

Crash Tests Indicate A Step Toward Ratings

The National Highway Traffic Safety Administration (NHTSA) has initiated a series of high-speed crash tests that are intended to be a first step toward creating a possible automotive crashworthiness rating system.

The "New Car Assessment Program" will involve the testing of approximately 60 vehicles in 35 mph crashes into front and rear barriers — a speed 5 mph over that required for compliance with government safety standards — in order to "discern how much difference there is in the crash performance of various car models," according to Michael Brownlee, director of NHTSA's Office of Automotive Ratings. Car models that demonstrate the ability to meet a 35 mph testing standard then may be tested at 40 mph, Brownlee told *Status Report*.

Research Urged Into Speed Limiting Devices

The National Highway Safety Advisory Committee has recommended that the Department of Transportation immediately commence a research program to assess "the costs, benefits, and relative cost-effectiveness of various approaches to heavy truck and bus speed control."

The recommendation, made in a letter from Sheila Sidles, committee chairperson, to Transportation Secretary Brock Adams, came after the committee's day-long public meeting on the petition by Trailways, Inc., to the National Highway Traffic Safety Administration (NHTSA) requesting that the government limit the top speeds of heavy trucks and buses to 57 miles per hour.

After hearing a variety of viewpoints from individuals and organizations, including a presentation by William Haddon, Jr., M.D., president of the Insurance Institute for Highway Safety, the committee concluded that "the use of mechanical methods of speed control needs to be investigated" as a method for achieving compliance with the national 55 mph speed limit. Pointing

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NHTSA hopes that the tests will be the first phase of a long-term program by the agency to fulfill the mandate of the 1972 Motor Vehicle Information and Cost Savings Act, which directed that NHTSA establish crashworthiness ratings for automobiles. The provision of such information to the public could be used as a guide in the purchase of new cars, Brownlee said, and that, in turn, could spur manufacturers to compete more vigorously in the safe design of automobiles.

THREE TEST COMPANIES USED

The program is being undertaken jointly by NHTSA's offices of Automotive Ratings, Vehicle Safety Standards, Research and Development, and Vehicle Safety Compliance, with the majority of funding being provided by the Office of Automotive Ratings. The cars will be tested by three private companies: Calspan of Buffalo, N.Y.; Dynamic Science of Phoenix, Ariz.; and Mobility System and Equipment of Riverdale, Calif.

In the frontal tests, crash forces received by belted dummies will be measured, while the rear

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tests will be used primarily to measure fuel system integrity. If a car crashed at 35 mph or more meets the force load and structural criteria standards required at 30 mph, the Office of Vehicle Safety Compliance will assume that the model satisfies federal safety standards and will not conduct separate compliance tests. Because the energy of the moving vehicle, its occupants, and cargo that must be dissipated increases as a square of velocity, crash tests conducted at 35 mph and 40 mph are 36 percent and 78 percent tougher, respectively, than those conducted at 30 mph.

NHTSA's budget for the assessment program projects that approximately 50 percent of the cars in the program, which includes both domestic and foreign models, will "pass" the standards at these higher speeds.

Brownlee cautioned, however, that the current series of tests, results of which will be announced later this year, are "experimental and should not be viewed as comprehensive." In and of themselves, he noted, "they are not a rating system." To get a comprehensive and statistically reliable measure of new car crash-worthiness would require testing more models and many more samples of each model, according to NHTSA engineers.

NHTSA Studies Proposal For Plastic Fuel Tanks

Because of fuel economy considerations, the Ford Motor Co. has expressed a strong interest in building cars with plastic rather than conventional, metal fuel tanks. However, federal safety regulations governing fuel systems do not address the danger of fuel tanks catching fire — a possibility in the case of plastic tanks. As a result, Ford has requested — and the government has agreed to consider — performance requirements governing the fire resistance of non-metallic tanks.

In a petition for rulemaking filed with the National Highway Traffic Safety Administration (NHTSA), Ford described the use of plastic tanks as a "highly attractive" alternative at a "time when, because of fuel economy considerations, available space and permissible weight for fuel tanks is at a premium."

The use of plastics offers "significant" weight savings, Ford said. It called the impact and puncture resistance of high density polyethylene "excellent," and added that plastic tanks can be shaped to make maximum use of limited underbody space. In an advance notice of proposed rulemaking that agreed to consider requirements for the tanks, NHTSA noted they also would eliminate rusting.

