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STATEMENT OF

WILLIAM HADDON, JR., M.D.
PRESIDENT, INSURANCE INSTITUTE FOR HIGHWAY SAFETY

AND

ALBERT BENJAMIN KELLEY
SENIOR VICE PRESIDENT
INSURANCE INSTITUTE FOR HIGHWAY SAFETY

BEFORE THE
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA)

PUBLIC MEETING
STANDARD NO. 208
OCCUPANT CRASH PROTECTION

May 19, 1975

For the next five days the National Highway Traffic Safety Administration will hear and see testimony and evidence bearing, in essence, on one issue:

Should the federal government reaffirm its requirement that future new cars be able to automatically -- "passively" -- protect their occupants from death or serious injury in specified crashes up to 30 miles per hour?

On the answer to the question hang the lives and well-being of thousands and thousands of people -- real people, alive today, some of them among us in this hearing room -- who will be in the car crashes of the future. The answer to the question is, *yes*.

"Yes" is the answer supported and compelled by the information, data, films and analyses that are already available in the voluminous and fascinating record that the agency has compiled in this case since 1968,⁽¹⁾ when it first interested itself in the possibility of replacing its then existing, *active* restraint standard with a *passive* restraint standard.

THE CONCEPT OF PASSIVE PROTECTION

Active protection in motor vehicle crashes is that which depends for its effectiveness on some voluntary action on the part of the car occupants. If the action is not taken, the protection is denied. Head restraints that ameliorate whiplash only if manually adjusted are active;⁽²⁾ so are safety belts that provide no crash protection unless they are manually buckled.

Passive protection in motor vehicle crashes is that which works automatically and universally, independent of any manual action by car occupants.⁽³⁾ Energy absorbing steering assemblies, required as standard on all new cars since 1968, give *passive* protection; they are intended to cushion the impact of drivers' chests in frontal crashes of specified speeds and configurations, independent of any cooperation from the occupants. High Penetration Resistant (HPR)

laminated windshields that soften head impact in crashes, dashboard padding that reduces the force of body impacts, bumpers that protect the car's safety features from damage in low-speed collisions -- these also are *passive* systems, and they also have for years been required on new cars by federal motor vehicle safety standards. (4)

The distinction between *active* and *passive* protection is of overriding importance in public health decision making. (5)

The history of *active* attempts to guard man against the hazards of his environment is replete with failure; that of *passive* attempts is a history of success. Whether the environmental threat involves car crashes, infected milk, polluted drinking water, or fire prevention and suppression, *active* systems fail to provide universal protection because they depend on human cooperation, which often is withheld or unavailable.

In a rear-end crash the driver of the struck car may experience serious neck injury if he failed to position his *active*, adjustable head restraint beforehand; the driver whose head restraint is *passive* and needs *no* adjustment is automatically protected.

The child whose mother forgot, in the past, to boil the milk and drinking water, today is *passively* protected by pasteurization and water purification processes. The household fuse box is *passive*; it automatically senses an overload and breaks the circuit before a fire can start, without *active* human intervention. In the

factory, the *passive* sprinkler system is triggered automatically by an undue increase in temperature, not by the *active*, sometimes unavailable cooperation of a factory worker or watchman.

RESTRAINING CRASH OCCUPANTS

Literally millions of motor vehicle crashes occur each year in America. (6) The extent to which the people in the crashes will come through without death or serious injury is determined by whether:

1. The passenger compartment is surrounded by structure that helps absorb the force released in the crash;
2. The passenger compartment is designed and built to retain its integrity in the crash, rather than split open or collapse, and is lined with interior structure and materials that protectively yield when impacted by a human body;
3. The people in the passenger compartment are restrained in the impact by a system that holds the human body and handles the crash forces smoothly and gently, rather than allowing the body to make violent contact with other structure inside or outside the car.

