

# Status Report

## Auto Industry Push Fails To Boost Belt Use

An auto industry effort to promote seat-belt use through an advertising and publicity campaign has failed to get drivers and passengers to buckle up, reports Leon Robertson, senior behavioral scientist for the Insurance Institute for Highway Safety.

Motorists Information, Inc. — an organization formed by the domestic auto industry to promote seat-belt use — conducted a media campaign in Grand Rapids, Mich., in April and May to increase belt awareness, then interviewed a random sample of drivers by telephone to test the results. The survey sponsors reported in June that based on interview samples, those using belts “always” or “most of the time” increased from 29 to 41 percent during the campaign.

Robertson, using direct observation rather than personal interviews, checked traffic in Grand Rapids in July and found 87 percent of the drivers observed not using either lap or shoulder belts.

“Motorists Information failed to note research — well-known among professionals in the field — that found people often claiming to use belts when they have in fact been observed not doing so,” said Robertson.

*(Cont'd on page 2)*

**SEAT BELT USE IN GRAND RAPIDS, MICHIGAN AND MILWAUKEE, WISCONSIN  
AFTER AN ADVERTISING CAMPAIGN IN GRAND RAPIDS**

Drivers	Grand Rapids		Milwaukee	
	Number	Percent	Number	Percent
Lap Belt Only	57	6	54	5
Shoulder Belt	72	7	69	7
None	891	87	894	88
Total	1,020	100	1,017	100
Passengers	Number	Percent	Number	Percent
Shoulder Belt Used	14	5	9	3
Shoulder Belt Unused	274	95	329	97
Total	288	100	338	100

Attempting to compare campaign results with normal belt use in another city untouched by the media campaign, Motorists Information also conducted telephone interviews in Milwaukee, Wisc. There, 48 percent of a random sample of drivers claimed belt use "always" or "most of the time." But Robertson's survey by personal observation in that city found 88 percent of the drivers using no belts.

"Shoulder belt use was only 7 percent among drivers in each city," Robertson said, "and even less among passengers – 5 percent in Grand Rapids and 3 percent in Milwaukee."

In both Grand Rapids and Milwaukee, Robertson selected 10 sites on major thoroughfares. From sidewalk locations at traffic lights or at stop or yield signs, surveyors could check slow-moving vehicles in the right lane of traffic, observing both lap and shoulder belt use of drivers and shoulder belt use of front-seat passengers. More than 1,000 drivers were checked in each city.

## NO DIFFERENCE

"It is reasonable to conclude that there is no difference in belt use between Grand Rapids and Milwaukee," Robertson reported. "No pre-campaign observations were obtained and, therefore, it is impossible to say what effect, if any, the campaign had on belt use in Grand Rapids. It is clear, however, that belt use in Grand Rapids was as abysmally low, despite the advertising campaign, as in Milwaukee, where no campaign was conducted.

"The campaign failed to achieve sustained high belt use if indeed it had any effect. This result is consistent with prior, carefully controlled studies of advertising campaigns which have found no increase in belt use, comparing actually observed belt use before, during and after the campaigns.

"The claims by Motorists Information, Inc., and others that more than 40 percent of drivers are using belts is a myth based on claimed use rather than actually observed use."

Surveys in 1976 in Baltimore, Detroit, Houston and Los Angeles found 10 percent shoulder belt use in Baltimore and Houston, 11 percent in Detroit and 18 percent in Los Angeles. "The lower use observed in the present study of Grand Rapids and Milwaukee is not surprising," Robertson commented, "since it has long been known that belt use is lower in smaller cities. The Motorists Information, Inc., campaign is another illustration of the fact that there are no prospects for increasing and sustaining high belt use by persuasion." (Copies of the report, *Auto Industry Belt Use Campaign Fails*, can be obtained by writing to "Motorist Info Study," Insurance Institute for Highway Safety, Watergate Six Hundred, Washington, D.C. 20037.)

## Quoted Without Comment

*... I am certain if my wife were involved in a mandatory seat [belt] program, she would be the most articulate opponent of that. I can't get her to wear either a seat belt or a shoulder harness. I threaten her. I take her to see movies on what happens when people don't wear them, and she just adamantly refuses to have somebody tell her that she has to strap herself into an automobile.*

Remark by Henry L. Duncombe, Jr.,  
vice president and chief economist,  
General Motors Corp.,  
at Fifth International Congress on Automotive Safety,  
Cambridge, Mass., July 11, 1977

## Haddon Comments On Passive Restraints Criticism

*In a letter requested by Rep. Bob Eckhardt, chairman of the Consumer Protection and Finance Subcommittee of the House Interstate and Foreign Commerce Committee, William Haddon, Jr., M.D., president of the Insurance Institute for Highway Safety, made the following comments on "studies" cited by Rep. E. G. Shuster (R.-Pa.) in attacks upon Secretary Adams' passive-restraint ruling:*

Dear Mr. Chairman:

I am replying to your letter of July 18, 1977.

