

Status Report

GM And The Air Bag: A Decade Of Delay

Since it promised in 1970 voluntarily to make air bags available on all its cars by the 1975 model year, General Motors has pursued a policy of withholding that technology from the public, encouraging delay of federal passive restraint requirements, and discouraging consumer interest in the handful of air bag-equipped cars it manufactured in the mid-1970's. Here is a chronology of GM's decade of air bag delay:

August, 1970:

In a submission to the National Highway Safety Bureau (NHSB)* and a letter to 82 members of Congress who had urged NHSB to stand fast on its passive restraint standard, *General Motors pledges to voluntarily provide air bags*, first as options and then as standard equipment, *on all its cars by the 1975 model year*. Describing the plan to NHSB, it says:

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

*The predecessor to the National Highway Traffic Safety Administration.

(Cont'd on page 10)

The Bottom Line

Here is a summary of GM's air bag program, as detailed in the accompanying chronology:

- GM promised to have air bags available in millions of its vehicles, voluntarily, and to do so no later than the *1974 model year*.

Yet even today, in the *1980 model year*, GM has made available less than 11,000 air bag-equipped cars. Since the 1976 model year, it has been *impossible to purchase* a GM car equipped with an air bag. Most recently, GM has said it will make no air bags available even as far in the future as the 1982 model year.

- As recently as 1977, GM agreed to retail air bags in new cars, in volume production, *for less than \$200*. Now, GM is claiming that air bags *will add some \$700* to the price of a new car.

- GM has consistently encouraged the public to believe that there was *no market* for air bags in new cars. But its own undisclosed consumer studies showed an *overwhelming demand for air bags* — even at much higher prices than automatic belts — throughout the 1970's.

IIHS Renews Plea For Toyota Defect Investigation

Long-standing fuel system problems in some Toyota models should be quickly cleaned up “before more people are needlessly maimed and burned to death,” the Insurance Institute for Highway Safety (IIHS) has urged.

In a letter to the National Highway Traffic Safety Administration (NHTSA) renewing an October 1979 call for action (see *Status Report*, Vol. 14, No. 17, Nov. 28, 1979), IIHS detailed NHTSA’s sluggishness in responding to evidence developed over the past decade that some Toyota models are prone to fuel leakage and fire in rear-end crashes.

The Institute said in the letter that it has identified five deaths and one serious burn injury resulting from rear-end impacts and fires involving Toyota Coronas (the crashes were in 1969, 1971, and 1973 models; 1969-1973 Coronas, as well as some other Toyota vehicles, have similar fuel systems). At least 10 deaths have occurred in such crashes involving 1970-1978 Corollas, the Institute said (1969-1979 Corollas have similar fuel systems, which differ from those in Corona models).

The letter reviewed Institute crash tests dating back to 1970 indicating a Corona fuel system defect. That year, a 10 mph rear impact of a new Corona dislodged the gas cap and damaged the fuel filler pipe. In 1973 Institute tests, a new Corona struck from behind by a small car traveling just under 40 mph was immediately engulfed in flames, and a new Corona struck from behind by a barrier traveling just under 30 mph developed a massive fuel leak. In each of the two tests, gasoline surged to the front seat of the car.

The letter indicated that NHTSA itself also recently developed evidence of a Corona fuel system defect when its 30 mph rear-impact test of a 1973 Corona produced a massive fuel leak. Earlier, NHTSA rear-impact tests of a 1973 Corona and a 1973 Corolla had produced little or no leakage. But IIHS persuaded NHTSA officials that their earlier Corona test was inadequate (see *Status Report*, Vol. 14, No. 17, Nov. 28, 1979).

NHTSA has failed to vigorously pursue leads in the Toyota inquiry, the Institute indicated. For example, it said it notified NHTSA last November that an attorney in a successful damage suit against Toyota took depositions from company engineers concerning Corona fuel systems. Despite a suggestion that NHTSA learn more about the depositions, the agency had not contacted the attorney by late February, the letter said. (Responding to a *Status Report* query, the attorney said he has no memory of being contacted by NHTSA concerning the case, which the Institute had first brought to the agency’s attention in May 1978.)

Theft Experience Varies Greatly Among Different Cars

Theft loss experience varies widely among different makes of cars, a new report from the Highway Loss Data Institute (HLDI) reveals. Studying 1979 models, HLDI found the car with the worst theft loss experience had losses 90 times those of the car with the best experience.

In the first 18 months that 1979 models were on the road, the two-door Lincoln Continental had the worst theft loss experience, while the four-door Plymouth Volare had the best. The Buick Riviera, two-door Oldsmobile Ninety-Eight, and the Lincoln Versailles had the highest theft claim frequencies, while the Datsun 310 and the four-door Plymouth Horizon had the lowest, HLDI found.

Although lower on the claim frequency list, the Chevrolet Corvette had the largest average payment per theft claim — over \$3,800. Several cars had average payments per claim of more than \$2,000, including

the Datsun 280ZX, Lincoln Mark V, Cadillac Fleetwood Brougham, Cadillac Seville, Cadillac Eldorado, and the two-door Lincoln Continental. At the low end of the average payment per theft claim list were the Oldsmobile Custom Cruiser station wagon, Chevrolet Impala station wagon, and four-door Mercury Zephyr, all with averages less than \$250.

Full Range Of Theft Losses

The results reported in the HLDI study include the full range of theft losses occurring under comprehensive insurance coverages, from the theft of items from the car to the theft of the car itself. Certain electronic items, such as tape decks and citizens'-band radios, are not usually covered by comprehensive policies and are not included in the HLDI figures.

