tire Rd. Box 773 Soldotna	
<i>Lisa May</i>	Lisa May	8-18-85	Box 4377 Soldotna	
<i>Randy May</i>	Randy May	8-18-85	" " "	
<i>J. Sargeant</i>	J. Sargeant	8-18-85	P.O. Box 118 Anvik Pt.	
<i>TK Smith</i>	TK Smith	8/18/85	Box 35128 Nikiski AK	
<i>DOROTHY SUTHERLAND</i>	DOROTHY SUTHERLAND	8-18-85	1103 OAK AVE KENAI	-2
<i>ROBERT T SUTHERLAND</i>	ROBERT T SUTHERLAND		1103 OAK, KENAI	
<i>G. Thompson</i>	G. Thompson		7216 Lake Otis, Anchorage	
<i>GARY SHIVERS</i>	GARY SHIVERS	8-18-85	Tire Rd Extension, Soldotna AK	Soldotna
<i>Leon Wukis</i>	Leon Wukis		St. Hury Mi 108 Soldotna AK	
<i>PAT McNary</i>	PAT McNary	8-18-85	Mil. 7 Skyline Homer AK 99603	

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Jan Buckingham	Jan Buckingham	Aug. 16, 85	611 Marine St. Kenai	
Alice Rocker	Alice Rocker	Aug 16 85	207 Birch St	
Mark Howell	Mark Howell	8-17-85	310 Highway 4	
Dorothy T. Frost	Dorothy T. Frost	Aug 16 85	1111 K. St. Soldotna	
ALENE BASHAM	ALENE BASHAM	Aug 17 85	MP 14 1/2 Sterling Hwy	
Leis M Schaeble	Leis M Schaeble	8/17/85	M. 26 North Fork Anchorage	
Ken Howell	Ken Howell	8/17/85	P.O. Box 3151 Kenai, AK	
TERRI BRANNON	TERRI BRANNON	8/17/85	38750 Clark Rd Homer	
Vaughan Duggan	Vaughan Duggan	8/17/85	HCR 1063 Millstone Homer	
Mark Alan	Mark Alan	8-17-85	Box 4065 Soldotna	
SHERY TALBOT	SHERY TALBOT	8-17-85	KNIGHT DRIVE RIDGEWAY	
PATRICK A SHIELDS	PATRICK A SHIELDS	8-17-85	Mile 33 Birch Rd	Tustumena
Lee A Shields	Lee A Shields	8-17-85	Mile 3.5K Bevelud	Tustumena
Linda Cross	Linda Cross	8-17-85	P.O. Box 2928	Homer
Jan W. Cross	Jan W. Cross		459 Benanza	Homer
Sheila Gallagher	Sheila Gallagher		P.O. Box 3562	Homer
Virginia Smith	Virginia Smith		Box 2170	Kenai
SUSAN W. BROWN	SUSAN W. BROWN		Box 616 Soldotna	
George W. Willy Jr.	George W. Willy Jr.	8-17-85	Smith Rd Sterling	Sterling
PATRICK E. MURRAY	PATRICK E. MURRAY	8-17-85	P.O. Box 850	Kenai
DANIEL L. LINDA	DANIEL L. LINDA		Chickadee Dr Fairwood Subd, Homer	
PATRICIA M. HANSEN	PATRICIA M. HANSEN		Tate Rd. Box 2031 Soldotna	
ALICIA K. MAY	ALICIA K. MAY		P.O. Box 230 Corral & Seal	
TAMARA EDWARDS	TAMARA EDWARDS	8/17/85	Kenai Cir. P.O. Box 2645 Homer	ALL HOMER
ALICIA K. MAY	ALICIA K. MAY		P.O. Box 427 Anchor Pt. AK	
SISAL PASSE	SISAL PASSE	8-17-85	Box 91 Kenai AK	99501
MARK PASSE	MARK PASSE	8-17-85	2450 Seward Way	
Wes Thompson	Wes Thompson	8-17-85	Box 3977 Soldotna	
Alyce Kingsley	Alyce Kingsley	8-18-85	Box 186 Peninsula	

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SIGNATURE OF VOTER	PRINTED NAME	DATE	ACTUAL RESIDENT ADDRESS	PRECINCT
<i>[Signature]</i>	S. RAISE ROND	8-8-85	2725 P.P. Rd.	
<i>[Signature]</i>	John Shows	8-8-85	4CR 54405 Wildberruss L.	
<i>[Signature]</i>	Jean Farrell		300 Woodlake Homer	
<i>[Signature]</i>	Jimmy Dillinger	8-8-85	Boile 167.5 Seward Hwy. A1	
<i>[Signature]</i>	Michael Sheppard	8-8-85	Mile 6 E. End of Fritz Creek	
<i>[Signature]</i>	KATHERINE LYNCH	8-9-85	P.O. Box 2751 Homer AK	
<i>[Signature]</i>	LARY J KUHNS	8-8-85	P.O. Box 2654 Homer	
<i>[Signature]</i>	Chad N. Naumann	8-9-85	Box 100 Homer AK	
<i>[Signature]</i>	Michael Callahan		4670 Helen St. Homer	
<i>[Signature]</i>	DI MARTINO	8-9-85	4670 Helen St. Homer	
<i>[Signature]</i>	Biddy Dillinger	8-10-85	P.O. 7951	
<i>[Signature]</i>	J. L. King		Box 1671 Homer	
<i>[Signature]</i>	L. J. PERMANIAN		Box 2077 Homer	
<i>[Signature]</i>	MADIANE MADIANE		Box 2329 Homer	
<i>[Signature]</i>	LORIE FRANK		Box 2200 Homer	
<i>[Signature]</i>	144 S. W. Steiner		Anchorage AK	
<i>[Signature]</i>	1492 Homer			
<i>[Signature]</i>	Anthony J. Oliver	8-11-85	Mile 1/2 East Road Fritz Creek	
<i>[Signature]</i>	John Logan	8/12/85	4234 Svedlund St Homer	
<i>[Signature]</i>	THESEK ROBI	8/12	Box 2678 ^{121 1/2 mi view of} Homer	
<i>[Signature]</i>	GARY WILLIAMS	8/13	Box 2543 Homer	
<i>[Signature]</i>	CHRIS ARCHISON	8/13	1248 Lakeside Dr Homer	
<i>[Signature]</i>	TRACY COGAN	8/13	Box 2777 Homer	
<i>[Signature]</i>	MARCO HALL	8/13	Box 2923 Homer AK	
<i>[Signature]</i>	TRACY GARDNER	8/13	P.O. Box 2582 Homer AK	
<i>[Signature]</i>	RANDA S. DODD	8/13/85	Lackman Ct Homer AK	
<i>[Signature]</i>	GERALD COOK		319 Bernice Homer AK	
<i>[Signature]</i>	BETTYANN STECIW	8/13/85	Box 1650 Homer AK	

AFFIDAVIT:

State of Alaska)
Third Judicial District)

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Signature: _____
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<i>Terry A Clark</i>	Terry A Clark	8-9-85	2925 Schooner Circle	K-Beach
<i>Clara James</i>	Clara James	8-9-85	2848 Bass St. Anch.	
<i>H Val Schreiber</i>	H Val Schreiber	8-9-85	Rabbit Run RD	Soldotna
<i>Eileen Reemasma</i>	Eileen Reemasma	8-9-85	Robinson LPKd	Sterling
<i>Wanda LaFleur</i>	WANDA LAFLEUR	8/9/85	Alison Way	Soldotna
<i>John Oleson</i>	JOHN OLESON	8/9/85	P.O. Box 4314	KENAI
<i>Ray LaFleur</i>	Ray LaFleur		Box 3 Clam Gulch	99528
<i>M. S. Lopez</i>	M. S. Lopez		Box 1027	Soldotna
<i>Jamie Harting</i>	Jamie Harting		Box 4246 Soldotna Lt 14 Blk 2	Dolly Varden Ridge Way
<i>Cynthia Paxson</i>	Cynthia Paxson	8-9-85	146 Leibrock	
<i>Patricia Morrison</i>	PATRICIA A. MORRISON	8-9-85	Cranberry Lane	Soldotna Kalifornsky
<i>Audrey S. Stafford</i>	AUDREY S. STAFFORD	8-9-85	King Solomon	Soldotna Ridgeway
<i>Esther A. Stewart</i>	ESTHER A. STEWART	8-9-85	35036 IRONS AVE,	RIDGEWAY
<i>Rewena Barr</i>	Rewena Barr	8/9/85		Sterling, AK
<i>Mike Gradner</i>	Mike Gradner	8-9-85	197 Riverview	Soldotna
<i>June Johnson</i>	June Johnson		Box 4503	Soldotna 99169
<i>Patti Gaede</i>	PATTI GAEDE	8-9-85	JONES ROAD	GOLDOTNA KALIFORSKY
<i>Al Thompson</i>	Al Thompson	8-9-85	Funny River	15 Ridgeway
<i>Phyllis Toivola</i>	Phyllis Toivola	8/9/85	Scout Lake Loop	Sterling
<i>Bonnie Clinton</i>	Bonnie Clinton	8/9/85	Gas Wilt Rd.	Soldotna
<i>M. Murphy</i>	M. Murphy	8/9/85	K13 Road	SOLDOTNA
<i>G. Koopp</i>	G. Koopp	8/9/85		Sterling, AK
<i>D. McKechnie</i>	D. McKechnie	8/9/85	945 A. mas	KENAI
<i>Rain Townsend</i>	Rain Townsend		Box 4343 RIVERSIDE	TRAILER PARK SOLDOTNA
<i>Ann B. Lyman</i>	Ann B. Lyman		Box 74	Minnelike Club 99639
<i>Madeline F. Rice</i>	Madeline F. Rice		Box 52	Sterling, AK 99672
<i>Melinda Hershberger</i>	Melinda Hershberger		298 Sunrise Ct.	SOLDOTNA
<i>Tammy Kercove</i>	Tammy Kercove		Box 2517	Soldotna
<i>Edna A. Sims</i>	EDNA A. SIMS		Rt. 2 Box 420	KASILOF

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1 <i>Edgar A. Davis</i>	Edgar A. Davis	8-8-85	4 mi. E East Hill	Homer
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Signature: _____

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Call the Seatbelts Are For Everyone (SAFE) Committee at 235-7240 for more information or petition pick up, or mail petition to P.O. Box 3331, Homer, Alaska 99603.