FLAMMABILITY IS KEY PROBLEM

But, the agency said, "The greatest problem with non-metallics such as fiberglass or high density polyethylene is the fact that these materials will burn. In fact, most formulations of these materials will soften and melt prior to or upon ignition. At that point, the contents of the gas tank would be spilled. In contrast, gasoline is often recovered in substantial quantities from metallic fuel tanks of vehicles that have been totally consumed by fire."

NHTSA noted that while plastic tanks may perform as well or better than metallic tanks in resisting punctures in crashes, they may be "particularly vulnerable to fires fed by sources external to the vehicle." Existing fuel system safety regulations pertain to the performance of a vehicle's entire fuel system, limiting permissible fuel spillage resulting from test crashes. They do not include specific performance requirements for individual parts of the fuel system, such as the gas tank. With the advent of plastic tanks, the "current broad performance requirements might not be sufficient to ensure the integrity of vehicle fuel systems," NHTSA acknowledged.

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In its petition, Ford asked the agency to adopt requirements developed by the Economic Commission for Europe (ECE) governing plastic fuel tanks. ECE provisions require that non-metallic tanks retain their fuel while exposed to two minutes of continuous flame and heat in a test that simulates the way spilled fuel might burn beneath a car, NHTSA said. They also specify tests for impact and puncture resistance, mechanical strength, fuel permeability, and resistance to fuel and high temperatures, the agency added.

In deciding whether to set requirements for non-metallic tanks, NHTSA is seeking public comment on their merits and on appropriate performance requirements, including the advisability of adopting the ECE provisions. The requirements would apply to passenger cars, multipurpose passenger vehicles, and light trucks and buses.

Comments should refer to Docket No. 73-20, Notice 11, and should be received by the Docket Section, Room 5108, Nassif Building, 400 Seventh St., S.W., Washington, D.C. 20590, no later than Sept. 11, 1979.

Collision Loss Payments Climb For 1979 Models

Collision claim payments for 1979 model cars during their first six months of availability were higher than payments for 1978 models during those same six months, a study by the Highway Loss Data Institute (HLDI) has found.

The study also reported that among the 1979 models, smaller cars and specialty or sports models are more likely to sustain collision coverage losses than other car size groups or body styles.

In a second study released by HLDI, the size of claim payments for collision damage to specific subcompact and compact cars was found to vary little from model year to model year, remaining “consistently either better or worse than average, or close to average.”

In comparing collision coverage payments for 1979 models with those for 1978 models during the same calendar period, HLDI found that the frequency with which claims were filed was unchanged, but that the average claim payment and the average claim payment per insured vehicle year for the newer cars was 9 percent higher (see table 1).

MOST CLAIMS FOR SMALL CARS

Of the four groups of car sizes, 1979 subcompacts and compacts had higher claim frequencies, while 1979 intermediate and full-size cars had lower frequencies. Average claim payments for the four size groups of 1979 models were 2 to 18 percent higher than those for the 1978 models, HLDI reported. And, it added, average claim payments per insured vehicle year in three of the four 1979 size groups ranged from 3 to 24 percent higher, while for the remaining group – the intermediates – the figure was 2 percent lower.

For two of the three body style subgroups – regular two-door models, and sports or specialty models – the average claim payments per insured vehicle year increased as car sizes decreased. The single exception was regular four-door models, which had the lowest result for the compact models. Claim frequencies for each of the body style subgroups increased as car size decreased. Within each size group, sports or specialty models had the highest claim frequencies and the highest average claim payments per insured vehicle year, while regular four-door models had the lowest.