Among the principal findings in the report were these:

- Sports or specialty models had by far the worst theft loss experience in each vehicle size class. The result for full-size specialty models was more than twice the overall average, and the result for subcompact sports models was more than three times the overall average.
- Two-door models consistently had a higher frequency of theft losses and higher average claim sizes than corresponding four-door models.
- Among subcompacts, compacts, and intermediates, the frequency of theft losses for each body style subgroup *increased* with increasing car size.

Copies of the report, "Automobile Insurance Theft Losses by Make and Series, 1979 Models," HLDI T79-1, June 1980, may be obtained from the Highway Loss Data Institute, Watergate 600, Washington, D.C. 20037.

**RELATIVE AVERAGE LOSS PAYMENT PER INSURED VEHICLE YEAR*
BEST AND WORST CARS — 1979 MODELS — THEFT LOSSES**

BEST CARS				WORST CARS			
Plymouth Volare	4-Door	I	9	Lincoln Continental 2-Door	Specialty	FS	863
Subaru DL	Station Wagon	SC	11	Chevrolet Corvette	Sports	SC	782
Datsun 310	2-Door	SC	11	Lincoln Mark V	Specialty	FS	619
American Concord	4-Door	C	12	Buick Riviera	Specialty	I	560
Mazda GLC	**	SC	13	Lincoln Versailles	Specialty	C	460
Honda Civic	2-Door	SC	14	Cadillac Eldorado	Specialty	I	422
Mercury Zephyr	4-Door	C	14	Cadillac Fleetwood Brougham	Specialty	FS	337
Oldsmobile Cutlass	Station Wagon	C	15	Pontiac Firebird	Specialty	C	308
Dodge Omni	4-Door	SC	15	Oldsmobile Toronado	Specialty	I	307
Datsun B210	Station Wagon	SC	15	Oldsmobile Ninety-Eight	2-Door	I	303

*Results are standardized to the distribution:

	Youthful Operator	No Youthful Operator
No Deductible	10%	55%
Deductible	5%	30%

**Body style cannot be determined from Vehicle Identification Number.

Subcompact (SC) — cars with wheelbases less than or equal to 101 inches.

Compact (C) — cars with wheelbases greater than 101 inches and less than or equal to 111 inches.

Intermediate (I) — cars with wheelbases greater than 111 inches and less than or equal to 120 inches.

Full-Size (FS) — cars with wheelbases greater than 120 inches.

Delay Asked In Highway Construction Standard Rulemaking

The National Transportation Safety Board has urged that all rulemaking on broad new highway design guidelines be suspended until questions regarding the impact of the proposed changes have been formally addressed.

The proposed design guidelines were drafted by the American Association of State Highway Transportation Officials (AASHTO) in the so-called "purple book" and are currently being proposed for adoption by the Federal Highway Administration (FHWA). They would affect all aspects of new road construction, including safe sight distances for drivers, safe stopping distances, and skid resistance of pavement. (See *Status Report*, Vol. 15, No. 6, April 15, 1980.)

In a letter to FHWA, James King, board chairman, said the proposals' impact on safety, construction costs, and other transportation costs is so significant that a regulatory analysis explaining the rationale for the proposed changes should have been provided by FHWA.

King said AASHTO appeared to have written the new guidelines "with the tort liability of state and local governments as a major concern instead of the safety of the driving public as a basis," by allowing the use of standards lower than current minimum values now in force.

The 972-page AASHTO draft, which would cover all highway construction design guidelines except for interstate highway construction, is too long and complex, King said, to permit the public to assess the effects of the proposed changes without missing potentially serious problems.

'Anything Goes'

The board called the new guidelines — which are supposed to update and incorporate in one volume at least five different publications now currently governing highway construction — vague and "inconsistent." The guidelines "set a tone for 'anything goes'" by suggesting that it is acceptable to allow some construction projects to avoid meeting the "minimum" guidelines set by the proposed policy manual, the board said.

King said the agency should begin separate rulemaking activity on "significant" issues such as safer stopping sight distances for drivers in smaller cars, truck stopping distances, curve superelevation, and pavement skid resistance, rather than incorporating them in one sweeping document.

The board's comments on specific proposals stressed that the AASHTO guidelines involving safe stopping distances do not seem to reflect the shrinking size of today's cars, a concern raised by FHWA's former associate administrator for safety, Howard L. Anderson. The board also said that more attention needs to be paid to providing safer stopping distances for trucks, particularly at intersections.

Although not formally responding to the board's criticisms, FHWA spokesman Stanley Abramson of the chief counsel's office said the agency would look at the specific items raised by the board to see if "further study, analysis, or explanation would be appropriate."

Split Rulemaking Takes Longer

Abramson said he believed it would "be a mistake to divide the [policy on geometric design of highways] into pieces," since it "could be counterproductive to split up the consolidated approach" attempted by AASHTO. By splitting up the document in separate rulemaking actions as the board suggested, Abramson said, the rulemaking would take at least an additional year to complete. Under the consolidated approach, Abramson said the agency expects to complete rulemaking sometime in 1981.

Abramson agreed with the allegation that AASHTO may have been concerned with tort liability when writing the guidelines, since "It's a serious concern any public official should have . . . even [for] his own personal liability." But he said that FHWA would review that position before issuing its official construction guidelines.

The comment period on the proposed design changes closed on June 14.

X-Body Cars Show Improved Collision Coverage Results

The early General Motors "X-body" cars continue to show somewhat better collision loss experience than other compact cars produced in the same period, the Highway Loss Data Institute (HLDI) has reported.

"The average loss payments per claim were approximately the same for the two sets of cars," HLDI reported, "but the claim frequencies were substantially lower for the X-body cars." A preliminary study of the X-body cars in comparison with other compacts of the same period had produced similar results. (See *Status Report*, Vol. 15, No. 2, Jan. 25, 1980.)

