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the highway loss reduction

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NHTSA Proposes Rule To Allow Securiflex Windshield Use In U.S.

Efforts to have an improved type of anti-lacerative windshield accepted for use in U.S. vehicles appear near success after three years. The National Highway Traffic Safety Administration (NHTSA) has proposed rulemaking that would permit the use of glass-plastic glazing such as the French Securiflex windshield.

Under the rulemaking proposal, use of the Securiflex-type windshield would be acceptable but not required, and similar glazing materials would be approved for use elsewhere in the vehicle at the auto maker's option.

While the comment period on the rulemaking will run until April 25, NHTSA indicated in its *Federal Register* notice that practically all of its questions about the use of glass-plastic glazing had been answered satisfactorily.

Agency Recognizes 'Potential'

"The agency has always recognized that glass-plastic glazing would have substantial potential for reducing lacerative injuries in motor vehicle accidents," NHTSA said, "and has now tentatively concluded that the standard can and should be amended, consistent with and in furtherance of the interests of the safety of occupants, to permit this type of glazing in the windshield and all windows of motor vehicles."

The Securiflex windshield is one consisting of the usual two layers of glass laminated around a layer of plastic, with an extra film of polyurethane covering the surface on the inside of the vehicle. Applied to the regular high penetration resistant windshield which has been required on U.S. vehicles, the Securiflex coating is designed to protect a person crashing into the windshield from painful and disfiguring lacerations from the shattered glass.

The makers of the Securiflex windshield applied for acceptance of their product early in 1980, but NHTSA ruled that an abrasion test specified in FMVSS 205 for windshield glass applied equally to both inner and outer surfaces of the windshield. Since the Securiflex had the inner surface covered with a soft, self-healing polyurethane coating, the ruling had the effect of barring it from U.S. use.

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Former Congressmen Say Bumper Rollback Exceeded Authority

Two former Congressmen who were key sponsors of the 1972 Cost Savings Act have intervened in a federal court challenge of the bumper standard rollback with a stinging rebuke of the National Highway Traffic Safety Administration (NHTSA).

John Moss, former Democratic Congressman from California, and Bob Eckhardt, former Texas Representative, filed an *amicus curiae* (friend of the court) brief in the U.S. Court of Appeals for the District of Columbia, saying they were "shocked to observe" NHTSA's retreat to a 2.5 mph bumper standard from the 5 mph standard.

"That action is wholly at odds with the language and legislative history of the 1972 Cost Savings Act," Moss and Eckhardt said, "and defies Congress' fundamental purpose in directing NHTSA to promulgate bumper standards that would both protect safety equipment in cars and 'seek to obtain the maximum feasible reduction in costs to the public and to the consumer.'"

By rolling back the bumper standard, the two former Congressmen pointed out, NHTSA not only contravened the Cost Savings Act but also damaged the effectiveness of the 1966 Safety Act, under which a 5 mph bumper *safety* standard was issued. "Both the Senate and House reports recognized the compatibility

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Former Congressmen Say Bumper Rollback Exceeded Authority

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of the bumper safety standard and the no-damage standard," Moss and Eckhardt said, "and noted that safety considerations must outweigh economic considerations. ...Moreover, it was made clear to the entire Congress during the debate on the bill that the 5 mph safety standard was to be the starting point for developing the no-damage standard."

There was no question among House Commerce Committee members considering the Cost Savings Act but that "we were talking of a 5-mile standard," they added.

"Unfortunately, it would have been counterproductive to write this standard into the Cost Savings Act," the former Congressmen explained. "If '5 mph' had been explicitly stated, no matter how we modified the reference, it would have become the ceiling rather than the floor. Industry is adept at 're-writing' a minimum standard to make it a maximum. The last thing Congress intended was to freeze technology at 1972 levels."

As the result of the rollback action, the two said, "NHTSA is allowing auto manufacturers to foist upon the public bumpers that are *worse* than those which were required by the safety standard when we passed the Cost Savings Act."

For the two sponsors of the 1972 legislation, the record makes the conclusion obvious: "Nothing could be more clear. The Cost Savings Act gave the Secretary power to promulgate a no-damage bumper standard *over and above* the 5 mph safety standard. We certainly intended to confer no authority to weaken the existing 5 mph safety standard. In its recent action, NHTSA has thus exceeded its authority and, for that reason, it should be reversed by this Court."