FEDERAL STANDARDS

Under the National Traffic and Motor Vehicle Safety Act of 1966, ⁽⁷⁾ NHTSA is required to set motor vehicle safety *performance* standards that reduce death and injury in highway crashes. These performance standards must be met by new motor vehicles. For achieving greater occupant protection in crashes, they prescribe specific minimum performance criteria in the three areas described above. The long-standing requirements for *passive* dashboard padding, energy absorbing steering assemblies, HPR laminated windshields and protective bumpers are examples of standards that fall in that category.

Also under the law, NHTSA may *not* tell manufacturers how to design their cars, for safety or any other purposes. ⁽⁸⁾ Congress wisely decided that the agency must leave motor vehicle design decisions exclusively to the manufacturers, including decisions as to costs, prices, weights, materials, supply sources, etc. In short, NHTSA's motor vehicle safety standards may express only *goals and criteria for protection*; decisions as to how the goals will be met are left to the manufacturers. As Dr. Gregory recently wrote, "If somebody figures out how to give such protection with chewing gum, tin foil and tissue paper, he could do so." ⁽⁹⁾

THE OCCUPANT RESTRAINT STANDARD

One of NHTSA's present motor vehicle safety standards

sets goals for the protective restraint of people in cars during crashes. It is Standard No. 208, originally adopted in 1967 and subsequently amended many times. The most crucial amendment, adopted in November, 1970, required introduction of *passive* occupant restraint systems in new cars, starting in July, 1973.⁽¹⁰⁾ Administrative and court actions have already delayed the effective date of the passive restraint requirement until at least the 1977 model year.⁽¹¹⁾ NHTSA's current and proposed Standard No. 208 sets out a calendar of performance goals for occupant restraint systems summarized as follows:

1975 Model Year (Standard No. 208)

Option 1 Provide front seat occupant protection by passive means in 30 mile per hour frontal barrier test, 20 mile per hour lateral moving barrier test, and 30 mile per hour rollover test.

Option 2* Provide lap belts, or lap belts with detachable shoulder belts, and satisfy front seat occupant protection criteria in 30 mile per hour frontal barrier tests by passive means (whether or not the lap belt is used).

Option 3* Provide seat belts. In front outboard positions, provide shoulder belts that are non-detachable from lap belts and have inertia reels.

*Includes belt use reminder requirement.

1976 Model Year (Proposed Standard No. 208, Notice of April 10, 1975)

Three options of the 1975 model year be continued.

1977 Model Year (Proposed Standard No. 208, Notice of March 19, 1974)

Options 1 and 2 be continued. Option 3 be dropped.

NHTSA must now decide whether to affirm the requirements and the calendar above or, if not, how to change them. That is what this hearing is about. It is about whether many thousands of Americans will or will not die or be seriously injured in their crashes in 1977 and later model cars.

THE TECHNOLOGY: ACTIVE RESTRAINT SYSTEMS

Active safety belt restraint systems do what they do well. That is, they provide protection against death and serious injury in many types of crashes, including rollovers, and greatly reduce the likelihood of occupant ejection. Appendix A explains this in detail.

But active safety belts do not provide protection of any kind for at least 70 per cent of the occupants in the very newest cars -- the 1974 and 1975 models equipped with the comfortable, easy-to-use three-point inertia reel systems -- and in addition, the belts are providing no protection whatsoever to more than 80 per cent of occupants in the 1972-1973 model cars. For still older cars, the level of protection is even lower. Further, active safety belts and active child restraint systems are providing protection to only 7 per cent of children 10 years or younger in cars. The remaining 93 per cent travel without restraint-system protection, or are improperly restrained. For details, see Appendices A and B.

That is tragic, but it is a fact, which all the wishing in the world won't change. For whatever reason, a large majority of drivers and passengers are not electing to use the active restraint systems now available, nor have they done so since the advent of the safety belt.

Can all or even many occupants be persuaded to routinely use their active belt systems? The evidence, which is considerable, is that they cannot. Since belts first appeared in cars, vast sums of time and money have been spent by safety groups, auto manufacturers, insurers, belt makers, government agencies and other interests to advertise and publicize the benefits of safety belt use.⁽¹²⁾ The return

on this investment has been *at best* a belt use level for occupants of 10-25 per cent; the rest remain unprotected from death and injury in crashes, and thus all society remains unprotected from picking up the tab, in misery and in dollars, for the resulting human damage.

