

## Highway Proposal Could Drain Safety Funds

Unused funds already apportioned to the states for the elimination of roadside hazards – and now strictly earmarked for that purpose – could be redirected by states to non-safety projects if a Ford Administration proposal is approved by the Congress.

A provision in the Administration's proposed "Federal-aid Highway Act of 1975" would allow states to spend most of their current federal roadside hazard funds on a wide range of projects, including programs for highway beautification and bike path installation, as well as on general highway construction projects. The plan is part of President Ford's goal of providing "flexible aid" for highways "in a manner which fully respects state and local decision-making roles," according to a White House press release.

Figures recently published by the Federal Highway Administration show that almost \$700 million could be subject to diversion away from safety work.

Another provision of the proposed legislation would, however, prohibit such a transfer from safety funds authorized by the Congress in the future.

According to their initial reactions, neither FHWA nor staff members on the Senate and House Public Work Committees see much chance of success for the proposed legislation. A high-level FHWA official told *Status Report* that his first impression was that "nobody likes it too well." The Administration bill, introduced by Sen. Howard Baker (R-Tenn.), has "no chance at all," a Senate aide said.

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## NEW FUNDING

The proposed legislation has received much publicity, partly because it would limit Highway Trust Fund use to the Interstate system. Other projects would be financed from the General Fund. Federal-aid highway safety funds are currently apportioned to the states from the Trust Fund.

Other provisions of the bill would, after Oct. 1, 1976, consolidate all federal-aid highway funds "into four broad programs," comprising the Interstate and three "broadly-based" categories dealing with urban and suburban transportation, rural transportation, and highway safety improvements. (See *Status Report*, Vol. 10, No. 9, April 28, 1975.)

The bill's highway safety improvement program would make a total of \$1.6 billion in new funds available to the states for four years. States would also have just under \$14 billion for Interstate construction, \$4 billion for rural programs, and just over \$3 billion for urban and suburban programs. Funds for these three categories could be spent on safety projects within each category. Additional funds, earmarked for highway safety, could "only be used for safety improvement projects," according to a Department of Transportation fact sheet.

## RETROACTIVE EFFECTS

Although the use of new safety funds would be strictly designated, the proposed legislation could open up for other uses the \$700 million already mandated by the Congress and apportioned to states – but still unspent – for five of the categorical roadside hazard programs established by the Federal-aid Highway Act of 1973. These programs comprise:

- Identification of high hazard locations;
- Elimination of roadside obstacles;
- Rail-highway crossings;
- Bridge reconstruction and replacement;
- Pavement marking.

Out of the \$900 million originally available to states for these programs, they had, as of May 31, obligated – contracted to be spent – just over \$200 million.

Should the Ford Administration bill become law, it would mean that these funds "may, with the approval of the (Transportation) Secretary, be transferred" to any federal-aid highway program.

According to an FHWA official, this provision was included in the proposal to cover three months of administrative limbo – a quirk resulting from a change in the federal government's bookkeeping operation. (The start of fiscal 1977 will be moved back from July 1, 1976, to Oct. 1, 1976, when most provisions of the new highway act would go into effect.)

The transfer provision, however, would become effective immediately upon the act's becoming law, he said. This provision would "take the place of additional authorization of highway funds" during the limbo period, enabling states to make use of their backlog of unobligated funds "theoretically" including the backlog of the unspent roadside safety money.

## Countermeasures Urged For Tractor-Trailers

A study of fatal tractor-trailer crashes has found a need for better braking, improved ability to maintain speed, and better underride protection as countermeasures to reduce highway losses associated with tractor-trailers.

The study, sponsored by the Insurance Institute for Highway Safety and the Maryland Medical-Legal Foundation, studied a series of 150 fatal crashes involving tractor-trailers that occurred in Maryland during the period 1970-1973.

The study examined several pre-crash, crash and post-crash factors characteristic of tractor-trailer crashes. It found that the tractor-trailer was the lead vehicle in seven of the eight collisions known to have occurred on an upgrade, probably influenced by the tractor-trailers' inability, when heavily loaded, to maintain speed on a grade, relative to other vehicles.