Moss was chairman of the House Subcommittee on Commerce and Finance that reported the Cost Savings Act, and Eckhardt was a subcommittee member who later became chairman.

NHTSA rolled back the bumper standard last May. (See *Status Report,* Vol. 17, No. 7, May 24, 1982.) The Center for Auto Safety and State Farm Mutual Insurance Co. filed for judicial review of the rollback decision last July and were later joined in the challenge by Allstate Insurance Co. (See *Status Report,* Vol. 17, No. 10, July 22, 1982.)

Why Doesn't Auto Industry Promote Safety? Senator Asks

The U.S. auto industry may be the victim of its own shibboleths, making it difficult for policymakers to shift direction and provide technological innovations to lower highway deaths and injuries, an official of the Insurance Institute for Highway Safety has suggested.

In the second of three days of hearings on motor vehicle safety and durability, Sen. John Danforth (R.-Mo.), chairman of the Senate Surface Transportation Subcommittee wanted to know why automakers don't voluntarily introduce known technologies that would significantly reduce deaths and crippling injuries.

"I think the failure of the auto companies to do this on their own initiative ... is due to a combination of considerations," said Ben Kelley, senior vice president of the Institute. "First of all, I think the companies, at least the domestic U.S. companies, are somewhat trapped by their own shibboleths of the past.

"They have said so often that 'It's not the car, it's the driver,' and they've said so often that 'safety doesn't sell' — even though that's been disproved in the marketplace on the few occasions that safety has been offered — that I think it's very hard for them to get out of that mindset, that historical mindset, and break into a new view."

Crash Talk Is 'Poor Form'

Kelley said automakers are reluctant to talk about car crashes. "You can't sell an air bag unless you talk about a car crash," said Kelley. Talking about such things is considered "poor form" and the use of "negative imagery."

Injury-limiting technologies are best understood "in the context of the automobile as a crash package — a moving container holding precious human cargo," said Kelley in his prepared testimony. "In a violent impact, the likelihood of damage to that cargo will increase or decrease depending on how the package was designed in the first place." He pointed to the National Highway Traffic Safety Administration's (NHTSA) recently discontinued research safety vehicle project, which incorporated known technology to produce prototype cars that were fuel-efficient, yet could protect occupants in a 50 mph crash or rollover.

Kelley said NHTSA apparently has discontinued distribution of television public service announcements concerning the RSVs.

Peck and Danforth Agree — to a Point

Raymond Peck, National Highway Traffic Safety Administration chief, told a Senate subcommittee he agrees air bags ought to be put in cars, but he left Sen. John Danforth (R.-Mo.), the subcommittee chairman, puzzled about Peck's position.

The following exchange occurred on March 11 during the third day of hearings on automobile safety and durability before the Senate Surface Transportation Subcommittee:

"My view is," said Danforth, "... if after a decade or more of various tests, crashing cars, and all the things that are done to make sure they work ... if it would be clearly a safety feature ... why not just mandate it in cars? ...Instead of fooling around with it and putting it in some government fleets ... if you have a very good body of knowledge that a feature works, then why not put it in the car."

Peck replied, "I certainly agree in general with your statement. In this particular technology, our purpose is not to demonstrate the technology works. We know that it does work. The issue is public acceptability." Peck added that he hoped the government's demonstration program would spur the introduction of air bag technology into the marketplace.

Danforth still had doubts. "How are you ever going to market this if, first of all, the auto industry doesn't want to advertise safety? I don't understand why they don't. But I know one of the auto manufacturers had some pretty good testimony presented on its behalf [concerning bumper performance] and after the hearing they approached the staff of this subcommittee and complained about it." (Subcommittee staff members confirmed the senator was referring to Ford representatives' comments after the recent bumper hearing.)

Danforth continued, "I mean, it is as though the auto industry by and large, never wants to mention safety. They claim it doesn't sell. And if the auto industry isn't mentioning it, then who is going to?...

"The Department of Transportation in prior administrations had television commercials which they provided TV networks for public service announcements. We had one shown yesterday with respect to the RSV research safety vehicle. That isn't being shown to the public by the Department of Transportation any more.

"*The Car Book,* which was an effort to educate the public as to safety, is defunct.