The X-body cars — the Buick Skylark, Chevrolet Citation, Oldsmobile Omega, and Pontiac Phoenix — were introduced in April 1979 as early 1980 models. HLDI compared results for the X-body cars produced before Sept. 1, 1979, with 1979 compacts insured after April 15, 1979.

The Oldsmobile Omega was tied with the AMC Concord for the best record among two-door models with a relative average loss payment per insured vehicle year of 70. (Results are stated in relative terms, with 100 representing the overall result for *all* 1979 models insured after April 15, 1979.) The Omega also ranked first among regular four-door models (59), with the Pontiac Phoenix second (64).

For the X-body two-door models there was an overall loss payment per insured vehicle year that was 19 percent below average for all cars, while the other compact models were 12 percent below average. For four-door models, the X-body results were 30 percent below average, and the result for the other compacts was 25 percent below average.

**LOSS PAYMENT SUMMARY BY BODY STYLE
COMPARISONS OF 1979 AND EARLY* X-BODY COMPACT MODELS — COLLISION COVERAGES**

BODY STYLE	TOTAL EXPOSURE (INSURED VEHICLE YEARS)	RELATIVE CLAIM FREQUENCY	RELATIVE AVERAGE LOSS PAYMENT PER CLAIM	RELATIVE AVERAGE LOSS PAYMENT PER INSURED VEHICLE YEAR
Regular 2-Door Models	162,427	97	91	88
X-Body 2-Door Models	29,569	86	93	81
Regular 4-Door Models	53,163	83	89	75
X-Body 4-Door Models	32,148	79	89	70
All Reg. 2- & 4-Door Models	215,589	94	90	85
All X-Body Models	61,717	83	91	75

Results for both model years are standardized to the following distribution of exposure:

DEDUCTIBLE	YOUTHFUL OPERATOR	NO YOUTHFUL OPERATOR
< \$150	10%	60%
≥ \$150	5%	25%

*X-body cars produced prior to September 1, 1979 and sold as 1980 models.

Small Cars Dominate 1980-Model Collision Loss Data

Subcompact and compact models account for nearly 90 percent of the exposure for 1980 cars, the Highway Loss Data Institute (HLDI) has found in studying the collision insurance loss experience for the current models in their first six months. That was up sharply from the 1979 model experience, when the smaller cars made up 65 percent of the total.

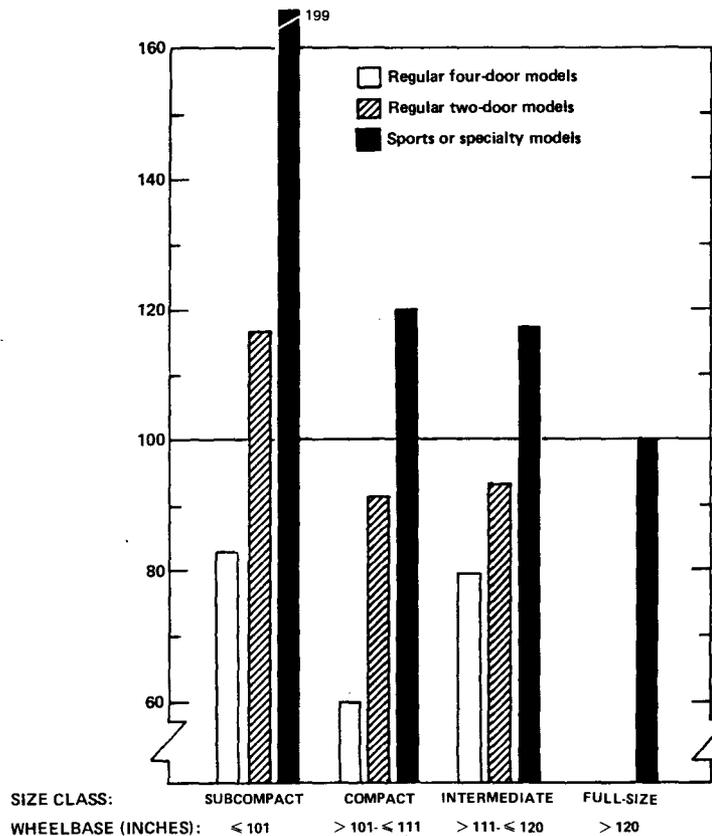
The trend to smaller cars inspired by fuel economy demands also is shown in HLDI's finding that subcompacts account for almost half of the total exposure, compared with less than 30 percent for the 1979 subcompacts.

Initial collision coverage losses for the 1980 models increased when compared with 1979-model-year results from the same calendar period. The overall claim frequency increased 5 percent and the overall average claim size increased 7 percent, resulting in a 12 percent increase in the overall average loss payment per insured vehicle year.

No Increase For Compacts

In one respect, however, there was no increase in the 1980 results. The compact size class had no increase in the average loss payment per insured vehicle year. "This may be due in part to the fact that the make-up of this size class changed radically for the 1980 models with the introduction of the large-selling GM X-body cars," HLDI explained. (See story on page 5.) The average loss payment per insured vehicle year increased in the other three size classes, ranging from 5 percent for full-size cars to 24 percent for the intermediates.

**Collision coverage loss experience
relative average loss payments
per insured vehicle year - 1980 models**



Three of the X-body cars had the lowest relative average loss payment per insured vehicle year. These were the four-door Buick Skylark (54), four-door Chevrolet Citation (58), and the four-door Pontiac Phoenix (58). Those cars with the highest relative average loss payment per insured vehicle year were the Toyota Celica (190), Mazda RX7 (189), and Pontiac Firebird (173).