Rep. Shuster's position is described in his press statements (July 5, July 18 and July 20) seeking support for his "Concurrent Resolution to disapprove the air bag order (Federal Motor Vehicle Safety Standard No. 208)."

As the principal basis for his position, Rep. Shuster has cited what he describes as "an air-bag study supported by NHTSA."

In summary, Rep. Shuster's position and contentions are as follows:

- The Department of Transportation has issued an air bag "order" or "edict."
- Air bags are "unproven," that "no hard evidence exists to show that air bags will actually save lives" and "air bags could actually cause more highway deaths than they prevent."
- Air bags would be protective "only in frontal collisions, and only 55 percent of all fatalities occur in such crashes."
- Non-passive safety belts (such as now provided in new cars) "triple" the chances of survival in crashes, and "forty million Americans," or "44 percent of the people," now wear belts.

**DOT Air Bag "Order":** The Department has issued no air bag "order" or "edict," nor may it do so under the law. The law provides that DOT issue motor vehicle safety *performance* standards. The standard issued on June 30 by Secretary Adams requires, starting with the 1982 model year, that a new safety performance standard be phased in for new cars over three model years. The standard puts a limit on the crash forces reaching the front seat occupants in severe frontal impacts.

Auto manufacturers are entirely free to choose any appropriate design alternative – including passive safety belts, air bags or other approaches – as long as the end result is that the force reductions are accomplished *automatically* ("passively"). Under the standard and the prevailing law, however, they may *not* choose designs, such as the ignition interlock belt design, that do not work unless the occupant has activated them. In addition, lap belts would be provided for those who would use them for even additional protection.

**The "NHTSA-Supported" Study:** The "study" relied upon by Rep. Shuster was not "supported" by NHTSA. It was prepared by a private consulting firm, Economics and Science Planning, Inc., whose witnesses appeared at the passive restraint hearing held by Secretary of Transportation Adams on April 27 and 28, 1977. In one appearance, an Economics and Science Planning staff member appeared as a paid witness on behalf of the American Safety Belt Council, which opposed a passive restraint requirement. For the other appearance, a second Economics and Science Planning witness sought and was granted expense

funds for his presentation under the provisions of an NHTSA demonstration program entitled, "Financial Assistance to Participants in Administrative Proceedings" (42 Fed. Reg. 2863-67, January 13, 1977).

NHTSA neither requested nor endorsed the witness or the material he submitted – the material that Rep. Shuster now is relying upon as a "study supported by NHTSA."

Attached to this letter is a detailed analysis of the "study". In summary, the analysis makes clear that the Economics and Science Planning "study" was based on speculation and assumptions not consistent with the known facts.

Remarkably, the "study" is not based on an evaluation of the known crashes involving air bag cars but on crashes and injuries that the authors *speculate* might have taken place in such cars. (In contrast, the Insurance Institute for Highway Safety evaluation, also attached, considers only *actual* crashes and does not invent crashes and injuries that may or may not have occurred.) The approach chosen by Economics and Science Planning is scientifically inexcusable.

**Belt Use:** The "study" also uses an assumption that 44.2 percent of auto occupants are now using shoulder belts (it is doubtless on that basis that Rep. Shuster has publicly, wrongly stated that 44 percent of Americans, or "40 million," are now wearing belts). Every valid study of *current* safety belt use levels has found less than 25 percent shoulder harness use in 1974-76 model cars, and less than 10 percent in pre-1974 model cars. Ironically, the 44 percent use level was reported *only* during the period when the now-outlawed ignition interlock was required in new cars.

**Effect of Belt Use, Bag Use:** Rep. Shuster is incorrect that a person wearing a safety belt in a serious crash "triples his chance of survival," and is also wrong that air bags "provide no additional protection over safety belts." DOT's own estimates, based on its thorough evaluation of all of the available evidence, are that lap/shoulder belts, when worn, reduce the chance of death by 60 percent, while air bags plus lap belts provide even greater protection, reducing the chance of death by 66 percent. And, as the Institute's attached study shows, air bags offer more protection than lap/shoulder belts in severe frontal crashes.

**Air Bag, Passive Belt Effectiveness:** Neither of the two systems presently available for meeting DOT's automatic crash protection standard are, as claimed by Rep. Shuster for air bags, "unproven," nor is there any lack of "hard evidence" to show their effectiveness. Furthermore, there is no evidence to support nor logical reason to believe the incredible claim that "air bags could actually cause more highway deaths than they prevent."