Among the individual 1979 series, considerable variation was found in claim frequencies, the average size of claim payments, and average claim payments per insured vehicle year. HLDI reported more than a

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Collision Loss Payments Climb For 1979 Models (Cont'd from page 3)

TABLE 1
COLLISION COVERAGE LOSS EXPERIENCE BY CAR SIZE GROUP –
1979 MODELS COMPARED WITH 1978 MODELS DURING SAME CALENDAR PERIOD

LOSS CATEGORY	CAR SIZE GROUP	1978 MODELS 9/78 – 2/79	1979 MODELS 9/78 – 2/79	PERCENT CHANGE
Claim Frequency Per 100 Insured Vehicle Years	All Combined	11.7	11.7	0
	Subcompact	12.6	13.8	+10
	Compact	11.5	11.6	+ 1
	Intermediate	10.7	9.6	-10
	Full-size	11.5	11.1	- 3
Average Loss Payment Per Claim	All Combined	\$943	\$1,029	+ 9
	Subcompact	996	1,129	+13
	Compact	931	946	+ 2
	Intermediate	898	975	+ 9
	Full-size	960	1,131	+18
Average Loss Payment Per Insured Vehicle Year	All Combined	\$110	\$ 120	+ 9
	Subcompact	126	156	+24
	Compact	107	110	+ 3
	Intermediate	96	94	- 2
	Full-size	110	126	+15

four-fold variation in the range of average claim payments per insured vehicle year, with the highest payments made for the Toyota Celica, and the lowest for the four-door Oldsmobile Delta 88. The two cars also had the highest and lowest claim frequencies, which varied by a factor of more than two. The four-door versions of the Chevrolet Nova and the Chevrolet Chevette had the lowest average claim sizes, while the Lincoln Mark V had the highest. The highest average payments were over \$1,200 per claim, while the lowest were less than \$800.

RANKINGS REMAIN CONSISTENT

In the second study, HLDI examined collision claims for a total of 30 compact and subcompact car series produced in each model year from 1975 to 1978. "Among both compacts and subcompacts," the study said, "the relative rankings of cars in the same car size group, based on average loss payment per insured vehicle year, were essentially the same in each successive model year" (see table 2). HLDI concluded that "if a car ranks better than another in its collision experience in one model year, most likely it will rank better in other model years."

In the rankings for 1975-1978 model subcompacts, the Pinto station wagon had the lowest average claim payments per insured vehicle year, and the Chevrolet Corvette had the highest. Among 1975-1978 compacts, payments were lowest for the four-door Chevrolet Nova, and highest for the Pontiac Firebird.

The studies, *Automobile Insurance Losses, Collision Coverages; Initial Results for 1979 Models* (HLDI R79-1), and *Automobile Insurance Losses, Collision Coverages; The Consistency of the Loss Experience of Specific Vehicles Produced in Several Years – 1975 to 1978 Models* (HLDI A-11), can be obtained by writing to Highway Loss Data Institute, Watergate 600, Washington, D.C. 20037.

TABLE 2
RANK-ORDERED AVERAGE LOSS PAYMENTS
PER INSURED VEHICLE YEAR BY MAKE AND SERIES —
1975 TO 1978 MODEL YEARS

PART A: SUBCOMPACT CARS (WHEELBASE ≤ 101 IN.)

MAKE	SERIES	BODY STYLE	MODEL YEAR RANKING*			
			1975	1976	1977	1978
Ford	Pinto	StationWagon	2	1	1	1
Honda	Civic	2-Door	1	3	3.5	3
Ford	Pinto	2-Door	3	2	2	2
Dodge	Colt	2-Door	4	4.5	3.5	4
Volkswagen	Rabbit	-- †	5	6	5	5
Chevrolet	Monza	2-Door	6.5	4.5	8	7
Ford	Mustang II	2-Door	6.5	7	6.5	6
Buick	Skyhawk	2-Door	8	8.5	6.5	9
Oldsmobile	Starfire	2-Door	9	8.5	9	8
Chevrolet	Corvette	Sport	10	10	10	10
			W = 0.94			

*Average rank assigned to tied values.

†Body style cannot be determined from the Vehicle Identification Number.

PART B: COMPACT CARS (101 IN. < WHEELBASE ≤ 111 IN.)

MAKE	SERIES	BODY STYLE	MODEL YEAR RANKING*			
			1975	1976	1977	1978
Chevrolet	Nova	4-Door	1	1	1	2
Oldsmobile	Omega	4-Door	2	2	3	1
Chevrolet	Nova	2-Door	3	4	3	3
Oldsmobile	Omega	2-Door	4	3	3	5.5
Ford	Granada	4-Door	5	5	5.5	7
Mercury	Monarch	4-Door	6	8	5.5	5.5
Mercury	Monarch	2-Door	7	6	8	4
Ford	Granada	2-Door	8	7	7	8
Chevrolet	Camaro	Specialty	9	9	9	9
Pontiac	Firebird	Specialty	10	10	10	10
			W = 0.92			

*Average rank assigned to tied values.

