the highway loss reduction

STATUS REPORT

INSURANCE INSTITUTE for Highway Safety

Vol. 10, No. 8 April 11, 1975

New Tests Indicate Proposal Already Met

New tests conducted by the Insurance Institute for Highway Safety indicate that cars already on the highways can satisfy the full spectrum of property protection bumper requirements – both barrier and pendulum – proposed by the Department of Transportation for 1977 model cars at earliest. Although four of the eight tested cars were virtually undamaged except for their bumpers, the average repair estimate approached $200.

The new research findings were presented by IIHS's Senior Vice President Albert Benjamin Kelley at a recent National Highway Traffic Safety Administration meeting set to take comments on the agency's proposed property protection bumper standard.

Kelley told the agency that the Institute's research findings, reflecting "the performance of new-car designs *already available to consumers*," bolster "the conclusion that the proposed, damage-permitting standard represents *too little protection*, effective *later than necessary*."

NHTSA's proposal for 1977 or later model years would permit damage to bumpers and associated hardware in pendulum and 5 mile per hour barrier impacts. "Even after that, the proposed 1980 model year version of the standard – which might be a modest step forward were it to take effect sooner – will continue to permit some bumper damage," Kelley said. The Institute's tests were conducted in accordance with NHTSA's proposed compliance test procedures. Cars were subjected to pendulum, then barrier, test impacts. The test series, proposed by NHTSA, involved eight pendulum impacts and two barrier impacts – divided evenly front and rear. Previously, IIHS tests had not included pendulum tests.

The eight 1975 model cars tested by the Institute produced damage to bumpers and associated hardware ranging from $95 to $371. (For details, see tables on page 2.)

Inside

- Bumper Meeting In Brief ... Page 3
- Insurer Calls For 10 MPH Bumpers ... Page 3
- More Damage Data Urged For Cost-Benefit Analyses ... Page 4
- Bus Proposal Weaknesses Prompt Query ... Page 5
- Comments Divided On Brake Rule Delay ... Page 6
- Bus Crash Probe Prompts Call For Stronger Rules ... Page 7
- NTSB Officially Separated From DOT ... Page 8
- NHTSA Sitting On Speedometer, Speed Ceiling Rule ... Page 10

INSURANCE INSTITUTE FOR HIGHWAY SAFETY
PENDULUM AND BARRIER IMPACT TESTS
DESCRIPTION OF DAMAGE – 1975 MODELS

		Bumper System Damage		
		Face Bar, Attachment Components and Fasteners[1]	Other[2]	Non-Bumper Damage
VW LaGrande	Front	Right front energy absorber rear dust seal displaced	None	None
	Rear	Face bar dimpled and misaligned	None	None
Toyota Corolla	Front	Face bar misaligned Bumper guard deformed	None	None
	Rear	Face bar deformed and misaligned Bumper guards deformed	None	None
Chevrolet Impala	Front	Face bar dimpled	Filler panel displaced	None
	Rear	Face bar dimpled	Filler panel displaced and scratched	None
Ford Pinto	Front	Face bar deformed and misaligned License bracket deformed	Filler panel displaced	None
	Rear	Face bar deformed and misaligned	None	Right fender scratched
Ford LTD	Front	Face bar dimpled and misaligned Bumper guard deformed	Filler panel displaced	None
	Rear	Face bar deformed and misaligned Bumper guard deformed	None	None
AMC Gremlin	Front	Face bar deformed and misaligned, loose absorber cover, rear	None	None
	Rear	Face bar deformed and misaligned	None	Right fender scratched
Datsun 610	Front	Face bar deformed and misaligned Bumper guard deformed	None	Left fender scratched
	Rear	Face bar deformed and misaligned Bumper guard deformed	None	None
Chevrolet Vega	Front	Face bar deformed and scratched Back bar deformed License bracket deformed	Filler panel damaged	Frame deformed Grille deformed Right fender scratched
	Rear	Face bar deformed and scratched Energy absorbers deformed	None	Trunk floor deformed Right fender scratched

IIHS, April, 1975

1 Under S5.3.8 of proposed amendment to 49 CFR parts 571, 581 dated March 7, 1975, damage would be permitted "to the bumper face bar and the components and fasteners that directly attach the bumper face bar to the chassis frame."