Air bags are one of the most thoroughly, rigorously and successfully tested automotive safety systems ever developed. Nearly a decade of exhaustive laboratory and track research has made clear the effectiveness of air bag systems in greatly reducing crash forces in frontal crashes; the research has been conducted and validated not only by government and industry, but also, in particular, by the companies ready to supply such systems to the auto companies – suppliers that include Eaton Corp., Allied Chemical, Talley, Rocket Research, and Thiokol.

Supplementing the laboratory and track research have been the extensive real-world operating results (as of July 1, 1977, more than 350,000,000 miles of travel) and crash results (153 crashes severe enough to deploy the air bags) available from the more than 11,000 air bag-equipped cars already placed on the highways. As the attached Insurance Institute for Highway Safety evaluation indicates, these results have been consistent with the earlier laboratory and track research; they have indicated levels of effectiveness for the air bag in frontal crashes even higher than for lap/shoulder belts, *when worn*.

Volumes of research and real-world operating data for air bag technology were available to DOT in reaching its decision to require passive restraints in future new cars.

**Passive belts** now are on the road in some 60,000 VW Rabbit automobiles. A recent Highway Loss Data Institute preliminary study (also attached) shows that such automobiles have substantially lower

## ***Auto Makers Ask Reconsideration Of Ruling***

The domestic auto manufacturers have filed petitions for reconsideration of Secretary Brock Adams' passive-restraints ruling. The auto makers individually charge that NHTSA data on which the decision was based overstated benefits of automatic-protection devices and failed to assess properly the protection offered by active seats belts. General Motors asks for additional review of the data and analysis, Ford urges plans for a passive-restraints demonstration program to be restored and Chrysler wants renewed efforts to increase belt use.

In an additional filing, Economics & Science Planning, Inc., which testified at Secretary Adams' April 27 hearing under the sponsorship of the American Safety Belt Council, urges that passive belts be required by Sept. 1, 1981, on all new cars equipped with two front seats, and that no passive system be required on cars with three front-seat positions until field tests demonstrate its effectiveness. Rep. E. G. Shuster (R.-Pa.) has quoted ESP data and arguments in his efforts to overturn the Adams ruling by concurrent resolution in Congress.

The House Subcommittee on Consumer Protection and Finance has scheduled hearings September 9 and 12 on the resolution. The Senate Consumer Subcommittee will hold hearings on September 8 and 9.

injury claim frequencies than identical cars equipped with active lap/shoulder belts. The findings provide "encouraging evidence that the use of passive belts is substantially higher than active belts and as a result is producing substantial reductions in the frequency of crash injuries to the occupants of the relatively small numbers, of vehicles so equipped," the HLDI study notes.

**Frontal Crashes:** Rep. Shuster is correct that, as now written, DOT's standard will require that air bags be effective "only" in frontal crashes, and is also correct that "only" 55 percent of all highway crash fatalities occur in such crashes. If that is a valid argument against passive protection, it would be equally valid to argue against penicillin because it doesn't stop *all* infectious diseases — just some of them; or against brakes because they don't stop all collisions.

It is a tragedy that so much misinformation is being propagated concerning this issue. The National Highway Traffic Safety Administration (NHTSA) is the federal agency with the necessary expertise to judge the effectiveness of passive restraints and the research relevant thereto. After years of research, study and review involving a tremendous effort, the agency has reached thoroughly-considered conclusions concerning the relative effectiveness of air bags, passive belts, lap/shoulder belts based on *all* of the available evidence. But Rep. Shuster has apparently decided to ignore the conclusions reached by the responsible federal agency and rely instead on a single superficial and incompetent study that required less than three man-weeks of effort to complete. The obviously shallow analysis in this study clearly reflects the minimal effort put into it.

It is worth noting that three Secretaries of Transportation (Volpe, Coleman, and Adams) and three NHTSA administrators (Toms, Gregory, and Claybrook), when they looked at and reviewed the totality of available evidence, concluded that air bags are feasible, practical, and effective, and would save many more lives than lap/shoulder belts.

The Department of Transportation has concluded that in 1975 lap and shoulder belts saved 3,000 lives, but that had all of the vehicles in that year been equipped with air bags, an additional 9,100 lives

would have been saved. Despite many incorrect assertions by others to the contrary, DOT has concluded (again, in the basis of a review of *all* of the evidence) that air bags plus lap belts are 10 percent more effective in preventing fatalities than lap and shoulder belts when worn. It is not correct to assert, as has been done frequently recently in the press and elsewhere, that present users of lap and shoulder belts would pay more for less protection if required to purchase cars equipped with air bags. In actual fact, they would receive additional protection.