Senate Votes To Weaken Auto Bumpers

With an unrecorded voice vote, the U.S. Senate has moved to roll back the federal bumper standard, which has required that a car be undamaged in a 5 mph crash. The Senate action would cut that minimal requirement to only 2.5 mph.

Just last month the National Highway Traffic Safety Administration (NHTSA) had completed an exhaustive study of the bumper issue and had concluded that a 5 mph standard would save consumers about \$400 million a year when compared with a 2.5 mph standard.

After years of delay, a 5 mph bumper no-damage requirement was to become fully effective in September for the 1980 models.

The Senate action came on an amendment to the authorization bill for the National Traffic and Motor Vehicle Safety Act and the Motor Vehicle Information and Cost Savings Act. Submitted by Sen. Robert Byrd (D.-W.Va.), the majority leader, the amendment was pushed through quickly, with virtually no debate. The amendment would order the safety agency to cut bumper test requirements to 2.5 mph and would stipulate that it could not be changed until September 1984.

At press time it was not possible to determine the immediate effects of the rollback, should it be endorsed by the House. Production has ceased on most 1979 models, and many 1980 models already are on the production lines.

GAO Criticizes Electric Vehicle Program

Calling safety hazards associated with electric vehicles “a potentially serious risk,” the General Accounting Office (GAO) has urged the Department of Energy to limit demonstration projects to “strictly controlled environments in the federal sector.”

“When technology improves and vehicle reliability, safety, and reasonably competitive life-cycle costs are shown, demonstrations could be expanded outside the federal sector,” the GAO said.

In a sharply worded report to Congress, the GAO called the current private sector demonstration programs “premature” and urged Congress to withhold loan guarantees for electric vehicle production until they are shown to be “commercially viable.” The report also urged Congress to enact more “flexible” guidelines to replace an acquisition schedule now required by law. According to the GAO, the rigid timetable does not permit project managers to take advantage of technological improvements.

The Energy Department took strong exception to parts of the report, however, saying “private sector demonstrations will have the greatest impact on the commercialization process.” Department officials cited a recent statement from the American Telephone and Telegraph Corporation that the company could replace 20,000 of its fleet with currently available electric vehicles and could add an additional 20,000 vehicles as performance improves.

“In addition to safety concerns relevant to existing conventional vehicles,” the GAO reported, “EVs [electric vehicles] present other hazards such as battery acid spills and electrical shock associated with their unique propulsion systems.”

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Although electric vehicles are not currently required to meet existing federal motor vehicle safety standards, the Energy Department has required all its demonstration vehicles to meet applicable safety standards, including crashworthiness and occupant protection rules. A quarterly report issued by the Energy Department said electrical shock hazards have been minimized in demonstration vehicles through the use of special interlock systems, insulated covers for battery terminals, and other devices. Additionally, brake systems have received special engineering attention in order to meet current safety standards because of weight and weight distribution problems unique to the battery-powered vehicles.

Since federal safety standards will be based on the demonstration vehicles' crash experience, at least in part, the Department of Transportation had urged the Energy Department to set up a detailed accident investigation procedure at the outset of the program. Because of funding limitations, a "hotline" was set up to notify project managers of any incidents at which time a determination is made as to whether a full investigation is warranted, Paul J. Brown, acting director of transportation programs under the Energy Department, told *Status Report*.

To help cope with the nation's growing energy shortage and clean up the air, Congress has authorized \$160 million through 1981 for electric vehicle research, development, and demonstration. So far, the program has cost \$55 million, although the GAO said total program costs could run as high as half a billion dollars by 1990, with little perceptible impact on the nation's total energy consumption. The Energy Department expects about 8.6 million electric vehicles by the year 2,000, or 5 percent of the total motor vehicle fleet.

Advanced Electric Car Unveiled

An advanced technology four-passenger subcompact electric car has been revealed by the Department of Energy (DOE). Called the "Electric Test Vehicle I," the car was developed under a joint contract led by General Electric.