"The majority of present tractor-trailers have poorer braking ability than cars," the study said. Of the 31 rear-end collisions not known to have occurred on an uphill grade, the tractor-trailer was the rear (striking) vehicle in 23, the researchers found.

Other special problems involved "bobtail" tractors, which are tractors traveling with no trailer attached. "The bobtail, with no load, still has a braking system and other design aspects intended for a tractor pulling a loaded trailer. Absence of a trailer reduces the load on the rear tires and may adversely affect the bobtail's braking performance," the study said.

In some crashes, jackknifing, "a situation in which the tractor and trailer do not maintain their alignment," occurred prior to impact and was a factor in crash initiation, according to the study.

The researchers found that information on cargo characteristics was rarely included in police reports although some cargo factors may be important in crash initiation. "In one instance a tractor-trailer dropped a five-gallon can; the resulting crash involved a car and another tractor-trailer," the study said. Other collisions involved tractor-trailers parked on shoulders, sometimes untended.

When a crash does occur, a major factor in determining resultant injuries is "the relative mass of the two vehicles (the loaded weight of a tractor-trailer may be thirty or forty times that of a car)." This is one factor in the much higher death rate for car than truck occupants in car-truck crashes, as shown in other IIHS sponsored research. (See *Status Report*, Vol. 10, No. 12, July 9, 1975.)

After studying the pre-crash, crash and post-crash factors involved, the researchers listed several "principles that should be considered in setting vehicle standards":

- "Standards are needed to ensure that trucks carrying heavy loads have adequate power to maintain speed in common situations. Five years ago, a standard was proposed that would have specified a minimum ratio of horsepower to gross vehicle weight rating. The standard was never put into effect . . ."

- "The mass of tractor-trailers, relative to passenger cars, makes their ability to stop especially important . . . Other researchers have shown that in rear-end turnpike collisions, trucks are involved as the striking vehicle more than twice as often as expected. A recent air brake standard (FMVSS 121) addresses the need for improved braking ability in heavy trucks such as tractor-trailers, reducing the stopping distance permitted at specific speeds." The effect of FMVSS 121 "should be closely monitored not only for tractors pulling trailers but also for bobtails."

## ***House Lets Truck Weight Increase Stand***

During floor debate on the Department of Transportation Appropriations bill (HR 8365), the House voted down an attempt to repeal recently allowed increases in the weight of trucks on interstate highways.

Rep. Edward Koch (D-N.Y.) introduced an amendment that would have prohibited federal funds for interstate highways in any state that allowed trucks weighing more than 73,280 pounds. The Federal-aid Highway Act of 1974 (PL93-643) increased the maximum truck weight allowed on Interstate highways from 73,280 pounds to 80,000 pounds. Earlier this year, Rep. Koch and more than thirty other congressmen introduced a bill to repeal that increase. (See *Status Report*, Vol. 10, No. 3, Feb. 5, 1975.) No action has been taken on that bill.

In debate on the defeated amendment, Rep. Koch claimed, "There is a direct correlation with each increase of 1,000 pounds in truck weight with the increase in fatalities to passengers of passenger vehicles on that same highway." One reason, he said, was that truck brakes, especially in older trucks, are inadequate.

The repeal was defeated by voice vote.

- "The National Transportation Safety Board has recommended that increases in permitted weights for trucks be 'preceded by standards specifying a ratio of gross weight to net horsepower, minimum performance standards for brakes, and for coupling systems between components in a vehicle combination.' Contrary to popular belief that above certain truck weights the weight disparity between trucks and cars is of little consequence, the NHTSA has shown that as the weight of loaded trucks increased, the ratio of deaths to injuries in car-truck collisions increased substantially."

- "Trailer design should prevent rear and side underride by cars, because in an underride the initial collision forces are not applied to the bumper and adjacent structures but to portions of the car (such as the hood and windshield) that are closer to the occupants and not normally designed to absorb crash forces."