Rep. Shuster has relied, in developing his position, on incorrect data and wrong assumptions. It is apparent that he has not availed himself of the comprehensive data and research results underlying Secretary Adams' decision. Tragically, by his statements Rep. Shuster has become the medium for broadcasting misinformation and unfounded conclusions about passive restraints, and in particular about Secretary Adams' decision, to members of Congress and the public.

If Americans unnecessarily die or become injured in future highway crashes as a result, the nation will have suffered inexcusably.

Sincerely,

William Haddon, Jr., M.D.

## ***New Background Manual On Passive Protection Available***

An up-to-date, 128-page background manual on the passive restraint issue is now available from the Insurance Institute for Highway Safety.

The manual includes discussions of:

- Transportation Secretary Brock Adams' recent order requiring passive protection in future cars.
- Congressional consideration of the Adams order.
- Endorsements of passive restraints by those who have been in air bag crashes, highway safety organizations, insurers, medical groups and the United Auto Workers union.
- Public opinion polls on automatic protection.
- A sampling of editorial reaction to the Adams decision.
- Profiles of air bags, including costs, history and performance, and passive belts, including costs and current experience.
- A look at active belts, including usage rates, public education campaigns and public acceptance.

Copies of the manual may be obtained by writing for "Automatic Protection," Insurance Institute for Highway Safety, Watergate Six Hundred, Washington, D. C. 20037.

## Gallup Poll: Public Approves Of Air Bags

By a vote of 46 percent to 37 percent a public sample interviewed by the Gallup Poll has endorsed the installation of air bags in all new cars.

The polling interviews, conducted in early June, preceded by nearly a month the decision by Secretary of Transportation Brock Adams to require phasing-in of automatic-protection devices in new models from 1982 through 1984. The Adams order sets a performance standard for crash-force reduction and permits the auto manufacturer to choose any type of equipment that will meet the requirement.

The poll indicates that young adults from 18 to 29 years of age are strongest in their support of air bag use. This age group, which has a high injury and death rate on the highways, voted 65 percent to 27 percent in favor of air bags. This compares to 31 percent of those 50 years and older who favor air bags, and 44 percent who disapprove.

Women of all ages support the air bag plan by the substantial margin of 51 percent to 27 percent, the poll reports, while men voted against it by a 47 percent to 42 percent margin.

On a geographical basis, those in the East support the air bag by the largest margin, reports the Gallup Poll. They favor the equipment by a 53 percent to 29 percent vote. Those in the South and West also approve by large margins. Only in the Midwest does support for air bags trail by a 41 percent to 47 percent tally.

In responding to the poll, those interviewed were asked to answer the question: "Would you favor or oppose requiring car manufacturers to equip all new cars with air safety bags?"

The poll reports this national distribution of public sentiment:

	FAVOR	OPPOSE	NO OPINION
<i>National</i>	46%	37%	17%
Men	42	47	11
Women	51	27	22
College	49	39	12
High School	48	37	15
Grade School	35	32	33
East	53	29	18
Midwest	41	47	12
South	48	33	19
West	44	38	18
18-29 Years	65	27	8
30-49 Years	48	37	15
50 and Older	31	44	25

(Cont'd on page 8)

In the same survey, the Gallup pollsters sampled public opinion on mandatory seat belt use, asking the question: "Would you favor or oppose a law that would fine a person \$25 if he did not wear a seat belt when riding in an automobile?"

The negative answer was overwhelming in all survey categories. While the proposal fared best in the East and among those interviewed who have a college background, the rejection was decisive. These are the results reported by the poll:

	FAVOR	OPPOSE	NO OPINION
<i>National</i>	17%	76%	7%
Men	17	78	5
Women	18	74	8
College	21	76	3
High School	15	79	6
Grade School	16	67	17
East	21	71	8
Midwest	13	83	4
South	18	75	7
West	17	76	7
18-29 Years	19	77	4
30-49 Years	18	76	6
50 and Older	15	76	9

The poll was conducted June 3-6 in more than 300 "scientifically selected" localities across the country, based on interviews with 1,526 adults, all 18 years or older.

## NHTSA Estimates Air Bag Cost At \$112

The administrator of the National Highway Traffic Safety Administration has attacked charges that air bag costs will be excessive and a burden to the individual motorist.

