

# Status Report

## At Auto Maker Request

### NHTSA Again Proposes Bumper Rule Delay

The National Highway Traffic Safety Administration is considering yet another delay in its standard limiting property damage to cars in low speed crashes.

In response to requests from General Motors and Ford Motor Co., the agency is proposing to slip the effective date of its stronger property damage requirements one model year, from 1980 models (Sept. 1, 1979) to 1981 models (Sept. 1, 1980). NHTSA has proposed the delay even though auto makers already have been given more than three model years, since adoption of the standard in March 1976, to prepare for the 1980 model year bumper requirements.

Still pending before the agency are other auto maker requests to weaken the performance requirements of the standard. An NHTSA official told *Status Report* that the agency will be "addressing all the other issues raised" by the manufacturers, but could not provide a timetable for the agency's response.

#### NHTSA PROPOSAL

NHTSA's property damage standard is currently scheduled to go into effect with 1979 models, with more stringent requirements becoming effective for 1980 models. At present, there is no standard that currently applies to new cars which restricts the dollar damage that a car can sustain at any speed of impact. The property damage standard requires that bumpers perform at specified damage-preventing levels in a series of front and rear barrier and pendulum crash tests at five miles per hour and three mile per hour corner pendulum impacts. However, even that property damage standard only applies to damage caused by impacts to vehicle bumpers, since NHTSA currently does not have statutory authority to set standards to limit damage caused by impacts to other portions of the vehicle.

The 1979 model year requirements, which permit damage to the bumper itself and the brackets fasteners, etc., that attach it to the chassis frame, would remain unchanged under the agency's proposal.

The 1980 model year requirements — which would be delayed from the 1980 to the 1981 model year under the agency's proposal — limit bumper face bar damage to three-eighth inch dents and limits bumper set, which is the flattening of the bumper face bar, to three-fourths inch.

#### JUSTIFICATION

NHTSA's proposed delay is based on an argument, made by GM, that a delay in the standard was needed because "significant optimization of a bumper system may not be effectively accomplished when the performance level mandated in the standard is scheduled to change after only one model year." The

agency did not reconcile that statement with its finding that “most cars already come close to meeting the performance level” specified for 1979 models and that manufacturers will have had more than three model years since adoption of the standard to develop an “optimum” bumper system for the 1980 model year.

(In April 1975, the Insurance Institute for Highway Safety presented NHTSA with crash test evidence that already some 1975 model cars could meet the full range of barrier and pendulum impacts specified for 1979 models. See *Status Report*, Vol. 10, No. 8, April 11, 1975.)

NHTSA said its proposed delay was also motivated by Ford’s argument that the vehicle redesign necessary to meet the bumper standard would force Ford to speed up the design changes it planned to make to improve the fuel economy of its vehicle. So as not to disrupt Ford’s schedule, NHTSA said, it proposes delaying the 1980 model year requirements so that the fuel economy and damageability goals “could be most effectively and economically accomplished simultaneously.”

## STANDARD’S HISTORY

In 1971, NHTSA established a federal safety standard (FMVSS 215) which requires that cars be able to withstand damage to certain safety-related equipment in low speed impacts. However, since FMVSS 215 was established under the National Traffic and Motor Vehicle Safety Act of 1966, which only authorized NHTSA to set safety-related standards, it did not set any limits on the property damage a car can sustain in low speed crashes.

In 1972, Congress, concerned with the rising cost of auto repairs, passed the Motor Vehicle Information and Cost Savings Act. Title I of that Act instructed NHTSA to develop property damage bumper standards that would provide “the maximum feasible reduction of cost to the public and to the consumer . . . .”

In August 1973, NHTSA proposed a property damage bumper standard, which would also incorporate the current federal safety standard on bumpers, to be effective with 1975 models. In a series of subsequent rulemaking actions, the proposed effective date was repeatedly delayed. Finally, in March 1976, NHTSA adopted a final rule, making the property damage standard effective for 1979 models with more stringent requirements going into effect for 1980 models. Subsequently, seven manufacturers filed petitions with NHTSA asking the agency for various combinations of delays and weakenings of the standard. (See *Status Report*, Vol. 11, No. 7, May 3, 1976.)

Comments on the proposed delay should be sent, by April 11, 1977, to Docket 74-11, Notice 13 and Docket 73-19, Notice 10, Docket Section, National Highway Traffic Safety Administration, 400 Seventh St., S.W., Washington, D.C. 20590. NHTSA requests, but does not require, that ten copies of any comment be submitted.

## **Motor Vehicle Crashes: \$37.5 Billion**

A major government study of motor vehicle crashes shows that their cost to society totaled more than \$37.5 billion in 1975.

The study breaks down motor vehicle crashes by the severity of injury as well as “property damage only” crashes. The table below gives a detailed breakdown of costs.

Barbara Moyer Faigin of the National Highway Traffic Safety Administration’s Office of Program Analysis prepared the study. In the introduction to the study she emphasizes that the “purpose of this *Status Report*

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study is to assess some basic losses to society from motor vehicle accidents. Measurable cost components are identified to provide some indication of the scope of the human problem. However, the total of individual cost estimates of accidents should not be interpreted as the value placed on a life or as the total cost of a fatality or injury to society. Neither is it the total amount that society is willing to spend to save a life or to prevent an injury. Rather, the cost components and the total of these components are indicators of the significance of the motor vehicle accident problem.”