2 Includes items such as filler panels, etc.

INSURANCE INSTITUTE FOR HIGHWAY SAFETY
PENDULUM AND BARRIER IMPACT TESTS
REPAIR RESIMATES – 1975 MODELS

		Bumper System Damage			
		Face Bar, Attachment Components and Fasteners[1]	Other[2]	Non-Bumper Damage	Total
VW LaGrande	Front	$ 2.70	0	0	$ 2.70
	Rear	92.35	0	0	92.35
	Combined	95.05			95.05
Toyota Corolla	Front	21.65	0	0	21.65
	Rear	86.83	0	0	86.83
	Combined	108.48			108.48
Chevrolet Impala	Front	93.10	N.C.[3]	0	93.10
	Rear	102.45	N.C.[3]	0	102.45
	Combined	195.55			195.55
Ford Pinto	Front	105.60	N.C.[3]	0	105.60
	Rear	98.15	0	8.50	106.65
	Combined	203.75		8.50	212.25
Ford LTD	Front	103.90	N.C.[3]	0	103.90
	Rear	118.80	0	0	118.80
	Combined	222.70			222.70
AMC Gremlin	Front	110.23	0	0	110.23
	Rear	123.99	0	8.50	132.49
	Combined	234.22		8.50	242.72
Datsun 610	Front	123.50	N.C.[3]	8.50	132.00
	Rear	125.54	0	0	125.54
	Combined	249.04		8.50	257.54
Chevrolet Vega	Front	104.05	14.78	75.05	193.88
	Rear	127.40	0	50.10	177.50
	Combined	231.45	14.78	125.15	371.38
Average	Front	83.09	1.85	10.44	95.38
	Rear	109.44	0	8.39	117.83
	Combined	192.53	1.85	18.83	213.21

IIHS, April 1975

1 Under S5.3.8 of proposed amendment to 49 CFR parts 571, 581 dated March 7, 1975, damage would be permitted "to the bumper face bar and the components and fasteners that directly attach the bumper face bar to the chassis frame."

2 Includes items such as filler panels, etc.

3 Minor repositioning that could be accomplished by damage estimator during appraisal.

Kelley noted:

- ***"Nearly $200 in estimated repair costs per car, on average, resulted from bumper damage of the sort that would continue to be allowed by the proposed standard until the 1980 model year.*** The bumper damage ran from a high of $249 for the Datsun to a low of $95 for the VW.

- ***"No more than about $20 in estimated repair costs per car, on average, involved non-bumper damage that would be prevented by the standard.*** The non-bumper damage ran from a high of $125.15 for the Chevrolet Vega to a low of zero dollars for four of the eight tested cars."

The test results ***"demonstrate that some current model cars are so designed that they now meet the barrier test criterion of the proposed 1977-or-later bumper standard, yet in some cases still sustain pocket-picking, avoidable damage.*** The test results further demonstrate that some current model cars can even meet the barrier test criterion of the 1980-or-later standard, which forbids most bumper damage," Kelley said.

"If the agency holds to its present timetable, the public will not begin until the 1980 model year at earliest to realize any of the additional bumper protection benefits envisioned by Title I (of the Motor Vehicle Information and Cost Savings Act of 1972) when the Congress passed it two and one-half years ago.

"NHTSA's current proposed standard thus represents not an advance, but a retreat; the public deserves better," Kelley said.

Single copies of Kelley's testimony are available by writing "Barrier/Pendulum Series," Insurance Institute for Highway Safety, Watergate Six Hundred, Washington, D.C. 20037.

Bumper Meeting In Brief

NHTSA's public meeting of April 4 on bumpers was a virtual replay of the agency's prior meeting. Auto makers sought a roll back or delay in bumper protection, while insurers and others urged prompt implementation of a strengthened property damage bumper standard.

The agency's current bumper proposal drew strong criticism from an energy management firm that said the proposal failed to adequately protect vehicle occupants in low speed impacts

The bumper proposal discussed at the latest public meeting would:

- maintain the current 5 mile per hour test speed;

- set a Sept. 1, 1976, effective date for a property damage bumper standard, or "in the alternative Sept. 1, 1977, or 1978;"

- allow pre-1980 model cars to sustain damage to bumpers and associated hardware during a prescribed series of pendulum and barrier impact tests.