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SIGNATURE OF VOTER	PRINTED NAME	DATE	ACTUAL RESIDENT ADDRESS	PRECINCT
<i>Marvin St. Clair</i>	MARVIN ST. CLAIR	8/4/85	42320 Continental Way.	Ridgeway
<i>James D. Dunn</i>	JAMES D. DUNN	8/4/85	1000 Tern PL	KENAI
<i>Randy Willis</i>	Randy W. Willis	8/5/85	380 W. Kutivasi	Soldotna
<i>Richard J. Hill</i>	Richard J. Hill	8-5-85	209 Banner	Soldotna
<i>Russell R. Guilley</i>	Russell R. Guilley	8-5-85	Rt. 2 Box 146	STERLING
<i>Edward C. Friend</i>	Edward C. Friend	8-5-85	Kenai, Alaska	Ridgeway
<i>Cherie B. Travis</i>	Cherie B. TRAVIS	8-5-85	RT 2 B 146 Sol	Sterling
<i>Allen W. Norman</i>	Allen W. Norman	8-5-85	430 Chugiach Dr.	Soldotna
<i>James W. Bergeman</i>	JAMES W BERGEMAN	8-5-85	RT 2 B 145 Sol	Sterling
<i>Greg B Barclay</i>	Greg B Barclay	8-6-86	160 Hillcrest	Soldotna
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SIGNATURE OF VOTER	PRINTED NAME	DATE	ACTUAL RESIDENT ADDRESS	PRECINCT
<i>[Signature]</i>	Cheryl Schweidler	3/17/85	105 V. Kobuk - Soldotna	
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<i>Cheryl Beck</i>	Cheryl Beck	8-16	Mile 13 1/2 Sterling	
<i>Mary Fek</i>	MARY FEK	8-16	1111 DILWELL RD	
<i>Vicky Cooper</i>	Vicky Cooper	8/16	13 1/2 Sterling	
<i>Lee Billington</i>	LEE BILLINGTON	8/16	207 BIRCH KENAI AK 99611	
<i>Royce R Betker</i>	ROYCE R BETKER	8/16	212 FOREST DR KENAI AK 99611	
<i>Linda Stroeker</i>	LINDA STROEKER		1st Home Nat Home School - Homer 99603	
<i>Patrick A Clinton</i>	PATRICK S CLINTON		SCOTT AVE SOLDOTNA	
<i>Lynne I Clinton</i>	LYNNE I. CLINTON		SCOTT AVE SOLDOTNA	
<i>Terril Lemman</i>	TERRIL LEMMAN		Mi. .7 DILWELL RD N. INDIAN	
<i>Delores Howell</i>	Delores Howell		310 HIGHBUSH KENAI	
<i>Yvonne Lang-Bichan</i>	Yvonne Lang-Bichan		1077 Walnut Kenai	
<i>Rose Shaver</i>	Rose Shaver		Box 1 Sterling	
<i>Sharon A Gerhard</i>	SHARON A GERHARD		1619 TANGA KENAI AK 99616	
<i>Helen Meyer</i>	HELEN MEYER		131 SHANN LANE - SOLDOTNA	
<i>Tami Greenwell</i>	TAMI GREENWELL		55470 Tok St Homer - Fritz	
<i>Cindy Hendrickson</i>	Cindy Hendrickson		Buxton Homer	
<i>Tampati Pihetti-Perrin</i>	TAMPATI PIHETTI-PERRIN		Box 155 Anchor Point	
<i>Ward Persoe</i>	Ward Persoe		PO 155 Anchor Point	
<i>Robin Jaine</i>	Robin Jaine		PO 469 Anchor Pt	
<i>Katharine I. Mungo-Duggar</i>	Katharine I. M. Duggar		ACRIDO 3 MILLER LN #2 Homer	
<i>Edna H. Brown</i>	Edna H. Brown		Box 1772 Soldotna, Alaska	
<i>Lucy Mahan</i>	LUCY MAHAN	8-17	FUNNY RIVER RD SOLDOTNA	
<i>Tula E Ledbetter</i>	Tula E Ledbetter		Box 77 N. Inlet AK	
<i>Lois Miller</i>	Lois Miller	8-17	289 MARYALE CT - SOLDOTNA	
<i>Tara Schlinke</i>	TARA SCHLINKE	8-17	RT 2 Box 920 Soldotna AK	
<i>Robert L Dewees</i>	Robert L Dewees	8-17	37184 Denise Lake Rd Soldotna	
<i>Jenny L Dewees</i>	Jenny L. Dewees	8-17	37184 Denise Lake Rd Soldotna	
<i>Douglas W Brown</i>	Douglas W Brown		Box 616 Soldotna AK	
<i>Cheryl L Edwards</i>	Cheryl L Edwards		Box 2648 Homer AK	
<i>Jan D May</i>	Jan D May		PO Box 427 Anchor Pt	

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<i>Lisa C. Ellington</i>	Lisa C. Ellington	7/31/85	HCR 64645 Pitzman Ave.	Diamond Ridge ^{HOMER}
<i>William F. Ellington</i>	William F. Ellington	7/31/85	177 Farnsworth	Diamond Ridge ^{Saldatan}
<i>Meredith H. Hilderbrand</i>	Meredith H. Hilderbrand	7/31/85	Pitzman Avenue	Diamond Ridge
<i>DEA - R. HEUSEL</i>	DEA - R. HEUSEL	7/31/85	HCG4760 PITZMAN AVE	DIAMOND RIDGE
<i>Shirley J. Heusel</i>	Shirley J. Heusel	7/31/85	HCR 64360 Pitzman Ave.	Diamond Ridge
<i>Susan F. Loshbaugh</i>	Susan F. Loshbaugh	7/31/85	64770 Pitzman Av	Diamond Ridge
<i>DAVID J. ELLINGTON</i>	DAVID J. ELLINGTON	7/31/85	64645 Pitzman Av	Diamond Ridge
<i>VICKIE DELGROSSI</i>	VICKIE DELGROSSI	8/1/85	144 Island View Sub.	FIRE HALL-H
<i>Alice M. Danby</i>	Alice M. Danby	8/4/85	1914 Sterling Hwy	High School
<i>DONNA SCHAETZ</i>	DONNA SCHAETZ	8/4/85	Box 3907P Chamberlain N. Anchik-Johns	Niniklik AK 99659
<i>Bruce Royce</i>	Bruce Royce	8/4	Box 1537	HOMER
<i>Melody A. Royce</i>	Melody A. Royce	8/4	Box 1537	Homer Alaska
<i>Donna Putman</i>	Donna Putman		Box 573	HOMER, AK. 99603
<i>Dolores Butler</i>	Dolores Butler		4181 Svedlund	HOMER AK 99603
<i>Patrick Butler</i>	Patrick Butler		4181 Svedlund	HOMER AK 99603
<i>GEORGE C. DANBY</i>	GEORGE C. DANBY		Box 582	HOMER ALASKA 99603
<i>Karen S. DeVaney</i>	Karen S. DeVaney		484 Klondike	HOMER, ALASKA
<i>JOHN BERELC</i>	JOHN BERELC		Box 691	HOMER AK
<i>HARRY GREGOIRE</i>	HARRY GREGOIRE		Box 241	HOMER AK
<i>JANET LIGHTHILL TELWAT</i>	JANET LIGHTHILL TELWAT		Box 2711	HOMER AK
<i>BARR BENSON</i>	BARR BENSON	8/5	65290 CRAWFORD RD	ANCHOR POINT, AK 99
<i>MARILYN KIRKHAM</i>	MARILYN KIRKHAM	8/5	Mattox Rd	HOMER. HOMER
<i>TERRI CLARK</i>	TERRI CLARK		P. Box 2563	HOMER AK 99603
<i>CAROLE SHORT</i>	CAROLE SHORT		Box 1971	HOMER AK 99603
<i>KELLY EASTMAN</i>	KELLY EASTMAN		Box 1093	HOMER AK 99603
<i>JANE WHITMAN</i>	JANE WHITMAN		HCR 55200 East Rd.	WOMAN AK 99603
<i>JAKE FREDRICKER</i>	JAKE FREDRICKER	8/6/85	11387 FRONTAGE	KENAI 99611
<i>RANWT WISNUNESKY</i>	RANWT WISNUNESKY		Box 2793	SOUVIK AK 99667
<i>JULIEAN M AMON</i>	JULIEAN M AMON	8/8	Box 2324	HOMER, AK 99603
<i>BARBARA TAMMATH</i>	BARBARA TAMMATH		135 E. FIDELITY	HOMER AK 99603

AFFIDAVIT:

State of Alaska)
Third Judicial District)

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Transportation & Marketing Systems, Inc.

P.O. Box 770350 • Eagle River, Alaska 99577 • (907) 694-4865

April 3, 1986

15684

APR 08 1986

The Honorable Bette Cato
Alaska State Legislature
Box V
Juneau, AK 99811

Dear Ms. Cato:

I would like to thank the House Transportation Committee for the opportunity to testify during the teleconference on April 2, 1986. By this letter, I would like to recap my comments during the teleconference as well as other thoughts that I held due to the shortness of time.

First of all, there is a serious question of whether seat belts and compartmentalization are compatible. Of the limited testing that has been done to date, the results have shown more serious complications to potential seat belt occupants versus unbelted occupants. The combination of 24" seat backs, limited seat spacing and belts show the potential for more severe injury in frontal collisions. Again, the concern of retrofitting a bus that wasn't designed with seat belts in mind brings grave doubts as to whether the bus components would be safe with the extra stress of belts.

I would like to urge the legislature to consider two recommendations. The first is to urge the Federal government to immediately implement a comprehensive testing program in two areas: One area would be the retrofitting of existing buses. What are the real safety issues of retrofitting and what would be the safest way of retrofitting an existing bus if a school district so chooses? To what standards should a retrofitting program adhere if a school district so chooses? The second area of testing with a resultant set of standards would be for newly manufactured buses. Again, as in the case of retrofitting, we have no standards established by the federal government for seat belts in large school buses.

I would hope that we would learn a lesson from our current insurance crisis. Before we go charging off and requiring seat belts in buses, let's make sure they are indeed safe and that if they are, we have standards that belts and buses must comply together. Let's not suddenly wake up two years or more down the road and find that we are involved in a crisis situation because we didn't put enough thought into the situation at the time that legislation was enacted.

"ALASKA'S TRANSPORTATION PROFESSIONALS"

Pupil Transportation Marketing Management
Fleet Maintenance Sales & Service Charters.



Bette Cato
April 3, 1986
HB 684

Page 2

Another aspect of the school bus seat belt issue is that of priorities. We (Alaska School Transportation Association, Alaska School Bus Safety Commission and other industry professionals) have for the last few years attempted to get a safe minimum standard for school bus driver training. We have also attempted to get funding for a state monitoring and training program for school bus driver training and school bus inspections. We are considering the appropriation and spending of millions of dollars for seat belts, yet we don't have but a minimum effort at best in the areas of school bus driver training and school bus inspections.

In this time of shrinking oil revenues and budgets, we must put items in order of priority. School districts are cutting elementary swim education programs and other type programs. How many children/adults die in Alaska annually because they don't know how to swim? How does that program stand up in comparison to seat belts in school buses? I'm a parent who has a child who came very close to drowning in one of Alaska's rivers. I can state categorically that I feel there is a much greater danger to my child in and around Alaska's waterways than in riding a "compartmentalized bus." My point is that we must take a strong, unemotional, objective look at our priorities and decide where our largest problems are and where our dollars will make the most significant impact.

I would like to make some comments concerning some of the statements made during the teleconference. The one comment concerning the use of seat belts on buses in the East End Road at Homer brought up an interesting problem. If those roads are so treacherous in the spring and the likelihood of rollovers/accidents is great, why are we allowing buses on the road? Don't the residents know the dangers they are exposing their children to? There is no way that a school bus operator can anticipate and prepare a driver or vehicle under those adverse conditions. I would submit that instead of installing seat belts in buses because the road conditions are particularly dangerous, that the buses should not be operating in these conditions, seat belts or not.

Another comment was made speculating that most accidents in Alaska were of the side impact or rollover type. That speaker obviously did not know what he was talking about. Being an operator in the industry for the last nine years, I can tell you that most of our accidents are either rear or front impacts, the highest percentage being rear impact.

One speaker commented about the seat belt movie "Room to Live" and then went further to state the only difference between buses and cars were that buses were yellow. The movie "Room to Live" does a good job of showing how seat belts enhance safety in cars. But there is little if any correlation between cars and buses during impacts. In cars, the mass of the vehicle is small and therefore transmits more of the force in a collision to the passengers. Most passengers are seated at a door and those in front have no padded barricade, just a dash and windshield.



Bette Catz
April 3, 1986
HB 684

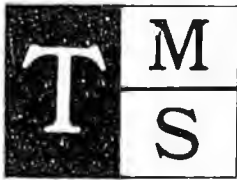
Page 3

In a bus, the passengers are in a padded seat area with little or no exposure to doors. The windows are designed to stay in place and to keep passengers inside. The center of gravity of the bus is higher than most vehicles which in most cases is a positive factor during collisions. And most importantly, the mass of the bus is much greater than an automobile. The bus is able to absorb more of the force in a collision, therefore passing on less force to its passengers. I could not count the number of times I have responded to an accident involving a school bus where the car hitting the back of the bus has extensive damage or had been totaled, yet the bus has no damage or simply a scraped bumper. There are significant differences between automobiles and school buses in collision situations.