- "To discourage present tendencies to sacrifice the safety of occupants in the interest of greater pay loads [e.g. by "cab-over-engine" designs lacking frontal projections that could better absorb crash forces], limits for length and weight should be exclusive of the tractors."

- "Standards to protect truck occupants in crashes deserve special consideration because trucks have generally been exempted, either temporarily or permanently, from federal motor vehicle safety standards for occupant protection."

- "Tractor designs that facilitate escape and extrication are needed, as illustrated by the problems of entrapment and post-crash fires."

The researchers pointed out "three pitfalls that may be encountered in taking a cost-benefit approach to health problems," when considering safety standards.

"The groups who pay the costs may not be the same as those who reap the benefits," the study said. For example, truck drivers who would benefit from greater protection offered by improved truck designs would not pay the cost unless they owned their own trucks. Also, in short-range terms, the initial

cost of major improvements might appear excessive in relation to identifiable benefits. "This is partly because large investments have already been committed to present vehicle designs and transport systems, producing a built-in bias in favor of the status quo," the researchers said. Finally, much of the health benefit is "not readily converted to dollars."

The study, entitled *Fatal Tractor-Trailer Crashes: Considerations in Setting Relevant Standards*, was conducted by Susan P. Baker, associate professor, the Johns Hopkins University School of Hygiene and Public Health; Jackson Wong, IIHS senior automotive engineer; and William C. Masemore, Office of the Chief Medical Examiner of Maryland. It was presented at the Fourth International Congress on Automotive Safety, San Francisco, July 14, 1975. Copies may be obtained by writing to "Truck Loss Countermeasures," Insurance Institute for Highway Safety, Watergate Six Hundred, Washington, D.C. 20037.

## **Congressmen Criticize School Bus Proposals**

A group of congressmen has told the National Highway Traffic Safety Administration that its three recent school bus safety proposals "fail to meet the intended purpose" of legislation passed by the Congress "to improve the structural quality of the buses used to transport our Nation's school children."

Shortcomings in the proposals were pointed out in a letter signed by 29 members of Congress who co-sponsored the school bus safety portion of the Motor Vehicle and School Bus Safety Amendments of 1974 (PL 93-492). Led by Rep. Les Aspin (D-Wis.), chief supporter of the school bus safety legislation, and John E. Moss (D-Calif.), chairman of the House Subcommittee on Oversight and Investigations, the congressmen urged NHTSA to upgrade its proposals on school bus joint strength (Docket 73-34), rollover protection (Docket 75-2) and emergency exits (Docket 75-3) before they are adopted.

The congressmen pointed out many of the deficiencies cited in *Status Report*, Vol. 10, No. 7, March 31, 1975.

### **JOINT STRENGTH**

The congressmen told NHTSA Administrator James Gregory that, "Although the school bus 'body joint strength' proposal is clearly a step in the direction intended by the law, it contains a loophole that would enable manufacturers to thwart the intention of the legislation and the standard." Since the proposal would not "set minimum strength requirements for body panels," manufacturers could meet the proposed requirements "by lowering the strength of the body panels by using weaker materials."

They pointed to an NHTSA study's warning that, "'Unless the basic structural strength of the load carrying members (body panels in the roofs and walls) is adequate for crash conditions imposed, joint efficiency (strength) is superflous.' In preparing the final standard we trust you will keep this research in mind and close this loophole."

The congressmen said they were also "dismayed with the other two standards proposed by NHTSA to fulfill the intent of the new law because they do no more than in effect codify the status quo."

### **ROLLOVER PROTECTION**

"The proposed 'rollover protection' standard would merely institutionalize a standard now met by virtually the entire school bus manufacturing industry . . . . This is the same standard as the School Bus Manufacturers Institute current test for school bus roof integrity. Yet, much of the evidence before NHTSA indicates that this standard is weak and insufficient," the congressmen said. "We regard the proposal as clearly inadequate."