"Although this vehicle is still in the experimental stages, it shows that a functional, safe, and stylish electric car can be built," said John M. Deutch, acting DOE undersecretary.

The new car was designed to provide up to 100 miles cruising range at speeds between 35 and 45 mph, DOE spokesmen said, more than twice the range of currently available models. The auto is fueled by 18 lead-acid batteries providing 25 percent more energy and a longer life than those currently on the market. The batteries weight 1,080 lbs., nearly one-third the car's 3,315-lb. curb weight, and can be recharged up to 500 times, the spokesmen said.

Under the terms of the contract, the car was designed to meet all applicable federal motor vehicle safety standards. In a 30 mph barrier crash test, there was neither battery nor structural intrusion into the passenger compartment, department spokesmen said. Occupants would also be protected from battery acid spills and electrical shock, they said.

The car features computerized control systems and a special braking system that "captures" through a flywheel system, energy normally lost during braking, to be used for recharging the batteries. Although the car cost about \$500,000 to produce, program officials said it could be mass produced for about \$6,400 by 1985. Over the car's projected 10-year life, total costs, including electricity for recharging, would be less than 18 cents per mile, the DOE estimated.

Research Urged Into Speed Limiting Devices (Cont'd from page 1)

out that “many presenters strongly endorsed the strict enforcement of the 55 mph speed limit” for both economic and safety reasons, the committee suggested that the government “lead the way” in gathering data on automatic methods of speed limitation “by installing speed limiting devices on a test basis on governmental fleets at both federal and state levels.”

The committee also noted in a letter to Secretary Adams that, as a short-term measure to curtail excessive highway speeds, “federal leaders must take a more visible leadership role [in enforcing the speed limit] and that additional financial support needs to be provided to the states for police enforcement of this national law.”

Haddon told the committee that the Trailways petition “is simply a proposal for better, less costly, more dependable enforcement of our national speed limit – automatic enforcement, rather than the hit-or-miss kind that ties up police and court resources.” Haddon noted that “*every* motor vehicle right now has a designed-in top speed – one chosen by its manufacturer. The real policy question is, ‘what should that top speed be?’ ”

Haddon also told the committee that:

- An Institute review of the NHTSA docket revealed that “the general public is strongly in favor of the Trailways petition, with responses running about 4:1 in support of built-in top speeds for buses and trucks.”

- “There is little doubt that the marketplace, given the incentive of a federal *performance* standard limiting the top speeds of commercial motor vehicles, would quickly develop an even wider range [than already exists] of efficient, economical, and attractive designs to accomplish that result both for new vehicles and for those now in service.” (Some individuals had argued that current devices to limit speeds are ineffective and impractical.)

- “Nobody familiar with the extensive data available from both the government and the private sector would for a moment dispute that 55 mph maximum operating speeds for trucks . . . will save lives and save fuel. . . . The huge tolls in human suffering and expense that stem from the contribution of excessive truck and bus speed both to crash initiation and aggravation of injury in crashes would be greatly, permanently reduced.”

Other presenters included independent truckers, who opposed the petition on the basis of passing problems allegedly created by mechanically limiting engine speed; the American Trucking Association, which favored the “concept” of speed limiters, but urged that more work on specific devices be conducted before further rulemaking is initiated by NHTSA; and some Trailways drivers, represented by various locals of the United Transportation Union, who opposed required use of speed limiters on buses in part because of alleged inability to keep up with traffic flow.

Organizations supporting the petition at the meeting included the Automobile Owners Action Council, the Liberty Mutual Insurance Co., the Maryland State Police, and the Dallas Citizens Safety Advisory Committee.

Moss Heads Crash Protection Committee

Former California Congressman John Moss is now serving as honorary chairman of the National Committee for Automobile Crash Protection, a coalition of more than 60 organizations supporting automatic crash protection in cars. The group was first formed in 1977 to resist an effort in Congress to repeal the Department of Transportation (DOT) decision mandating automatic crash protection for front seat occupants in cars. (See *Status Report*, Vol. 12, No. 12, July 26, 1977.)

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Moss, who served as chairman of the House Commerce Committee's Subcommittee on Oversight and Investigations before his retirement last year, forged a reputation as a forceful consumer advocate during his 26 years in Congress. He was principal architect of the Freedom of Information Act and a leader in the fight to establish the Consumer Product Safety Commission. Now, Moss is leading the effort to keep the Federal Motor Vehicle Safety Standard 208, the occupant crash protection standard, intact and on schedule.