The four-door Oldsmobile Delta 88 (61) and the four-door Buick Skylark (69) had the lowest relative claim frequencies, and the Mazda RX7 (175) and Toyota Celica (169) had the highest.

The HLDI report, "Automobile Insurance Losses, Collision Coverages; Initial Results for 1980 Models," is available by writing the Highway Loss Data Institute, Watergate 600, Washington, D.C. 20037.

What Is 'Adequate' Skid Resistance, Institute Asks

"Specific and objective" standards on skid resistance are long overdue, the Insurance Institute for Highway Safety has told the Federal Highway Administration (FHWA) in comments on the agency's proposed rulemaking on that subject. The Institute was critical of the FHWA's proposal, which calls only for "adequate" skid resistance on road surfaces.

"Amazingly, and especially in view of the huge loss of life and property produced by skidding on inadequate road surfaces, nowhere in the proposed rule is 'adequate skid resistance' defined," the Institute commented. "In view of the very broad aims of this policy, one would have expected detailed criteria, standards, and guidelines as to what constitutes adequate skid resistance. Any rule that purports to address skid resistant pavement surface design but that only uses vague and subjective terms such as 'adequate' is a sham."

Specifics Are Possible

The Institute pointed out that considerable progress has been made in pavement research and maintenance, much of it funded by the FHWA, making it possible for minimum performance levels for skid resistance to be specified in objective terms. Great Britain, West Germany, France, Japan, and the Netherlands were cited as countries that have established detailed specifications. In this country the Transportation Research Board published tentative skid resistance guidelines for main rural highways in 1967, the Institute observed, yet these have never been adopted as national minimum standards.

In addition to the lack of specifics on adequate levels of skid resistance, the Institute found these weaknesses in the proposed FHWA rule:

- It lacked details on the permissible levels of deterioration of skid resistance, depending on age, volume of traffic, and traffic speeds.
- The proposal failed to specify the types of road geometry, such as curves, intersections, and downgrades, that need particular attention.

Minimum Standards Urged

With these criticisms in mind, the Institute urged FHWA to propose "a rule that specifies minimum performance standards in terms of skid numbers at 40 mph (SN₄₀) that are based on current knowledge and objective available testing equipment. It should also specify these minimum standards as a function of expected traffic volume, and also as a function of specific road geometry, e.g., curves, intersections, or downgrades."

As a starting point, the Institute urged that the Transportation Research Board guidelines be adopted as "minimum skid values for all main rural highways, Interstates, and high risk locations."

NHTSA Makes Initial Finding Of Ford Transmission Defects

After nearly three years of investigation, federal safety officials have decided that most Ford cars and light trucks built since 1970 and equipped with automatic transmissions have dangerous design defects and are a threat to their operators.

Reaching as far back as the statute of limitations will allow, the National Highway Traffic Safety Administration (NHTSA) has made an "initial determination" of a safety defect in the vehicles produced from the 1972 through the 1979 model years. This could lead to the recall of some 16 million cars and light trucks, the largest vehicle recall in history.

NHTSA says the vehicles have one or both of two design errors, both of which can lead to an unattended car jumping from "park" into "reverse" gear. Some of the transmission designs involved have internal spring forces that can cause the unpredictable gear shifting, the agency said, while others have features that can lead drivers to believe they have shifted into park when in fact the transmission is positioned between park and reverse. The potential recall covers Ford vehicles with C-3, C-4, C-6, FMX, and JATCO automatic transmissions.

Reports Of 98 Deaths

The vehicle safety agency reported receiving more than 23,000 complaints from Ford owners about occasions when their vehicles slipped into gear. Among these were reports of more than 6,000 crashes, including 98 fatalities and 1,710 injuries attributed to the transmission problem.

NHTSA has set a public meeting on the initial finding for 9 a.m., July 21, in Room 2230 of the Nassif Building, 400 Seventh St., S.W., Washington, D.C. At that time the Ford company will have an opportunity to counter the allegations, and any interested individual may present data or opinions on the problem. Those wishing to participate should contact Joyce Tannahill at 202-426-2850 prior to the meeting date.

NHTSA Alerted To Transmission Problems Four Years Ago

The records reveal that NHTSA was alerted to the potential Ford transmission problems nearly a year and a half before opening a defect investigation.

Although the agency didn't open an inquiry until Oct. 18, 1977, the Insurance Institute for Highway Safety notified NHTSA on June 18, 1976, that it had learned of two personal injury lawsuit verdicts against Ford as the result of transmission park-into-reverse incidents and requested an investigation. NHTSA acknowledged the letter on July 16, 1976, but took no action and did not place the letter in the investigation docket until January 1978, when the Institute reminded the agency of the earlier report.

The Institute had learned of the personal injury verdicts in a legal periodical. One was for \$199,410 in a case of pelvic dislocation and hernia resulting when a car jumped into reverse as the driver exited the vehicle, and he was dragged 25 feet and thrown under a front wheel. The other case involved a \$700,000 verdict for a man who lost a leg when he was pinned against a telephone pole after an unattended pickup truck slipped into reverse.

Meanwhile Joan Claybrook, NHTSA administrator, has warned owners of the pre-1980 Ford vehicles to be particularly careful in using the park gear. "Owners should make sure that their gear shift levers are shifted all the way to the park position," she said, "that the parking brake is set, and that no vehicles should ever be left unattended with the engine running."

Tennessee Law Brings Some Gains In Child Restraint Use

Two and one-half years after the nation's first child restraint law went into effect in Tennessee, observations indicate an increase in restraint use, although less than one-third of the affected children seen were properly restrained.