## EMERGENCY EXIT REQUIREMENTS

Describing the emergency exit proposals as “inadequate,” they said the proposal “that the escape release mechanism open ‘with an upward vertical force of not more than 40 pounds’ ” ignores research sponsored by NHTSA that indicates that some children might not be able to open the emergency exit. “The force requirement for opening bus doors should be low enough to support a high degree of confidence that even small children can operate it,” the congressmen said.

They also asked “why roof exits are not being required under the new proposals . . . . If a bus with only side doors were to tip over on its side, roof exits could be of critical importance to exit and rescue efforts. With the bus on its side, the side door exit is located in what is now the top of the bus. In order to escape through this exit, children must climb a substantial distance, as much as eight feet, from bottom to top and then hoist themselves through the exit.”

NHTSA has not yet responded to the letter.

## Simple Test Shows Alcohol In Trauma Victims

A group of Maryland researchers has discovered that a simple emergency room procedure can provide an important aid in diagnosing the presence and amount of alcohol in trauma patients.

The study also revealed the presence of alcohol, in varying amounts, for 42 per cent of the 565 emergency room patients studied.

The patients studied were all hospitalized during 1974. Routine serum osmolality tests, using what is called the freezing point depression method, were made. The study said that the method used in these tests proved “highly accurate . . . inexpensive, and takes approximately two minutes to perform,” and that the results correlate highly with blood alcohol concentrations.

The researchers pointed out that this “simple rapid estimate of blood alcohol concentration in the acutely injured patient has significant practical implications.” They said, “It is well known that the smell of alcohol on the breath can lead to grave medical errors.” Their test, on the other hand, could show whether the alcohol level was low — a sign that would caution the physician against attributing to alcohol physical signs such as a depression of consciousness — or high, thus reminding the physician of effects of alcohol he might otherwise not have considered in his diagnosis.

The researchers said they undertook the study because of the “perennial problem encountered by the emergency room physician or trauma surgeon” in interpreting “traditional clinical signs in an acutely traumatized patient with . . . alcohol or drug ingestion.” Since blood or serum alcohol tests are not readily available in most emergency rooms, the researchers looked at this simple test to see if it would provide an accurate indication of alcohol.

“The importance of routine testing is suggested by the fact that almost half of our trauma admissions are positive for alcohol, and 64 per cent of these have concentrations of 0.10 per cent or higher, a level that constitutes presumptive evidence of intoxication in most states, and one which may complicate the diagnosis and management of trauma patients,” the study said.

The research was supported by the Maryland Medical-Legal Foundation and the Insurance Institute for Highway Safety. “Alcohol Intoxication and Serum Osmolality” was published in *The Lancet*, June 28, 1975.

## DOT Implements Permanent 55 MPH Rule

The Department of Transportation has issued its new rule implementing the congressionally mandated national speed limit of 55 miles per hour.

As published in the *Federal Register* of June 9, however, the rule has no provision requiring a state to certify its enforcement of the speed limit. DOT has deferred decision on a procedure by which states will certify the law's enforcement, to "allow additional opportunity for communication between the affected state agencies and the department." (See *Status Report*, Vol. 10, No. 9, April 28, 1975.)

According to the new rule, which is intended to "conserve fuel and increase safety," states must set their maximum speed limits on every highway no higher than 55 miles per hour, with the exception that "emergency and public motor vehicles may be authorized to operate at higher speeds when necessary to protect health or safety."

Should the transportation secretary determine that a state has failed to comply with the new rule, that state would risk loss of its federal aid highway project funds.

Compliance with the speed limit regulation requires, as of the rule's July 9 effective date, that a state submit to the Federal Highway Administration a statement including:

- A copy of its speed limit law, regulation or administrative order, including the sanctions for its violation;
- An opinion of the state's legal counsel that the law is valid;
- Notice that speed limit signs have been changed where necessary.

In a second *Federal Register* notice issued the same day, DOT proposed a procedure by which states would certify their enforcement of the 55 mile per hour limit.

This proposal, DOT said, "should serve to lighten the administrative burden of complying with the regulation," calling for an unspecified volume of data and content that is not beyond what DOT termed "the bare minimum which is generally essential to statistical credibility."