In a letter to Rep. John E. Moss (D.-Calif.), chairman of the House Commerce Subcommittee on Oversight and Investigations, Joan Claybrook made this explanation:

"On the question of cost, the Agency stated in its rulemaking document published in the *Federal Register* on July 5 that it estimates the cost of air bags to the new car buyer at \$112, and the operating cost *over the lifetime* of the typical automobile, including the insurance cost to replace deployed air bags, at \$28. [See page 9.]

"The NHTSA estimates the replacement cost for an air bag at \$325, assuming that there will be 300,000 deployments per year among 100 million cars of which 108,000 will be replaced because the car is repaired, and that the cost of replacement, when carried out by a dealer, will be 2½ times the original price

(Cont'd on page 10)



**INITIAL COST****Equipment –**

Sensor	\$ 4 (1)
Warning/diagnostics	1
Driver module	29
Passenger module	48
Equipment tools	<u>.3</u>

Total Equipment \$ 82.3

**Vehicle Changes (Cont'd) –**

Vehicle change tools	4.7
Engineering	1
Installation	5
Warranty	4
Facilities & launching	<u>4</u>

Total Vehicle Changes \$ 34.7

**Vehicle Changes –**

Covers	\$ 4
Wiring	3
Steering column	1
Instrument panel	4
Padding	4

**Markups –**

Manufacturer profit	\$ 3
Dealer profit	10
Removed belts	-18

**Total Initial Costs** \$112

In May 1977, General Motors estimated \$193 for a newly designed system. In May 1977, Ford resubmitted their July 1976 estimate of \$235. The differences between these estimates and the DOT estimate are:

	<u>GM</u>	<u>FORD</u>
(a) Designs that exceed the requirements of FMVSS 208 (e.g., extra sensor, diagnostic system, excess padding, steering assembly modifications, etc.)	+\$46	+\$ 44
(b) Tooling & engineering amortized over 3 rather than 5 years	+ 5	0
(c) Special overhead costs not included in the costs of other safety standards, unanticipated contingencies	0	+ 16
(d) Markup from manufacturer cost to consumer cost	+ 21	+ 44
(e) Removal of shoulder belt system	- 2	+ 8
(f) Miscellaneous and unexplained differences	<u>+ 11</u>	<u>+ 11</u>
<b>Totals</b>	<b>+\$81</b>	<b>+\$123</b>

**OPERATING COSTS**

	<u>GM</u>	<u>FORD</u>	<u>DOT</u>
Repair/replace air bag system after deployment	\$ 9	\$ 9	\$ 5
Added fuel due to added weight lifetime	26	88	23
Inspection	0	27	0
Maintenance	<u>18</u>	<u>63</u>	<u>0</u>
<b>Totals</b>	<b>\$53</b>	<b>\$187</b>	<b>\$28</b>

(Cont'd from page 8)

of the system. Thus, the chance that the air bags would be replaced in a car during its lifetime is slightly greater than one percent. If the cost is spread over all cars in the fleet, and insurance overhead costs are included, the NHTSA estimates that lifetime replacement costs would be \$5 per car. Ford and General Motors estimate this cost to be \$9.

“Substantial insurance savings which would offset the initial and operating costs of passive restraints are expected to accrue when the fleet is entirely equipped with passive restraints and the insurance companies experience the substantial reduction in claims from reductions in the number of fatalities and disabling injuries that occur.”

Claybrook included the cost estimates for full front air cushions found on page 9. The estimates were figured by the Department of Transportation as of June 1977.

## **Safety Of Material Used To Inflate Air Bags**

In the years of development and successful laboratory and real-world testing of air bags, a number of designs have used nitrogen to inflate the bags. The nitrogen – an inert gas that makes up 78 percent of the air we breathe – is released by a crash-actuated mechanism either from cylinders or from sodium azide-based compounds encased in steel containers.

Because the safety of sodium azide has been questioned by some air bag opponents, the following quotation from testimony at the Department of Transportation passive-restraint hearing Aug. 3, 1976, is of interest. S. M. Istvanffy of Canadian Industries, Ltd., for nearly 40 years a principal manufacturer of sodium azide, said:

*When we first became aware that various generator manufacturers were proposing to use sodium azide-based compositions, we were quick to point out to the auto industry the toxic nature of the material they were handling. It was only when we became convinced that it is virtually the only type of compound capable of meeting the performance standards required, while at the same time producing a gas free of toxic materials, that we as a company undertook to put it in the form such as can be handled safely by all concerned while at the same time performing as required. A number of years of research have been directed to this end, and we now believe that materials exist which meet all the criteria for performance while at the same time guarding the public interest with regard to safety.*