The speaker from Fairbanks who referred to two accidents this year in which seat belts would have made a difference was, at best, misinformed. Transportation and Marketing Systems operates the Fairbanks buses and the accident investigation did not show that seat belts would have been a factor in any of our accidents. Unfortunately, we have had more than two accidents in Fairbanks, so it's hard to know which the speaker was talking about, but the highest incidence of accidents involve our buses being struck in the rear.

The engineer from Fairbanks spoke to the conclusion that the parameters for the Canadian testing were set up against seat belts. Specifically he stated that the dummies used were the size that would have the greatest likelihood of hitting the seat with their head and the seat belts weren't necessarily tight across the lap. The seat backs weren't high enough nor were they padded sufficiently. All these factors were supposedly loaded against seat belts. Unfortunately, the conditions of the test were real world. The dummies were selected because they were the best representation of the average size of a child. The seat back height was 24", which is the situation you face with virtually every bus in the country if you consider retrofitting and not replacing the seats with 28" backs. The padding on the seats is what we have on virtually every post-1977 bus; that's the federal standard. And as far as the complaint that the belts were not tight, thus enabling the dummies to slide forward, if that was the case, again, welcome to real world situations. How is a bus driver going to insure that every one of his 65 to 71 elementary passengers have their belts snugly around their hips?

In conclusion, there seems to me to be two basic issues. First of all, is there conclusive and comprehensive evidence that seat belts in large buses enhance the total safety environment? If conclusive evidence is presented then what standards are to be used to install belts in used buses and what specifications do manufacturers use to construct new buses?



Bette Cato
April 3, 1986
HB 684

Page 4

The second issue is that of priority. Unfortunately, our state and school districts do not have money to satisfy everybody's needs and wants. If we have extra money to spend, our state is in dire need of funds for school bus driver training programs and inspection programs. I also feel that there are other priorities that come far ahead of seat belts on large capacity school buses.

Cordially Yours,

A handwritten signature in cursive script, appearing to read "Thomas F. Hyatt", written in black ink over a light background.

Thomas F. Hyatt
General Manager - TMSI
Member - Alaska School Bus Safety Commission
President - Alaska School Transportation Association

TFH/cp

APR 07 1986

April 3, 1986

Dear Rep. Cato and Committee Members

My children have become school age and I want them as protected on the school bus as they are in any other vehicle--buckled-up.

I have done my part, faithfully buckling them up every single time. My children feel "naked" when they have to ride a vehicle without belts i.e. some airport shuttle buses. It is second nature to them to buckle up. It is a non sequitur when they start school for the School District, Borough Government, and State Government to sanction vehicles without seatbelts.

When I asked my principal about this she said it is safer without seatbelts. This does not make sense; it defies reason. In fact, when I studied the information and data, IT IS NOT TRUE. Why are we told this ridiculous answer?

Indeed, the very research which people quote to prove seatbelts are dangerous proves the opposite at best and at the very least it is such a poor study no one should use it to prove anything. The best proof is a bus accident last year in Florida (Beth Lauesen gave this testimony April 2). In the accident in a large school bus severe injuries were sustained by all unbelted persons and only minor or no injuries were sustained by all belted persons including a child in a wheelchair. To those who want more tests--great! However, in the meantime buckle up the children-- not the other way around.

For the first time in my life I have appeared and testified at a school board meeting and now a teleconference because this is important to me. It is important to my friends as well. Rest assure this is hot topic-- one that is discussed at our children's birthday parties. This is a true grass roots issue. I have become active because I would never forgive myself if I had not done all I could to keep my children as safe as possible. I will hold the State responsible if it does not act to insure my child the right to safe school transportation.

On this week's teleconference someone asked me if I'd considered driving my children to school. The answer is definitely YES and I know several who do. In fact, a mother from Healy testified she would do so next year when her children started school-- a 240 miles a week job. Yes, safety is a top priority.

It is imperative that we protect our children to the best of our ability, NOW. The mundane realities of cost also favor

installation. One bad accident will cost more than the seatbelt. The only lawsuits that have been successful are two that found the school districts negligent for NOT providing seatbelt protection.

In conclusion, I'd like to thank the Committee for the teleconference opportunity and urge you to protect our children now before tragedy strikes.

Sincerely,



Laurie Rockstad
1946 Swallow Dr.
Fairbanks, Alaska 99709

APR 22 1986

Box 225
Cordova, AK, 99741

April 22, 1985

Representative Bertie Cato
Chair, House Transportation Committee
Alaska State Legislature
Juneau, AK, 99801

Dear Representative Cato:

In Alaska, the Governor, the State Legislature, the State School Board and local school boards are all asking questions about the advisability of installing seatbelts in school buses. The Department of Public Safety and the Department of Health and Social Services are agencies whose missions are injury prevention and public safety. However, the Alaska Department of Education has become the most vocal agency in this issue. Their ability to treat the subject fairly is questionable because of their:

1. Failure to Listen to All Interests

While the Department of Education has had information on the positive aspects of seatbelt installation for over a year, they have not mentioned this side of the issue in any of their publications. In their booklet, "School Buses and seat belts- A discussion", the Department presents only arguments against seatbelts supplied by the pupil transportation industry. They fail to balance their "discussion" with information on school bus seatbelt successes and nationwide medical support.

2. Failure to Treat the Problem Seriously

The Department of Education, in their brochure, states that the "real danger" is in the loading zones. By shifting emphasis to the loading zones, the Department treats on-board deaths and injuries (5,500 on-board injuries nationwide in 1984) as inconsequential. Only after 5 Alaskan children died in the loading zones was any action taken. Presumably, the Department of Education needs an on-board body count before they will take this problem seriously.

3. Use of Misinformation

In their brochure, the Department of Education states that passengers cannot be ejected from a school bus because they do not sit next to doors. National Transportation Safety Board accident reports clearly document rollover accidents where students were ejected through the windows and crushed as the bus came down on top of them (enclosure 1). The National Highway Traffic Safety Administration in their report "Safety Belts in School Buses", June 1985 stated:

...ejections, which could be prevented by seatbelts, represent one-fourth of all fatalities."

The Department of Education contends that lap belts are not compatible with the closely spaced seats in today's school buses. In their brochure, DOE refers to a test which showed that at least 40 inches of space are needed in front of a lap-belted passenger. The reference is incorrect. The test was performed by the National Motor Vehicle Research Foundation (not the Southwest Research Institute, as DOE states), involved front seats of cars, and is not applicable to school buses.

Seatbelts and closely spaced seats (27 inches or less) have been required on small and mid-sized buses since 1977. This arrangement has not only proved compatible, but has saved lives and prevented injuries, according to The National Transportation Safety Board (enclosure 2). The omission of this information in DOE's brochure is significant.

The Department of Education appears to have published information supplied by the pupil transportation industry without verifying their sources. Such irresponsible action on the part of a state agency is inexcusable and casts serious doubt on their ability to be objective about seatbelts on school buses.

4. Conflict of Interests

Information on seatbelts in school buses which has been provided by the Alaska Department of Education is seriously biased towards pupil transportation interests. It is ultimately DOE who will pay for seatbelts should House Bill 604 become law. Additional buses may have to be purchased by the state as this law ensures that every student must be provided with a seat and seatbelt. Students, who currently stand in the aisles, illegal under state law but allowed in some districts, will finally have a place to sit. The Department of Education may have to make some financial sacrifices for the sake of child safety.

5. Failure in Safety Education

Seatbelts have been required in all school vans and mid-sized school buses since 1977. The Department of Education, whose mission is to educate children, has had nine years to develop a curriculum to encourage seatbelt use in smaller buses, but has failed to do so.

A seatbelt education program should already be in place in those school districts which operate small and mid-sized buses. Districts have had nine years to acquaint themselves, their drivers and their students with the safety restraints which the Federal Government has made mandatory. There should be no problem adapting their program to new large buses entering the system.

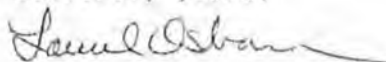
Conclusion

Other state agencies have more expertise, knowledge and commitment in the area of child safety and passenger restraint than the Department of Education. The Highway Safety Planning Agency of the Department of Public Safety has supplied grant support for 'The Real Connection', an excellent seatbelt education curriculum which was adapted for this state by the Alaska Council on Prevention of Alcohol and Drug Abuse, Inc.

The Emergency Medical Services Section of the Department of Health and Social Services is concerned with injury prevention and realizes the value of occupant restraints in school buses.

I would urge decision-makers who are asking questions concerning the advisability of installing seatbelts in school buses to look at all sides of the issue. This can best be done by consulting the Department of Health and Social Services and the Department of Public Safety, as well as the Department of Education.

Sincerely yours,



Laurel Osborne
Chairman, Galena PTSA Safety Committee
Regional Coordinator, National Coalition
For Seatbelts on School Buses

Seatbelts on School Buses"

N Y State PTA Convention
November 7, 8, 9, 1982

Information on Resolution #7

Compiled by Carol Fast
School Bus Safety Resource,
Juvenile Protection Committee

Accident Investigations & Studies Advocating Seatbelts on School Buses 1967-1981

1967 School Bus Passenger Protection, Severy, Brink & Baird, Institute of Transportation & Traffic Engineering, UCLA (film entitled "Broken Bus"):

Seatbelts Recommended for Safety Seat: "These bus experiments, the many actual school bus accidents investigated by the authors, the many types of collision experiments conducted during the past 16 years by the authors and investigations by others, CLEARLY ESTABLISH THE VALUE IN PASSENGER PROTECTION OF LAP BELTS WHEN USED WITH HIGH BACK SEATS These restraints can be added to the safety seat at very little added cost and their presence provides the continuity needed for proper training of youth concerning habitual use of restraints when riding in any vehicle."

1971 Bus Collision Causation & Injury Patterns, Siegel & Nahum, Trauma Research Group, UC San Diego; Runge, Automobile Club of Southern California:

Restraint Systems & Seats: "In all cases where an individual is ejected from his seat to strike either the forward seat or other areas within the bus, the passenger injury level is increased. IT IS, THEREFORE, RECOMMENDED THAT THE SEATS BE PADDED AND THAT ALL BUSES BE EQUIPPED WITH RESTRAINT SYSTEMS CAPABLE OF BEING ACTIVATED BY EACH INDIVIDUAL. RESTRAINT WITHIN THE SEAT AREA IS ESSENTIAL FOR INJURY MINIMIZATION

"For many years certain public and pupil transportation officials have been presenting arguments against installation of restraint systems in buses, particularly school buses. IT CAN BE STATED QUITE CATEGORICALLY THAT THE ABSENCE OF LOAD-DISTRIBUTING, ENERGY-ABSORBING SEATS, COUPLED WITH THE ABSENCE OF BUS PASSENGER RESTRAINT SYSTEMS, HAS AND WILL CONTINUE TO BE DIRECTLY RESPONSIBLE FOR THE MAJORITY OF BUS INJURIES AND FATALITIES."

*1971 National Transportation Safety Board, Bureau of Surface Transportation Safety, Washington, D. C., Highway Accident Report #71-8:

Abstract: "The NTSB determines that THE FATALITIES AND INJURIES WERE CAUSED... IN SOME CASES BY THE ABSENCE OF OCCUPANT RESTRAINTS."

Kinematics of Occupants:

b. "When the bus vaulted (or rolled over), most occupants were shaken from their seats and were tumbled about the bus interior, striking the ceiling and interior components, some may have been ejected."

c. "When the bus struck on its left roof area all occupants were dislodged from their seats. Many were probably thrown from the right-side seats into (or through) the left windows. Some may have been ejected through the rear window area, while others were tossed about within the bus."

d. "When the bus roof impacted the masonry outbuilding and the small trees, additional occupants may have dropped out the left windows."

e. "When the bus settled back onto its left side, it came down upon a number of the occupants who had been thrown or shaken out earlier."