NHTSA's latest proposal was issued following a February public meeting to air comments on the agency's January 2 proposal to roll back bumper requirements to a 2.5 mile per hour level. Based on "considerable evidence" presented at the earlier meeting, NHTSA abandoned its plan to substantially weaken existing and proposed bumper standards. (See *Status Report*, Vol. 10, No. 6, March 14, 1975.)

NHTSA's current bumper proposal was sharply criticized by Taylor Devices, Inc., a manufacturer of energy absorbers, for failing to limit occupant "deceleration rates" in low speed impacts. Taylor pointed out that a Department of Labor standard issued under the Occupational Safety and Health Act (OSHA), enacted to reduce occupational injuries and deaths, specifies a maximum deceleration rate that can be experienced by occupants of industrial cranes "for impacts in the 2-10 mile per hour range." The OSHA standard allows "only about one-fourth the occupant impact loading found on the typical 1973-1975 auto bumper," Taylor said. Why, Taylor rhetorically asked, is "a person to be given better protection at work under the law, than he gets while traveling to and from work . . . ."

Testimony presented by Chrysler also indicated a need to limit occupant deceleration rates. In showing the filmed results of several "5 mile per hour 'walking speed' barrier impact" tests, Chrysler pointed out the "relatively violent occupant kinematics" the vehicle's driver went through at and after

Insurer Calls For 10 MPH Bumpers

Nationwide Insurance Co. has told the National Highway Traffic Safety Administration that "rather than make 1977-1980 the target date for 5 mile damage-resistant bumpers . . . ; it would be more appropriate for the DOT to set that time period for bumpers that prevent damage in 10 mile per hour collisions."

Douglas E. Fergusson, Nationwide's director of Safety Services, told NHTSA that his company opposes any further delay in the standard. "Based on past experience, one can predict that delay now will lead to later proposals for additional delays," he said.

impact. The auto maker said its intention was to show that 5 mile per hour test crashes are "many times more severe than people expect . . . ." Chrysler cautioned it "would not recommend to anyone that they undertake a similar impact without the benefits of restraints." (NHTSA was told by Arthur Ezra, a University of Denver researcher, in 1971, that its bumper standard should specify a "maximum permissible force" that can be experienced by the vehicle and its occupants in low speed collisions. See *Status Report*, Vol. 6, No. 4, March 1, 1971.)

AUTO MAKER COMMENTS

Most auto makers and their suppliers criticized NHTSA for dropping its earlier plan to roll back the bumper standard test speed to 2.5 miles per hour. Ford called it "unfortunate that the Administrator has elected not to pursue the 2.5 mile per hour system requirements." General Motors reiterated its claim that the 2.5 mile proposal was a "step forward" and not a retreat in reducing consumer costs. GM labeled the 5 mile per hour standard "over-regulation."

Chrysler and General Motors requested that the currently proposed standard be delayed until additional cost-benefit and vehicle damage field studies are done. American Motors and Ford urged that no new standard take effect until at least the 1979 model year. Both AMC and Ford also requested that requirements proposed for 1980, be indefinitely postponed pending further study.

INSURER COMMENTS

The National Association of Independent Insurers, speaking on behalf of trade associations and several individual companies representing 95 per cent of the automobile insurance industry, urged NHTSA to implement its proposed property damage standard for 1977-1979 models at the earliest possible date. NAII also asked that the requirements proposed for 1980 and later models "be moved forward to the earliest date affording the manufacturers a reasonable lead time."

Referring to IIHS tests showing bumper mismatch in 10 mile per hour front to rear collisions between identical models, NAII urged NHTSA to begin "intensive further study" into ways to eliminate the override/underride problem. NAII also requested that NHTSA extend the requirements to the "substantial number of recreational vehicles and other vehicles" that are presently not covered by any bumper standard.

More Damage Data Urged For Cost-Benefit Analyses

A recent survey of unrepaired vehicle damage has indicated that more information on the frequency and magnitude of such damage is needed before the full economic benefits of bumper designs can be judged adequately.

Only fragmentary information currently is available on such damage since the dollar amounts of unrepaired damage generally fall below the reporting levels used by public agencies and insurers, according to the study. The effect of this underreporting distorts estimates of crash damage, since each year nearly "one out of every four vehicles" sustains crash damage that is left unrepaired, the study reported.