*Reviewing first the reasons why sodium azide has been chosen as the primary ingredient, it is stable to 250 degrees centigrade, decomposes reliably at a rate which can be adjusted, produces pure nitrogen, is safe to handle and use, it cannot be made to detonate, it is stable, and any reaction products can be filtered out. The toxicity question can be divided into two parts: one concerning the reactants, the other the products. We have been handling the product ourselves, as I indicated before, for 39 or 40 years and the only incidents (have been) of the nature of headaches or discomfort, which disappear after a short period of fresh air, no medication and no after effects. Techniques obviously exist for handling it safely. As far as public exposure is concerned, we are talking about a sealed generator, and the public exposure, in effect, is nil.*

*... Though a large amount of time and energy was spent in our laboratory trying to cause the composition to detonate, using shock waves, powerful detonation primers, electric current, etc., we were unable to make the material explode.*

In addition, there are alternative substances that can be used to effectively inflate air bags that do not use sodium azide. One such generator was “ready for installation” in March 1975 “in the steering wheel passive restraint system of General Motors or any other builder which can accept the General Motors design. Since March 1973 we have been conducting tests on small European cars which have proved satisfactory with this generator.” (Statement of Société Nationale des Poudres et Explosifs presented at the NHTSA Occupant Crash Protection Meeting, May 19-23, 1975.)

## **NHTSA Hears Clash Over Bumper Delay**

Auto safety groups, insurers and consumer advocates have testified against a National Highway Traffic Safety Administration proposal to delay or eliminate part of its still-to-be-implemented property-damage bumper standard.

Meanwhile, auto makers urged further delay, not because the rule is beyond their technical capabilities, but rather because, they said, it presents retooling problems. The auto makers also asked for further “field testing” of bumper systems designed to protect vehicle and passengers in very low-speed collisions.

At a July 28 public hearing called by NHTSA, Ben Kelley, senior vice president of the Insurance Institute for Highway Safety, pointed out that in 1972 Congress passed the Motor Vehicle Information and Cost Savings Act. Title I of that act directed the Department of Transportation to set bumper standards that would reduce the economic loss to motor vehicles.

Since that time, Kelley said, “. . . there has been much foot-dragging by the agency and much resistance by auto manufacturers. Along the way a record of staggering proportions has been built, through the mechanisms of NHTSA hearings and dockets. At long last, however, NHTSA has taken a modest first step toward complying with Title I.

“That step, embodied in the final standard issued on March 4, 1976, establishes a two-phase requirement for damage resistance by bumpers. Phase I, effective Sept. 1, 1978, prohibits damage to new cars in 5 mile per hour front and rear barrier impact tests and 3 mph corner pendulum impact tests, but does permit damage to the bumper itself and to its attachments. Phase II, effective Sept. 1, 1979, forbids damage in those tests to the bumper as well as to the rest of the car.

“We are here today because auto manufacturers have petitioned your agency to delay for one year the effective date of Phase II. We are also here because your agency has proposed, in place of either leaving the present standard intact or granting the delay requests, that it adopt an approach to bumper standard rulemaking that incorporates a blend of the presently-planned Phase I, a delayed or indefinitely postponed Phase II, and a set of newly-proposed consumer information requirements. [See *Status Report*, Vol. 12, No. 11, June 29, 1977.]

“All these approaches involve further pushing back — that is, further denying to the public for even more years — the benefits of the very modest no-damage requirements of Phase II. Stated differently, they mean leaving in effect Phase I as the *only* property-damage standard for new cars for years to come.”

Both the Institute and Consumers Union pointed out that their separate crash testing programs showed that many, if not most, new cars already meet the Phase I requirements.

“Phase I thus represents no progress,” said Kelley. “Moreover, it continues to permit unnecessary economic losses and therefore cannot be considered responsive to the intent of Title I. If there is to be progress in meeting the Title I mandate for bumper standards to ‘reduce . . . economic loss,’ it is Phase II that represents at least a beginning of such forward motion, since it eliminates all economic loss in the prescribed tests.”

Under questioning by NHTSA Administrator Joan Claybrook, all of the auto makers admitted that Phase II presented no technical challenge. For instance, GM said there is “no question” that it could meet the standard. The auto makers claimed, however, that they wanted to schedule their bumper retooling in order to coordinate the design changes necessary to meet fuel economy standards.

Kelley said that “basic to the manufacturers’ arguments for a one-year delay of Phase II is the claim, to quote the agency’s notice, that they would then be able to ‘better optimize their Phase I bumper systems and to coordinate their bumper redesign efforts with those planned for fuel economy purposes.’ If this is an admission of past manufacturer failure to apply known technology to the development and provision of damage-resistant, lightweight, low-cost bumpers, it is manufacturers who should bear the burden of remedying the failure within the long-known lead time available between now and Phase II; the public should not be penalized by being denied Phase II’s modest benefits for yet more years.”