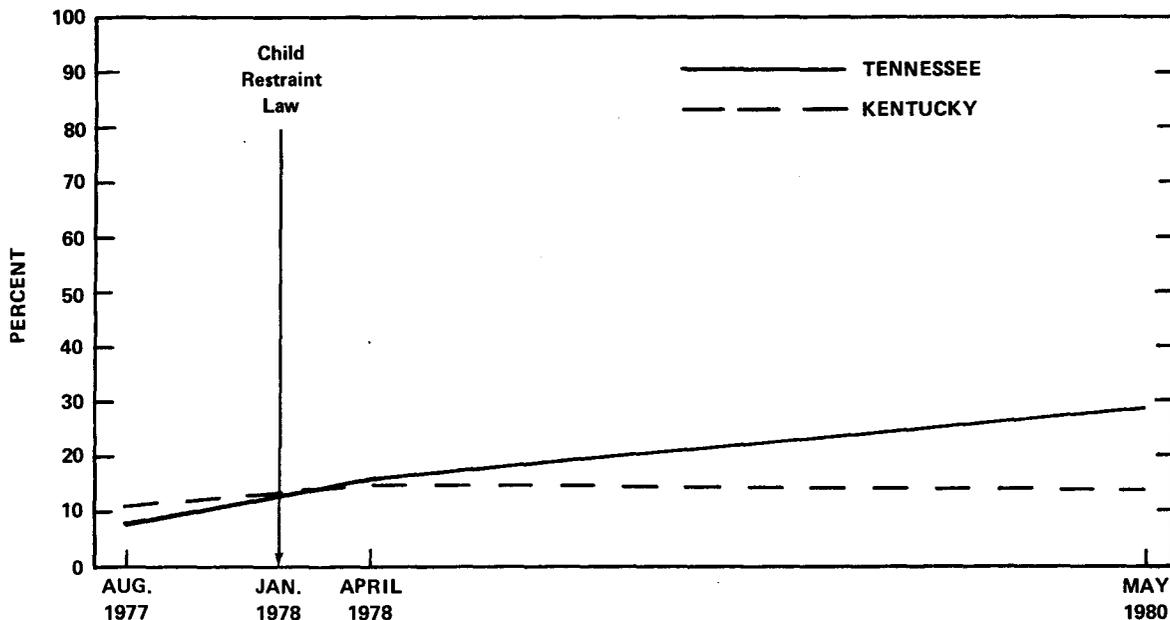
The survey by the Insurance Institute for Highway Safety repeated observations of child travel in Knoxville and Nashville made twice before. (See *Status Report*, Vol. 13, No. 7, May 31, 1978.) The first time, in August 1977, before the law took effect, only 8 percent of the children under the age of four years were being carried in child restraints anchored by seat belts. A second study, in April 1978, shortly after the law became effective, showed use doubling to 16 percent. Observations recently completed showed the restraint use had climbed to 29 percent.

Parallel studies were conducted each time in Lexington and Louisville, Kentucky, where no child restraint law was in force. From 11 percent use in the initial observation, the Kentucky figure was 15 percent in April 1978 and only 14 percent in May 1980.

The Tennessee law requires parents to use child restraints properly when transporting children less than four years old. The law has been criticized for permitting the alternative of the child being held in an adult's arms, a practice known to be hazardous rather than protective. The May 1980 study found the travel in arms in Tennessee at the same level (23 percent) as prior to the law, although in April 1978 that figure had jumped to 38 percent in one city.

Rhode Island became the second state to require child restraint use with the enactment of legislation last month. The law will take effect in that state on July 1. (See *Status Report*, Vol. 15, No. 8, May 20, 1980.)

PERCENT USE OF CHILD RESTRAINTS ANCHORED BY SEAT BELTS BEFORE AND AFTER TENNESSEE LAW IN FORCE



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General Motors cars could be equipped with the air cushion in this second year. In the fall of 1974, the air cushion would be made standard equipment on all 1975 General Motors passenger cars, most light trucks (under 6,000 lbs. GVW) and certain multipurpose passenger vehicles.

(On the strength of that promise, NHTSA eventually *delayed implementation* of its proposed passive restraint standard.)

November, 1970:

NHSB issues its standard requiring passive restraint protection effective July 1, 1973 — a *six-month delay* from the January 1, 1973 date that it had been proposing for the standard.

December, 1970:

General Motors petitions NHSB to *slide the effective date of its passive restraint standard* only two months, from July 1, 1973 to September 1, 1973.

1971:

General Motors learns, in a survey it would not make public until 1979, that a *significant consumer preference exists for air bags* — between 40 and 50 percent of customers surveyed by the company would pay some significant amount for such protection. GM's summary of the survey results states that "the *Air Cushion Restraint concept is a viable one to the consumer*" and was "preferred over the passive harness system because it afforded equal protection, but was *judged far superior in all areas of style and convenience.*" (GM's emphasis.)

March, 1971:

The National Highway Traffic Safety Administration (NHTSA) *grants a two-year delay in the passive restraint standard* — until the 1976 model year — because of Nixon Administration fears about its economic impact on the auto industry.

February, 1973:

General Motors says that its "production plant experience" in building 1,000 air bag-equipped 1973 Chevrolets has "*contributed greatly* to the planning facilities and methods for *higher volume* air cushion system production." (Emphasis added.)

August, 1973:

Ed Cole, GM's president, writes DOT that GM is *cutting its planned production of air bag-equipped cars* during the 1974-75 model years from more than 1,000,000 to *no*

more than 150,000 units. Cole blames both DOT's standard-making process and GM tooling problems.

October, 1973:

Allstate Insurance Co., subsequently followed by many other insurers, announces a *30 percent discount* on medical and no-fault personal injury coverages for *air bag-equipped cars.*

February, 1974:

A GM spokesman acknowledges to the Insurance Institute for Highway Safety *Status Report* that it is *unlikely the company will build even 150,000 air bag-equipped cars* in the 1974-75 model years. (As it turns out, only about 10,000 were built during the 1974-76 model years.)