"I don't know how this groundswell of support for air bags is going to come if the auto industry isn't interested in advertising it, if the Department of Transportation doesn't want to advertise safety matters, and if the whole effort of NHTSA seems to be to move backward rather than forward with respect to pushing a variety of safety standards."

"It is not only marketplace failure that is denying Americans the right to buy better car crash protection," said Kelley, noting a NHTSA regulation which has prohibited the use of anti-lacerative windshields. (Shortly before the hearing, the agency announced proposed rulemaking that could result in a standard permitting the use of the windshields. See report on page 1.)

"Air bags, anti-lacerative windshields, injury-reducing designs for side-impact crashes, ejection-resistant door locks — these technologies, developed years ago, could be saving thousands of lives and preventing tens of thousands of crippling injuries in America every year," said Kelley. "But they are not, and that is one of the greatest public health tragedies facing this country today."

Thomas McGrath, Jr., secretary-treasurer of the Automotive Occupant Protection Association, a group of air bag component developers, said it is now possible to put air bags in cars already manufactured. McGrath said that the Breed Corp. has developed a new sensor which eliminates the need to match the sensor response to the individual crush characteristics of different vehicles.

"A retrofit program would initially be driver-side only, which is accomplished by replacing the existing steering wheel with an air bag wheel, installing crash sensors, and providing an electrical diagnostic circuit," McGrath told the subcommittee. The air bag systems could be distributed and installed through auto service chains and/or new car dealers, he noted, bypassing involvement with vehicle manufacturers.

The company has bid on a request for proposals issued by the National Highway Traffic Safety Administration (NHTSA) for retrofitting state police cars with driver-side air bags. *(Cont'd on next page)*

Why Doesn't Auto Industry Promote Safety? Senator Asks

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Clarence Ditlow, head of the Center for Auto Safety, noted that NHTSA engineers had nearly completed work on a new deformable barrier system and development of dummies to be used in side-impact tests when the agency terminated side-impact rulemaking last July, saying "complex issues" had raised questions that would take "considerable time" for the agency to resolve.

Ditlow said a new side-impact standard is crucial for many Americans, since as cars have become smaller they have become increasingly vulnerable to intrusion in side impacts. This is because the applicable standard, Federal Motor Vehicle Safety Standard 214, is written so that side-door strength is dependent upon vehicle weight. "Under FMVSS 214," said Ditlow," a 2,500-pound compact car is required to resist a force of only 5,000 pounds ... in side crashes, while any car over 3,500 pounds must resist a 7,000-pound force. A subcompact weighing only 1,750 pounds need only resist a peak crush force of 3,500 pounds."

Other witnesses testified NHTSA has virtually ignored heavy truck safety issues since funding for research has been cut from $1.8 million in fiscal 1982 to $350,000 in 1983, an 80 percent reduction.

Mercedes Outlines Air Bag Plans At Senate Hearing

In an ironic twist long predicted by safety advocates, a foreign auto maker will soon offer air bags — a U.S.-developed technology — to American car buyers.

Not since 1975 have American car buyers been able to buy air bag-equipped cars. Now, Mercedes-Benz will make them available, on the driver side, on several 1984 models, including their least expensive series. Walter Bodack, president of the company's U.S. subsidiary, outlined the plans to Sen. John Danforth (R.-Mo.), chairman of the Senate Subcommittee on Surface Transportation.

The component parts of the Mercedes air bags are produced by European suppliers, with the exception of the device's solid-propellant gas generator, which is manufactured by a Utah firm, a spokesman for the company told *Status Report.* The option will cost between $800 and $900 in limited production, Bodack testified.

Mercedes-Benz automobiles range in cost from about $25,000 to $50,000. Bodack said he estimated the car maker would be able to sell air bags to about 10 percent of its customers in 1984, a production volume of about 5,000 cars. (See *Status Report,* Vol. 18, No. 2, Feb. 1, 1983.) The company plans to make the option available on all its models by the 1986 model year, based on customer acceptance, Bodack said.

"A well-designed vehicle is a safe vehicle," Bodack told the subcommittee, "and for decades safety has been selling at Daimler-Benz. Not safety in some abstract sense, but real safety resulting from good engineering, tested design concepts, and a product that is durable and reliable."

Bodack emphasized that the supplemental restraint system, consisting of an air bag and a knee bolster for the driver, and an automatic emergency tensioning retractor for the front seat passenger belt, is an adjunct to the three-point belt system for both. The air bag is actuated in a frontal collision into a rigid structure at a speed of 12 mph or more.