"Since a substantial amount of unreported damage probably results from low-speed crashes," additional information must be gathered on the frequency and cost of such damage "before valid economic conclusions concerning bumper designs can be derived," the study said.

The study, recently published in a paper presented to the annual meeting of the Society of Automotive Engineers, was based on parking lot surveys of unrepaired crash damage on 1972 through 1974

Bus Proposal Weaknesses Prompt Query

Sen. Vance Hartke (D-Ind.) has asked the National Highway Traffic Safety Administration to explain shortcomings in three recent school bus standards proposed by the agency.

In a letter to Safety Administrator James Gregory, Hartke, chairman of the Commerce Committee's Surface Transportation Subcommittee, said he was "disturbed by reports appearing in the March 31, 1975 (Vol. 10, No. 7) issue of the Insurance Institute for Highway Safety's *Status Report* regarding this regulatory effort." In that issue *Status Report* noted that the proposals, which apply to school bus structural strength, emergency exits and roof crush resistance, ignored bus makers' warnings of a serious loophole and disregarded recommendations made in NHTSA-sponsored studies.

Hartke asked for Gregory's "responses to criticisms contained in the IIHS report." He also asked for Gregory's "assurance that the findings of such research related to school bus safety has in fact been utilized in the development of standards."

model year vehicles in seven metropolitan areas: Atlanta, Baltimore, Chicago, Denver, Los Angeles, Seattle and Washington, D.C. Entitled, *Unrepaired Crash Damage – Implications for Cost-Benefit Analyses,* it was authored by James Casassa II, and Wayne W. Sorenson, State Farm Mutual Automobile Insurance Co., Brian O'Neill, Insurance Institute for Highway Safety, and Sandra Stone, Arthur D. Little, Inc. (IIHS previously reported results of a nine-city survey of unrepaired damage on 1968 through 1972 models. See *Status Report*, Vol. 8, No. 17, Sept. 10, 1973.)

RESULTS

As in the prior study, the new study found that the older the car, the higher both the frequency and the cost of its unrepaired damage.

The observed percentages of cars with unrepaired crash damage were 48 per cent for 1972 models, 33 per cent for 1973 models and 14 per cent for 1974 models. The average estimated cost of unrepaired damage per damaged car was $79 for 1972 models, $66 for 1973 models and $60 for 1974 models.

The study also reviewed results of an earlier IIHS-Arthur D. Little survey of unrepaired damage in the Washington, D.C. metropolitan area conducted during the summers of 1972, 1973 and 1974. That study indicated that "there has been some benefit due to the bumper designs used to meet the requirements of FMVSS 215" – the federal standard limiting damage to certain safety related parts in low-speed collisions. The 1972 survey found that 32 per cent of the 1972 models, which did not have to meet FMVSS 215, had unrepaired damage in their first year, while the 1973 survey found that only 22 per cent of the 1973 models, the first model year that had to comply with the bumper safety standard, had unrepaired damage in their first year. The amount of unrepaired damage found by the 1974 survey on 1974 models, which had to meet somewhat more stringent bumper safety performance requirements than the 1973 models, dropped to 20 per cent in their first year. Because of the timing of the surveys, all of the then current model cars were less than a year old when they were observed.

As with the prior study, the current seven-city study found major geographic differences in the frequency of unrepaired crash damage. For the 1972 models, the amount of unrepaired damage ranged

from 65 per cent in Washington, D.C. to 19 per cent in Seattle; for 1973 models, it ranged from 43 per cent in Washington, D.C. to a low of 11 per cent in Seattle. For 1974 models, Washington, D.C. again was highest with 19 per cent. Seattle remained the lowest at 4 per cent. Such variances clearly indicate "the inadequacies of national estimates derived from samples obtained in single locations," the study's authors pointed out. General Motors used a one-city survey to support its arguments at the National Highway Traffic Safety Administration's recent bumper hearing for weaker bumper standards. (See *Status Report*, Vol. 10, No. 6, March 14, 1975.)