(Cont'd on page 8)

### **ABC News Schedules Special On Autos**

ABC television news has scheduled a special one hour documentary on what it describes as the "economic power of the auto industry" and that industry's "capacity to produce safer, cleaner more fuel efficient cars."

ABC science editor Jules Bergman and economics editor Dan Cordtz will report the findings of their seven-month investigation in a program entitled "Close-Up on Autos: Spoiled by Success?" Aug. 15, 1975, 10-11 p.m. EDT.

FHWA said that comments on the previous certification procedure proposal had objected to "what was seen as a federal assumption that the states could not be trusted to enforce the speed limit."

The June 9 proposal, with a June 30 deadline for comments, called for a certification of enforcement including:

- A statement signed by the governor certifying the law's enforcement;
- Copies of state laws, regulations or administrative orders subsequent to a state's previous submission on compliance;
- Information on enforcement, including the number of citations issued by the state for violations of the 55 mile per hour speed limit during each month of the previous year;
- Information on motorists' observance of the speed limit laws, including a description of the monitoring program used and a summary of the data obtained from such a program.

According to the proposed DOT regulation, states must resubmit a complete certification of enforcement by January 1 of every year.

Neither the new regulation nor its proposed addition makes any provision for FHWA to verify the information in a state's certification. Monitoring the states' reports would, a DOT official said, present "a very significant problem, because it is, indeed, potentially interference on the part of the feds in what should . . . be a state function . . . ."

DOT's National Highway Safety Advisory Committee has urged DOT Secretary William Coleman, Jr., "to ensure that the 55 mph speed limit is properly enforced in all the states and that, to the extent possible, such action be taken as is necessary to change laws and policies in the various states where violators of the 55 mph limit are treated more leniently than speed violators generally."

### ***Governors Upset By Federal Guidelines***

Governors are up in arms over Federal Highway Administration guidelines they must follow to certify that the congressionally mandated 55 mile per hour speed limit is being enforced.

A resolution passed at the June National Governors' Conference in New Orleans said the regulation would lead to "construction of a new federal speed enforcement bureaucracy" that is "expensive, unnecessary, inappropriate and constitutionally repugnant."

"Presumptions implied by DOT regulations that Governors are defaulting in their constitutional responsibility to see that the laws are faithfully executed, and that their performance in this regard should be monitored by a federal agency, are totally unacceptable . . . . Certification by the several Governors that their speed control programs are fully operative should be sufficient to satisfy the intent of Congress," the resolution said.



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### **Quoted Without Comment**

*Pontiac (MI) city officials apparently still are not convinced that it is a bad idea to permit a one-and-one-half hour race on city streets during a Fourth of July civic celebration. One driver was killed this year and last year's race was marred by a spectacular crash in which a race car flew off the track, disintegrated and burst into flames, narrowly missing massed spectators. The race was run on a five-lane, one-way roadway looping Pontiac's downtown business area. Despite opposition from the Auto Club of Michigan, the Oakland County Traffic Improvement Association and the Sports Car Club of America, the city council allowed the race on the grounds, as one councilman put it, "it was heartening to see whole families coming downtown . . . and we're trying to create a different atmosphere in Pontiac . . . ."*

Traffic Safety for Michigan  
*Traffic Safety Government Bulletin*  
 July 18, 1975

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## **FHWA Deficient In Safety Supervision**

The Department of Transportation's National Highway Safety Advisory Committee has criticized the Federal Highway Administration for failing to insist on "the highest safety standards possible" in the national highway program.

The problem, the committee said in a May 21 position paper, "is largely rooted in a policy attitude . . . that there should be a minimum of interference with the conduct of States' affairs" — a philosophy that, the committee said, "must yield to practicality" when applied to a highway program "that contributes to the loss of thousands of lives, tens of thousands maimed and millions of dollars in economic losses . . . ."

The committee recommended that DOT, through FHWA, "immediately develop more effective means to ensure that states implement federally promulgated safety standards in their highway construction and highway improvement projects, and where appropriate to review the adequacy of those standards."