1972 National Transportation Safety Board, Ibid., Highway Accident Report #72-2:

Abstract: "The school bus ran off the roadway and partially overturned, injuring all occupants...The injuries to the bus occupants were caused by impact against interior bus components."

Conclusion: "THE INSTALLATION OF OCCUPANT RESTRAINTS AND THEIR USE BY THE DRIVER AND PASSENGERS ON THE BUS WOULD HAVE REDUCED THE NUMBER AND SEVERITY OF INJURIES."

*1973 National Transportation Safety Board, Ibid., Railroad/Highway Accident Report #73-1:

Abstract: ".....five students died and the bus driver and all 44 remaining students were injured.....the rear section of the bus was torn loose, fell beside the track, and overturned with a number of students underneath. Two of the several who were ejected from the remaining portion of the bus passed through separated floor sections and fell between the rails into the path of the train."

"THE GREATEST NUMBER OF INJURIES OCCURRED TO THE HEAD. These injuries can be ATTRIBUTED TO THE TUMBLING MOVEMENTS OF THE PASSENGERS AS THEY STRUCK EACH OTHER AND INTERIOR COMPONENTS OF THE BUS.....disfiguring head and facial scars can have long-lasting effects on the development of their [children] personalities as young adults."

Seatbelts: "THE AVAILABILITY OF SEATBELTS IN COMBINATION WITH PADDED HIGHBACK SEATS OF IMPROVED DESIGN WOULD HAVE REDUCED THE INJURY SEVERITY in the following ways:

- Restraints would have prevented the ejections in this accident.
 - Restraints would have prevented the postimpact kinematics to the passengers.
- This is especially true of the rear section that came to rest on its top."

Conclusions: "AT LEAST 2 OF THE 5 FATALITIES WERE EJECTED AS A RESULT OF A FLOOR SEPARATION AND THE LACK OF AVAILABILITY AND USE OF AN OCCUPANT RESTRAINT SYSTEM..."***

***A national safety group, Physicians For Automotive Safety, after investigating this accident, stated that 4 of the 5 fatalities would have been prevented if seatbelts had been used.

1976 National Highway Traffic Safety Administration (NHTSA), Federal Motor Vehicle Safety Standards, School Bus Passenger Seating & Crash Protection, Docket #73-3 Notice 5, Federal Register, Vol. 41-#19 - Wed., Jan. 28, 1976:

"NHTSA calculations demonstrate that the strength characteristics of the seat specified by the standard to provide the correct amount of compartmentalization also provide the strength necessary to absorb seat belt loads. This means that AN OPERATOR OR DIRECTOR MAY SAFELY ATTACH SEATBELTS TO THE SEAT FRAME"

*1977 Grand Jury Report Into School Bus Accident On Clearview Expressway, Queens:

Introduction: ".....The injuries suffered ... were directly attributable to the unsafe construction of the school bus involved."

Recommendation: "THE GRAND JURY RECOMMENDS ... A 3-POINT BELT, A LAP BELT OR OTHER FORM OF EFFECTIVE RESTRAINT."

"In the Clearview accident case, one child was ejected from the bus onto the roadway. Had this child been wearing a seatbelt, the chances of this happening would have been greatly diminished."

"The child who was thrown against the inside back portion of the bus and suffered serious head injury did not have any lateral constraint ... many children injured in the crash were sitting three to a seat and consequently ... at the time of impact with the truck, many of these children were thrown about the inside of the school bus."

*1981 National Transportation Safety Board, Ibid., Highway Accident Report #81-7:

Abstract: 25 of the 32 occupants were ejected as the bus rolled 2-1/4 times down a hillside. 26 occupants were injured, 5 were killed, and the bus sustained moderate damage CONTRIBUTING TO THE SEVERITY OF THE OCCUPANTS' INJURIES AND TO THE FATALITIES WAS THE LACK OF OCCUPANT RESTRAINTS WHICH PERMITTED THE EJECTION OF MOST OF THE OCCUPANTS."

".....the rollover was relatively gentle ... This accident was survivable. However, the accident highlights the important need to prevent occupant ejection

during vehicle rollover, and further supports the Safety Board's belief that the lap belt occupant restraints are a practical deterrent to occupant ejection.... Crush injuries to several victims indicated they probably were completely or partially under a bus at some point during their ejection and the bus roll action."

"The student driver, who was wearing a seatbelt when the accident occurred, was not injured."

"SINCE 1967, THE SAFETY BOARD HAS ISSUED 13 SAFETY RECOMMENDATIONS REQUIRING THE INSTALLATION AND USE OF SEATBELTS IN INTERCITY AND/OR SCHOOL BUSES."

Newsletter Excerpts:

1980 Spring-Fall PAS News, a newsletter published by Physicians For Automotive Safety:

Belts in Vans and Small Buses: "If school officials' objections to belts are to be believed, how can the requirement for belts in "busettes" and vans be justified? In vehicles weighing 10,000 lbs. or less (with a maximum passenger capacity of 16), belts have been required as standard equipment since April, 1977. (These vehicles make up about 10% of the total school bus population.) The need for belt use is greater in these smaller, lighter vehicles, but the principle remains the same: the objective is to keep passengers contained in their seats."

UNFORTUNATELY, FEW SCHOOLS NOW ENFORCE BELT USE EXCEPT IN THE CASE OF HANDICAPPED CHILDREN. SCHOOL AUTHORITIES AND THEIR BUS CONTRACTORS MUST BE MADE TO RECOGNIZE THAT THEY HAVE A RESPONSIBILITY TO SAFEGUARD THE LIVES OF STUDENTS EN ROUTE TO AND FROM SCHOOL BY INSISTING THAT THEY BUCKLE UP IN VEHICLES IN WHICH BELTS ARE PROVIDED."

The "Hidden" Benefits of Belt Use in Buses: "WITH ALL THE EFFORTS MADE AND MONEYS SPENT OVER THE YEARS IN PERSUADING MOTORISTS TO BUCKLE UP, IT IS SURPRISING THAT AN OPPORTUNITY FOR TEACHING CHILDREN 'BY DOING' IS NOT BEING TAKEN ADVANTAGE OF: INSTEAD, EVERY TIME A CHILD RIDES THE BUS, HE OR SHE RECEIVES NEGATIVE REINFORCEMENT."

"PROVIDING BELTS IN BUSES COULD BE FOUND TO REAP SUBSTANTIAL BENEFITS. COMBINED WITH EDUCATION AND STRICT ENFORCEMENT, BELT USE IN BUSES COULD WELL CARRY OVER TO CARS."

Conclusions: "NHTSA should be urged to amend standard #222 to require high-backed seats and seatbelts or, at the very least, seatbelt ANCHORAGES to make it possible to install belts in the course of the 14-year lifespan of a bus ... Ultimately, it is public concern that is the key to action. Buses may be relatively safe, but they are not safe enough."

1980 May ACTIONS, a newsletter published by Action For Child Transportation Safety:

Learning From Experience: "Fifteen members of a Lake Forest, Illinois volleyball team, all wearing seatbelts, escaped with only minor injuries when the homeward-bound small bus in which they were riding attempted a left turn, was struck on its right rear passenger side, and flipped over onto its side Although the State of Illinois requires that belts be provided in small buses, in all the time the school had used the bus the girls had never worn them. The school officials "just couldn't get them to wear them." five minutes before the accident the girls were misbehaving and the coach/driver stopped the bus. AS PUNISHMENT, all the girls had to wear their seatbelts for the remainder of the trip!!"



Enclosure # 2



8/25/82

AUG 27 1982

Safety Information

FOR IMMEDIATE RELEASE: Monday,

**We would like
you to have this
information**

Bob Evans

CHILDREN IN VAN SCHOOL BUSES,
TAUGHT TO USE SEAT BELTS,
ESCAPE INJURIES IN ACCIDENTS

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Seat belt usage by children in school buses may be not only possible but relatively easy to achieve, the National Transportation Safety Board said today.

Special investigation of a New York City accident last July 27 involving a van-type school bus mirrored the findings of a 1979 investigation -- grade-school children who had been taught to wear their seat belts all had them on and escaped injury when their buses overturned.

Drivers of both buses had taught their students that unless all belts were fastened, the buses would not be moved. Each driver reported that only a few days to a week had been required to teach students how to fasten and unfasten their metal-to-metal seat belts, and for them to become accustomed to "buckling up." Older children were happy to help others and served as an example to the younger ones.

The July 27 accident involved a day camp van occupied by the driver and three campers -- a 14-year-old and two seven-year-olds. The van was struck broadside by a car as the van pulled into the intersection of Rosedale and Storey Avenues in the Bronx with the changing of the traffic light.

The collision impact was not severe, but the van overturned on its right side. One of the seven-year-olds was left hanging from a seat on the high side of the bus, but none of the three children was injured. The driver, who also was wearing a seat belt, suffered only a scratched ankle.

- more -

In the similar 1979 accident, another van-type school bus skidded out of control on State Route 120 in North Castle, N.Y., when it ran over a motor vehicle muffler lying on the highway. The bus overturned on the shoulder of the road, but the driver and all six passengers -- all children 5 to 7 years old -- were wearing seat belts and escaped injury. Most, if not all, of the children were able to release their own belts and walk out of the van unassisted even though three were in "high side" seats.

The driver told Board investigators it had taken her "just a few days" to teach the children to use their seat belts. She reported no serious delays in waiting for children to buckle their belts, and said the use of belts solved the problem of the smallest children sliding off their seats because their feet would not reach the floor, as well as that of dozing children.

The Safety Board said neither driver had been given special training in how to carry out their schools' policy of requiring belt usage.

The Safety Board observed that "both accidents suggest that the unquestioned benefit of being protected by a seat belt when an accident occurs could be available to our children in their school buses just as it is to us in our private automobiles."

"Past suggestions that seat belts would prevent deaths and injuries in school buses have been met with skepticism that children would or could be made to wear them," the Safety Board said. "These cases, involving multi-purpose vans in which seat belts are required, indicate that the added safety of belts may be quite attainable." Seat belts are not required on most school buses.

--oOo--

Press Contact: Brad Dunbar
(202) 382-6605

Box 225
Galena, AK.
99541

APR 07 1986

April 3, 1986

Representative Datta Cato
Chairman, House Transportation Committee
Alaska State Legislature
P.O. Box V
Juneau, Alaska 99811

file

Dear Representative Cato:

After I mailed my testimony from Wednesday's teleconference to you I realized that I:

1. Had left out a page on the Federal Standards.
2. Had given you a poor page 6 of the Sherman and Howard letter.

Please accept my apologies. I was rushing and trying to get the information to you before your Tuesday meeting.

Again, if I can be of assistance, just let me know.

Sincerely yours,

Laurel Osborne

Laurel Osborne

Standard No. 124 - Accelerator Control Systems

This standard establishes requirements for the return of a vehicle's throttle to the idle position when the driver removes the actuating force from the accelerator control, or in the event of a breakage or disconnection in the accelerator control system.

Standard No. 205 - Glazing Materials

This standard specifies requirements for all glazing materials used in windshields, windows, and interior partitions of motor vehicles. Its purpose is to reduce the likelihood of lacerations to the face, scalp, and neck, and to minimize the possibility of occupants penetrating the windshield in collisions. It requires, among other things, that windshields be of a type that tend to cushion those that impact them, rather than allowing head penetration and even decapitation - a problem with older windshields. An amendment to this standard added two new categories of glazing materials, amended the certification requirements, and made minor changes to the chemical resistance tests.

Standard No. 207 - Seating Systems

This standard establishes requirements for seats, their attachment assemblies, and their installation to minimize the possibility of failure as a result of forces acting on the seat on vehicle impact. This standard was amended, effective January 1, 1972, to extend applicability to the driver's seat of buses.