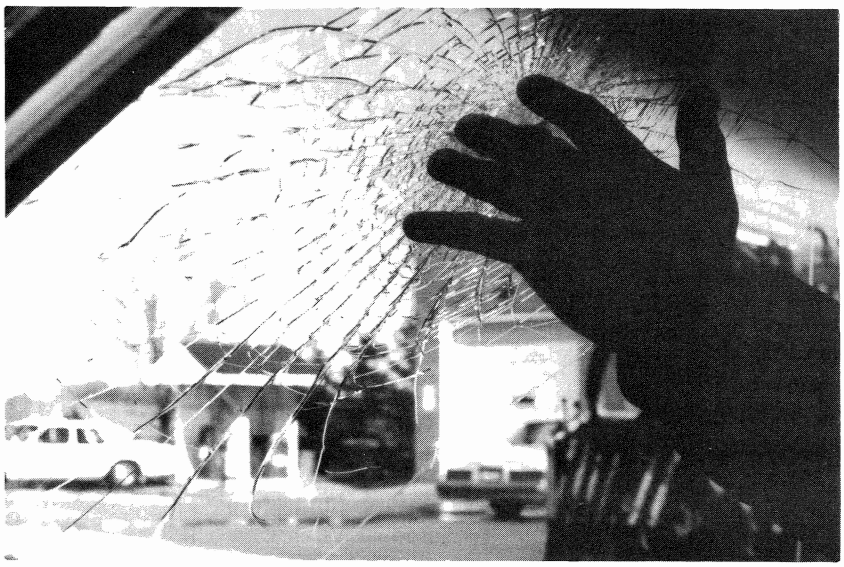
"The ultimate purpose of the system is to reduce to a minimum the possibility of belted front seat occupants being injured as a result of impacting the steering wheel or the dashboard in the event of a frontal collision," Bodack said. "This is not always possible with the use of three-point safety belts alone, nor is it intended that the driver rely only on the air bag to prevent injury."

'Subtle Transformations'

Howard H. Kehrl, vice chairman of General Motors, told the subcommittee that concentration on high-technology solutions "could diminish our effort in other areas that ultimately might offer greater benefits to our customers. We need to keep our focus on the reduction of harm to car occupants, and this often leads to improvements that involve very subtle transformations: a change in the design of door latch hardware, a new choice of materials or structure to improve the way a car crushes in a crash, or the use of more energy-absorbing material in vehicle interiors."

Kehrl said that this "basic" safety work "may lack the glamour of an air bag and receive less media attention, but it is an absolutely fundamental procedure that cannot be overlooked ...."

He noted that General Motors has received government approval to test a fleet of 2,500 cars equipped with a European anti-lacerative windshield "that reduces significantly the chances of even small facial cuts being inflicted by windshields broken in an accident." Kehrl urged a "go slow" attitude on getting



Members of the Senate Surface Transportation Subcommittee were shown a Maryland state patrol car with this shattered windshield at the recent hearing on vehicle safety. The car was one of a fleet of patrol cars equipped with the anti-lacerative Securiflex windshield, in a joint project among the Maryland State Police, the Institute, and St. Gobain Vitrage, which developed the windshield. Ford Motor Co. is a participant. A hand rubbed across the inner surface is protected from cuts, just as the patrolman who crashed into the windshield was protected from painful and disfiguring lacerations by the "inner guard" of polyurethane. Details of the crash will be reported in a future Status Report.

the windshields into all cars, citing "important questions" that need to be resolved first.

Sen. Donald Riegle, Jr. (D.-Mich.) asked Kehrl how soon they could be in every car. "There's a question whether this is the best design," Kehrl responded, adding he wouldn't like to answer the question. "I'm sure we can learn how to do it and there may be better ways to do it," he said.

Riegle asked, "Why not go ahead and incorporate it and go on to stage two or three? We've all known of people who've been injured and this is precisely the kind of thing that a cooperative attitude that can help us [go] forward," said Riegle.

In a prepared statement, Ford representative Roger Maugh called air bags "potentially promising" and noted the company is preparing to bid on a government contract to provide a fleet of air bag-equipped cars.