The author points out that although the cost of “pain and suffering” is recognized by American courts and is even included in some no-fault insurance plans, it was not included in this study. Also not included in the study were “a number of qualitative losses to both individuals and society that defy measurement, for example, losses in conjugal affection, grief to others, loss of personal relationships. These losses are real and should be part of any analysis of the effects of accident reduction in qualitative terms. However, no attempt was made to place a monetary value on these losses.”

**AVERAGE AND TOTAL COSTS OF MOTOR VEHICLE CRASHES, 1975**

	Fatality	Non-Fatal Injury (Abbreviated Injury Scale)*					All Non Fatal Injuries	Property Damage Only	Totals
		5	4	3	2	1			
Average cost in dollars	287,175	192,240	86,955	8,085	4,350	2,190		520	
Number of occurrences in thousands	46.8	4	20	80	492	3,400	4,000	21,900	25,946.8
Total cost in billions of dollars	13.44	.77	1.74	0.65	2.14	7.45	12.75	11.40	37.59

\*1 – Minor; 2 – Moderate; 3 – Severe (not life threatening); 4 – Severe (life threatening; survival probable); 5 – Critical (survival uncertain).

The divisions within the study are based on the Abbreviated Injury Scale (AIS). The current AIS is a formula devised by a joint committee of the American Medical Association, the Society of Automotive Engineers and the American Association for Automotive Medicine.

An earlier study of the cost of motor vehicle crashes was calculated in 1972 by NHTSA. The present study points out, however, that the new study “represents a slightly improved cost data base” and does not compare the two studies.

Copies of the complete report, *1975 Societal Costs of Motor Vehicle Accidents*, can be obtained by writing to the General Services Division, National Highway Traffic Safety Administration, Room 4429, 400 Seventh St., S.W., Washington, D.C. 20590.

## Australian Belt User Deaths Analyzed

Concerned about “those who died in spite of wearing well designed seat belts,” three Australian scientists have published a lengthy study of more than 100 crashes over a one-year period in which belt wearers suffered fatal injuries.

“Side impacts with other cars and fixed roadside objects,” they found, present the main problem to seat belt wearers “by producing impact of the head with invading objects or with unyielding parts of the subject’s car. When a fatality occurs in such crashes, it is nearly always at the seating position immediately at the point of impact. Death usually involves head injury.”

The three researchers also looked at the role of belts as producers of injury in some crashes.

Their study, entitled *Side Impacts and Lap-Sash Belts*, was published by the Traffic Accident Research Unit of the New South Wales Department of Transportation. The authors are David C. Herbert, the department’s principal research engineer; James M. Wyllie, the department’s former research medical officer; and Christopher W. Corben, an engineer with the department.

To analyze fatal injuries to belt users, the authors studied 68 “case vehicles” – 1969-74 model passenger cars involved, during the period February 1973 - March 1974, in crashes “leading to the death of a seat belted adult occupant” for which an adequate autopsy report was available. In these “case vehicle” crashes, they found 74 adults wearing lap-shoulder belts were fatally injured and 47 adults wearing lap-shoulder belts were “survivors.” Adequate injury data, they said, were available for all but one fatality and one survivor.

The study reported as follows for occupants of the “case vehicle” crashes (emphasis added):

- “Among the 31 occupants who wore lap-sash seat belts in fatal *rollovers and frontal impacts*, 12 survived, of whom only two sustained significant injuries to the head or neck; in neither case did these injuries threaten life. Of the 19 who died, nine did not sustain fatal head injuries, and hence were not killed by head impact.”

- “There were 15 lap-sash wearing occupants of *cars hit by trucks* [in *side impacts*]; all 10 fatalities sustained severe injuries to head or neck or both. None of the five survivors sustained severe head or neck injury.”

- “There were 40 lap-sash belt wearing occupants of *cars hit on the side by other cars*, of whom 22 died, 13 with fatal injuries to head or neck. Only one of the 18 survivors sustained life-threatening . . . injury to head or neck; 12 of the fatalities received additional life-threatening injuries to other body regions.”

- “In *cars hit on the side by fixed roadside objects* 22 out of 33 wearers of lap-sash belts died, 16 with fatal injury to head or neck; all but three of the 22 sustained fatal or life-threatening injuries to head or neck, four of them also receiving such injuries to other body regions. Of the 11 restrained survivors, all but one avoided serious head and neck injury.”

### BELT-RELATED INJURIES

The study found that among 71 of the belt-wearing fatalities whose condition was inspected for possible belt injury, “11 suffered severe or fatal torso injury not attributable to impact with invading

objects or as a result of ejection.” Of these, it said, four were “associated with obvious signs of seat belt burn across the abdomen from the lap strap” and showed a “wide range of intra-abdominal destruction.”

It concluded that “severe frontal impact may sometimes result in serious abdominal injuries if the car is not suitably designed to make the best use of the seat belt,” and criticized Australian belt design standards for lacking “a rational basis for the specification in engineering terms of pelvic restraint.”