* Standard No. 208 - Occupant Crash Protection

This standard amends Standard No. 208, Seat Belt Installations, by specifying requirements for both active and passive occupant crash protection systems for passenger cars, multipurpose passenger vehicles, trucks and buses. Effective January 1, 1972, passenger cars were required to have improved safety belt systems which incorporate automatic adjuster, single point release and a belt use warning system. Effective August 15, 1973, passenger cars were required to provide occupant crash protection for front seating positions by passive means that require no action by vehicle occupants or to provide belt starter interlock systems. Light trucks and multipurpose passenger vehicles were required to have one of these systems after August 15, 1975. An amendment disallowed the starter interlock systems and established requirements for a visual signal, a "Fasten Seat Belt," sign and an audible signal that operates for a 4- to 8 second period after the ignition is operated, effective February 25, 1975, for passenger cars and January 1, 1976 for multipurpose passenger vehicles and light trucks. A recent amendment continues present options for occupant protection in passenger cars until August 31, 1976.

July 1, 1977

Attach. 1
Apdx. 1
ORDER 11-4

* Standard No. 209 - Seat Belt Assemblies

The National Bureau of Standards, Standards for Seat Belts for Use in Motor Vehicles, was originally incorporated only by reference to this standard. On December 24, 1968, the specifications were made a part of this standard. In order to mitigate the results of an accident to a person in a motor vehicle, the standard specifies requirements for seat belt assemblies. The requirements apply to straps, webbing, or similar devices as well as all necessary buckles and other fasteners, and all hardware designed for installing the assembly in a motor vehicle. This standard was amended to upgrade webbing abrasion, buckle crush and emergency locking requirements. It was further amended to reduce the minimum retraction force required of emergency-locking retractor force.

* Standard No. 210 - Seat Belt Assembly Anchorages

This standard specifies the requirements for seat belt assembly anchorages to insure effective occupant restraint and to reduce the likelihood of failure in collisions. Included is a requirement for anchorages for lap and upper torso restraint belts in all forward facing outboard seats (four in standard sedans). This standard was amended extending the requirements to driver's seats in buses and upgrading the test requirements effective January 1, 1972.

Standard No. 217 - Bus Window Retention and Release

This standard establishes minimum requirements for bus window retention and release to reduce the likelihood of passenger ejection in accidents and enhance passenger exit in emergencies. The effective date is September 1, 1973. The standard was amended to exempt certain buses manufactured for the purpose of transporting persons under physical restraint and to clarify marking requirements. It was amended further to require that each school bus have an interlock system which will prevent the engine from starting if an emergency door is locked and an audible warning system which will sound an alarm if an emergency door release mechanism is not closed while the engine is running, effective October 26, 1976.

Standard No. 219 - Windshield Zone Intrusion - Rule (PC (9/1/76). MPV & TR, B of 10,000 lbs. or less GVWR - 9/1/77

The purpose of this standard is to reduce crash injuries and fatalities that result from occupants contacting vehicle components displaced near or through the windshield. The standard regulates the intrusion of vehicle parts from outside the occupant compartment into a defined zone in front of the windshield during a frontal barrier crash test. An amendment changed effective dates as noted above, substituted the term "daylight opening" for "windshield opening."

July 1, 1977

Standard No. 220 - School Bus Rollover Protection

This standard specifies performance requirements for the structural integrity of the passenger compartment of school buses when subjected to forces that can be encountered in rollovers. The standard requires that, upon the application of vertical downward force to the bus roof equal to 1 1/2 times the vehicle's unloaded weight, the vehicle roof shall not crush more than 5 1/8 inches, and the emergency exits shall be capable of being opened, with the weight applied and after its release.

Standard No. 221 - School Bus Body Joint Strength

This standard addresses the problem of exposure of school bus passengers to sharp metal edges when, during an accident, body panels become separated from the structural components to which they have been fastened. It seeks to reduce the likelihood of lacerations by requiring that body joints on school buses have a tensile strength equal to 60 percent of the tensile strength of the weakest joined body panels.

Standard No. 222 - School Bus Passenger Seating & Crash Protection

This standard specifies seating, restraining barrier, and impact zone requirements for school buses. The standard relies on compartmentalization between well-padded and well-constructed seats to provide occupant protection on school buses.

Standard No. 301 - Fuel System Integrity

The original standard specifies requirements for the integrity and security of fuel tanks, fuel tank filler pipes, and fuel tank connections to minimize fire hazard as a result of collision in all passenger cars manufactured after January 1, 1968. This standard was amended to substantially upgrade the performance requirements. The effective date is September 1, 1975, with additional requirements. The effective date is September 1, 1976, and September 1, 1977. The standard now covers all vehicles under 10,000 pounds (except motorcycles) and requires preservation of fuel system integrity by limiting fuel spillage incidental to severe front, rear, and lateral crash tests.

Standard No. 302 - Flammability of Interior Materials

Specifies burn requirements for materials used in the compartments of motor vehicles. An amendment, effective October 1, 1975, modifies the test procedures and specimen preparation requirements.

Sherman & Howard

Denver Board of Education
February 11, 1986
Page 6

the central issue in the case. In any event, wheelchairs are plainly a special case. Colorado requires tie-down mechanisms in vehicles intended to carry disabled students. 1 C.C.R. § 301-25(96).

- 6 Annotation, Tort Liability, supra note 4 at 1230-36. See also Annotation Personal Liability of Public School Executive or Administrative Officer in Negligence Action for Personal Injury or Death of Student. 35 A.L.R. 4th 272 (1985 & Supp.).
- 7 Annotation, Liability of Owner or Operator of Motor Vehicle or Aircraft for Injury or Death Allegedly Resulting From Failure to Furnish or Require Use of Seat Belt. 49 A.L.R. 3d 295, 302-04 (1973 & 1985 Supp.).
- 8 McNeil v. Yellow Cab Co., 147 Cal. Rptr. 733 (Cal. Ct. App. 1978). See also Twohig v. Briner, 214 Cal. Rptr. 729 (Cal. Ct. App. 1985) (jury issue of negligence when private vehicle owner removed seat belts from her car).
- 9 Greyhound Lines, Inc. v. Superior Court, 83 Cal. Rptr. 343 (Cal. Ct. App. 1970) (passengers in a bus crash); Tiemeyer v. McIntosh, 176 N.W. 2d 819 (Iowa 1970) (failure to install seat belts in a taxi cab is not negligence as a matter of law, but presents an issue for the finder-of-fact; here, the trial judge's finding that the defendant was not negligent as a matter of fact was upheld); Benson v. Penn Central Transp. Co., 342 A.2d 393 (Pa. 1975) (it was a question of fact for the jury whether a taxi cab company retained by a railroad to transport railroad employees was negligent in not installing seat belts).
- 10 Supra note 4.
- 11 For example, a California appellate court found there to be a question of fact for the jury as to whether an employer--who is not held to the same high standards as a common carrier--should have recognized the inadequacy of the then prevalent practice of not providing seat belts and should have supplied them for its employees. Mortenson v. S. Pac. Co., 53 Cal. Rptr. 851 (Cal. Dist. Ct. App. 1966) (case decided under Federal Employers' Liability Act, 45 U.S.C.A. § 51).

Colorado school districts are already required to instruct students in safe behavior on buses and to ensure proper deportment. 1 C.C.R. § 301-26 (4204-R-216.00) (emer-

APR 16 1986

Gov. ¹⁰⁸
Galea, Alaska
34741

April 14, 1986

Representative Bette Cato
Chair, House Transportation Committee
Alaska State Legislature
P.O. Box V
Juneau, Alaska
99811

Dear Representative Cato:

I hope that you received the information which I sent to you last week. I realize that the issue of seatbelts on school buses may appear confusing, especially when opponents and proponents quote the same tests to support their arguments.

I would like to try and clarify the controversy concerning "The Canadian Tests". It is essential that you have a copy of the original report "School Bus Safety Study, Volume 1, Report" by G.W. Farr--the entire 120 page report or at least through page 71. Do not accept any summaries or conclusions by other parties. The Department of Education should be able to supply you with the complete report.

The following is provided as a guide to some of the problems found with the Canadian Report.

Page:

5- For the large bus tested "...all dummies exhibited HIC values which were less than 1000. The value of 1000 is the generally accepted threshold, above which serious injury or death is likely to occur." Typically a belted dummy receives a higher head and lower chest injury than its unbelted counterpart. Belted dummies received acceptable readings in this test.

13- "Six instrumented but uncertified 5th percentile adult female anthropomorphic test devices were installed in each bus..." Six instrumented dummies, particularly placed in a 60 passenger large bus is not a statistically valid sample. The dummies were not certified for compliance testing.

40-49- In the Blue Bird bus "If a rollover had occurred, a significant leakage of fuel would probably have occurred." On the Thomas Minotour Bus "If even a partial rollover had occurred, a major fuel spill would have happened." In the Van conversion "two of the three left side windows shattered early in the event. This resulted in a tremendous number of small shards of glass being hurled about the interior of the bus." These buses were all 1984 models and should have met Federal standards.

52- It is worth noting that the ATD head is exceptionally stiff, much more so than that of a human.

53- An unbelted dummy, in the large Blue Bird bus "experienced a resultant chest acceleration of 60.4g which is marginally above the limit of 60g." In my opinion if 60g is dead, 60.4g is just as dead.

53- In the large bus a belted dummy "slid approximately 254 mm along the seat cushion before being pivoted about the lap belt." In order for a dummy to slide 10 inches on the seat before contacting the belt, the belt has to be at full extension. Apparently the seatbelts were never tightened on the belted dummies. I have to seriously question the motives behind the non-adjustment of belts in this test.

54- In the large bus an unrestrained dummy "...ended up lying in the aisle." Compartmentalization failed to contain this dummy.

57- In the large bus "The hood of the vehicle penetrated the windshield. With the windshield encroaching from the front and the body sliding forward, the driver's compartment was severely crushed. It is doubtful if the driver would have survived this collision." It is worth noting that the "body slide", where the bus body slides forward on the chassis, is a feature that was deliberately built into compartmentalized buses, so that the front of the bus would take the brunt of the impact, and the forces to the passengers would be lessened. One would have thought that if adequate crash testing had occurred in 1970's, the problem with the obliteration of driver space and driver would have been realized.

59- In the van conversion an unrestrained "... dummy then rotated to an upside down position and ended up resting on the door operating mechanism."

61- In the van conversion an unrestrained "...dummy was rotated to the right and rebounded into the centre aisle."

63- In the Thomas Minotour "...the dummy ended up lying partially in the aisle." Some summaries of the report state that compartmentalization functioned as expected in these tests. Was the expectation that dummies would be thrown in the aisles and on door opening mechanisms?

65- In the Thomas Minotour "This dummy slid approximately 250 mm along the seat before pivoting about the lap belt." Again, this dummy's seatbelt was not tightened.

I hope that this attempt at documentation of problems with the Canadian Tests have proved informative to you and should help explain some of the statements which I made in testimony to your Committee.

I have enclosed a number of papers and letters which address the Canadian studies. Please let me know if I can be of further help.

Sincerely yours,

David Osborne

55

A FRESH LOOK AT
THE ARVIN/CALSPAN
CRASH TEST RESULTS
(The Canadian Report)

threshold of such injury; proposing that numbers which exceed a 1000 HIC (Head Injury Criterion) would indicate such a traumatic injury. However, as the report itself indicated, "Certainly, a HIC of 1000 is probably not the best value for a limit of human tolerance for children. Unfortunately, the fundamental research necessary to provide a reliable head injury criterion for children had not been completed." (page 14)

Among the oddities of this test's circumstances we note that none of the belted dummies were placed in original equipment. All seating was reinforced and fitted at the site. All belted dummies were seated on one side, with unbelted ones across the aisle, at front, center and rear locations. "The use of one ATD per seat in these tests somewhat limits the scope of the results since different ATD kinematics may have occurred if two or three had been placed in each seat." (Canadian Report, page 51) Six dummies were of a size comparable to a small adult female and two, included in the Type A bus only, were the size of a six year old child.