Maugh stressed the role of the marketplace in encouraging the introduction of safety-related technology. "If the market accepts the higher level of technology such as anti-skid brakes [the company has been working on] that acceptance will strongly influence manufacturers to invest more resources to make them available," he said.

"The same sort of relationship is working in the bumper area," Maugh said, adding that Ford retained the 5 mph bumper on its models "because we think that's the best trade-off we can give our customers with current technology."

Christopher Kennedy, director of Chrysler's office of federal government affairs, told the subcommittee his company expects to introduce improved seat belts in its 1984 models. Chrysler executives demonstrated a current model equipped with an optional computer warning system. If a driver fails to fasten his seat belt, the computer says in a clear voice, "please fasten your seat belt." Belt use rates in cars equipped with the option are being monitored to see if the vocal reminder works better than the current buzzer system, Kennedy said.

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The Securiflex makers then filed a petition in June 1980 to change the standard, and the Insurance Institute for Highway Safety endorsed the petition in a letter to NHTSA. (See *Status Report,* Vol. 15, No. 13, Aug. 14, 1980.) The petition was granted in December 1980, and the following month an advance notice of proposed rulemaking was issued. Only now has this been followed by the formal notice of proposed rulemaking.

Because the agency did not appear to be moving to correct the situation expeditiously and because of the prospect of additional months of delay and "countless needlessly lacerated faces," the Institute in April 1981 urged NHTSA hasten acceptance of the Securiflex windshield by removing the abrasion test for the inner surface. The request for this deregulatory action was rejected in August 1981. (See *Status Report,* Vol. 16, No. 12, Aug. 21, 1981.)

Among the possible concerns raised by NHTSA, in addition to the abrasion resistance of the inner film, have been possible delamination of the bonded glass and plastic, the effects of attaching rearview mirrors and decals to the plastic-coated surface, the ability of

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NHTSA Proposes Rule To Allow Securiflex Windshield Use In U.S. *(Cont'd from Page 5)*

the plastic coating to withstand body repair shop paint bake ovens, and the surface's resistance to possible frost accumulation and its removal. In the rulemaking proposal, the agency indicates it is satisfied that none of these has proved to be a problem.

At the recent vehicle safety hearings held by the Senate surface transportation subcommittee, a representative of St. Gobain Vitrage, makers of the Securiflex windshield, estimated that when produced in volume the new type of windshield will cost about $30 more per car. He told the subcommittee that it does not appear feasible for the French manufacturer to export the windshields, but that U.S. companies could be licensed to use the innovative process.

General Motors recently applied for and was granted permission to equip with Securiflex windshields 2,500 of its vehicles to be sold to rental car fleets. The purpose of the fleet project is to test durability of the new windshields in regular service. (See *Status Report,* Vol. 18, No. 1, Jan. 18, 1983.) However, the product already has received practical testing on tens of thousands of vehicles in Europe for several years.

Comments on the windshield rulemaking proposal should refer to Docket No. 81-04; Notice 3 and be directed to Docket Section, Room 5109, National Highway Traffic Safety Administration, 400 Seventh St. S.W., Washington, D.C. 20590.

Researchers Study Housefire Deaths

A study of housefires in Baltimore, Md., during 1976-78 has revealed a significant negative correlation between the housefire death rate and the property rental values of the neighborhoods. The lower the rental values, the higher was the death rate for both white and black residents.

The findings on the incidence and causes of housefires have just been published in the March 18th issue of *JAMA,* the journal of the American Medical Association. The study was conducted by two Johns Hopkins University researchers as an outgrowth of vehicle crash-related research supported by the Insurance Institute for Highway Safety and the Maryland Medical Legal Foundation.

Of the 55 Baltimore residents who died in housefires in the three-year period, more than half of the deaths resulted from cigarette-ignited fires. However, at least 12 of the 31 persons who died in cigarette-ignited fires were not the smokers of the cigarettes.

