

# Status Report

## GAO Questions Effectiveness Of Safety Grants

Nearly \$1.3 billion in federal grants to state highway safety programs over the past 13 years has had little demonstrated effect in reducing the traffic crash toll, the General Accounting Office (GAO) has concluded in an assessment of the Highway Safety Grant Program.

Four years ago the GAO had made a similar study of federal standards for motor vehicle safety performance and concluded that they had resulted in reduced deaths and serious injuries and were cost effective. Both programs are administered by the Department of Transportation.

The federal investigative agency said that few of the highway safety projects "have yet been shown to have a positive or lasting effect on accident reductions," and that others that are believed to be effective have not been implemented. While motor vehicle deaths per miles traveled, per registered vehicle, and per U.S. population have been "significantly reduced since federal involvement," the GAO said, that trend was apparent before the Highway Safety Grant Program. Furthermore, the agency said, since 1976 death rates have been steadily increasing each year.

### Legislators Have 'Regressed'

In 1976, Congress amended the Highway Safety Act to eliminate the required compliance of all states with each uniform safety standard. "Since the amendment, many state legislators have regressed from implementing certain elements of the uniform standards that studies have deemed important, such as motorcycle helmet use laws and periodic motor vehicle inspections," the GAO noted. "Helmet use laws have been repealed or weakened in 27 states because most motorcyclists oppose these laws even though mounting evidence from NHTSA and state studies shows that using helmets saves lives."

The report pointed out also that "at least seven states either have repealed their inspection laws or have decided to discontinue their pilot programs, even though studies in two of those states showed that vehicle inspections reduce vehicle defects."

While mandatory seat belt use and compliance with the 55 mph speed limit have been estimated to prevent more deaths and injuries than all other state and local countermeasures put together, the GAO said, no state has enacted seat belt requirements and speed limit compliance is poor.

### Need For Congressional Guidance Seen

Measuring the effectiveness of safety programs is difficult, the GAO admitted, but it recommended that the Secretary of Transportation establish criteria for the amount of problem identification and data analysis that states need to establish their safety programs and evaluate results. But beyond administrative improvements, the GAO suggested that Congress needs to determine the federal role in highway safety matters and then alter the grant program to fit that role.

*(Cont'd on next page)*

## **GAO Questions Effectiveness Of Safety Grants (Cont'd from page 1)**

“Because of changing, and sometimes conflicting, directions from the legislation, DOT, and the states, the safety grant program has addressed a multitude of safety activities that may not have been the most effective,” the GAO commented. “The program needs to have a clear, specific direction from the Congress, defining a limited number of areas or problems to address, before its effect on reducing accidents can be measured.”

Under the Highway Safety Act of 1966, each state was required to have a highway safety program, approved by the Secretary of Transportation. Eighteen uniform federal standards were established to be addressed in the state programs. Fourteen of these are concerned with drivers and vehicles and are administered by the National Highway Traffic Safety Administration (NHTSA). Three highway standards are administered by the Federal Highway Administration, and one standard on pedestrian safety is jointly administered by the two agencies. Since the original 18 standards were promulgated, NHTSA has made several efforts to focus state attention on specific problem areas, including alcohol countermeasures, mandatory motorcycle helmet use, and motor vehicle inspection. But Congress has thwarted efforts to force compliance by the withholding of federal-aid highway funds, and has amended the 1966 act to state that nothing should “require the Secretary to require compliance with every uniform standard . . . in every state.”

### **The Effects Are Unknown**

More than 1,700 projects costing at least \$20,000 each have been identified by NHTSA, the GAO said, yet with few exceptions officials have not been able to determine which have had any positive effect on crash reduction.

“Because DOT has not yet established a plan for determining and selecting the most effective countermeasures, many states tend to implement the same type of countermeasure to solve many different highway safety problems,” the GAO said. “Selective enforcement, for example, is being used as a countermeasure for alcohol problems, speed problems, motorcycle problems, hazardous location problems, and others. Although some safety agency officials believe selective enforcement is more likely to have an impact than other countermeasures, they feel that the impact is only temporary because accidents increase when the enforcement is discontinued.”