*Reprinted with permission from Automotive News, Feb. 21, 1977.*

## Give the lady a chance

Last week, Brock Adams, newly appointed Secretary of Transportation, announced his choice for the head of NHTSA to replace John Snow, who had resigned following the changing of the guard in Washington.

Snow, who had been on the job since last July, seemed to spend most of his time learning what the job required and very little time doing anything about the myriad problems facing that agency and this industry.

Adams' choice for the post of head of NHTSA is Joan Claybrook, a widely known and highly respected Washington figure who has a great deal of knowledge about the auto industry.

We hope that the auto industry will give Claybrook a period of grace before those certain industry slings and arrows are fired at her. Already there is talk that the industry has been doing a great deal of lobbying behind the scenes to try to thwart her appointment and confirmation. We think this is a mistake.

The head of NHTSA holds a vital and important position so far as the auto industry is concerned. NHTSA's actions have as much or more impact on this industry as those of its sister agency, the EPA.

We think that the choice of someone who has had a great deal of experience with this industry makes good sense. We hope that the confirmation hearings are rapid and complete.

We also must take exception to the label that is being put on Claybrook as being in Ralph Nader's hip pocket. When Dr. James Gregory left Union Oil Co. to head NHTSA, we didn't hear anyone shouting that he would be in the oil company's hip pocket, and time proved the notion that Gregory was indeed his own man. We believe Claybrook will be beholden to nobody, including Ralph Nader or any other special interest group, and look forward to seeing someone at the head of NHTSA who understands the workings of the department.

We hope that this industry will accept Adams' choice with only quiet reservations and will give her the opportunity to display her automotive knowhow.

This industry has grown up tremendously since the formation of NHTSA. We hope it demonstrates its maturity.

## **Safety Board Raps 'Ineffectiveness' In Post-Crash Highway Maintenance . . .**

Following investigation of a 1976 school bus crash in Iowa in which three children were killed and 29 children injured, the National Transportation Safety Board has asked the Federal Highway Administration to review whether state highway maintenance programs comply with the federal standards of the Highway Safety Program. The board recommended that Iowa establish post-crash maintenance procedures that will guarantee "appropriate, cost-efficient, and timely corrective repair of damaged highway safety equipment" and bring their post-crash repair designs into conformance with 1971 federal standards.

The recommendations were prompted by the board's discovery that, the day after a school bus broke through a guardrail and concrete bridge rail of substandard design that "would not offer . . . protection even to automobiles" and fell 15 feet onto its roof, state highway personnel "replaced the damaged guardrail with one that had the same design deficiencies as the old guardrail."

Stating its concern that "the maintenance procedures that the State of Iowa Department of Transportation used at this accident location may reflect some ineffectiveness" at the national level in implementing safe post-crash corrective programs, the board urged FHWA to:

- "examine and report to the board on the effectiveness of FHWA efforts to establish roadway maintenance programs that comply with Highway Safety Program Standard Number 12;"
- "review the adequacy of information about post-crash corrective maintenance procedures and devices in the FHWA maintenance policy;"
- "review the availability and implementation of training programs in, and up-to-date standards for, post-crash corrective maintenance;"
- "review a sample of accidents to assess post-crash maintenance practices within each FHWA region."

FHWA policy under Standard 12 of the Highway Safety Program requires states to "establish programs to correct safety deficiencies on all urban and rural roads with new construction, reconstruction and improved maintenance" and that "procedures should be established . . . for a plan of operation to repair and correct crash-damaged highway features that may create a hazard to the traveling public."

The board's report, *Safety Recommendation H-77-1*, may be obtained by writing to: Publications Branch, National Transportation Safety Board, Washington, D.C. 20594.

## **. . . While GAO Raps Lack Of 'Any' Maintenance Standards**

The General Accounting Office (GAO) has issued a report urging the Federal Highway Administration (FHWA) to implement long-standing federal laws requiring FHWA oversight of state highway maintenance practices.

Pointing out that federal law requires FHWA to withhold approval of all federal-aid projects in states not properly maintaining their federally-funded roads, the GAO said FHWA "has not prescribed standards or guides for the states' use in maintaining those highways, nor has it provided criteria for field

engineers to use in determining the adequacy of state maintenance.” The report said that at the same time federal-aid highways are deteriorating 50 per cent faster than they are being repaired, many state highway departments are cutting back on maintenance work and personnel in response to tight budgets. Although in the past, local FHWA offices “have issued oral and written warnings to some state highway departments” about their poor maintenance, federal funds “have never been withheld from a state for inadequate or improper maintenance,” as the law requires.

The GAO concluded that FHWA “should make a substantial effort to halt the deterioration of the highways” in which the federal government has invested \$76 billion in the last twenty years. As a first step in this effort, the report said, FHWA should:

- “encourage states to give high priority to [repair] projects in their federal highway construction programs;
- prescribe maintenance standards and guides for highways and bridges;
- prescribe criteria for appraising state highway maintenance activities;
- issue guidance for determining overall quality levels of state maintenance efforts.”

The GAO report, *Improving and Maintaining Federal-aid Roads – Department of Transportation Action Needed*, may be obtained by writing to: U.S. General Accounting Office, Distribution Section, Room 4522, 441 G St., N.W., Washington, D.C. 20548.