A few years ago the Institute, in a research project, joined with a leading advertising agency to produce a series of safety belt commercials for television.⁽¹²⁾ The commercials represented the best in belt use promotion; they were well researched, accurate, realistic and to the point. They took prizes in national and international advertising competitions. Here are two of them:

(FILM WITH SOUND)

These two commercials and four more in the series were given, over a nine-month test period, intensive prime-time television exposure to an audience of about 6,000 families in a middle-sized American city. Before and during the entire period, belt use levels for the target families were observed and compared with belt use levels for 6,000 similar families in the same city who were not exposed to the commercials.

The result: No difference whatsoever showed up in the belt use levels of the families who saw the commercials and those who did not see them. Neither group's belt use level rose during the nine-month test period.

Like it or not, the idea that belt use levels can be substantially increased by persuasion is unsupported by the record and contrary to the scientific evidence. "Persuasion" is a dead issue.

Can occupants in this country be forced to use their active belt systems? Again, the evidence, which is considerable, is that they cannot. For some years private and government organizations have vigorously attempted to mandate the use of active belt systems by occupants. Their efforts have failed at every turn.

For example: NHTSA adopted a requirement, effective with the 1974 model year, that new car safety belt systems be interlocked with ignition systems with the intention of

preventing cars from being started until the front outboard seat occupants were belted in. Even though belt use levels for the "starter interlock" cars reached a temporary peak of 59 per cent in urban areas -- from which they subsequently declined -- the starter interlock requirement has been declared illegal by a federal law.⁽¹³⁾ No new car manufactured today carries the feature.

For another example, eight countries are reported to have implemented mandatory safety belt use laws, and five more to have passed such laws.⁽¹⁴⁾ In the United States such legislative action has been left to the discretion of state and local governments, not the federal government. To encourage state action, NHTSA established an "incentive grant" program to reward, with additional federal safety funds, any state that would enact a mandatory belt use law.⁽¹⁵⁾ Puerto Rico passed such a law and received its reward in 1974.⁽¹⁶⁾ Then Congress declined to authorize funds for incentive awards to other states that might enact belt use laws.⁽¹⁷⁾ Proponents of mandatory belt use laws -- auto makers, safety belt manufacturers, insurers and others -- have managed to get legislative proposals introduced, at one time or another, in more than half of the state legislatures during the past few years.⁽¹⁸⁾ Despite this, other than by Puerto Rico, not one mandatory belt use law has been passed. (It was recently reported that Puerto Rico's belt use level has dropped to 10 per cent.)⁽¹⁹⁾

Again, like it or not, the idea that substantial increases in belt use levels can be induced in this country through mandatory approaches is contrary to the evidence.

THE TECHNOLOGY: PASSIVE SYSTEMS

Standard No.208's present and proposed calendar requires that, starting with the 1977 model year, new car restraint systems for the front seat occupants would be either fully passive, or would be passive for the crash configurations that most frequently produce serious and fatal injuries, including frontal impacts, with active, lap belt protection for the rest.

In the front seat, non-wearers of active belt and child restraint systems--the large majority of American adults and children--thus would receive greatly increased, automatic protection against fatal or serious injury in such crashes. Where full passive protection was not provided, active lap belts would still have to be available in all positions. As is the case now, people who elected to wear the belts would substantially increase their protection against death and serious injury in rollover crashes.

It is entirely up to each manufacturer to determine what technology its cars will employ to meet the standard. Automatic safety belts, self-positioning nets, heavily padded bolsters, energy absorbing steering assemblies, air bags or any other

approach may be used, singly or in combination, so long as the resulting performance of the passive systems meets the injury-limiting tests of Standard No. 208. During this hearing, films and data describing some of these alternative approaches may be presented.

It is certain, however, that the approach that will dominate the hearing will be the air bag, because it has been so carefully developed and thoroughly tested by so many domestic and foreign auto manufacturers and suppliers.