The data includes an apologia for the possible or probable inadequacy of using the adult configuration for the tests, noting the probable difference in results of calculations due to the different "geometry" of children's bodies. Also noted was the inability to account, in the dummies, for the flexibility of human necks. The difference this makes in calculations, wherein the velocity of the movement of the head is very definitely concerned with flex and reaction, is not mentioned. It would seem that a thorough analysis of results would concern itself with such details. The engineers appear to be aware of this inadequacy, though they rather leave it

A FRESH LOOK AT THE ARVIN/CALSPAN CRASH TEST RESULTS

(The Canadian Report)

This report is prepared at the request of Dr. Stanley Toll, Superintendent of the North Salem School District. It is also intended as an appendage to the "Comprehensive Study of Ways to Increase the Safety of School Children in School Buses".

It is important to point out that the Canadian Government Report included three sections: A literature review, a field investigation and the crash test. The portion of the report which reviewed the available literature draws no conclusions. The authors of the report considered existing studies to contain insufficient data and documentation. The study's investigators researched the experiences of school districts who had installed seat belts on their school buses. They concluded that this evidence supported the use of seat belts. The third and central section consists of an analysis of the crash tests which had been conducted.

We shall address the Arvin/Calspan Crash Test Results by focusing on the actual data itself rather than the Report's conclusions. We shall examine all the information not just isolated portions of the data. We shall provide a fresh look at the material.

The dummies were placed in three buses: Eight in a Type A and six each in a medium size and van conversion bus. Sensors were placed on the heads and chests of the dummies to record velocities and impacts. There was a suspicion that belting the dummies would increase the velocity of the heads of the dummies, so that in a crash they would receive head injuries that would be life threatening. Therefore, a formula was worked out that purported to indicate the

down position and ended up resting on the door operating mechanism." (page 59) "...dummy was rotated to the right and rebounded into the centre aisle." (page 61) "... the dummy ended up laying partially in the aisle." (page 63) Where are the sensors determining the extent of internal and other serious injuries to these unrestrained dummies? The report of the disposition of the dummies is eloquent and seeing the film, invaluable, in demonstrating what actually happens in an accident!

A. Blue Bird Bus -- Type A

Two out of the five (40%) unrestrained dummies suffered probable serious injury from the compartment itself or from failure of the compartment to contain them.

B. Thomas Mid-Size Bus

100% of the unrestrained dummies suffered probable serious injury from the compartment itself or from failure of the compartment to contain them.

C. Campwagon Bus

100% of the unrestrained dummies suffered probable serious injury from the compartment itself or from failure of the compartment to contain them.

In summary, 8 out of the 11 unrestrained dummies (appx. 73%) suffered probable serious injury. We submit that the "Canadian" tests are, when taken in full, clear proof that by itself the compartmentalization concept is inadequate to provide protection from serious or life threatening injury.

Researched note the inadequacies of HIC values and other elements of the tests. No such apologia accompanies the actual description of the dispositions of the dummies, and we may safely draw our

own conclusions simply by employing a reasonable understanding of the English language.

In conclusion, the time for testing the compartmentalization theory on our children has come to an end. The original intent of the 1977 safety regulations was to implement both the compartmentalization theory and seat restraints. The AMA, the National PTA, the American Academy of Pediatrics and Physicians for Automotive Safety and other interested and informed groups support the belting of children in school buses. As concerned parents we urge the North Salem Board of Education not only to join in this support for seat belts on school buses but to implement their immediate installation.

Nancy Bogel

Angela Eidelman, DESIGN ENGINEER *

Eileen Mendelsohn

Allan Mendelsohn

* Box 72
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The University of Michigan

COLLEGE OF ENGINEERING
DEPARTMENT OF MECHANICAL ENGINEERING
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321 W. E. LAY AUTOMOTIVE LAB, N.C.
ANN ARBOR, MICHIGAN 48109-2121

DATE January 23, 1986

TO Colleagues concerned about Child Passenger Safety

FROM Kathleen Weber, MA
John W. Melvin, PhD
The University of Michigan
Department of Mechanical Engineering
& Applied Mechanics

RE Transport Canada School Bus Safety Study

John W. Melvin
Kathleen Weber

The School Bus Safety Study, conducted by Transport Canada in 1984 and reported to the public in January 1985, is being used by opponents of belts on school buses to "prove" that such belts would be dangerous for school bus occupants. We do not agree with the interpretation of the results presented by the authors nor with the secondary interpretations that are being widely communicated to the public. We believe that our collective experience of over twenty years in the occupant protection field makes us qualified to offer our opinions on the topic.

Although there are many questions related to the motivation for the study, the test procedures, the dummies, the significance of the measurements taken, and the validity of the judgements made, we will address primarily the problems of head and neck injury prediction as related to the dummies used. Our discussion will also be limited to the test and results of the large school bus crash.

By way of background, a single crash test using a large Blue Bird school bus was conducted. The bus was occupied by six 5th-percentile female dummies, which approximate the size and weight of a 14-year-old child, and two 6-year-old size dummies. Half the 5th-percentiles were restrained by lap belts and half were unrestrained, but both 6-year-olds were unrestrained. According to a spokesperson for the Road and Motor Vehicle Safety Branch of Transport Canada, the selection of the larger dummy as the primary test device was due to the fact that teenagers were receiving the majority of the injuries in Canadian school bus crashes. The reason given for not including restrained 6-year-olds in the test was that more dummies were not available. Thus we have a situation in which it was known that unrestrained teenagers were already being injured in school buses, and an effort was being made to improve that situation. It is therefore curious that a conclusion from the study that "the passive

occupant protection of the seating system...functions as intended during frontal impacts and provides excellent protection for occupants" could be taken as closing the issue. Clearly the conclusion, if valid, is very limited in its real-world application. It is also unfortunate that one of the 6-year-old dummies was not restrained for comparison purposes, and it should be noted that the bus itself suffered some serious structural failures that affected the test results.

HEAD INJURY. The injury measure used is called the Head Injury Criterion (HIC), and the report correctly states that there is some question "as to whether or not a HIC value of 1000 is a conclusive measure of serious head injury, particularly for children." Although the belted dummies did measure higher HIC values than the unbelted dummies, the highest HIC value was only 731, which is well below the 1000 limit and in the range found with the very best child restraint systems tested at the same impact speed. The reason for the higher values among the restrained dummies is also quite clear and supports the need for occupant restraints on buses. While the restrained dummy heads contacted the padded seatbacks (which, as the report indicates, could have been better padded), the unrestrained dummies hit the top of the seatbacks with their necks instead, where no load cells or accelerometers were mounted. It is interesting that one of the unrestrained dummies "rolled inboard and fell in the aisle, striking its head on the instrumentation box mounted on the floor." This type of uncontrolled occupant motion cannot be tolerated in any public school transportation system. It should also be noted that a shorter belted dummy, such as one representing a 6-year-old child, would probably have missed the seatback entirely while still being safely retained in its seating position.

NECK INJURY. Because of the different interactions with the seatbacks between the restrained and unrestrained dummies, the neck was affected in different ways. As noted above, the unrestrained dummy necks interacted directly with the tops of the seatbacks, but the dummies were not equipped to measure the resulting loads and thus no reliable injury prediction can be made. When the restrained dummy heads hit the seatbacks, the heads rotated rearward causing neck extension (rearward bending) of varying amounts. The dummy in the seat with normal spacing experienced slight bending of the neck. The neck of the dummy in a more narrowly spaced rear seat bent approximately 75 degrees. Finally, the neck of the dummy in the front seat, which was even more narrowly spaced initially from a forward restraining barrier and was pushed considerably closer due to bus structural failure, bent rearward approximately 90 degrees. The report claims in its summary that "The neck extension of several restrained dummies was judged to be life threatening." Nowhere in the report, however, is there any discussion of or reference to the biomechanical justification for this judgement. Furthermore, the analysis section, in

referring incorrectly to "neck flexure" and "flexion" (forward bending), states "There is, however, no criteria available to judge the possible severity of injury that could result from this bending." The report points out that the dummy neck is unrealistically stiff but fails to also recognize that the torso is rigid. This has the effect of transferring the entire upper-body bending motion to the only flexible unit, the neck. The rearward bending of the head observed in these tests is also routinely observed in interactions of dummies with HPR windshields and certain airbag designs. We know from field experience that humans bend differently than these stiff dummies and do not tend to suffer "life threatening" neck injuries in these situations. Finally, the biomechanical research of H.J. Mertz and L.M. Patrick indicates that the human neck can withstand neck extension of at least 80 degrees without injury.

CONCLUSION. We do not believe that the Canadian School Bus Safety Study can be used to draw the conclusion that the use of belts on recent-model large school buses poses a potential danger to the occupants. No case can be made from the results of this test program that belted children will have an increased likelihood of severe head and neck injuries in frontal crashes. Although the best possible occupant restraint system would include a shoulder belt as well as a lap belt, which is the approach now being pursued by Transport Canada, this possibility is probably far in the future. In the absence of any definitive evidence to the contrary, we firmly believe that newly purchased large school buses should be equipped with lap belts to provide their occupants with protection similar to that available in the rear seats of automobiles.



ROCHESTER GENERAL HOSPITAL

UNIVERSITY OF ROCHESTER
SCHOOL OF MEDICINE AND DENTISTRY



JOHN D. STATES, M.D.
CHAIRMAN AND PROFESSOR
DEPARTMENT OF ORTHOPAEDICS

DOCTOR'S OFFICE BUILDING
1445 PORTLAND AVENUE
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December 23, 1985

The Honorable Norman J. Levy
Chairman, New York State Senate
Committee on Transportation
The Capitol
Albany, New York 12248

Dear Senator Levy:

I appreciated being asked to participate in the 12/16/85 Hearing on Safety Belts in School Buses conducted by the New York State Senate Committee on Transportation. The focus of the hearing was on the relevance of the 1984 Canadian Crash Tests in which lap type safety belts were used to restrain one half of the anthropomorphic dummies seated in their experimentally crashed buses.

After review of the written report of these tests conducted by Transport Canada under the direction of Mr. William Gardner and of the video tape widely distributed in the United States, I have concluded that the Canadian tests are not relevant to the United States and, particularly New York State. My reasons are as follows:

1. Anthropomorphic dummies as specified in Part 572 of the United States Department of Transportation Federal Motor Vehicle Safety Standards were used. These dummies do not accurately model the flexibility of the human spine, and particularly the spine of a child. The stiffness of the dummy spine induces excess velocity in the head by the time the head contacts the seat in front of a belted dummy. The additional stiffness also prevents contact of the chest, shoulders and upper extremities with the seat in front. This contact would share loading and reduce the head accelerations and the Head Injury Criterion (HIC). The Part 572 dummy was recognized in the FMVSS in 1972 and has not been upgraded in spite of the availability of much more representative dummies; ie; the Hybrid 3 dummy.
2. Adult injury criteria were used. The HIC of 1000 is almost certainly not applicable to children. Experimental studies have demonstrated that arterial vessel walls in the brain of children are significantly more resistant to tearing than similar adult tissues. The skulls of children are more flexible and elastic and better able to tolerate impact trauma than the adults. No consensus exists concerning a child's HIC but it is my personal impression that it is greater than 1500 and possibly 2000 rather than the 1000 used for adult.