March, 1974:

NHTSA proposes a *revised passive restraint standard* to take effect with the 1977 model year.

April, 1974:

The IIHS *Status Report* notes that the DOT *passive restraint standard* — scheduled to take effect no earlier than the 1977 model year — *has already been outpaced by the performance levels of some existing air bag systems.* It summarizes a range of research, including the DOT's own Research Safety Vehicle, demonstrating that air bags can *substantially exceed the standard, even in small cars.*

May, 1974:

Two former GM officials, John Z. DeLorean and Robert F. McLean, tell a NHTSA meeting that air bags for front seat occupants should cost *about \$148 per car, not \$225 to \$335 as auto companies have claimed.* McLean adds that industry "hesitancy" about air bags is "very misplaced . . . I think the air restraint system could be a very powerful marketing plus, and if I were in a position to do it, I would be embracing that concept very aggressively in the industry. *I would love to have my line of cars with air bags sell against the other guy's without them. I would just knock them out of the way.*" (Emphasis added.)

May-June, 1974:

GM asks DOT for *further delays in the passive restraint standard's effective date*, claiming that the standard's requirements "in addition to being unreasonable, failing to meet the need for safety and not being stated in objective terms, . . . are neither demonstrably practicable nor appropriate for all vehicles."

September, 1974:

Ed Cole, a *strong supporter* of air bag technology, retires as president of GM.

December, 1974:

NHTSA issues cost-benefit analyses showing that *air bags are superior* to lap-shoulder belts.

April, 1975:

A GM spokesman tells the Insurance Institute for Highway Safety that the company *may abandon all plans to offer air bags even as optional equipment on 1977 and 1978 models*. He tells the IIHS Status Report that the decision will make "a hell of a dent" in any possible federal passive restraint requirements for those years.

May, 1975:

During NHTSA's five-day public meeting on passive restraints, GM reports extensively on successful laboratory and field experience with air bags. Stating that *its evidence "has not indicated a significant deployment-induced injury or loss of control hazard,"* GM adds that "there have been no established cases where the air cushion failed to deploy" when it should. But GM, *hedging even further its earlier promises*, says it is "a very, very severe question" as to whether it will be making 100,000 air bag-equipped cars — even by the 1977 model year.

August, 1976:

An IIHS poll *finds that "a great majority of car-buying Americans prefers automobiles with increased crash protection that is completely or at least partly automatic* — such as air bags, or belts and bags in combination," rather than active protection.

November, 1976:

A *front-page expose in the Wall Street Journal* examines GM claims that consumers do not want air bags. It finds that *although GM put air bags into 10,000 luxury cars during the 1974-76 model years — and sold all those cars — GM "failed to push" the system*. The air bag "received no wholehearted promotion," the *Journal* reports. "*Instead, the company and its dealers actively discouraged sales.*" (Emphasis added.)

December, 1976:

DOT Secretary Coleman's passive restraint decision calls for *agreements under which GM and other companies will voluntarily build air bag-equipped cars. A maximum of 300,000 such cars are promised by GM*, with a minimum commitment of 30,000 cars over two model years. The program is to begin in September, 1979. GM's air bag cars are to be intermediate-sized models, and *the air bags are to retail for \$100*. GM agrees to "specific measures to assure that the cars are marketed effectively," Coleman says.

January, 1977:

Former GM president Ed Cole, in letters to William

Haddon, Jr., M.D., IIHS president, says:

"I firmly believe the air cushion system can be made to work successfully at a reasonable cost . . . The technology is available and the need is there. I think the only way passive restraints are going to get to first base is to make them mandatory. Another test will prove nothing. Let the passive air cushion evolve like all other systems." (Emphasis added.)

Cole also lists numerous reasons why *belt systems cannot protect as effectively as inflatable systems in crashes*.

March, 1977:

Secretary Adams, *putting aside the Coleman decision*, reopens the passive restraint case. "I am concerned that the negotiated contracts between DOT and the auto makers represent *a 5-8 year delay in any decision to install passive restraints in all passenger cars,*" he says. (Emphasis added.)

May, 1977:

In comments to the docket, GM *expresses pessimism that the public will accept automatic restraints* based on its experience with the air bag-lap belt system marketed in 1974-76 models.

June, 1977:

A *Gallup Poll* shows that by a vote of 46 to 36 percent, the *public endorses the installation of air bags* in all new cars. It shows that young adults (18-29 years old) are strongest in support of air bag use, with *65 percent favoring their installation*.

July, 1977:

Secretary Adams announces his decision to mandate the *phased introduction over a six-year period of passive restraints*. He permits a *full four-year lead time* before the first passive restraints will be required in large cars and calls for *continued auto company participation in the Coleman plan until then*:

This lead time accords with General Motors' requested lead time to accomplish the change for all model lines. Equally important, the 4-year lead time represents a continuation to its logical conclusion of the early voluntary production of passive restraints represented by the December 1976 decision. The continued opportunity for early, gradual, and voluntary introduction of passive restraints to the public in relatively small numbers offers a great deal of benefit in assuring the orderly implementation of a mandatory passive restraint requirement. (Emphasis added.)

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July, 1977:

General Motors' reaction to Adams' decision: "Should Congress uphold the decision of Secretary Adams, General Motors intends to do the *best possible job* to equip our cars with passive restraints in accordance with the regulations." (Emphasis added.)