It is air bag technology that most manufacturers indicate, in their submissions to NHTSA's record, they would employ to meet the passive restraint goals of Standard No. 208. It is the success of air bag performance, both in the laboratory and the real world, that is best documented in the record -- far better documented, in fact, than the performance of any other system ever perfected in advance of and in response to a proposed federal motor vehicle safety standard.

Here is a very small sample of the many hundreds of individual air bag tests shown on film in NHTSA's docket:

(FILM STARTS)

This very brief film clip includes just a few of the hundreds of air bag test results that have been submitted to NHTSA's docket by a wide variety of sources, such as Agbabian, Eaton, Ford, Control Laser, General Motors, Minicars, NHTSA, Olin, Nissan, Rocket Research, Toyota, Allstate and Volvo.

Included are tests involving standard-sized and small cars, dynamic and static deployments, dummies and human volunteers, properly positioned and out-of-position occupants, and adult and child-sized occupants.

(FILM ENDS)

Air bag technology was patented and in development more than 20 years ago. (20) In the context of providing a possible basis for passive restraint standards making, the technology was officially discussed with this federal agency in 1968 by Eaton, Yale and Towne, Inc., a major auto industry supplier. The company had been at work since 1964 on air bag development; in 1968 it conducted a briefing for the federal safety agency's senior staff and representatives of the domestic auto manufacturing companies. The briefing, a transcript of which is in the docket of this case, included a detailed description of the Eaton "Auto Ceptor" air bag system. (1)

Summarizing the briefing, an Eaton representative said that "standardization of what we are talking about" -- the air bag system -- would handle a range of occupant restraint problems because the system "gives a tremendously high level of protection; has some esthetic benefits in storing pretty well out of sight; it is automatically deployed," and, an "obvious advantage," it

"may be the answer to the unrestrained child, that is, to leave him unrestrained and catch him in the bag, which is there only in the event that it is needed."

In 1969 NHTSA issued an advanced notice of a proposed passive restraint standard, in which it said it planned to put such a standard into effect "not later than January 1, 1972."⁽²¹⁾ Because of opposition from some vehicle makers, no such standard is in effect yet. Opposition has been reflected in administrative and court actions to block implementation of a passive restraint requirement. It also has included representations by some vehicle makers that no federal standard was necessary; they would voluntarily provide air bag protection in a large number of their cars. NHTSA's delays of the standard's effective date were based on a record that included promises of voluntary action by, to quote them directly:

General Motors, 1970:

For the 1974 model year, the air cushion would be made standard equipment on those 1973 models on which it was an optional item while extending the customer option to several additional models of General Motors passenger cars. We estimate approximately one million 1974 model General Motors cars could be equipped with the air cushion in this second year. In the fall of 1974, the air cushion

would be made standard equipment on all 1975 General Motors passenger cars, most light trucks (under 6,000 lbs. GVW) and certain multipurpose passenger vehicles. (General Motors Corporation, comments to NHTSA on Docket No. 69-7, Notice No.4, August 3, 1970.)

Chrysler, 1970:

...we cannot comment as to a specific date when we will be in a position to install passive restraints at all seating positions. However, assuming all goes well with our accelerated development program and it proceeds on schedule, we hope to be in a position to provide passive restraint systems in volume production by January 1, 1975. (Chrysler Corporation, comments to NHTSA on Docket 69-7, Notice 4, submitted on July 31, 1970 by S. L. Terry, Vice President, Safety and Emissions.)

Chrysler, 1973:

Our objective is to be in a position to offer front seat air bags as an option on our entire 1976 product line. (Testimony of S. L. Terry, Vice President, Environmental and Safety Relations, before the U. S. Senate Committee on Commerce, hearing on air bag development and technology, August 1, 1973.)