3. Children are more resistant than adults to impact injury in all parts of their body. Experimental and accident investigation studies reveal that the bones of children have greater tensile strength and are more resistant to fractures, that ligaments, muscles, and blood vessels of the periphery have greater tensile strength. Field accident experience bears this out. Spinal cord injury is virtually unknown in children under age 14.
4. Seat backs used in New York State school buses are 28 inches high, 4 inches higher than seat back required under Federal Motor Vehicle Safety Standard 222. The additional height insures that the 5th Percentile dummies used in the Canadian tests will impact the vertical surface on the back of the seat rather than the top of the seat back as occurred in the Canadian tests. The top of the seat backs of the Thomas buses used in the test are particularly stiff because of the presence of a pipe placed crosswise in the seat. This was mentioned by Mr. Gardner of Transports Canada at the 12/16/85 hearing.
5. The Canadian tests ignored the spectrum of accident configurations experienced by school buses in the real world. While completely reliable accident statistics do not exist for school buses because of the infrequency of school bus accidents, it is reasonable to conclude that approximately half of injury producing school buses are head on impacts, another third are rollovers and side impacts, and the remainder rear end impacts. Safety belts will give excellent protection to occupants in rollovers and side impact accidents. The belts will hold the occupant in place and prevent them from striking the roof or opposite side of the bus. In addition, safety belts will provide protection in head on impacts when pitch occurs. In the real world, occupants are frequently pitched upward as well as forward and thrown from their seats. This happened in the recent fatal accident which occurred Mahopac, New York on 10/15/85 when Paul Goodrow, Jr., was killed. This was an accident of minor impact severity and he was the only occupant to sustain significant injury. If he had been wearing a belt, he would have been held in place and not thrown out of his seat.

In conclusion, I believe that the installation of lap belts in New York State school buses will not increase the risk of injury for school children using the lap belts, but will actually reduce the risk. The educational benefits to the school children are the principal reason for the installation of seat belts in school buses. It is essential that children learn this habit, which in the future will almost certainly protect them from a disabling injury and, possibly, save their lives. Children are now entering school having worn child restraints while traveling in their parents cars. It is essential that they can continue this habit while riding in our school buses.

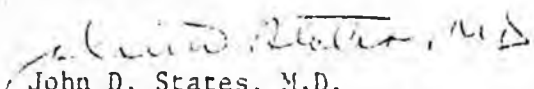
Honorable Norman J. Levy

-2-

December 23, 1985

I want to express my gratitude to you for carrying on the pioneering traditions of the NYS Senate Committee on Transportation in traffic safety legislation. I also worked with Senator Edward Spino and more recently with Senator John Cammerer. Enactment of the New York State Safety Belt Use law is a product of your leadership and the traditional dedication of the committee to highway safety for New York State and the nation as a whole.

Sincerely,


John D. States, M.D.
Chairman, New York Coalition
for Safety Belt Use, Inc.

JDS/rmk

Reference: Re - Child Injury Tolerances M. Dejeammes, et al, "Exploration of Biomechanical Data Towards a Better Evaluation of Tolerance for Children Involved in Automobile Accidents", 1983 STAPP Car Crash Conference, Society of Automotive Engineers,
M. Dejeammes, et al, "Road Accident Epidemiology Among Children - Investigation at Marseille's Hospital", Society of Automotive Engineers #831667.

Dear Mrs. Kleinovsky,
 I'm very pleased that you prevailed on 4-10-84
 to wear safety belts in school buses. Thanks for
 your diligent efforts.
 John D. States, M.D.



ROCHESTER GENERAL HOSPITAL
 UNIVERSITY OF ROCHESTER
 SCHOOL OF MEDICINE AND DENTISTRY



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BRIEF CURRICULUM VITAE - JOHN D. STATES, M.D.

EDUCATION

Premedical	University of Rochester	B.A. 1946
Medical	Harvard Medical School	M.D. 1949
Internship	Rochester General Hospital, Rochester, NY	1950-1951
Residency	Children's Hospital & Massachusetts General Hospital, Boston, MA	1954-1956

MILITARY SERVICE

United States Air Force (Capt. MC) 1951-1953

PRINCIPLE RESEARCH

Traffic accident investigation to determine injury mechanisms and effectiveness of occupant protection systems and designs.
 Injury severity scaling - Co-developer of Abbreviated Injury Scale.
 Chairman of Committee on Injury Scaling of the American Association for Automotive Medicine 1971-1982.

RESEARCH ACTIVITIES

Accident Investigation Research since 1959.
 Contract Funding U.S. Department of Transportation 1969-1973.
 New York State Department of Motor Vehicles 1973 - to date.
 Consultant on Biomechanics for General Motors 1976 - to date.
 Consultant on Accident Investigation and Biomechanics for Volkswagen 1976 - to date.
 Past Member of National Motor Vehicle Safety Advisory Council, 1969-1976.
 Chairman of Crashworthiness Committee of U.S.D.O.T.

HOSPITAL APPOINTMENTS

Chairman, Department of Orthopaedics, Rochester General Hospital, 1976.
 Chief of Service Rochester General Hospital since 1969.
 Clinical Appointment, 1956.
 Strong Memorial Hospital, Attending 1958.
 Consultant in Orthopaedics - Genesee Hospital, Highland Hospital, ParkRidge Hospital (Rochester, NY), Myers Community Hospital, (Sodus, NY), Soldiers and Sailors Hospital (Penn Yan, NY).

TEACHING APPOINTMENTS

Professor of Orthopaedic Surgery - University of Rochester - 1976.
 Associate Clinical Professor of Orthopaedic Surgery - 1970.
 Clinical Instructor Orthopaedic Surgery - 1960.

National Coalition for Seatbelts on School Buses

THE CANADIAN TESTS

The January 1985 Transport Canada report of school bus crash tests has been widely publicized as proving that seat belts should not be used on the large (Type I) school bus and that the so called "compartmentalized" school bus seat without a seat belt offers better protection for children. Nothing could be further from the truth.

In the Canadian tests a large, a mid-size and a van type bus were subjected to severe 30 mph front end barrier crashes. On each bus there were six 5th percentile adult female anthropometric dummies, three belted and three unrestrained. From previous studies at UCLA and at East Liberty, Ohio it was learned that in such high force front end crashes belted dummies tend to pivot over their seat belts and strike their foreheads on the padded seat backs in front of them. Unbelted dummies on the other hand are thrown forward violently by the crash forces into the seat backs which they face. When measuring devices are placed by the researchers in the head and chest of these dummies, the belted dummies produce higher head readings and the unbelted higher chest readings. Experimentally, Head Injury Criteria (HIC) levels of greater than 1000 and Chest Accelerations of greater than 60 g. are generally accepted as sufficient to produce severe injury or death.

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DUMMY NUMBER	LOCATION IN BUS	SEAT SPACING mm	BELTED	UNBELTED	HIC	CHEST ACCELERATION (g)	
1	Front LR	533		X	*	60.4	LARGE BUS BLUEBIRD 66 PASSENGER Vehicle Wt 8147 kg Vehicle Velocity 48.8 km/h Vehicle Decel. 15 g Dynamic Crush 1371 mm Body Slide 775 mm
2	Front RH	533	X		649	40.8	
3	Centre LH	690	X		629	28.1	
4	Centre RH	690		X	220	34.2	
5	Rear LH	610		X	205	40.2	
6	Rear RH	610	X		731	25.0	
							*Data not valid due to technical problems

The results of the Canadian test of the large bus are above. In this test crash of a 66 passenger bus the only dummy experiencing life threatening forces was dummy number 1 seated unbelted in the front left hand seat with a chest reading of 60.4 g. All belted dummies were well within acceptable limits. The bus met all current federal standards including Standard 222 for school buses.

Since it is well known that the Federal 222 seat offers no protection at all for passengers in side impact and no "whiplash" protection for taller riders in rear end crashes, and that the seat was developed primarily to protect against injury in front end crashes, the failure to protect dummy number one without a seat belt is of particular concern.

In this type of front end test crash, as explained above, belted dummies will produce somewhat higher HIC levels than the unbelted dummies. In addition, the selection of the 5th percentile female which is just the right height to target the dummies head to the area of the seat back where the padding narrowly covers the metal bars of the seat and the use of the type 572 dummy which has been widely criticized for excessive HIC readings in crash tests severely prejudices these tests against seat belt use. In spite of all these test induced disadvantages, the dummies with the seat belts on the Bluebird Bus did remarkably well. On the other hand, in spite of the large area of the seat back to spread the forces, the unbelted dummy in the front seat would have experienced serious or fatal injury.

When film of the crash is viewed, dummy number 4, unbelted in the center seat, is seen to fly forward until its throat strikes the top of the seat back. In a high force frontal crash such as this the resulting throat injury would have been severe or fatal. It is conceivable that the HIC and chest readings were lower on this passenger because the throat and neck absorbed so much of the crash energy. Just how much force was so absorbed was not determined because, unfortunately, the researchers decided not to instrument the necks of the dummies.

Not unexpectedly, HIC levels in the mid size and van were

higher. As the size of the vehicle crashed gets smaller, the crash pulse becomes greater. The forces on the dummies increase. As a result of these higher forces coupled with the stiff, targeted 572 dummy, HIC levels were increased. Further, it has been documented in the 1978 testing of school bus 222 seats in East Liberty that seats manufactured by the Thomas Bus Company consistently registered HIC levels 2.4 times greater than seats produced by the Ward Bus Company in comparative tests. Thomas seats were used in the mid size and van tests in Canada. The Coalition is convinced that the higher HIC readings in the smaller vehicles was the result of the high crash pulse, the height of the dummy, the stiffness of the type 572, and the use of a Thomas seat.

Investigation of real world accidents in van type vehicles with passengers wearing seat belts in 222 seats and forces approximating those used in Canada have not produced injuries of the head anticipated by the test data. The researchers themselves admit that they were confused by the head and chest readings in two of the three belted dummies on the van, calling their own results "inexplicable."

When Canada implemented their Standard 222, seat belts were not ordered on smaller vehicles as was done in the United States because of pressure from those who operate school buses. The Coalition believes that the protocol of these tests was influenced by a desire to support the decision not to place seat belts on small buses. No assessment by crash testing of the safety provided by the 222 seat can be considered a valid measure of passenger protecting ability (compartmentalization) unless the tests include side and rear impacts to simulate the real world of school bus accidents. Any test which measures frontal collisions only must be considered self serving.

The 222 seat was designed to protect in front end crashes, a job which it does reasonably well. The Canadian tests were designed to demonstrate this 222 seat in the best possible way, and, because of the high crash forces, the dummy height and stiffness, the Thomas seat, to show the use of seat belts on

school buses in the worst possible way. In spite of these efforts, the results clearly indicate that the use of seat belts on large (Type I) school buses as advocated by the Coalition, provides superior protection to school children in front end crashes as tested in Canada as well as in all other accidents experienced by children in school buses.

Arthur L. Yeager DDS
Chairman
May 1985

Canadian School Bus Safety Tests
April 1985

The Canadian test results proved several things about bus safety. For those considering installing seatbelts on larger, Type I buses, it proved:

1. that passengers restrained by lap belts in a school bus did remain within their compartment,
2. that restrained passengers and their seats did withstand the force of the collision, and
3. that all belted dummies received HIC (a generally accepted injury level) levels lower than 1000.

As expected, the unrestrained dummies received lower HIC levels than the belted ones in the severe front-end collision, but this study also showed the unbelted dummy in the center of the bus (ATD#4) did not remain within the compartment and actually landed in the aisle of the bus. Another unrestrained dummy (ATD#1) received a slightly higher than allowable chest acceleration.

Seatbelts on school bus proponents have always stressed the need for the children to stay within the compartment in order for the compartmentalization feature to work. The dummy mentioned above which landed in the aisle and the dummy in a van (ATD #2) which was thrust through the front barrier, contacted the dash, and landed in an upside down position on the door operating mechanism, further demonstrates the need.

Also, seatbelt proponents have also stressed the need for children to be restrained in the event of lateral collisions or rollovers. Unfortunately, this study was limited in its realm and did not study the effects of seatbelted versus nonseatbelted dummies in lateral collisions. Therefore, feel its findings are inconclusive.