(In 1977, DOT Secretary Brock Adams ruled that auto makers must provide automatic protection for front seat occupants in 30 mph frontal crashes. The rule will be phased in starting with full-size 1982 car models. Intermediate size cars will be required to comply starting with the 1983 model year, and by 1984 the standard will apply to all new cars.)

Some critics continue to question the standard. Opponents have focused on the air bag despite an Appeals Court ruling that found air bags effective in reducing deaths and injuries, upholding the Adams decision. (See *Status Report*, Vol. 14, No. 3, Feb. 15, 1979.)

In a letter to Rep. John Dingell (D.-Mich.), leader of the air bag opposition and author of an amendment to the DOT 1980 appropriations bill that would restrict spending on air bags, Moss called for the standard to be met with "a diversity of technologies." Noting that a similar amendment last year had "no effect upon the passive restraint rule and was a gimmick to build a precedent for attacking the standard through the appropriations process at a later time when such an attack would mean something," Moss said, "It would be a shame for the House to go on record in support of forcing the public to buy and use passive belts to the exclusion of other technologies. That's what the Ford Motor Company convinced the Nixon Administration to do in 1972 when that company proposed for the American people the safety belt interlock fiasco." (See *Status Report*, Vol. 9, No. 19, Oct. 29, 1974.)

That may be just what the opponents want to do, says the committee's executive director, Ralph Hoar. Only 14 percent of the American public uses safety belts, Hoar reminded *Status Report*, "and out of that 86 percent [who don't use belts], you've got to assume that there are a lot of people who feel strongly about them and would prefer some alternative."

The National Committee for Automobile Crash Protection is headquartered in Washington, D.C., and represents a coalition of more than 60 medical, public health, labor, insurance, consumer, law enforcement, and disabled persons' organizations that support the auto crash protection standard.

Claybrook Responds To The Air Bag Critics

Joan Claybrook, head of the National Highway Traffic Safety Administration, has rebutted anti-air bag concerns raised recently in a minority report by a few members of the House Commerce Committee. The committee majority had voted strong support of automatic protection requirements (see *Status Report*, Vol. 14, No. 9, June 6, 1979).

The following views on the automatic crash protection issue are excerpted from a letter Claybrook wrote to the signers of the minority statement:

. . . Since this subject was not discussed in much detail during the hearings, nor among members during the mark-up, we did not have an opportunity to respond to the specific concerns raised in these supplemental views. Thus, I thought it worthwhile to do so here.

The first point discussed in the supplemental views is the future evaluation of the effectiveness of automatic crash protection systems. The National Highway Traffic Safety Administration (NHTSA) has a plan for

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such an evaluation under development that it intends to publish for public comment this fall. The agency places a high priority on this activity and expects that its plan will meet the criteria spelled out by the National Transportation Safety Board (NTSB) in its recent report. The NTSB's report did not question the validity of the automatic crash protection standard. Rather, it suggested that the full benefit of that standard could be better realized with a detailed evaluation program that could provide an early assessment of the performance of these new occupant restraint systems.

The choice of sodium azide as a propellant for air bag systems was made by the automobile manufacturers and their suppliers. Under the National Traffic and Motor Vehicle Safety Act the agency sets performance rather than design standards. This provides the latitude necessary for the manufacturers to exercise their best engineering judgment to meet the standards with systems and designs that are personally and environmentally safe, and acceptable to consumers. The manufacturers are in no way excused from their responsibilities under the safety act and the environmental laws to produce cars that do not have safety defects or environmental hazards.

We believe that the manufacturers have acted responsibly in fully exploring the ramifications of the use of sodium azide with their two studies carried out by the Motor Vehicle Manufacturers Association. In addition, as the supplemental views point out, the NHTSA is looking in great depth with the industry at the best means of insuring the safe disposal of cars equipped with air bags. We have also fully addressed these matters in discussions with the Environmental Protection Agency and Occupational Safety and Health Administration more than eight months ago.

Incidentally, I would like to point out that given the manufacturers' present plans to meet Federal requirements, two to three million pounds of sodium azide will be used each year, not eleven to seventeen million pounds as your report suggests.