## CONSUMER INFORMATION PROGRAMS

The Center for Auto Safety and IIHS argued that consumer information programs were no substitute for implementation of the second phase of the bumper standard.

Clarence Ditlow, III, the center’s director, said, “Assuming the vehicle manufacturers provide NHTSA with the information needed to implement the consumer information program, there are serious doubts (1) the program could be implemented in time for the model year, (2) the program would provide information on the best bumper system in time to influence consumer decisions and (3) whether the program could be enforced. Unless NHTSA can guarantee success on all of the above points, then deferring the Phase II bumper requirements in exchange for a useless consumer information program would be perpetrating a fraud on the American public.”

Kelley also argued against replacing the current bumper standard with a consumer information program, citing a General Motors Corp. submission to NHTSA in a separate rulemaking petition that said that current NHTSA-administered information programs are “virtually ignored” by its customers.

In testimony at the hearing, however, GM said that it supported a consumer information program in lieu of current implementation of Phase II. Several other auto makers disagreed, questioning the value of such a program for bumper systems.

## FIELD TESTS

All the domestic auto manufacturers and the Motor Vehicle Manufacturers Association supported a field test of collision damage. Such a test, said the MVMA representative, “would provide a genuine evaluation of bumper effectiveness and can be structured to include information on the cost of replacing or repairing bumper face bars and related structure.”

## CRASH TESTS

Most of the witnesses reached agreement on one point: the crash test requirements specified by NHTSA should better reflect real-world collisions. Kelley said that, "Far better for the public, and far more consistent with the language and legislative history of Title I, would be the directing of resources, both government's and industry's, to improving the Part 581 test and speed requirements in the future so that they more accurately reflect the nature of low-speed impact situations in the real world, and also more accurately reflect the availability of alternative technologies for minimizing damage in higher-force crashes. The present frontal and corner impact speeds of the test – 5 mph and 3 mph respectively – should be regarded as only a beginning toward substantially reducing economic loss in crashes of *all* kinds in the 0-20 mph range. (At present, the 1972 Act does not permit the agency to address property-damage standards toward loss problems in side impacts.) The presently prescribed pendulum test for corner impacts should be closely examined to ascertain its relationship to real-world intervehicular, parking lot and other low-speed angle collisions."

### ***Consumer Information: An Active Approach***

In his testimony before the National Highway Traffic Safety Administration hearing on bumper requirements, Kelley drew the following distinction between consumer information programs and the motor vehicle safety standards:

"In a basic sense, programs to stimulate improved motor vehicle performance through the medium of consumer information distribution are 'active' approaches, since for their impact they rely on the attention, understanding, and action of those to be benefited. In contrast, 'passive' standards achieve the end of improving the performance of all vehicles, without depending on affecting the behavior of individual consumers. No matter how much time and money may be spent by government and industry on developing consumer information programs, the success of each program depends entirely on the extent to which it can induce a change in the behavior of many individual consumers – a change of behavior so that, in reaching a new-car purchasing decision, the consumer first will know of, understand and acquire the information and then will reliably act on it, along with or instead of competing information . . . .

"This is not to rule out a role for consumer information approaches in the improving of damage resistance for new cars; it is, however, important to stress that such approaches can in no way be regarded as alternatives to or substitutes for needed, technologically available and statutorily mandated bumper performance standards – which is how they are treated in the agency's notice setting this hearing. Nor should such approaches be considered unless in a form that, first, stands a reasonable chance of being effective and, second, encourages marketplace innovation of vehicle performance improvements above and beyond those already widely available in state-of-art technology."

## UPDATE . . .

**REAR UNDERRIDE PROTECTION:** In a response to a petition from the Insurance Institute for Highway Safety, the National Highway Traffic Safety Administration has agreed "to reassess the need for requirements on rear underride protection." A NHTSA standard was proposed in 1970 to require rear-end truck and trailer designs that would prevent underride in collisions of cars into the rear ends of heavy vehicles. The standard was rejected [in 1971], said Robert L. Carter, associate administrator for motor vehicle programs in NHTSA, because it was not believed cost-effective, and periodic reviews have failed to change this decision.

Crash tests subsequently sponsored by IIHS have revealed the inadequacy of a 25-year-old "rear-end protection" standard under the jurisdiction of the Federal Highway Administration's Bureau of Motor Carrier Safety. Devices meeting the standard permit cars, even in moderate-speed crashes, to underride tractor-trailers and suffer extensive passenger compartment intrusion. However, the Institute has developed and demonstrated prototypes of improved truck and trailer protection devices that in moderate speed crash tests have prevented damage to the passenger compartments of impacting cars. (See Status Report, Vol. 12, No. 6, March 29, 1977.)