The areas of concern raised by the study surround our smaller buses and vans which have higher acceleration forces during a crash because of their smaller mass. The high HIC levels of the belted dummies need to be further explained but should not be cause for alarm. The NHTSA new car tests on 1984 models reveal similarly high HIC levels for both drivers and passengers, (see attached results) yet we don't see a great number of head injuries to belted occupants in cars. In fact, a Mercedes Benz 300SD equipped with driver air bag and belt tensioning device recorded HIC levels of 890. The Canadian study itself questions the accuracy of these levels for children. They state: "The level of 1000 has been challenged by researchers in France & other countries and the validity of the mathematical expression itself can be questioned.... Certainly, a HIC of 1000 is probably not the best value for a limit of human tolerance."

Besides the fact that the Canadians only tested one type of severe collision, other inadequacies exist. These relate to the dummies used and the stiffness of the seats. Attached is a letter from Dr. John D. States, MD., a member of the National Motor Vehicle Safety Advisory Council 1970-1976, Chairman of the Crashworthiness Committee and a member of the School Bus Body Task Force of the Truck Body & Equipment Association, Inc., in which he further discusses these points.

Bridget A. Ernst
Regional CoCoordinator
National Coalition for
Seatbelts on School Buses

Attachments

NHTSA Completes Its Crash Testing Program Of 1984 Car Models

The National Highway Traffic Safety Administration (NHTSA) has completed its 1984 new car assessment program with the release of 15 additional motor vehicle crash tests.

Of the new group, six fared reasonably well: a Toyota van wagon, a 4-door Mercedes-Benz 300 SD equipped with a driver air bag, a 4-door Mercury Grand Marquis, a 2-door Honda Prelude, a 4-door Renault Alliance (though some of the results were unavailable), and a 4-door Toyota Tercel hatchback

The tests, conducted at 35 mph, exceed the government's safety requirements by 5 mph

All of the above cars listed except the Mercury produced head injury results during the test that were below the 1,000 limit NHTSA has considered the threshold for serious injury. The Mercury Marquis produced results that were slightly in excess of 1,000. However, the chest injury measurement produced by the driver side dummy in the Mercedes test was 63g, slightly in excess of the 60g NHTSA considers to be the desirable upper limit.

Mercedes officials did not disagree with the test results, saying their own tests had produced similar readings, but they argued that the test itself, which was developed for seat belts, isn't appropriate. The dummy does not measure how the crash forces are spread across the chest and the company has asked NHTSA to adopt a different standard for air bags.

The Toyota van also had some difficulty managing the crash forces exerted on both dummies' legs. The forces generated in the crash produced measurements in excess of the levels NHTSA says are likely to produce serious injuries.

The other vehicles tested produced head injury measurements that substantially exceeded the 1,000 limit though none exceeded the limits for chest and leg injury. See listing for details. (For earlier crash test results, see *Status Reports* Vol. 19, Nos. 4 and 9, March 3 and May 26, 1984.)

Update

Louisiana and Texas have become the 48th and 49th states to enact child restraint use legislation. Only Wyoming's legislature has not adopted a restraint requirement for young children.

NHTSA New Car Assessment Program — 1984 Models 35 mph Frontal Crash Test Results

Cars	Head Injury Criterion*	
	Driver	Passenger
Buick Park Avenue 4-Door (1985 model)	1,550	662
Datsun 200SX 2-door hardtop	1,992	582
Ford Mustang 2-door convertible	894	1,112
Honda Prelude 2-door coupe	659	475
Isuzu Impulse 2-door hatchback	1,769	2,454
Mercedes-Benz 300SD 4-door sedan (equipped with supplemental driver air bag and belt tensioning device)	890	734
Mercury Grand Marquis 4-door	1,094	1,019
Mitsubishi Tredia 4-door	1,314	1,521
Renault Alliance 4-door	940	**
Renault Sportwagon 4-door station wagon	2,053	2,721
Toyota Tercel 4-door hatchback	658	492
<u>Utility Vehicles</u>		
AMC Jeep Cherokee 2-door MPV (4x4)	850	1,548
Dodge Caravan	973	1,200
Toyota Van Wagon MPV	984	748
<u>Pickup Trucks</u>		
Ford F-150	1,362	1,443

*The lower the HIC value, the less the risk of head injury.

**Data not available.



ROCHESTER GENERAL HOSPITAL

UNIVERSITY OF ROCHESTER
SCHOOL OF MEDICINE AND DENTISTRY



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December 27, 1984

The Editor
School Transportation Director
Federal News Services, Inc.
960D National Press Building
Washington, D. C. 20045

To The Editor:

The article, "Seatbelts Flunk Canadian Test" (Volume 4 No.22, December 12, 1984) may be inaccurate and misleading to your membership and other readers who must make decisions concerning the purchase and operation of school buses. At this time no written report by the workers who conducted the tests reported in your article has been made available to the scientific community. Many questions are raised, the answers to which may lead to completely different conclusions from those reported in the above article. Some of my own concerns are as follows:

1. Part 572 dummies were used. It is well known that the neck and spines of these dummies are very stiff and do not model the performance of the human spine at all well. The shortcomings were well recognized by 1972 and an improved version with a more supple, although still quite stiff spine was introduced by Highway Safety Research Institute of the University of Michigan. The stiffness of the neck and spine of the Part 572 dummy will exaggerate head loading because it delays or prevents shoulder and chest contact with the seat back. Shoulder and chest contact should occur in this accident configuration and reduce head loads but can occur only if the spine is sufficiently flexible to permit extension.
2. The particular seats used in the experiment were particularly stiff according to one of the investigators with whom I spoke. These seats should be carefully examined to identify any structure which might increase head loading if the force is delivered from a non-horizontal direction.

There may be other considerations which will grossly alter the interpretation of the raw data that are unidentified at this time. In summary, it is vital that the Canadian study be carefully scrutinized by its own authors and by the scientific community before it is incorporated in administrative and public policy.

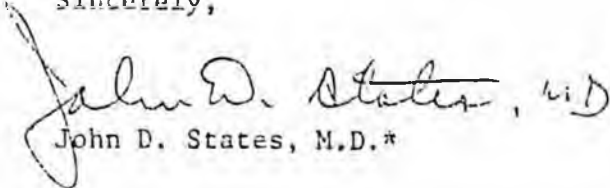
To The Editor

-2-

December 27, 1984

School bus safety belts remain a vital need for our youngest students. Virtually every state in the United States now requires that preschool children use either child restraints or adult restraints while traveling in passenger cars. These young people should be able to continue this life saving habit when they begin traveling to school in school buses. Only by equipping school buses with safety belts will this be possible.

Sincerely,

A handwritten signature in cursive script that reads "John D. States, M.D." with a small "410" written to the right of the name.

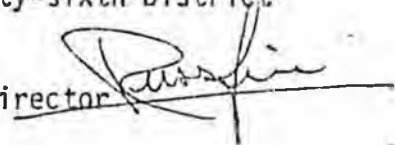
JDS/rmk

*Dr. States was a member of the National Motor Vehicle Safety Advisory Council 1970-1976, Chairman of the Crashworthiness Committee and a member of the School Bus Body Task Force of the Truck Body and Equipment Association, Inc. 1973-1974.

19- U-4-3
The University of Alabama at Birmingham
Department of Rehabilitation Medicine
Spain Rehabilitation Center
205/934-3334
June 25, 1985

M E M O R A N D U M

TO: Ms. Gloria Molina
Assemblywoman, Fifty-sixth District

FROM: Dr. Russ Fine
Professor and Co-Director 

RE: Canadian School Bus Safety Study

> Based upon all that is known about deceleration injuries and the inherent protection possible from proper restraint systems and appropriate packaging of motor vehicle occupants, it is absurd to dignify the contention that unbelted occupants (specifically children) are at lesser risk of physical injury than belted occupants. Of course, the three-point (viz. lap-shoulder type) passenger belt is safer than the two-point because the fulcrum and arc of upper torso travel (with fixed anchors or inertia reels) is markedly reduced. However, we must reject, summarily, the conclusions of this or any other study that concludes it is safer to be unrestrained than restrained in a vehicular collision... irrespective of "differences" between motor cars and buses.

> The ostensible comparisons are, in our opinion, of the apples and oranges genre'. The question as to whether to restrain or not restrain is ludicrous and those responsible for its promulgation simply know better ... and, if they don't, they need to get out of the safety engineering business.

That which constitutes the most appropriate restraint system and seat design (configuration, etc.) is the only appropriate question. The former question does an extreme disservice to automotive safety engineering as a discipline. It is an embarrassment irrespective of the veil of pseudo-scientific credibility in which it is clad.

The issues seized on but only casually alluded to by the anti-restraint advocates are clearly economic and pertain to such things as (1) "existing designs" [and the industry's interest in maintaining them as they are at present for economic reasons], (2) the larger question of responsibility for ensuring that students wear the seatbelts - especially small children [to escape the culpability/negligence issue], etc.

> The authors have, in our opinion, developed a logical sounding argument that is, in reality, predicated upon absurdities.

Moreover, the inquiry restricted the type of crash/collision to one described as a "severe frontal collision." Clearly, data from a singular type crash (which according to their own admission constituted barely more than half the

Ms. Gloria Molina
June 25, 1985
Page 2

crashes by type) should not and cannot be legitimately generalized to the spectrum of collision types in which any vehicle can be involved.

Their argument against belts flies in the face of the accepted practice of restraining airline passengers who are also very scrupulously "compartmentalized" (in keeping with the author's definition of compartmentalization) and who also are at risk of experiencing a deceleration type injury that is almost without exception, of the "severe frontal collision" variety (i.e. nose of fuselage into the ground or water).

Enormous attention within the flight-safety engineering community has been devoted to perfecting and mandating the use of lap type restraint systems for aircraft passengers (including children) who are subject to even more severe g loads and greater decelerative forces than those achieved by school buses traveling not at or near terminal velocity, but rather at or below a ground speed limit twelve to fifteen orders of magnitude below aircraft speed.

> It is our educated guess that a rather strong manufacturer's lobby has engaged the services of a consultant engineer ... and since many of us have served as consultants, from time-to-time, we are painfully aware of the realities that consultants "prove, verify, demonstrate, document or determine" precisely that which they are paid to prove, verify, demonstrate, etc. It is the nature of the consulting game.

> If one reads the article carefully it becomes apparent the conclusions are equivocal and, based on the data, could have been opposite those espoused. It is merely a matter of interpreting data, accepting or rejecting design premises, previously documented research findings, dismissing as unimportant or inconsequential failed instrumentation, ignoring shortcomings associated with the ATDs, with the HIC, ignoring associated injuries, etc.

Unfortunately, it appears that a generation of excellent, scientific achievement - an entire body of information - has been conveniently ignored ... and in a word, "that ain't kosher." In my humble opinion, giants in the field such as John Swearingen, former Chief of the Civil Aeromedical Research Institutes Protection and Survival Section and Colonel John Stapp would not be amused that their pioneering efforts in this field have been dismissed without due consideration.

> We agree that current passenger packaging can and should be improved, because the basic design configuration of the school bus has changed very little, if any, since the first ones appeared many years ago. There is little doubt that recent design modifications have improved the inherent safety (i.e. have reduced risk of injury) of school buses. However, this should not be misconstrued to negate the need for the long-overdue re-design of passenger compartments, seats, seating arrangements, interior configuration(s), restraint systems (passive and active), etc.

Ms. Gloria Molina

June 25, 1985

Page 3

> We enclose a copy of an article from this morning's Birmingham Post-Herald and one from the afternoon's Birmingham News. I spoke personally with the Chief of Police who stated unequivocally that most, if not all, of the injuries that occurred in this strangely coincidental crash would have been prevented (or their seriousness reduced) had the passengers been properly restrained with seat belts.

> There are other areas of the report that warrant criticism, but after a while it's more like beating a dead horse.

We are hopeful you and your fellow seatbelt/viz. lifebelt advocates will be aided by the information contained herein.

Good Luck ... you'll need it.