The research found the death rate particularly high from fires ignited by heating or electrical equipment in the census tracts with substandard housing. "Important avenues for future research include the characteristics of low-rent housing: for example, ignition sources, flammability of building materials, potential toxicity of combustion products, warning systems, and egress," the researchers said. "Most housing units in low-income areas are rented, which may make

HOUSEFIRE DEATHS IN RELATION TO MEDIAN RENTAL VALUE
Baltimore, Md., 1976-1978

Median Rental Value Quintile	No. Deaths	No. Fires	No. Fires with multiple deaths	Percentage Fires with multiple deaths
1 (Lowest)	13	10	3	35%
2	22	13	5	
3	10	8	1	13%
4	7	5	1	13%
5 (Highest)	3	3	0	
Total	55	39	10	26%

hazards easier to regulate than in the case of owner-occupied units. The role of electrical and heating equipment deserves special scrutiny, since deaths related to improper or faulty heating and electrical systems were nine times more frequent in low-rental than in high-rental census tracts."

The study, "Fatal Housefires in an Urban Population," was done by Marianne C. Mierley and Susan P. Baker. For reprints of the *Journal of American Medicine* article, address requests to Susan P. Baker, M.P.H., Associate Professor of Health Services Administration, The Johns Hopkins School of Hygiene and Public Health, 615 North Wolfe St., Baltimore, Md. 21205.

Committee Questions NHTSA Performance In Defect Studies

A House subcommittee has begun an inquiry into the National Highway Traffic Safety Administration's (NHTSA) defect investigation and enforcement programs.

In a March 2 hearing, Rep. Timothy Wirth (D.-Colo.), chairman of the Telecommunications, Consumer Protection, and Finance Subcommittee, questioned whether NHTSA's enforcement arm has been catering "solely to the wishes of the automobile industry at the expense of public safety."

'Informal Inquiries' Charged

Wirth said the number of engineering analyses and formal defect investigations opened by NHTSA have been cut "drastically" in recent years, lending the appearance "that this administration has not taken its statutory mandate very seriously," Wirth said.

Instead of opening engineering analyses in which the agency begins to ask manufacturers for information relating to a possible safety-related defect and begins testing to determine the cause of the problem, NHTSA has begun using "informal inquiries" which "skirts the established procedural guidelines required of engineering analyses and formal defect investigations and takes the defect process out of the public forum," Wirth said.

Wirth focused particularly on NHTSA's handling of a three-year investigation of General Motors X-body cars equipped with possibly defective brakes. (See *Status Report,* Vol. 18, No. 2, Feb. 1, 1983.) In January, NHTSA announced that some 320,000 1980 X-bodies — the Chevrolet Citation, Pontiac Phoenix, Oldsmobile Omega, and Buick Skylark — may be equipped with rear brakes that are prone to sudden lock-ups. The lock-ups have reportedly caused uncontrollable skidding during moderate to hard braking, resulting in a number of crashes.

In August 1981, in response to notification the agency would open a formal defect investigation, General Motors announced a recall of 47,000 of the vehicles equipped with manual transmissions. Wirth released documents which he said showed that the agency knew, at the time of the August recall, that the proposed remedy probably would be inadequate to alleviate the problem since July tests had shown that both the brake proportioning valves and the cars' aggressive brake linings contributed to the lock-ups.

Subsequent tests run by NHTSA in November 1981 verified the earlier test results and X-body owners contacted the agency, complaining that while their cars had been recalled and repaired, they continued to experience dangerous lock-ups.

"You had the data and you sat on that data," said Wirth. "You had the complete data since November 1981 and you didn't even issue an internal report until the summer of 1982 and didn't act on it until we began to climb on you, Clarence Ditlow [head of the Center for Auto Safety] began to climb on you, and the press began to climb on you. And then, you started to act in January 1983."

'Unmitigated Rubbish'

Peck characterized Wirth's charges as "unmitigated rubbish." Peck said the agency had not received enough complaints to justify releasing the agency's test results, even though it had the discretion to do so. An "honest" press release would have "falsely reassured" the public, Peck said.

"I would suggest to you, Mr. Peck," Wirth said, "that the responsibilities of NHTSA are to inform the public so you can get dangerous automobiles off the road. And when you had a situation — in this case with the X-cars — where you knew what the problem was and nothing was done for a year and a half, you all were delinquent in fulfilling your responsibilities."

Wirth noted that when NHTSA announced the X-body brakes continued to be a problem on January 14, this year, it had received some 364 complaints including reports of 22 injuries and one fatality. On February 18, NHTSA issued a press release in which it stated that since the January 14 announcement, it had received over 900 additional complaints from X-body owners, including reports of 13 deaths attributed to rear brake lock-ups. Had the agency publicized its concern earlier, Wirth suggested, it would have received far more information about the problem.

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