September, 1977:

At a Senate hearing on the Adams decision, IIHS provides the results of its analysis of GM's own data comparing real-world crashes of GM air bag-equipped cars with those of non-air bag cars. The analysis shows that "*serious head, face, neck, and torso injuries (that is, injuries that produce the overwhelming bulk of fatal and disabling conditions) are down 44 percent*" for air bag cars compared with non-air bag cars.

September, 1977:

At a hearing before the House Subcommittee on Consumer Protection, GM testifies that *still another demonstration program is needed* to provide real world data. GM says it would support a demo program, promising to put air bags in their full-sized cars in 1981. GM also says it will pursue a program to introduce automatic belts in a small Chevrolet model and a luxury model in the 1979 model year.

1978:

A GM study involving more than 1,000 GM car owners — not made public until 1979 — concludes: "*The air cushion restraint system . . . received the highest ratings on all operation, comfort, and appearance items evaluated.*" (Emphasis added.)

January, 1978:

Eaton Corp., a leader in air bag development, drops out of the supply business because it fears that future sales will not justify its investment. Eaton says that auto companies will probably equip smaller cars with *passive belts instead of bags*.

June, 1978:

Former GM official Robert McLean writes NHTSA that in mid-1970, he was *relieved of his position as project manager for air cushion system development because GM's Washington office had decided that:*

I was too aggressive in promoting the air cushion systems and that it was known that I was in disagreement with the tendency on the part of GM to slow down on the pace of air cushion development in the second half of 1970. (Emphasis added.)

September, 1978:

Two surveys, one by Volvo and one by Peter D. Hart Associates under contract with NHTSA, find that air bags were the *overwhelming favorite over passive belts*. The Hart survey shows most consumers prefer air bags, *even if they cost \$100 more than the belts*.

On questions concerning consumer attitudes toward manual belts, respondents indicating they don't wear belts say it is because the belts are uncomfortable and inconvenient. *Thirty-seven percent say nothing could be done to make them wear their belts most of the time.*

December, 1978:

Allied Chemical, a pioneer in air cushion restraint development which has also done extensive work for GM on the inflatable restraints, *announces it is "reluctantly" dropping out of the business*. It cites its own projections that "a great majority of automobiles" would be equipped with passive belts instead of air bags to meet the DOT standard.

1979:

A GM study (not publicly released until later) based on in-depth interviews with Chicago owners of large GM cars reports: "With passive belts and an Air Cushion Restraint System available, *70 percent of the total principle driver sample selected the air bag* even when they were told its cost would be more than four times the cost" of a passive belt system — or \$360. (Emphasis added.) *Ten times as many customers preferred air bags* over an automatic belt costing less than half that amount.

June, 1979:

NHTSA disputes GM's estimated price of \$581 for air bags in new cars. In a letter to GM, the agency notes that the estimate is substantially higher than Ford's, and also that it is "*more than double your earlier estimates*" at higher production levels.

August, 1979:

The Automatic Occupant Protection Association, whose members are air bag suppliers, warns in a Status Report interview that *continued delay in the offering of air bags by car companies seriously threatens the existence of the industry*.

September, 1979:

In answer to a question from Phil Donahue on the "Today Show," E. M. Estes, president of General Motors, admits that GM "*didn't really push*" air bags when it made them available as options in a few 1974-76 luxury models.

October, 1979:

GM warns of alleged problems concerning possible injury hazards to out-of-position children. Safety experts *doubt that the problems are valid*, or that they should hold up availability of air bags. However, GM says that because of the problems, it will *not offer air bags as options during the 1981 model year.*

December, 1979:

GM announces it has *solved its supposed problems involving air bags and possible hazards to out-of-position children*, and *promises to "offer a full inflatable restraint system as an option at the start of the 1982 model year."*

December, 1979:

John Burton, the Chairman of the House Government Activities and Transportation Subcommittee (Government Operations Committee), announces that in response to a subcommittee request, *GM has reluctantly turned over to him four internal GM consumer surveys.* The studies — carried out in 1971, 1975, 1978, and 1979 — all show very strong consumer demand for air bags in new cars.

January, 1980:

A NHTSA survey shows half of the people questioned in a nationwide survey would buy air bags, *even if they cost \$200 more than automatic belts.*

March, 1980:

Mercedes-Benz announces that it will equip *all 1982 model cars sold in the U.S. with air bags — including cars not covered by the DOT standard.* It thus becomes the *first manufacturer* to give such protection to Americans on a routine basis — and possibly the only one offering air bags to buyers in 1982 at all.

March, 1980:

GM informs NHTSA that, its earlier commitments to the contrary, it *"does not plan to offer inflatable restraints on medium or small size cars" in the 1982-86 model years*, but may still offer them on full-size 1982 cars.

It also admits in the filing that its "initial intent" was "to market an inflatable restraint option in our full-sized 1981 model year cars," and that this plan has also been dropped.

March, 1980:

In its "1980 Public Interest Report," GM pledges that the company *"will offer an inflatable restraint (IR) extra-cost option on most full-size 1982-model cars."*

March, 1980:

An informal survey of dealer showrooms by the IIHS

reveals a dearth of cars available with Chevrolet's highly touted automatic safety belt.

April, 1980:

A GM memo circulated on the Hill in support of the Stockman Amendment says the company *plans to "accommodate" a level of air bag demand in 1982 models involving about 250,000 full-size car purchasers*, a reduction from previous plans to produce 400,000.

June, 1980:

GM announces that it has *cancelled plans to provide air bags as options in its large 1982-models* — despite having promised to do so only a few months earlier both in its "1980 Public Interest Report" and in a filing with NHTSA. This means that GM will offer *no* air bag-equipped cars in the 1982 model year. *Some 100 companies supplying air bag components to GM stand to be affected* so severely that they may not be able to stay in the business.