Ford Motor Company, 1970:

...we are concentrating all efforts at the present time on implementing the first step in the process-- the installation of such a device in one position in a limited number of vehicles of a particular car-line. These installations in company-owned vehicles will be utilized as the first part of a two phase evaluation program aimed at simulating production and customer use conditions. There will be between 200 and 400 of these units, a few of which the company has committed to make available to the National Highway Safety Bureau for its evaluation. Following this initial phase, another 2,000 to 4,000 units, incorporating such design changes as may be found to be necessary, will be installed in company-owned vehicles for a broader range field test. The third phase of this program will include making available 20,000 to 40,000 air bag units as a production option in at least one vehicle line. This phase of the program, of course, is contingent upon determination that the air bag development has progressed sufficiently to give reasonable assurance that the overall protection level afforded justifies public sale....

Ford believes that if this development and testing effort is successful, air bags for the front right and center occupants could be installed in all its 1975 model cars and light conventional trucks as optional equipment. (Ford Motor Company, comments to NHTSA on Docket 69-7, Notice 4, submitted on August 3, 1970 by J. C. Eckhold, Automotive Safety Director.)

These commitments have not materialized.

Despite the years of successful laboratory and real world testing, the wealth of relevant film and studies, as of today fewer than 11,000 cars equipped with air bags have been manufactured and offered for sale to American consumers. (22)

Those who travel and crash in cars are getting the worst of both worlds -- denial of *optional-equipment* passive restraint protection in all but a tiny handful of models, and

denial of *standard-equipment* passive restraint protection in all cars. NHTSA, powerless to remedy the first condition, has the statutory authority and obligation to remedy the second by putting Standard No. 208 into effect as scheduled.

Here is an excerpt from a recent film explaining air bags. It was produced by General Motors for showing to Buick dealers. Unfortunately, GM does not make a general distribution of this film,⁽²³⁾ even though the company states it is actively marketing air bags as an option.

(FILM WITH SOUND)

As the GM film narrator pointed out in closing, the air bag "offers freedom and comfort to owners and passengers;" it is "readily liked by those who are familiar with it." Yet how many Americans can become familiar with a system that so far has been made available on fewer than 11,000 real world cars, despite its years of laboratory and field testing? The recent disclosure that GM plans to abandon its limited program of offering optional air bags in luxury cars means, as things stand now, that this protection will be available in the future to *even fewer* new car buyers and occupants if NHTSA fails to affirm the passive requirements of Standard No. 208.⁽²⁴⁾

Also at the close of the GM film, the narrator correctly pointed out that the air bag systems provide "security...even when your passenger is just a tot...." The following piece of film of a test performed with an advanced air bag system developed by the Olin Corporation under federal contract shows how much security is possible. (25)

(BEGIN OLIN FILM HERE)

Even though the six-year old child dummy in this simulated 50 mile per hour crash is out of position, notice how well it is protected by the passive restraint system.

(END FILM HERE)

For 97 per cent of children 10 years old or younger, who now are riding about with no restraint system protection whatsoever or with improperly adjusted active restraint systems, Standard No. 208 is overdue. As we will now see, it is also overdue for the rest of us, and especially for the 70 per cent or more of adult Americans who today are travelling in motor vehicles without the protection of safety belts.

In the following Insurance Institute for Highway Safety research film, completed last week, alternating views are shown of similar car crashes involving:

-- In the first case, unprotected front seat occupants --
dummies wearing no lap or shoulder belts and there-
fore representative of most American car occupants.

-- In the second case, protected front seat occupants --
dummies also wearing no belts but passively restrained
by air bags.

The cars are 1975 Oldsmobile 98 sedans that the Institute purchased off the lot from dealers earlier this month. The first of the cars to be seen in each sequence has no air bags; the second is equipped with the air bag system sold by General Motors as an option on only the higher-priced cars in the Cadillac, Oldsmobile and Buick lines. The non-air bag car is seen crashing into a standard test barrier at 35.3 miles per hour; the air bag equipped car's crash is at the slightly higher speed of 37.5 miles per hour. The occupant dummies are the type prescribed for testing under Standard No. 208.

(FILM HERE)

During this test series we also looked at the air bag in relation to the out-of-position front seat occupant -- the driver or passenger who, for instance, might have been

thrown forward during a panic braking maneuver a split second before the impact. In the following sequence we will see a test crash at 19.3 miles per hour of an air bag-equipped 1975 Oldsmobile 98 sedan in which the unbelted occupant dummies first experienced a panic-type braking deceleration from 36 miles per hour, followed by the 19.3 mile per hour crash itself.