## **FTC Holding Used Car Hearings**

The Federal Trade Commission will hold hearings in Washington, D.C. and San Francisco on its controversial used car proposal. Last year, the FTC proposed requiring used car dealers to provide prospective purchasers with comprehensive information about the condition of a used vehicle offered for sale.

The disclosure statement proposed by the FTC would be attached to the used car. It would include information about any defects known to the dealer, as well as known repairs, warranty terms, vehicle history, mileage and identity of the previous owner.

The FTC proposed a sample form for the disclosure statement that would require the dealer to state whether or not the car had been checked for the safety of the brakes, steering system, suspension system, tires and wheels, as well as whether the car had suffered major collision or flood damage or been rebuilt from salvage. The check list was adapted from the U.S. Department of Transportation’s vehicle in use standard that provides criteria states may use for their periodic motor vehicle inspections.

Used car dealers have attacked the proposal, according to FTC officials, claiming that it will require several hours to complete the check list and this will add to the price of used cars.

The San Francisco hearing will be held on March 28, 1977. Anyone wishing to make an oral presentation must, before March 7, file the full text of the oral statement with and inform George K. Choi, Federal Trade Commission, 450 Golden Gate Ave., San Francisco, California (telephone 415/556-1270), who can also provide information about the hearing.

The Washington, D.C. hearing is scheduled for April 25, 1977. Oral statements for this hearing must be filed before April 4 with Matthew Daynard, Room 282, Federal Trade Commission, 6th and Pennsylvania Ave., N.W., Washington, D.C. 21580 (telephone 202/523-3400), who can also supply details of the hearing.

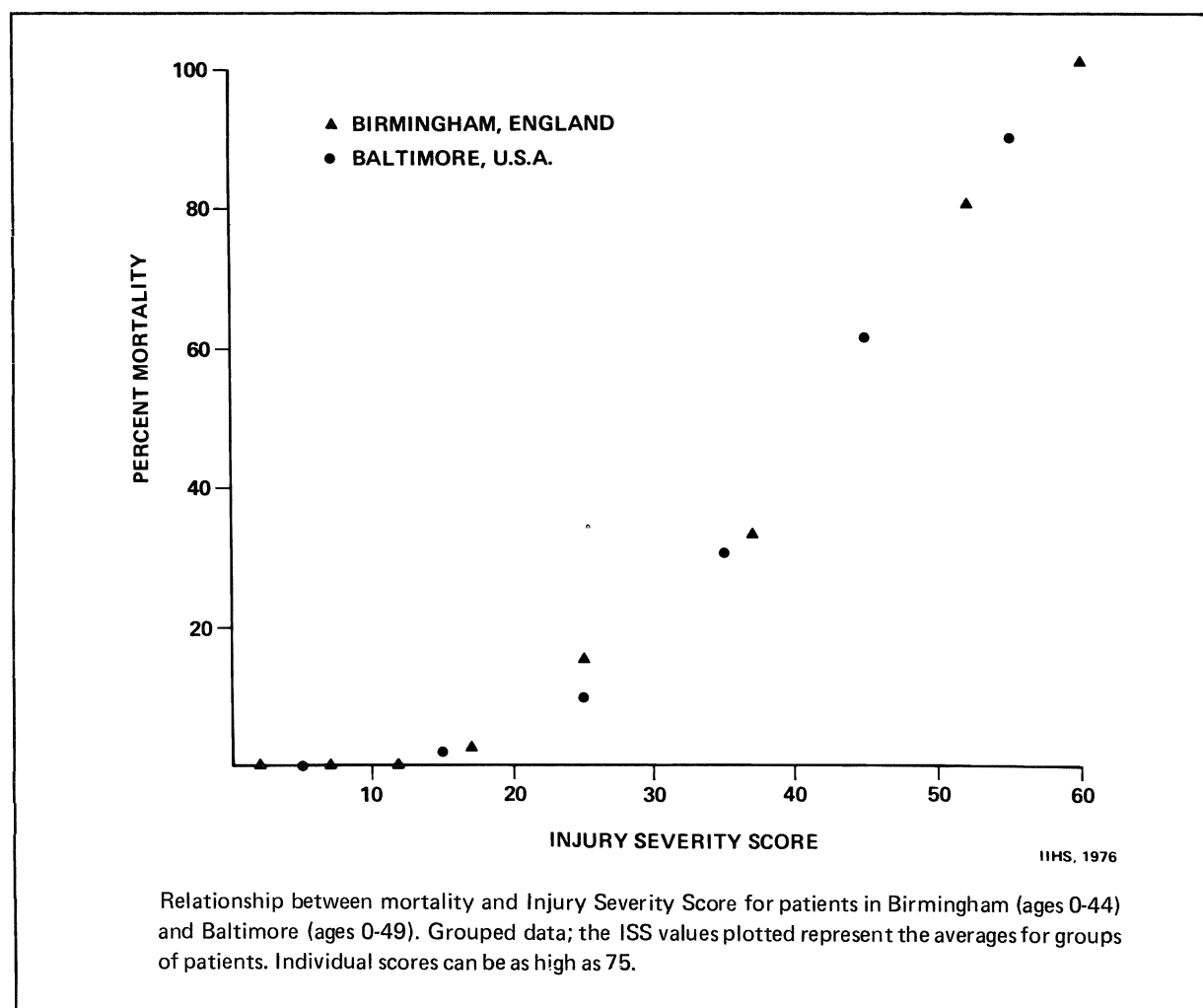
## English Research Confirms Injury Severity Score

Medical research in Birmingham, England, has confirmed that the Injury Severity Score (ISS) of groups of injured patients closely correlates with their mortality in the same way as in the United States. (See figure below.)