June, 1980:

In response to a *Washington Post* editorial critical of the U.S. auto industry, GM chairman Murphy *ignores GM's earlier arguments in favor of a phased introduction of passive restraints starting with large cars.* Murphy writes:

... some government standards clearly favor the imports. For example, passive restraint systems must be installed in family-sized cars in 1982, but not until two years later in the small-sized cars that are typical of most imports.

June, 1980:

At a breakfast meeting with reporters at the National Press Club, GM chairman Murphy estimates that *GM would save \$20 million by delaying optional air bags from the 1982 to 1983 full-size cars.* He is then asked by a reporter for *Newhouse Newspapers*, "What about the 7,000 lives?" Murphy responds:

Well, the 7,000 lives, that's when you put airbags in every car. So, we're only talking about one year, one year. They're talking about air bags, I think that's what they're talking about, when the air restraints are on every vehicle on the road. When is that going to happen? As I keep trying to remind you, it isn't going to happen for probably 15 years. You're not going to replace all those other cars on the road.

Had GM honored its pledge made in 1970 to provide air bags first as options and then as standard equipment on all its cars by the 1975 model year, a substantial majority of all GM cars now on the road would be equipped with air bags.

Longer Working Hours For Truckers Opposed

Little support has been mustered in Federal Highway Administration (FHWA) docket comments for a proposal by independent truckers to relax driving time restrictions and to abandon certain record-keeping requirements.

In a letter to the FHWA, the National Transportation Safety Board has argued that no easing of existing work rules should be made “unless there is convincing evidence that such expansion would not reduce safety.”

Owner-operators had filed a petition with the Bureau of Motor Carrier Safety (BMCS), a subdivision of the highway agency, after meeting with White House officials last year. In their petition, the independent truckers asked the bureau to drop present log book provisions which require drivers to record time spent on duty and driving, and replace them with a simpler, log-in/log-out system on bills of lading. The operators also asked that the hours-of-service work rules be amended to increase the allowable daily driving time from 10 to 12 hours. They urged that the on-duty work limit be extended from 80 to 96 hours in an eight-day period.

Such changes, the independent truckers said, would help reduce paper work and help them cope with the rising cost of fuel as well as the economic impact of the nation's 55 mph speed limit. (Most independent truckers are paid either by the load or the mile.)

Research Still Under Way

In its comments on the proposed rule changes, the safety board pointed out that no studies have been done to ascertain the safety impact of a change in the hours-of-service regulations. However, the bureau said that a research contract is under way to analyze the relationship between fatigue, hours of service, and the safe operation of trucks and buses.

In addition, the safety board noted that any move to alter the present record-keeping requirements for truckers would be premature, since the BMCS is still conducting a study to evaluate alternatives to the present system.

The New Jersey Turnpike Authority also opposed dropping log book requirements or any extension of work rules, citing its analysis of crashes occurring on the New Jersey Turnpike last year.

Trucks Overrepresented In Crashes

Out of a total of 3,160 crashes on the New Jersey Turnpike during 1979, the authority wrote, there was a total of 1,339 (42 percent) crashes involving trucks. The truck crash rate was 283 crashes per 100 million vehicle miles, compared to 112 per 100 million miles for all vehicles, they reported. “This means a 152 percent rate of involvement greater than all vehicles,” even though trucks comprised only 14 percent of the total traffic volume, the authority said.

Examination of truck-related crashes, the turnpike authority said, revealed that 30 percent listed the contributory cause as “inattentive driving” or “falling asleep.”

“Based on our experience in investigating numerous truck accidents, we feel quite certain that the great majority of inattentive truck driving accidents are due to fatigue,” the authority wrote.

In a recent study, the BMCS reported that lack of rest for commercial truck drivers was the chief cause of truck collisions into vehicles parked on highway shoulders. (See *Status Report*, Vol. 15, No. 6, April 15, 1980.)

Few drivers who were employed by trucking firms appeared to support the independent truckers' position, and many trucking firms, along with employee groups and the American Trucking Associations, opposed the proposals.

One driver wrote, "By the time a driver has logged 70 hours, that driver usually has 80 or maybe 90 hours on duty time anyway, even though part of that time could be just waiting around. If the total amount of on-duty hours is changed to 96 hours in eight days, who knows how many hours some drivers would have on duty."

Truck Rule Amended To Require Brakes On All Wheels

New buses, truck tractors, and truck trailers equipped with air brakes soon will be required to have brake systems that act on all wheels – but the new rule will cause little change. The National Highway Traffic Safety Administration (NHTSA) said it is taking that step to prevent a "serious downgrading" in the brakes of heavy vehicles following the 1978 invalidation of a major portion of the federal air brake standard – Federal Motor Vehicle Safety Standard 121 (see *Status Report*, Vol. 13, No. 6, May 8, 1979).

There have been reports "from several manufacturers that some trucks and trailers were soon to be constructed without front axle brakes," NHTSA said. That would increase stopping distances, the agency concluded, noting that existing heavy duty vehicles with front axle brakes "already have longer stopping distances than many smaller vehicles on the road." To "permit a reduction in the braking capabilities of heavy vehicles that would result in exacerbating the disparity between the stopping distances of heavy and lighter vehicles could result in an increased risk of accidents to the occupants of both groups," NHTSA explained.

The requirement, which is scheduled to take effect July 24, does not address the stopping power of the brakes.

As first proposed, the new requirement would have been part of a new safety standard – FMVSS 130 – which NHTSA is planning as a replacement for FMVSS 121 (see *Status Report*, Vol. 14, No. 4, March 8, 1979). But the agency agreed to include the requirement under FMVSS 121 because of manufacturer objections that the use of the new standard number at this time would needlessly require new paper work, such as changes in certification labels.

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the highway loss reduction

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