(FILM HERE)

The films you have just seen clearly indicate the advantages of air bags for occupants who do not use belt restraints -- at least 70 per cent of the occupants of recent model year automobiles.

Air bag equipped automobiles have, to date, traveled more than 100 million miles -- the equivalent of 4,000 trips around the earth -- and have been involved in more than 1,000 real world crashes. The large majority of these were low severity crashes in which the air bag was designed not to deploy, and in which it did not deploy. There have been sufficient numbers of deployments, in the severe crashes in which the air bag *was* designed to deploy and *did* deploy, to indicate the real world performance of air bag systems. The results from the 47 tow-away crashes involving air bag deployments that had occurred as of May 8, 1975, indicate that air bags are at least as effective as belts (when the belts are used) and clearly far more effective than no restraints. See Appendix A.

In addition, as was indicated by the film earlier, there has been an extraordinary amount of controlled laboratory testing of air bags using human volunteers, cadavers, animals and dummies. Much of the recent laboratory testing has indicated that it is possible for air bags to provide protection in barrier-equivalent frontal crashes at least up to 50 miles per hour -- a higher maximum speed than for conventional belt systems. It is clear from the bulk of the laboratory testing performed so far that, in frontal impacts at least, the air bag offers protection superior to conventional three-point belt systems. The advantages of air bags over all belt systems become pronounced at the higher impact speeds. See Appendix C.

Thus, there is no justification for claims that for belt users, the air bag is only a more costly replacement of the upper torso belt; this is simply not so.

The air bag system performs to save lives and reduce injury. But until a federal standard takes effect requiring this level of passive restraint protection in *all* new cars, it will perform only for the tiny handful of car owners whose cars are equipped with it as an option.

CONCLUSION

Some who oppose the passive restraint standard say that it will not solve all the problems or meet all the needs of occupants in crashes. While no single motor vehicle safety standard can do that, this one will go farther toward achieving crashworthiness for motor vehicle occupants in crashes than any single standard yet introduced.

Some who oppose the passive restraint standard say that today's air bag systems cost too much. What better argument is there for standardizing these and comparable passive restraint systems as quickly as possible, on *all* vehicles, thereby achieving the huge cost-per-unit reductions that are possible through the benefits of mass production?

Finally, some who oppose the passive restraint standard say that air bags should be introduced by manufacturers on their own, not the government's, timetable. But by the clear record to date, that timetable is very unreliable. Had motor vehicle safety been introduced voluntarily, on a timely basis, the Congress of the United States would not have needed to pass the National Traffic and Motor Vehicle Safety Act of 1966. That Act and more recent tragic history compel the government to set the timetable and make it stick.

From 1966, when this federal agency was established, until 1969, I* administered its programs. Important as those early years were, no single standard before us for decision then was as critical to the health of Americans as the one being considered at this hearing. Dr. Gregory and his staff are to be envied; they are in a position to take a step that would prevent more death, more maiming and more agony than ever before has been eliminated by a Federal Motor Vehicle Safety Standard.