The current study also pointed out that the Transportation Systems Center cost-benefit analysis of bumpers, used by the Department of Transportation to justify its now withdrawn Jan. 2, 1975, proposal to drastically weaken bumper protection, assumed that an average car accumulates "one area of unrepaired damage in its second year on the road, then . . . 0.15 more incidences with each year of age." However, data in the current study "suggest that unrepaired damage is accumulated at the rate of 0.24 incidences with each year of age *including* the first year on the road."

Copies of the study are available by writing "Unrepaired Damage II," Insurance Institute for Highway Safety, Watergate Six Hundred, Washington, D.C. 20037.

Comments Divided On Brake Rule Delay

The National Highway Traffic Safety Administration's proposal to indefinitely postpone its hydraulic brake standard for a wide range of vehicles drew strong support from auto makers and sharp criticism from those involved in public health work at a recent public meeting on the standard.

The public meeting was held to discuss NHTSA's March 6 proposal to postpone until Jan. 1, 1976, its upgraded passenger car hydraulic brake standard (FMVSS 105-75), now set to go into effect Sept. 1, 1975. The proposal would also indefinitely postpone that standard for trucks, buses and multipurpose passenger vehicles (MPVs). Currently no federal brake standard covers those vehicles. NHTSA said that in light of its proposed indefinite delay, it would announce "interim braking standards" for trucks, buses and MPVs. However, the agency has yet to propose such an interim measure. (See *Status Report,* Vol. 10, No. 6, March 14, 1975.)

The Insurance Institute for Highway Safety told the agency that during the seven and one-half years the agency has conducted rulemaking on upgrading its hydraulic brake standard, it compiled a "clear record . . . in support of applying" the standard and received "no justification" for delay.

IIHS observed that the "time and resources consumed by the agency in reconsidering this hydraulic brake standard, the FMVSS 121 air brake standard and the FMVSS 215 bumper standard, to name only three, should have been devoted to achieving additional, urgently needed progress in the field of human protection on the highways. That they were not is truly dismaying."

SUPPORT FOR STANDARD

Responding to claims that the standard's costs were inflationary, IIHS pointed out that the Congress in the 1974 amendments to the National Traffic and Motor Vehicle Safety Act of 1966, directed vehicle and equipment manufacturers to submit cost information – information that must include data on a manufacturer's cost and the cost to the consumer – whenever they oppose any safety standard on cost grounds. The economic impact of the standard "has not been sufficiently important for the objecting manufacturers to comply with the 1974 law, nor for NHTSA to enforce it," IIHS said.

The Center for Auto Safety, which also called for manufacturers to substantiate their cost claims, urged NHTSA not to delay the standard, since its requirements "will result in safer stopping ability and will cause a narrowing of the present wide dispersion in braking capability" that exists between cars and larger vehicles.

Also urging NHTSA not to delay its standard, Susan P. Baker, a research scientist at the Johns Hopkins School of Public Health, stressed that "approximately one-fifth or more of the vehicles sold in the U.S. would not be covered by any brake standard, if the proposed exemption is permitted." Baker observed an "especially great need for safety standards that will reduce the likelihood of crashes" for those vehicles since they are covered by only a few crash protection standards. Vehicles such as vans and pickups as well as other multipurpose passenger vehicles and trucks are not required to have dashboard padding, energy-absorbing steering columns, or head restraints – injury reducing features required on all passenger cars.

NHTSA's proposal to postpone the standard came three weeks after an earlier public meeting held to discuss numerous petitions from auto makers and a filing by the Council on Wage and Price Stability demanding that NHTSA indefinitely postpone application of its standard to improve the performance of hydraulic brake systems. (See *Status Report*, Vol. 10, No. 5, Feb. 21, 1975.)

AUTO MAKER OPPOSITION

During the April 1, 1975, public meeting, auto makers and their suppliers urged NHTSA to indefinitely delay the standard for trucks, buses and multipurpose passenger vehicles and requested further delay or cancellation of the standard for passenger cars. Many of the comments claimed that NHTSA had not shown a safety benefit to be gained from improved braking that would come with the upgraded standard. The manufacturers claimed that the designs they have chosen to meet the performance requirements of the standard would require more maintenance, wear out sooner and be noisier than current brake systems. Also they claimed that the costs of the new systems are inflationary.