The recent report is in contrast to the GAO assessment in July 1976 of the effectiveness of motor vehicle safety standards. In the 1976 study the GAO estimated that, “The 1966-70 standards may have saved about 28,230 lives between 1966 and 1974.” (See *Status Report*, Vol. 11, No. 14, Aug. 30, 1976.) The investigators concluded that, “At all but the lowest valuation of the cost of a death to society, we estimate the value of these benefits exceeds the cost of the safety standards.”

## **NHTSA Issues Revised Moped Guidelines**

Two years after proposing a series of rules for moped operation, the National Highway Traffic Safety Administration (NHTSA) has issued final guidelines to states for regulating these vehicles. (See *Status Report*, Vol. 13, No. 15, Oct. 30, 1978.) Under the new guidelines, a moped is defined as “a motor-driven vehicle both with pedals to permit propulsion by human power and with a motor which produces [power] not to exceed two brake horsepower and which is not capable of propelling the vehicle at a speed in excess of 30 mph (48 km/hr) on ground level.”

A number of the final guidelines are essentially unchanged from the 1978 proposal. These include the recommended requirement that moped operators obey all applicable traffic laws, and have the same insurance requirements and financial liability as drivers of other motor vehicles.

NHTSA has retained a recommendation that a handbook on moped driving practices and legal requirements be prepared. Motorcycle safety education programs should include information on moped operation, and this information should also be incorporated into high school and adult driver education courses, the safety agency urged.

Also unchanged from the 1978 proposal is the recommendation that passengers be prohibited on mopeds unless the vehicle is specifically designed to carry passengers. All moped drivers are encouraged to make themselves as visible as possible to other drivers.

### New And Revised Recommendations

The guidelines for licensing and test requirements for moped operators have been modified from the 1978 proposal. NHTSA now recommends that all operators have "a moped or motorcycle operator's license or moped endorsement to an existing valid license." The agency has also urged that mopeds be registered in a special class, and that separate testing be conducted for moped operators. Crash data on mopeds should be identified as a category separate from bicycles and motorcycles, according to the new NHTSA guidelines.

Moped operators should wear protective headgear. This recommendation has been broadened from the earlier proposal which would have specifically required bicycle or motorcycle headgear for moped operators. A new provision has also been added, recommending that moped drivers be required to "wear some form of eye protection device . . . unless the moped is equipped with a windscreen."

NHTSA has urged states to restrict mopeds to speed capabilities of 30 mph and under. As in 1978, the agency also recommended that mopeds be prohibited from roadways where the speed limit exceeds 35 mph. Where alternative routes suitable for lower speeds are not available, NHTSA recommended engineering analyses of the higher speed roads to determine how mopeds could be separated from the faster traffic flow. The agency deleted an earlier recommendation for the designation of special moped/bicycle lanes. However, under the new guidelines, existing bicycle lanes could be used by moped operators "where joint use appears compatible."

These guidelines were prompted by the growing number of mopeds in use, and by the rising number of fatalities as a result of moped crashes. There are now an estimated one million mopeds on U.S. roadways (up from 25,000 in 1974), and the number is expected to reach 2½ million within the next four years. By 1984, NHTSA predicted, an estimated 1,200 fatalities could result annually from moped crashes, assuming ridership increases as expected.

## **Patterns Of Teenager Crash Involvement Are Studied**

Almost half of the fatal crashes involving drivers below the age of 18 occur in the four hours before or the four hours after midnight, a Yale University researcher has reported. In the great majority of cases, the drivers have proper licenses and are either traveling alone or without an adult passenger, he said.

Conducted by Dr. Leon Robertson of the university's Center for Health Studies, the study was carried out to identify patterns of teenage driver involvement in fatal crashes, with a view toward developing measures for reducing them. It was supported by the Insurance Institute for Highway Safety, and recently presented at a meeting of the Connecticut Public Health Association.

Robertson noted that the overall death rate for teenagers and young adults in this century was headed downward until its third quarter, when it began climbing. "The increase in teenager deaths in the 1960's and early 1970's resulted at least partly from public policy specifically intended to reduce the crash involvement of teenaged drivers," he said (see *Status Report*, Vol. 13, No. 1, Jan. 16, 1978);

Robertson suggested that one way of reducing fatal crashes might be to allow drivers below the age of 18 to operate motor vehicles only from 4 o'clock in the morning until 8 o'clock in the evening. Based on data from 1975 through 1978, some 45 percent of fatal crashes of drivers below the age of 18 occurred from 8:01 p.m. to 4 a.m., he said. He noted that any "such change in law should be rigorously researched to learn quickly whether the law has merely shifted the time of teenaged driving to daytime hours with an increased involvement in severe daytime crashes, offsetting any reduction in those occurring at night."