The committee panel of 35 presidentially-appointed representatives of state and local governments and public and private interests, as well as scientists and experts concerned with highway safety, was established by the Highway Safety Act of 1966.

The committee's recommendation followed a Center for Auto Safety presentation that outlined the findings of a study on roadside hazards sponsored by the State Farm Companies Foundation. (See *Status Report*, Vol. 9, No. 23, Dec. 26, 1974.)

The presentation documented a host of built-in roadside hazards along a recently reconstructed stretch of I-95 near the Pentagon, minutes away from DOT headquarters.

Transportation Secretary William Coleman, Jr., who attended the committee meeting, told the committee that he would give its recommendation "serious consideration," adding, that, "it seems to make a lot of sense."

FHWA Administrator Norbert Tiemann claimed that his agency uses a "business-like procedure" that screens out "95 per cent of the cases" of roadside hazards on newly constructed roads.

*Status Report*

July 30, 1975

## NHTSA Seeking Uncorrected Defects

The National Highway Traffic Safety Administration has initiated a service designed, it said, "to speed identification and repair of automobiles recalled by manufacturers because of safety-related defects."

The computer-based service will allow individuals, insurance companies and other interested organizations to find out "quickly" whether a recalled vehicle is still listed as "uncorrected" in the manufacturer's records, NHTSA announced.

NHTSA Administrator James Gregory said, "It is unfortunate that we cannot go back and apply this computerized information service to every recall campaign on record. But the service applies, now, to every recall since Jan. 1, 1974, and will continue to apply to every recall campaign from that date on."

For the new service, NHTSA has established a computerized listing of vehicle identification numbers (VIN's) of automobiles that have been recalled since January, 1974, but were still uncorrected in the ninth month of each recall campaign.

NHTSA began to gather information for the computer bank in August, 1974, as the result of a new regulation requiring all manufacturers, domestic and foreign, to report the VIN's of all uncorrected vehicles after the ninth month of every defect-recall campaign. The rule was issued under the National Traffic and Motor Vehicle Safety Act of 1966, which gives the Secretary of Transportation authority to require VIN's and other safety defect notification reports from manufacturers. (See *Status Report*, Vol. 9, No. 8, April 16, 1974.)

As a result of a recent change in the law, manufacturers are required to use several sources, including manufacturer and dealer records and state vehicle registrations, in order to identify current owners. Manufacturers are also now required to remedy their defective products, in most cases, at no charge to the consumer. (See *Status Report*, Vol. 9, No. 19, Oct. 29, 1974.) Under the law in force when the rule was issued, NHTSA could only require manufacturers to send defect notification letters to first purchasers and subsequent warranty holders of the vehicle. The agency said that "... the vehicle identification number is a useful tool for locating second and later owners of vehicles."

NHTSA cited a State Farm Mutual Automobile Insurance Co.—Ford Motor Co. study that showed a "fairly significant percentage of owners who either had not received or responded" to an initial defect notification sent by Ford, did respond to subsequent letters sent by Ford or State Farm. The two companies used VIN's in State Farm's policy holder files to find and notify vehicle owners who had not responded to the safety defect notification notices addressed on the basis of Ford warranty records. (See *Status Report*, Vol. 8, No. 19, Oct. 17, 1973.)

Inquiries under the new service may be made by telephone or mail. Organizations, including insurance companies, will be able to check their customers' vehicles against the total "uncorrected" VIN list of each campaign. Individual owners will be able "to verify quickly if they have purchased or are about to purchase a vehicle still in need of a defect-repair or correction," NHTSA said. The agency said that most inquiries should receive a response within 24 hours of receipt.

A recent General Accounting Office investigation of defect recall campaigns found that millions of vehicles have never been inspected for the defects for which they were recalled. GAO recommended that NHTSA examine ways to improve the effectiveness of recall campaigns. (See *Status Report*, Vol. 10, No. 7, March 31, 1975.)

An NHTSA official told *Status Report* that a record will be made of all inquiries and if, after one year, "usage warrants continuance, which we hope it does, we will go on" with the program.