The ISS was developed in 1974 by researchers at Johns Hopkins University, the Insurance Institute for Highway Safety, and the Maryland Institute for Emergency Medicine. (See *Status Report*, Vol. 9, No. 7, April 9, 1974.) It has broad usefulness in research on the vehicle and other factors that determine the frequency and severity of crash injuries, and on the quality of emergency medical services.

The ISS is determined by rating individual injuries on the widely used Abbreviated Injury Scale (AIS); assigning to each of six body areas the AIS number of that area's severest injury; and squaring and adding the three highest AIS numbers of those six. It is the only validated method for rating the cumulative severity of more than one vehicle-induced injury or of vehicle-induced injury to more than one part of the body. Its scores correlate far more closely with mortality than do those of the AIS values of the most serious individual injuries.

The English research by John P. Bull at the Birmingham Accident Hospital also demonstrated the value of the ISS in studying such things as duration of hospital stay and severity of disability. A second study in Illinois by J. L. Semmlow and R. Cone suggests that it may also be valid to apply the ISS to non-vehicular trauma.





These and other recent studies on the ISS are described in *The Injury Severity Score: An Update*, published by two of the developers of the ISS, Susan P. Baker, M.P.H., of the Johns Hopkins School of Hygiene and Public Health, and Brian O'Neill, of the Insurance Institute for Highway Safety, in *The Journal of Trauma*, November 1976, Vol. 16, No. 11. Copies are available by writing "Injury Severity Score Update," Insurance Institute for Highway Safety, Watergate Six Hundred, Washington, D.C. 20037.

### Adams 'Reviewing'

## Coleman Leaves DOT Reorganization Plan

As one of his final official actions, former Transportation Secretary William Coleman, Jr. released a broad plan to substantially reorganize the Department of Transportation.

The plan calls for the centralizing of all federal programs that regulate *motor vehicles* within one proposed new DOT agency – the "Motor Vehicle Administration." Control over *highways* would be split between two other proposed new DOT agencies, the "Interstate Transportation Administration" and the "Local Transportation Administration."

The plan, prepared under the direction of former Deputy Secretary of Transportation John Barnum, would eliminate the National Highway Traffic Safety Administration and the Federal Highway Administration and place their functions within the three new agencies.

Although a DOT official says Secretary Brock Adams is "reviewing" the Coleman proposal, what substantive impact the plan will have is unknown. An indication of the status of the proposal is that it is not being officially distributed by DOT, but is only available from the office temporarily being occupied by former Deputy Secretary Barnum. The current administration is under no obligation to adopt Coleman's proposal.

### VEHICLE PROGRAMS

Citing the "diverse and complex set of federal policies" on motor vehicles set by a range of current DOT and non-DOT agencies, the reorganization plan calls for a consolidation of all federal motor vehicle activities within DOT. The proposed new "Motor Vehicle Administration" would be responsible for the following areas:

- Motor vehicle safety standards (from NHTSA);
- Fuel economy standards (from NHTSA);
- Property damage and consumer information standards issued under the Motor Vehicle Information and Cost Savings Act (from NHTSA);
- Noise standards (from Environmental Protection Agency);
- Emissions standards (from EPA);
- Motor vehicle and driver research and development (from NHTSA, Energy Resources and Development Administration and EPA);
- Interstate motor carrier safety regulations (from Bureau of Motor Carrier Safety);
- Highway safety program standards.

(Cont'd on page 10)

The highway safety program standards to be covered by the proposed "Motor Vehicle Administration" would include only the 14 standards currently administered by the NHTSA and not the three standards currently covered by FHWA. The report did not specify what would happen to the one standard that is currently jointly administered by NHTSA and FHWA.

## HIGHWAY PROGRAMS

Responsibility for highway construction and safety programs would be divided between the proposed "Interstate" and "Local" administrations. The "Interstate Transportation Administration" would be responsible for the financing of interstate highway construction, as well as administering federal grant programs for railroads, airports, pipelines and waterways. As a part of its duties, the proposed agency would set the "safety design and operational requirements" pertaining to interstate highways.

A separate "Local Transportation Administration" would provide financing for urban and rural highway construction and administer highway safety program grants to state and local governments. Those grants would cover the highway safety program standards currently administered by FHWA, and the programs covering roadside obstacle removal, high-hazard location elimination, railroad-highway crossing improvement, bridge replacement and pavement marking.