We disagree with your characterization of the article on air bags published by *Road & Track*. This editorial piece was based on a substantial amount of outdated and inaccurate information. In response to the three remaining points raised by the *Road & Track* article we would say the following:

- It is true that air bags are effective only in frontal collisions. However, do we apply a criterion to all other public health and safety measures that they must be all-encompassing remedies? Is polio vaccine a poor idea because it does not cure cancer? Do we expect a smoke alarm in the house to prevent electrical shock? More than half of all automobile occupant fatalities and serious injuries occur in frontal collisions, which makes this the most important type of collision for which to provide occupant protection.

In our five year plan for motor vehicle rulemaking, we have established side collisions, the collision types that produce the next largest number of fatalities and serious injuries, as one of our highest priorities. Restraint systems of any kind are of minimal value in side collisions. Rather, the structure and energy absorbing materials used in the door area are the critical factors. Our experimental vehicles employ some of the best technology known to protect occupants in this type of crash.

- Six hundred million miles of travel in cars equipped with air bags has shown them to be highly reliable. Because they are sealed within the steering wheel hub and the instrument panel, they are not subject to deterioration, wear, or tampering as safety belts are. Their design is simple compared with an automatic transmission or air conditioner, and they are equipped with electronic diagnostic systems to ensure that any flaws that might develop will be detected so that the owner will have proper notice.
- Air bags add little weight to an automobile, particularly when compared with many other options that people commonly order: air conditioning, power steering, and trim options for example. Air bags will add approximately one percent to the weight of a car, and will increase fuel use by the same amount: less than five gallons per year for the average car. Although the added weight

will have an associated cost, it will be more than offset by reduced insurance premiums and, of course, reduced medical costs should a person be involved in a crash.

It is not feasible to return, at this point, to the “Coleman plan” for occupant restraints. Automobile manufacturers have invested tens of millions of dollars to develop and test their production air bag systems in preparation for meeting the automatic occupant crash protection standard. We are presently only a little more than two years from production of automatic restraint systems to meet the standard, and production of air bags will commence in approximately eighteen months or less according to the manufacturers’ plans. They have made major commitments to tooling and supplies for the manufacture of automatic restraint systems.

We agree, and it is the Department’s policy, that the use of conventional, active belts should be strongly encouraged. The Department has a number of safety belt programs that include the preparation of public service announcements for television on the importance of occupant restraints, and a series of regional occupant restraint workshops conducted for the NHTSA by the National Safety Council to familiarize State and local officials with Federal programs and materials, and to coordinate the programs at all government levels. We are also working vigorously at the local level to increase child restraint use.

Belt usage is presently about fourteen percent among all motorists, and eight percent among those involved in accidents in which the vehicle involved was disabled in the crash. The low rate of belt usage and the difficulty in raising belt use significantly by any reasonable policy were the primary factors that caused the Secretary to determine that automatic restraints were the only practical and feasible way of improving frontal occupant crash protection.

We continue to believe that the only feasible way of providing automobile occupant crash protection for the majority of motorists is to do so with automatic systems. The technologies to do so are well proven. The need is also obvious in that more than half of all motor vehicle fatalities occur among automobile occupants, and between a third and one-half of these can be saved by automatic restraints. The automobile companies are making major progress toward the successful implementation of the standard with systems that are substantially improved over even those very reliable systems that were introduced into service in the mid-1970’s

UPDATE . . .

AUTOMATIC RESTRAINT DELAY REJECTED: The National Highway Traffic Safety Administration (NHTSA) has denied a petition from Chrysler Corp. for a one-year delay in applying automatic restraint requirements to its full-size cars. Chrysler had argued that because its “R Body” cars do not have an upper door frame on the front doors, this would bar use of automatic belts and force installation of air bags, putting Chrysler cars at a competitive price disadvantage. NHTSA, however, ruled that there are types of automatic belts that can be installed in such cars, that manufacturers had been given adequate lead time for the new equipment, and that postponement could lead to almost 150 occupant deaths in the affected cars over their 10-year life. The NHTSA ruling reaffirms the automatic restraint schedule announced in 1977, starting with 1982-model big cars. (See *Status Report*, Vol. 12, No. 12, July 26, 1977.)

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