When the regulation requiring VIN's from manufacturers was issued, General Motors and Chrysler filed formal petitions for reconsideration. Among their requests, the auto makers sought an evaluation of the effectiveness of the program, including "the extent such data is useful and to whom." (See *Status Report*, Vol. 9, No. 12, June 18, 1974.)

Inquiries by mail should be addressed to: Office of Consumer Services (N40-41), National Highway Traffic Safety Administration, 400 Seventh St., S.W., Washington, D.C. 20590. Telephone inquiries should be made to: 202/426-0670.

## **New Guardrail Retains Trucks, Buses**

Federal Highway Administration engineers have developed a bridge rail design which, they report, is rigid enough to contain high speed impacts by large vehicles, yet flexible enough to protect small impacting vehicles from severe damage — thereby filling what FHWA has called "one of the major longstanding needs in roadside highway safety efforts."

The new design, which uses flexible "steel rings as the primary energy absorbing device" behind a conventional box beam bridge rail, is in its "final research stages," an FHWA engineer said.

A section of the rail reportedly withstood impact by a 70,000 pound tractor-trailer at 45 miles per hour hitting the rail at an angle of ten degrees. "A standard size passenger car was then successfully redirected in a 60 mile per hour, 25 degree impact even though damage to the bridge from the previous 70,000 pound tractor-trailer impact was not repaired," FHWA reported in a recent press release.

In ten "full-scale crash tests" performed on an earlier steel ring design, engineers used vehicles ranging in weight from a 2,000 pound Volkswagen to a 40,000 pound bus. Performance goals "were met in all cases," FHWA said. Damage to the prototype rail system itself in those tests "ranged from slight, for light-weight vehicle impacts, to extreme, for heavy impacts."

FHWA has decided to "vigorously promote" the new bridge rail design to states, an official told *Status Report*.

Because "everyone will balk at the cost," of the new design, FHWA will "take a hard look" at the preliminary installation sites — choosing, for example, installation on a bridge with a curving entrance ramp in an urban area in preference to a less potentially hazardous site, an official said.

The steel ring system "in principle" can be modified for use as a highway median divider or as a roadside guardrail, according to FHWA's Office of Research.

In three reports issued since 1973, the National Transportation Safety Board, an independent federal agency, has addressed itself to the problem of the incompatibility of heavy vehicles with current rail designs. In two of the reports NTSB urged development of new rail systems and means of upgrading existing bridge rails. The latest NTSB recommendation followed a California crash in which a Greyhound bus went through a guardrail and slammed into a bridge pier, killing 13 people. (See *Status Report*, Vol. 10, No. 8, April 11, 1975.)

## NTSB Reports On California Bus Crash

The National Transportation Safety Board has issued a report on the crash of a school bus-type bus in California. The bus failed to negotiate a turn and went into a water drainage ditch. Although the water was only 28 inches deep in the bus, 19 of the 47 farm workers on the bus drowned.

At impact, all seats except the across-the-bus rear seat and a corner of the driver's seat were torn from their mountings. The report stated that the failure of the bus seat anchorages, "apparently under low collision forces resulted in the compressive packing of the seats and occupants, hampered rescue efforts, and therefore contributed to the high number of deaths by drowning."

A spokesman for NTSB explained that this report contained no specific recommendations for structural improvement of this type of bus because previous reports "have addressed the subject of school bus safety." (See *Status Report*, Vol. 9, No. 12, June 18, 1974.)

NTSB found the probable cause of the crash was the failure of the driver to reduce the speed of the bus. "Contributing to this failure was a lack of driver alertness induced by fatigue," said the report.

NTSB issued two formal recommendations to the local county road commission:

- ensure that the turn warning/advisory speed signs are installed in a manner that conforms to the Manual on Uniform Traffic Control Devices;
- provide delineation of the pathway around the turn.

Copies of the full report can be obtained by writing to the National Transportation Safety Board, Washington, D.C. 20594 and asking for report NTSB-HAR-75-1.

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the highway  
loss reduction

### STATUS REPORT

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