### ***Medical Council Endorses Restraints Ruling***

Members of the Mid-Atlantic Emergency Medical Services Council, an emergency medicine consortium representing medical services agencies of the District of Columbia, Delaware, Maryland, Pennsylvania, Virginia and West Virginia, have unanimously endorsed the Department of Transportation ruling requiring passive restraints in all new automobiles by the 1984 model year.

"We believe that evidence is conclusive," said the council in its resolution, "that at least 9,000 lives can be saved and hundreds of thousands of serious injuries eliminated each year from the carnage on our highways by the required installation of passive restraints in all cars manufactured in the future."

The council urged member state agencies to pass similar endorsements and to notify their congressmen of the council's "unalterable position in this matter." Meanwhile Dr. R Adams Cowley, council chairman and director of the Maryland Institute for Emergency Medical Services, urged the auto industry not to wait until 1984 to comply with the passive restraint standard. "Thousands of needless deaths will occur until this regulation is implemented," he said.

The following editorial is reprinted with permission from *The New York Times*, July 24, 1977.

## Don't Deflate the Air Bag

Transportation Secretary Brock Adams's recent ruling that automobiles produced in the early 1980's must contain automatic safety systems to protect drivers and front-seat passengers during crashes has provoked opposition from the automobile industry and in Congress. But the opponents should proceed with caution because the automatic restraint systems offer genuine promise of saving lives on the nation's highways.

Although traffic fatalities have generally declined in the past decade, some 46,000 Americans died in motor vehicle accidents in 1976. Another 1.8 million were injured. And as cars are made smaller to reduce gasoline consumption, injuries and fatalities may climb.

The chief protection currently offered to crash victims is the seat belt. Unfortunately, only about 20 percent of the driving public takes the trouble to buckle up. A mechanism that made it impossible to start cars unless the belts were fastened caused such an uproar several years ago that Congress revoked the requirement.

Thus attention has focused on passive restraint systems that protect automobile occupants without annoying them. Former Transportation Secretary William Coleman concluded that passive restraints were feasible and effective but, in the anti-regulation atmosphere of the Ford Administration, he shied away from requiring their use. Now Secretary Adams would require all new cars to provide passive protection for front-seat occupants under a three-year phase-in schedule starting with the 1982 models.

Two systems are most apt to meet the proposed standard. One is the air bag, a cushion that fills with gas the instant a crash occurs, thus protecting the occupant from smashing into the steering wheel or dashboard. The other is a passive belt system, which wraps around the occupant as the door closes.

Both systems have proved effective in tests and in

actual use. The Transportation Department estimates that the air bag would save 9,000 lives over and above those now saved by seat belts. The air bags offer better protection in high-speed frontal crashes, but little or no protection in lateral crashes, rear-end crashes or roll-overs. Thus a combination of air bag and lap belt is deemed best.

The cost of the devices seems reasonable. The Transportation Department estimates the purchase price of air bags at \$112 and the lifetime operating cost at \$29 more. Although the claim should be viewed skeptically, some insurance companies predict, as highway losses subside, that drivers will save most of that cost in insurance premium reductions.

Some opponents of passive restraints argue that drivers ought to be allowed to risk their necks without interference from a paternalistic Government. But it is hard to see how, in principle, passive restraints differ from safety devices already mandated by the Government such as shatterproof glass, energy-absorbing steering columns, padded dashboards, strengthened bumpers and seat belts. In any event, those who purchase an automobile are seldom the only persons at risk. Teen-age drivers, young children and others who have had no voice in choosing safety options may find their lives endangered. Nor are drivers who get hurt needlessly harming only themselves. Their fellow citizens pick up the tab for police officers, ambulances, hospital care, insurance payments and government benefits.

To judge by a new Gallup Poll, the public as a whole—and especially the young-adult group which experiences the highest accident rate—now favors air bags. The new rule on passive restraints will take effect unless both the House and Senate veto it. Let both houses practice some active restraint.

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### Quoted Without Comment

*The market mechanism will not work because there is little or no demand for the often intangible or unperceived benefits of safer, cleaner and quieter cars, especially when such improvements would add significantly to the cost of vehicle ownership.*

— Russell E. MacCleery, vice president of the Motor Vehicle Manufacturers Association, explaining to the National Transportation Public Affairs Workshop in Carson City, Nev., July 26, 1977, why government help is needed to solve problems of vehicle noise, air pollution, highway safety and transportation planning.

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# Status Report

Watergate 600 • Washington, D.C. 20037 • 202/333-0770

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