*Dr. Haddon

NOTES

1. Transcript of Briefing by Eaton, Yale and Towne, Inc., to the National Highway Safety Bureau and domestic automobile manufacturer executives, July 19, 1968. Docket No. 69-7, General Reference Entry No. 24.
2. O'Neill, Brian; Haddon, William Jr.; Kelley, Albert B. and Sorenson, Wayne W. "Automobile Head Restraints - Frequency of Neck Injury Claims in Relation to the Presence of Head Restraints." *American Journal of Public Health* 62:399-406, 1972.
3. Haddon, W. Jr. and Goddard, J. L. "An Analysis of Highway Safety Strategies." In: *Passenger Car Design and Highway Safety: Proceedings of a Conference on Research*, Association for the Aid of Crippled Children and Consumers Union of U.S., Inc., 7-11, 1962.
4. Motor Vehicle Safety Standards:
 - No. 203, 32 Federal Register 2414, February 3, 1967
 - No. 204, 32 Federal Register 2414, February 3, 1967
 - No. 205, 32 Federal Register 14162, September 19, 1968
 - No. 215, 36 Federal Register 20369, October 21, 1971
5. Kelley, A. B. "Passive vs. Active = Life vs. Death." Society of Automotive Engineers Publication No. 750391, 1975.
6. *Accident Facts, 1974 Edition*. Chicago: National Safety Council.
7. National Traffic and Motor Vehicle Safety Act, Public Law 89-563, September 9, 1966 (15 U.S.C. 1381 et seq.).
8. Conference Report, National Traffic and Motor Vehicle Safety Act of 1966, Report H.R. 1919, 89th Congress, 2d Session, p. 15.
9. Gregory, James B. (Administrator, National Highway Traffic Safety Administration) letter dated April 29, 1975 to George Eads (Assistant Director, Government Operations and Research, Council on Wage and Price Stability) with attachments. Docket No. 74-14-N01-124-01.
10. 35 Federal Register 16937, November 3, 1970. Docket No. 69-7, Notice 8.
11. See, for instance: Chrysler Corporation vs. Department of Transportation C.A. 6, 1972 472 F.2d 63659.

12. Robertson, Leon S.; Kelley, Albert B.; O'Neill, Brian; Wixom, Charles W.; Eiswirth, Richard S.; and Haddon, W. Jr. "A Controlled Study of the Effect of Television Messages on Safety Belt Use." *American Journal of Public Health* 64:1071-1080, 1974.
13. Motor Vehicle and School Bus Safety Amendments of 1974, Public Law 93-492, Section 202 (15 U.S.C. 1392(i)(1)(A)).
14. Belt use laws are in effect in Australia*, Czechoslovakia*, Denmark**, Finland**, France*, New Zealand*, Spain*, and the U.S.S.R.*. Belt use laws have been passed and are planned to take effect in Belgium*, Luxembourg**, The Netherlands*, Switzerland*, and West Germany*. In addition to the above, the Province of Nova Scotia, Canada, has passed enabling legislation.
15. Notice of Proposed Rulemaking on Incentive Grant Criteria for State Safety Belt Use Laws, published in 38 Federal Register 32818 (November 28, 1973).
16. Puerto Rican Safety Belt Law - Vehicle and Traffic Law of Puerto Rico, Section 5-1123 (Added to Act #141 of July 20, 1960, as amended, May 30, 1973, effective January 1, 1974).
17. Public Law 93-931 (DOT Appropriations Act).
18. These include: Arizona, Colorado, Connecticut, District of Columbia, Georgia, Hawaii, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New Mexico, New York, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Virginia, Washington, West Virginia and Wisconsin.
19. National Highway Traffic Safety Administration. "Proposed Passive Protection Systems and the Benefit/Cost Study on MVSS 208." Presented to David M. Bray (Deputy Associate Director, Economics and Government Division, Office of Management and Budget, Executive Office of the President), March 1975.
20. Clark, C. and Blechschmidt, C. "Human Transportation Fatalities and Protection Against Rear and Side Crash Loads by the Airstop Restraint." *Proceedings of the Ninth Stapp Car Crash Conference*, Minneapolis: University of Minnesota, 1966.

*Source is the country's embassy to the United States.

**Source is *ADAC-Motorwelt*, May, 1975.

21. 34 Federal Register 1148, July 28, 1969. Docket No. 69-7, N1.
22. National Highway Traffic Safety Administration. "Summary of Air Cushion Restraint Systems Field Test," April 29, 1975.
23. For instance, the film is not listed as available in the General Motors Motion Picture "Catalog" for 1974-75.
24. Insurance Institute for Highway Safety. "GM May Abandon Air Bags," *Status Report*, Vol. 10, No. 9, April 28, 1975.
25. Olin Corporation. "Development of Improved Inflation Techniques, Task II." Final Report prepared for the Department of Transportation under Contract No. DOT HS-801 226, January 1975. (PB 240 268)