Among automobile, van, and truck drivers below the age of 18 who were involved in fatal crashes, 8.5 percent were driving without a license, the study reported. "The infrequent involvement of unlicensed drivers in fatal crashes of cars, trucks, and vans suggests that completely eliminating the licensure of those less than 18 would be an effective policy," Robertson also noted.

#### Adult Companion Might Help

The study said there were no adult passengers in 83 percent of vehicles in fatal crashes involving drivers below the age of 18. Requiring the presence of an adult in the car for drivers of that age might reduce their involvement in fatal crashes, Robertson said. However, he warned that any such measure should be carefully researched before being adopted because of the possibility that more deaths of adults would result.

Copies of "Patterns of Teenaged Driver Involvement in Fatal Motor Vehicle Crashes: Implications for Policy Options," by Leon S. Robertson, Ph.D., September, 1980, may be obtained from the Insurance Institute for Highway Safety, Watergate 600, Washington, D.C. 20037.

## **Safety Board Urges 'Comprehensive' Skid-Reduction Program**

Noting that wet-weather crashes are claiming more lives, the National Transportation Safety Board has urged the federal government to adopt a "comprehensive" program to reduce crashes caused by skidding.

"Fatal accidents on wet pavements, which in previous years represented about 13.5 percent of all the fatal accidents, in 1979 represented 15.3 percent of all the fatal accidents," the board said.

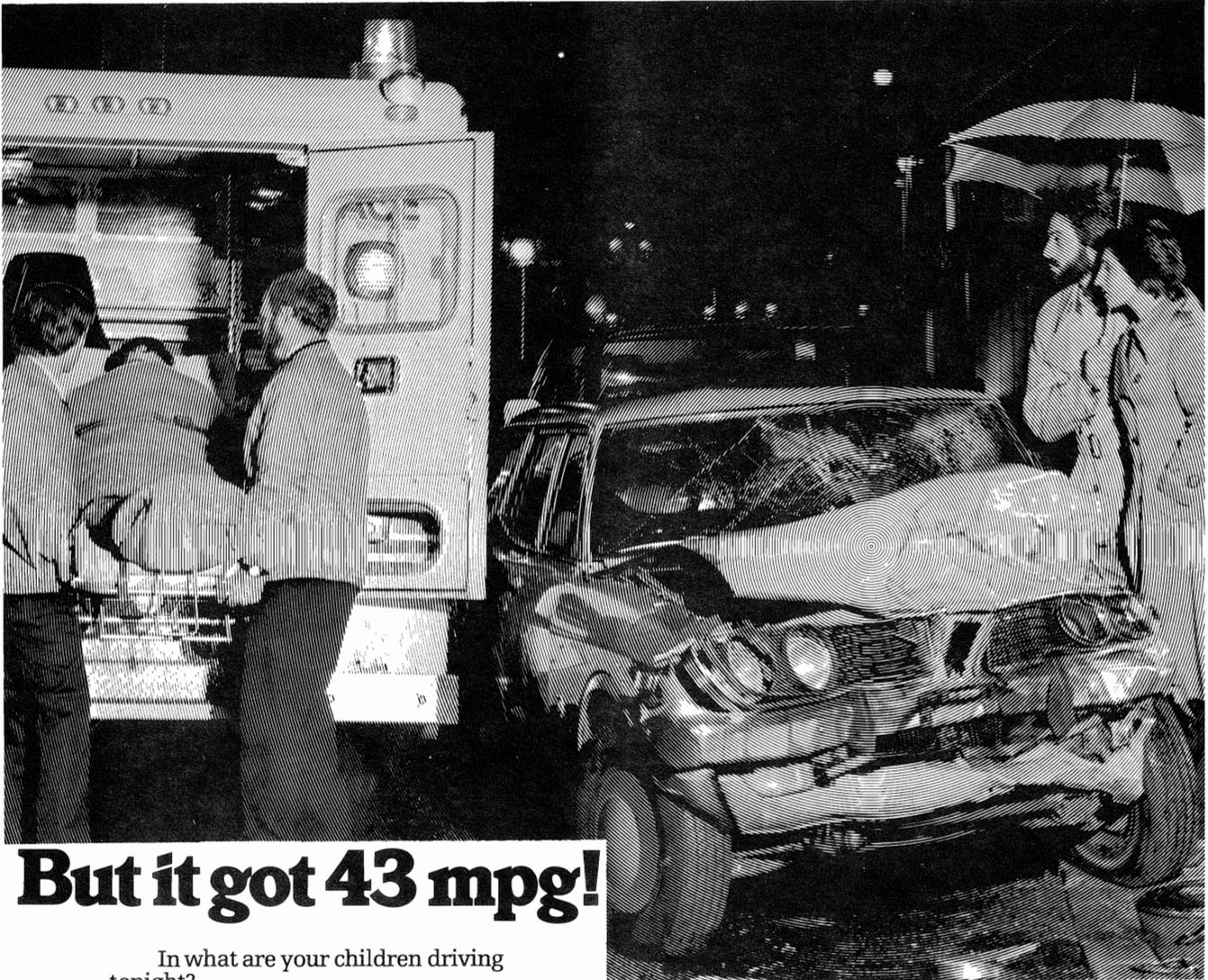
Before a "rational" program can be adopted, though, the Federal Highway Administration (FHWA) must adopt "some minimum criteria" specifying pavement skid-resistance levels, the safety board said.