## ALTERNATIVE REJECTED

An alternative reorganization plan considered by Coleman would have established a separate "Transportation Safety Administration" within DOT, to be responsible for motor vehicle, highway and railroad safety. That proposal was rejected because of fears that a separation of safety from the other functions of an agency would remove "the incentive to inculcate a concern for the safety aspects of a project or program into on-going activities," and the danger of the safety agency becoming "sufficiently remote" from on-going programs so "as to become out of touch with current needs." In addition, Coleman claimed that "although it is popular and politic to say that safety is priceless and absolute, we know that safety is in fact expensive and must be accomplished in the context of other objectives" by allowing the person in charge "to apply safety principles and to make the trade-offs where necessary with full knowledge of both the safety and operational consequences." Finally, Coleman credited the National Transportation Safety Board, the independent transportation safety watchdog, for adequately performing the safety advocate role.

## Senate Commerce Committee Gains Safety Responsibilities

Reorganization of U.S. Senate committee jurisdictions has broadened the Senate Commerce Committee's legislative and oversight responsibility for motor vehicle and highway safety programs.

Before the reorganization, jurisdiction over the National Highway Traffic Safety Administration was divided between the Senate Commerce Committee, which had responsibility for *motor vehicle* safety programs, and the Public Works Committee, which was responsible for *highway* safety programs. (Motor vehicle programs include standards for new motor vehicles and equipment, recall campaigns of defective vehicles and various research programs. Highway safety programs include standards for state and local highway safety programs, grants-in-aid, and related research.)

The Committee System Reorganization Amendments of 1977 gave the Senate Commerce Committee, now known as the Committee on Commerce, Science and Transportation, legislative and oversight responsibility for "all programs administered by" NHTSA.

During the debate on the amendments, the chairmen of the committees involved agreed that the Public Works Committee, now known as the Committee on Environment and Public Works, is to retain jurisdiction over highway safety programs relating to "the road," including the highway construction related safety standards administered by the Federal Highway Administration. (These standards apply to identification and surveillance of accident locations; highway design, construction and maintenance; and traffic engineering services. FHWA also administers the engineering and traffic control devices portions of the pedestrian safety standard, whose educational aspects are administered by NHTSA.) The remaining standards, which are administered by NHTSA, are concerned with such matters as driver licensing; police traffic services; emergency medical services; periodic motor vehicle inspection; motor vehicle registration; motorcycle safety; and alcohol in relation to highway safety.

The Senate Committee on Commerce, Science and Transportation is chaired by Sen. Warren Magnuson (D-Wash.). Sen. Jennings Randolph (D-W. Va.) chairs the Committee on Environment and Public Works.

## **Helmet Law Repeals Bring More Deaths: NHTSA**

Motorcycle fatalities have increased by 20 percent in states that have repealed their motorcycle helmet laws, according to preliminary data collected by the National Highway Traffic Safety Administration. The agency has found no increase in the total number of motorcycle fatalities in states that have not repealed their helmet laws.

An unpublicized document, sent by former Transportation Secretary William Coleman to the National Highway Safety Advisory Committee just before he left office, said that for states which had repealed their helmet laws, "data indicate a 20 percent increase in 1976 over 1975." For the five repeal states included in NHTSA's analysis, the fatality figure for five months in 1976 was 152. Fatalities from the comparable period in 1975 numbered 126. The fatality figures from repeal states reflect fatalities that occurred from the beginning of May through September of 1975 and 1976.

The document said, "Complete national data for the same period are not available, however, total preliminary motorcycle fatalities for the first eight months of 1975 and 1976 for 36 states and the District of Columbia were analyzed. The repeal states were excluded from this comparison as were seven states for which complete data for the 1976 period were not available. No increase in fatalities for the first eight months of 1976 was found (1975, 1,604 fatalities; 1976, 1,602 fatalities) which suggest the 20 percent increase in the helmet law repeal states may represent a deviation from the national trend."

Coleman cautioned that the data should not be "cited as conclusive evidence that an increase in fatalities has actually resulted from repeal or weakening of helmet laws. This cautious interpretation is necessary because there are many variables other than helmet use that affect motorcycle fatalities."

He said that NHTSA is currently conducting two studies related to motorcycle helmet laws that it hopes will "provide authoritative documentation of the effect of helmet law repeal." He said that one study is "an observational survey to determine changes in helmet usage; the second is a bi-level accident investigation which includes examination of medical records to determine type and severity of injuries."

So far nine states have repealed their motorcycle helmet law (Alaska, Arizona, Connecticut, Iowa, Kansas, Louisiana, Oklahoma, Rhode Island and South Dakota). Repeal bills are pending in at least 20

other states (Colorado, Florida, Georgia, Idaho, Indiana, Maine, Maryland, Massachusetts, Missouri, New Hampshire, New Mexico, Nevada, North Carolina, South Carolina, Texas, Utah, Vermont, Washington, Wisconsin and Wyoming). Virginia recently staved off an effort to repeal its helmet law (see *Status Report*, Vol. 12, No. 3, Feb. 14, 1977).

Insurance Institute for Highway Safety research in 1975 found that helmet use laws cut motorcycle fatalities by 30 percent. (See *Status Report*, Vol. 10, No. 18, Nov. 5, 1975.)