At the recent meeting, General Motors told NHTSA that it "strongly recommends the cancellation of the passenger car standard on the basis that it offers no measurable safety benefits and the consumer will be forced to bear the additional and unnecessary burdens of increased initial cost, more maintenance and more noise irritation." Joining with GM, the American Trucking Associations, Inc. and others, Ford asked for an "immediate withdrawal" of the standard as it applies to all vehicles. Chrysler joined in the attack, charging that the standard was "unreasonable, impractical and inflationary."

Bus Crash Probe Prompts Call For Stronger Rules

A crash in which a Greyhound bus went through a guardrail and slammed into a bridge pier – killing 13 people – has resulted in an extensive investigation by the National Transportation Safety Board and recommendations for changes in federal regulations.

The recommendations, covering loss reduction opportunities in the pre-crash, crash and post crash phases, call for more stringent federal requirements regarding:

- Medical examination and certification of drivers involved in interstate commerce;
- Roadside guardrails that would withstand impact by heavy vehicles;
- Design of interstate buses to facilitate emergency evacuation.

PRE-CRASH

NTSB cited the incapacitation of the driver as the "probable cause" of the crash, which occurred in Sacramento, Nov. 3, 1973. According to a survivor's testimony, the driver clutched his chest and took his hands from the wheel moments before the fatal impact. What happened to the driver, who reportedly died of injuries received in the crash, could not be determined, the report said. However, an autopsy revealed that his physical condition suggested "a host of recognizable disabilities that could have resulted in the incapacitation experienced . . . in this accident" – conditions that a demanding medical examination "might have disclosed," NTSB said.

A medical examination, performed according to Bureau of Motor Carrier Safety regulations, more than a year earlier, had found the driver fit to operate an interstate bus, NTSB said. "Except for [a] record of overweight, the certifying physician had no information to suggest any medical disability," the report found.

Acknowledging the "good intention" of the current BMCS requirement – by which any physician or osteopath can certify a driver's fitness – NTSB said "it places the burden of indepth examination" on a physician who is probably not "conversant with the requirements of intercity bus and truck operations and the medical considerations" that might affect a driver's performance. NTSB also warned that a doctor certifying the health of a driver "may not necessarily be knowledgeable of the accident literature that would alert him to clinical observations critical to bus and trucking operations."

In contrast to BMCS, the Federal Aviation Administration – also in the Department of Transportation – requires "that all medical examinations of airmen certificate holders be accomplished by certified Aviation Medical Examiners." NTSB suggested that BMCS similarly require examinations by "Medical Specialists." Failing this, the board recommended that the government "investigate and develop criteria and issue regulations for medical examinations which will serve objectively to detect individuals susceptible to sudden incapacitation."

A BMCS official, responding to NTSB's recommendations, told *Status Report* that current standards "are pretty good." He said that BMCS had explored the possibilities of an "FAA-type" doctor certification requirement in 1971, but that it proved to be "impractical" for the scale on which BMCS

NTSB Officially Separated From DOT

The National Transportation Safety Board has begun operation as an independent federal agency. The Independent Safety Board Act of 1974 removed the board from the Department of Transportation which has regulatory authority over many areas that the board investigates and reports on – often critically.

The board had sought independence from DOT for four years. Its 1973 annual report to the Congress said that "although there had been no actual infringement upon its independence by the Department of Transportation, there was an appearance of a lack of independence which created doubts as to the objectivity, integrity and credibility of the Board." (See *Status Report*, Vol. 9, No. 23, Dec. 26, 1974.)

In a recent statement the board said that "basically the investigation and cause determination of aviation and surface transportation accidents will continue with authorization to expand its role in surface transportation safety."

operates. However, a current BMCS research contract, due to be completed June 1, is exploring the best ways to provide "guidelines" for physicians examining drivers of interstate carriers, he said.

THE CRASH

Although the driver's incapacitation was listed as the probable primary cause of the Sacramento crash, "contributing to the fatalities and injuries" was the failure of the guardrail to restrain the bus when it was out of control, NTSB said. So ineffectual was the guardrail that even after going through the barrier system the bus was still moving fast enough to enable the four foot wide bridge column to penetrate 21 feet into the 40-foot long bus.

According to NTSB, "Traffic barrier systems in the U.S. have not been designed to withstand impacts by heavier vehicles or by vehicles with high centers of gravity." Although California's barrier test requirements are somewhat more stringent than the criteria accepted by the Federal Highway Administration, "the weight of California's standard test vehicle is only one ninth that of the bus" that crashed, NTSB said.