[Recently, the Insurance Institute for Highway Safety criticized FHWA for its failure to set specific and objective standards for skid resistance in the agency's proposed rulemaking on the subject. (See *Status Report*, Vol. 15, No. 10, June 25, 1980.) The FHWA proposal called only for "adequate" skid resistance, without defining what it meant by the term.]

The safety board report capped a study of fatal wet-weather crashes and a review of 10 states' skid-reduction programs. The evaluators found the state-level programs varied widely, with one state devoting a staff of three to the task while another dedicated 50.

Aside from funding problems, local officials indicated to board investigators that highway construction lobbies often successfully impede the purchase of superior, skid-resistant paving aggregates from out-of-state suppliers, forcing them to buy locally-produced, but inferior, materials. The states also have been handicapped by failure to utilize crash data to pinpoint high-hazard locations, the safety board said.

While FHWA officials acknowledged to *Status Report* that some state skid test programs are "mythical," they said other states have made significant strides in locating and eliminating high-hazard locations, either by resurfacing or grooving pavement to improve skid resistance. But, they conceded, there is little likelihood the agency will set minimum skid-resistance standards, primarily because of state opposition.



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U. S. auto makers traditionally have been reluctant to use federal crash test results in their advertising. Now about 200 New York City-area Chevrolet dealers have launched an ad campaign stressing the safety advantages of their small cars over imported models. The picture and text on this page are reproduced from one of the ads prepared by the Berger, Stone & Ratner agency. The "U.S. safety tests" referred to in the ad were the Department of Transportation's 35 mph occupant protection crash tests. (See *Status Report*, Vol. 15, No. 14, Sept. 17, 1980.)

## Strategies To Reduce Damage From Environmental Hazards

The journal, *Hazard Prevention*, has published an analysis by William Haddon, Jr., M.D., president of the Insurance Institute for Highway Safety, pointing out that all of the measures available for reducing the damage from all kinds of environmental hazards basically fall into 10 strategy groups.

These 10 basic strategies, each with illustrative tactics, are:

1. To prevent the creation of the hazard in the first place. *Examples:* prevent production of plutonium, thalidomide, LSD.
2. To reduce the amount of the hazard brought into being. *Examples:* reduce speed of vehicles, lead content of paint, mining of asbestos; make less beverage alcohol (a hazard itself and in its results, such as drunken driving).
3. To prevent the release of the hazard that already exists. *Examples:* pasteurizing milk, bolting or timbering mine roofs, impounding nuclear wastes.
4. To modify the rate or spatial distribution of release of the hazard from its source. *Examples:* brakes, shutoff valves, reactor control rods.
5. To separate, in time or space, the hazard and that which is to be protected. *Examples:* isolation of persons with communicable diseases; walkways over or around hazards; evacuation; the phasing of pedestrian and vehicular traffic, whether in a work area or on a city street; the banning of vehicles carrying explosives from areas where they and their cargoes are not needed.
6. To separate the hazard and that which is to be protected by interposition of a material barrier. *Examples:* surgeon's gloves, containment structures, childproof poison-container closures, vehicle air bags.
7. To modify relevant basic qualities of the hazard. *Examples:* altering pharmacological agents to reduce side effects, using breakaway roadside poles, making crib slat spacing too narrow to strangle a child.
8. To make what is to be protected more resistant to damage from the hazard. *Examples:* immunization, making structures more fire- and earthquake-resistant, giving salt to workers under thermal stress, making motor vehicles more crash resistant.
9. To begin to counter the damage already done by the environmental hazard. *Examples:* rescuing the shipwrecked, reattaching severed limbs, extricating trapped miners.
10. To stabilize, repair, and rehabilitate the object of the damage. *Examples:* posttraumatic cosmetic surgery, physical rehabilitation for amputees and others with disabling injuries (including many thousands paralyzed annually by spinal cord damage sustained in motor vehicle crashes), rebuilding after fires and earthquakes.

The analysis also points out that the same strategies are those that can be applied to reducing the damage of war.

Haddon also recently authored an additional paper of particular interest to epidemiologists and public health workers, and this has appeared in the September-October issue of *Public Health Reports*.

Reprints of both papers are available from the Insurance Institute for Highway Safety, Watergate 600, Washington, D.C. 20037. Request "The Basic Strategies for Reducing Damage From Hazards of All Kinds," *Hazard Prevention*, September-October 1980, and "Advances in the Epidemiology of Injuries as a Basis for Public Policy," *Public Health Reports*, September-October 1980.

## **NHTSA Research Studies Mandatory Belt Laws Abroad**

The effectiveness of laws requiring the use of seat belts in various countries around the world has been assessed in a study conducted for the National Highway Traffic Safety Administration (NHTSA).

Prepared for NHTSA by Peat, Marwick, Mitchell & Co., an international consulting firm, the study is intended to aid the consideration of whether such laws should be adopted by the states in this country (none has so far). It includes a case-by-case discussion of mandatory use laws in 16 countries, and is based on published and unpublished reports and/or personal interviews with foreign officials and researchers.

Among other findings, the study said that:

- "Several countries have reported a 15 to 30 percent reduction in fatalities and injuries following passage of the seat belt law. Unfortunately many countries enacted other safety legislation at the same time the seat belt laws became effective, thereby obscuring the decline in fatalities due to the seat belt law."
- "Researchers from several countries indicated that the change in fatalities and injuries that could be attributed to the seat belt law was less than had been expected."
- "All countries allow exemptions from the seat-belt legislation." These generally apply to passengers of certain ages and sizes, those with certain medical conditions, and drivers of commercial vehicles, the study said.
- Public education programs have been used to some extent by all of the countries studied with belt laws. However, while these programs may help change the attitude of motorists toward the safety and effectiveness of seat belts, they haven't had any appreciable effect on belt-wearing behavior, the study said.
- Enforcement of the laws "appears to be essential to a high seat belt usage rate." But in almost all countries, the seat belt law was "enforced only as an ancillary action in connection with some other traffic violation," according to the study.
- Studies in almost all of the countries showed that wearing rates rose dramatically immediately after the laws took effect, but then dropped considerably to some plateau.

Similar findings have been reported in a study conducted by the Insurance Institute for Highway Safety (see *Status Report*, Vol. 14, No. 10, June 21, 1979). It found that reductions in occupant deaths after belt laws were adopted were considerably less than expected based on relatively high wearing rates. This was the case because occupants most likely to be involved in serious crashes are least likely to increase their use of belts in response to laws, it concluded. Reductions in deaths reportedly ranged from 10 to 20 percent in a number of countries, but may not have been entirely the result of belt use laws, according to the study. Institute researchers said that while the laws are an important lifesaving measure, their limited success reinforces "the importance of providing automatic protection to vehicle occupants as an alternative or supplementary countermeasure."

Copies of the NHTSA study, "Effectiveness of Safety Belt Usage Laws," by Franklin G. Fisher, Jr., May 1980, may be obtained through the National Technical Information Service, Springfield, Va. 22161. The cost is \$16 and the order number is PB 80209-901.

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# Status Report

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