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*The following is a condensed version of an article published in the Spring 1977 issue of the Federation of Insurance Counsel Quarterly. A copy of the entire text with citations can be obtained by writing for "T. J. Hooper," Insurance Institute for Highway Safety, Watergate Six Hundred, Washington, D.C. 20037.*

## **T. J. Hooper And The Air Bag**

Andrew R. Hricko

General Counsel, Secretary-Treasurer, Insurance Institute for Highway Safety

The controversy over the most efficient method of protection for automobile occupants has taken on the appearance of a unique struggle between manufacturers and safety proponents. In fact, it is the successor of many others that provide legal and historical precedent.

The history of transportation is replete with examples – safety boilers in the old river paddleboats, automatic brakes on trains and collision avoidance systems for aircraft. One of the key issues in many of these struggles has been the use of automatic equipment versus increasing the training and vigilance of operators. Woven throughout are also arguments of cost, the potential for failure of automatic mechanical equipment and attendant legal liability for failure. An unspoken, but nonetheless real, human factor has been the inertia in implementing change.

Opponents of automatic safety devices have usually been successful in temporarily delaying their implementation. For ideas whose time had come, however, delay only added to the human suffering and economic losses which could have been prevented by earlier adoption.

In the case of automatic protection for automobile occupants not only may the time be at hand but also the issue of liability of manufacturers may have been vastly increased; not for failure of the devices but for failure to make them available to the general public in a number of makes and models at a date when it was reasonable and practical to do so. One means of automatic protection – the air bag – has probably been the subject of more research, crash tests and on-the-road experience than any other new motor vehicle safety device.

### **HISTORICAL PRECEDENT**

There are many examples throughout transportation history of the reluctance to change existing methods of operations to incorporate safety devices. One of the best documented is the story of the automatic air brakes for trains.

In a book entitled *Notes on Railroad Accidents* published nearly a century ago, Charles Francis Adams, Jr., great-grandson of President John Adams, reviewed the calamity of railroad crashes and the need for improved safety devices. The arguments used against such devices read like a litany of the reasons given by auto manufacturers in their opposition to the use of air bags in today's passenger cars.

One argument advanced against the air bag by the auto manufacturers is that it is a complicated piece of equipment and could be subject to failure. This argument appears to have been made previously against other transportation safety devices:

... Meanwhile that automatic brakes are complicated and sometimes cause inconvenience in their operations is most indisputable. This is an objection, also, to which they are open in common with most of the riper results of human ingenuity; – but, though sun-dials are charmingly simple, we do not, therefore, discard chronometers in their favor; neither do we insist on cutting our harvests with the scythe, because everyman who may be called upon to drive a mowing machine may not know how to put one together. But what Sir Henry Tyler has said in respect to this oldest and most fallacious, as well as most wearisome, of objections covers the whole ground and cannot be improved upon . . . *simplicity in construction and simplicity in working were two different things, and that, almost invariably, a certain degree of complication in construction is necessary to secure simplicity in working* . . . [Emphasis added.]

(from *Notes on Railroad Accidents*)

It would appear that the auto manufacturers' opposition to air bags, besides running against the tide of history, is also self-defeating. The considerable judgments, ranging into millions of dollars, against them for damages resulting from cases involving vehicle defects or "second collision" claims could be substantially reduced if vehicles were equipped with air bags since both crash tests and actual on-the-road crashes have shown their life saving and injury reducing potential.

The decision on the air bag will result in large part from its public acceptance and consequent public pressure usually reflected, or generated, through the media. Present newspaper editorials run both pro and con; couched in moderate language they cite statistics, cost benefits; some question air bag reliability, but most call for improved occupant protection, whether from air bags or increased safety belt use.

Public outcry was reflected over a century ago in a lengthy editorial on railroad crashes appearing in *The New York Times* of July 22, 1869. After detailing a number of serious crashes and listing needed railroad improvements including stronger built cars, automatic signal devices and automatic air brakes, the editorial concluded:

We have thus specified a few of the most notorious and unquestioned causes of railway disaster – causes which do not involve the so-called hidden and unsearchable nature and changes of materials, nor any mere theories of construction, nor the vigilance and responsibility of employes. The remedies for all these universal, unailing and ever-menacing evils are precedented and practical: some of them would save their cost every year in lessened wear and tear, and all of them are feasible, simple and unembarrassed subjects for legislation. How many more murders will our lawmakers ignore?

Editors seemed to have been made of stronger stuff in those days.

## LEGAL PRECEDENT

In cases involving manufacturer liability, the courts review three basic questions – what was the intended use of the product; whether the manufacturer could reasonably foresee the danger that might result from such intended use; and, whether the danger could be eliminated or reduced by reasonable product improvements.

**Intended Use.** The majority of court opinions now appears to favor the "Larsen" interpretation of "intended use" of a vehicle. Briefly, Larsen held that "intended use" included foreseeing the possibility of a vehicle being involved in a collision. The theory is succinctly stated in a case where the Maryland Court of Appeals was asked to decide whether that theory of law applied to the state of Maryland.

(Cont'd on page 14)

The court ruled that the Larsen theory was within the traditional principles of negligence under Maryland law and stated:

... The "intended use" or "intended purpose" of an automobile, in our view, is not merely to provide transportation. It is to provide *reasonably safe* transportation . . . .