The board called for "national performance standards for traffic barrier systems" containing testing criteria "to increase the compatibility of barriers with both light and heavy vehicles." The board's recommendation also called for "requirements regarding the placement of the barriers . . . to assure that compatibility of the vehicle/barrier is not compromised by adjacent environment."

FHWA issued on Dec. 17, 1974, a request for proposals (RFP 278) from contractors to develop roadside barriers that will withstand 60 mph impacts by vehicles of at least 40,000 pounds. Earlier that month the Congress increased the maximum truck weight on interstate highways to 80,000 pounds. (See *Status Report*, Vol. 9, No. 23, Dec. 26, 1974.) According to the RFP new designs must still "be at least equal to the performance of the present railings in collisions involving vehicles of 4,500 pounds and lower." However, according to an FHWA official, a contract has not yet been awarded.

Also contributing to injuries in the crash, NTSB said, were design features of the bus itself, a 1953 model rebuilt three times and "serviced and inspected regularly."

A major deficiency in the design was the failure in the crash of all seats in the bus except those across the back. As a result, the board found that "the head, leg, and chest injuries observed in this accident are not unlike those suffered by unbelted passengers in aircraft accidents who impact the seats in front of them." Had the seats met the standards proposed by the National Highway Traffic Safety Administration Feb. 1, 1973, (Docket 73-3) and withdrawn July 30, 1974, "the injuries suffered by passengers to the rear [of the bus] . . . would possibly have been less severe," NTSB said.

"There are currently no federal standards for bus seats," the board noted. In six separate crash investigation reports, NTSB has urged that stronger seats and occupant restraints be required in buses. (See *Status Report,* Vol. 8, No. 7, March 26, 1973.)

(As long ago as January 1971, in a paper delivered before the Society of Automotive Engineers, Insurance Institute for Highway Safety President William Haddon, Jr., M.D. stressed the need for countermeasures for truck and bus losses – including guardrails able to retain such vehicles and the "proper packaging of bus occupants." See *Status Report,* Vol. 6, No. 1, Jan. 18, 1971.)

POST-CRASH

Although a rescue team arrived at the crash site 10 minutes after the impact, the last victim was not removed from the wreckage until three hours later. According to NTSB, rescue efforts were hampered by:

- The eight foot drop from the windows to the ground;
- The lack of emergency illumination in the bus;
- The difficulty of opening the windows from both inside and out;
- The lack of devices to hold the windows open.

According to a BMCS official there is no current requirement for evacuation systems other than push-out windows in interstate buses. The record of the bus industry is "good" he claimed and so there are little data that call for the development of other escape routes, such as roof hatches, the official said.

NTSB, in its recommendations, called attention to a bus crash it studied in 1968, after which it was recommended that "no new type buses go into service which have not been tested to insure that all occupants can escape rapidly."

Single copies of the NTSB report (NTSB-HAR-74-5) are available at no charge from, Publications, National Transportation Safety Board, Washington, D.C. 20591.

GM To Limit Speedometers

NHTSA Sitting On Speedometer, Speed Ceiling Rule

General Motors has announced that it will limit the top speed shown on the speedometers of some of its smaller 1976 models to 85 miles per hour. However, a GM spokesman has told *Status Report* that the speedometer changes "are not related" to the actual speed capabilities of the autos.

The National Highway Traffic Safety Administration is considering a proposal that would require such a speedometer limit. That proposal is virtually all that remains of an earlier agency proposal – initiated eight years ago – that would have placed a ceiling on the maximum speed a car could be designed to attain.

ORIGINAL PROPOSAL

In 1967, the National Highway Safety Bureau (now the National Highway Traffic Safety Administration) published its first notice of rulemaking concerning speed control. Two years later the National Transportation Safety Board recommended a top speed capability of 90 miles per hour for all vehicles.

NHTSA proposed in 1970 a three piece rule on speed control: limiting the top speed capability of all vehicles (except police vehicles) to 95 miles per hour; making 85 miles per hour the top reading on all speedometers; and requiring that cars have a warning system that would sound the horn and flash the lights if the car was traveling over 80 miles per hour. This rule was to have become effective for 1973 model cars. (See *Status Report*, Vol. 5, No. 22, Dec. 15, 1970.)

NHTSA received more comments on this proposed rule than it had received on any other piece of regulation. Of the approximately 25,000 comments received, there was an almost even split between those for and against the proposal. An NHTSA official at that point labeled speed control "a hot political issue." (See *Status Report*, Vol. 8, No. 13, June 25, 1973.)

NHTSA announced in 1972 that the effective date for its proposed rule would be changed from the 1973 model year to the 1976 model year. In November 1973, replying to a letter from Sen. Charles Percy

(R-Ill.) on limiting the speed shown on speedometers, an NHTSA spokesman told Percy that action was "imminent."

NHTSA asked for comments on limiting the top speed shown on speedometers in March, 1974. However, the agency warned that this request "does not constitute a step in a rulemaking procedure." (See *Status Report*, Vol. 9, No. 5, March 5, 1974.) No mention was made of limiting the speed capabilities of vehicles.

Senator Percy wrote a letter to James Gregory, NHTSA administrator, in November 1974, saying, "I can see no logic in the federal government, through persistent inaction, continuing to sanction the use of automobile speedometers calibrated at rates of 120, 140 and 160 miles per hour and thereby encouraging vehicle speed far in excess of that permitted by federal law. The absurdity of even mentioning those figures – given what we know about safety from lowered speeds and the urgent need of the Nation to conserve fuel – would be clear on its face. How many more times must I restate the obvious before action within your agency is forthcoming?"

VOLUNTARY ACTION

In December 1974, Gregory answered Percy's letter saying that he had requested voluntary action on the part of the auto makers. He pointed out, however, that since he had not received "follow-through indications," he was "considering regulatory action."

But in March 1974, Gregory told a meeting of reporters and public interest representatives that he was still undecided on limiting speedometers and indicated that the agency is no longer considering a plan for limiting the speed capabilities of autos.

At a recent Senate Commerce Committee hearing, Sen. Vance Hartke (D-Ind.) asked Gregory why it was necessary to develop automobiles that can travel 120 miles per hour.

Gregory replied that the "need for such performance will probably disappear as progress is made by the industry in recognizing the need to save fuel."

Hartke asked Gregory if he was considering regulation to limit the speed of vehicles. Gregory answered that he thought the fuel conservation measures by auto makers would result in "smaller engines and less capability for high speed."

SAFETY, FUEL AND ECONOMIC NEEDS

At a recent NHTSA hearing, Brian O'Neill, vice president of research for the Insurance Institute for Highway Safety, pointed out the incongruity of current speed capacity in light of the country's safety, fuel and economic needs. He observed that virtually every domestic 1974 model car had maximum speed capabilities over 100 miles per hour.

"Such excessive performance indicates that overpowered and, consequently, overweight engines and many associated components are being manufactured and sold to power automobiles on American highways whose maximum legal speed is 55 miles per hour. The fact that the majority of domestic automobiles have maximum speed capabilities approximately double the maximum legal speed means that huge quantities of fuel and many other resources are being wasted. Clearly, very substantial reductions in weight and fuel consumption, and perhaps more importantly, major additional safety benefits, could be obtained by producing automobiles without such excessive performance and high speed capabilities. There has been no proposal from DOT since the 'recent developments in the nation's economic posture' to reduce weight and fuel consumption by setting limits on the maximum speed capabilities of cars," said O'Neill. (See *Status Report,* Vol. 10, No. 5, Feb. 21, 1975.)

Clarification

The *Status Report* of March 14, 1975 (Vol. 10, No. 6) reported that Nissan Motors Co., Ltd., was among several auto makers which did not submit comments supporting NHTSA's Jan. 2, 1975, proposal to substantially weaken bumper protection. Nissan did submit comments favoring the bumper roll back. The comments were placed in NHTSA's rulemaking docket following the formal closing date for such comments.

the highway loss reduction

STATUS REPORT

Editor: Ralph Hoar
Writers in this issue: Tim Ayers, Stephen Oesch, Lloyd Slater

INSURANCE INSTITUTE for HIGHWAY SAFETY
WATERGATE SIX HUNDRED • WASHINGTON, D.C. 20037
(AREA CODE 202-333-0770)