**Forseeability.** All vehicles manufactured or sold in the United States must, under federal law, be equipped with some form of occupant restraint system. Air bags are one option open to manufacturers. All the domestic manufacturers and the vast majority of foreign manufacturers have opted for safety belts rather than air bags or other forms of passive occupant restraints.

The California Supreme Court, in ruling against a manufacturer's claim that the injured party was not entitled to damages because of her failure to wear an available seat belt, stated:

The simple answer to defendant's argument is that the driving of an automobile without using a seat belt is an entirely foreseeable use of the vehicle.

Non-use by the general public of a safety device *selected by the manufacturer* raises the issue of whether a reasonable alternative to the manufacturer's selection was available and, if so, whether liability attaches to the failure to select the reasonable alternative.

## ***Ford View Of Air Bags: Two Faces***

### FORD MOTOR COMPANY

"Ford Motor Company has agreed to be a participant in the air bag demonstration program announced today by Transportation Secretary Coleman. We believe this is a necessary step in finding out if air bags work in the real world and if they will be accepted by the motoring public.

"We will vigorously promote the sale of these demonstration vehicles when they are available in the 1980 and 1981 model years. As stipulated in our agreement with the Department of Transportation, we plan to establish the capability of manufacturing 70,000 compact-size cars equipped with air bag systems for the driver position for each of the two years. The net cost of this program to Ford is estimated to be more than \$44 million . . . ."

*—Opening of a January 18 statement by Herbert Misch, Ford Motor Co.'s vice president for environmental and safety engineering on Coleman's proposed air bag demonstration program.*

### HENRY FORD II

Ford has agreed to put an air bag on the driver's side at a retail price of \$50, which he [Henry Ford II] said, "comes nowhere near meeting our cost."

"That was quite a thing (then-DOT Secretary William T.) Coleman did.

"I think it's disastrous.

"They are our silent partner, telling us how to run our business. They know nothing about it, and if they'd let us alone, we could do a better job."

Ford continued, "They tell us how many (air-bagged cars) to build, how many to have in dealer showrooms on introduction day and how much to spend on promotion.

"They got their nose under our tent again."

*—Excerpt from a February 7 report by Automotive News on remarks by Henry Ford II at the National Automotive Dealers Association convention in New Orleans the previous week.*

**Reasonableness.** In cases involving the design of a motor vehicle, the courts have asked not only if some safer design was available, but also whether that design was reasonable from several aspects.

The Fourth Circuit stated:

. . . Of course, if an article can be made safer and the hazard of harm may be mitigated “by an alternate design or device at no substantial increase in price,” then the manufacturer has a duty to adopt such a design . . . .

### **T. J. HOOPER**

The adoption of improved safety devices as a result of judicial pressure is not a new event in the annals of the law.

The case of the T. J. Hooper, decided in 1932, is one example of the role of the judiciary in forcing safety improvements. The T. J. Hooper was a tug boat equipped with a radio transmitter to send distress signals, but not equipped with a radio receiver, all in accordance with federal regulations. A barge towed by the T. J. Hooper sank off the coast of New Jersey during a storm. The lack of a radio receiver prevented the captain of the T. J. Hooper from learning of the storm and seeking shelter. The owners of the cargo sought recovery against the owner of the T. J. Hooper and the barge.

The court held that the lack of a radio receiver on the ship in an age when such receivers were reliable and reasonably priced was negligence and a direct consequence of the damage; the T. J. Hooper was not “seaworthy.”

The noted jurist, Judge Learned Hand, stated in his opinion:

Is it then a final answer that the business had not yet generally adopted receiving sets? There are, no doubt, cases where courts seem to make the general practice of the calling the standard of proper diligence; we have indeed given some currency to the notion ourselves. [Citations omitted.] Indeed in most cases reasonable prudence is in fact common prudence; but strictly it is never its measure; *a whole calling may have unduly lagged in the adoption of new and available devices. It never may set its own tests, however persuasive be its usages. Court must in the end say what is required; there are precautions so imperative that even their universal disregard will not excuse their omission.* [Citations omitted; emphasis added.]

Based on historical precedent, voluntary action by the manufacturers is probably the least likely way in which change will occur. In the present climate of increasing product liability litigation and multi-million dollar judgments, however, the manufacturers may wish to consider breaking historical precedent. To foster continued delay with the ghost of the T. J. Hooper just over the litigation horizon may not be in their stockholders’ best interests.

The question on passive restraints is not “if” but “when.” The only real question is how many more lives will be lost and how much more human suffering endured before automatic protection is in widespread use.

### **Omission**

The February 14 issue of *Status Report* contained an article dealing with a General Accounting Office study of the National Driver Register. The article did not mention, however, the full title of the report: *The Federal Aviation Administration Should Do More To Detect Civilian Pilots Having Medical Problems*. Copies can be obtained by writing to: U.S. General Accounting Office, Distribution Section, Room 4522, 441 G Street, N.W., Washington, D.C. 20548.

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# Status Report

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Editor: Tim Ayers

Writers in this issue: Ralph Hoar, Ben Kelley,  
Stephen Oesch, Lynne Smith, Christine Whittaker

Production: Diane Schwartz, Hazel Zuchelli