

Promoting Belt Use: Lessons From the Past

In view of indications that federal safety officials are considering a multimillion dollar promotional campaign in an effort to increase safety belt use, Status Report is providing the following chronology of past educational efforts and their results:

The latest government observations of manual seat belt use indicate that 89 percent of all drivers are unrestrained. This represents a decline in belt use over the past decade.

Studies show that manual seat belt systems provide crash protection vastly superior to no restraints at all – if they are used. In recent years, a variety of media and related educational campaigns have been carried out to try to increase the number of people who voluntarily use their seat belts. These campaigns are reviewed below:

- In 1968, the National Safety Council (NSC) used the equivalent of \$51.5 million in media time and space for public service announcements to encourage seat belt use. Similar NSC campaigns were conducted in 1972 and 1973. Result: interviews indicated *no change in claimed seat belt usage.*

- In Great Britain, a three-year campaign was launched in 1968 to promote road safety in general and the use of seat belts in particular. This campaign, which involved controlled experiments in the use of media advertising, was continuously monitored by observations of belt use. A small increase in usage was reported during the campaign, but it was only temporary. *After the campaign, belt use dropped to about the same level as before.*

- A 1969 campaign in Toronto used television, newspapers, posters, and group sessions in schools and businesses to try to influence seat belt usage. However, observations indicated that *the use of belts in vehicles involved in collisions did not change significantly from the pre-campaign trend.*

- In 1971-1974, informational campaigns to increase seat belt wearing were carried out in Sweden. During this period, wearing rates for drivers and front seat passengers on weekdays in rural areas reportedly increased from about 20 percent to about 30 percent. The study was based on observations of seat belt use, and researchers said it *"seemed likely" that the increase was attributable to the promotional campaigns.*

- In 1971, a number of radio and television seat belt messages from among those produced by the National Safety Council, the American Safety Belt Council, and the Department of Transportation (DOT) were evaluated by expert and lay panels. There was wide disagreement about which ones the panel members thought would be effective in encouraging people to use their belts. The experts emphasized entertainment value and avoidance of the "scare approach," while the lay panel rated highly those messages with "scare content." Subsequently, materials selected according to the panels' ratings were shown in three communities. Observations indicated that *post-campaign seat belt use was about the same as pre-campaign use in all three communities.*

(Cont'd on next page)

Promoting Belt Use: Lessons From the Past (Cont'd from page 1)

- During a nine-month period in 1971-1972, a study of the effects of televised seat belt commercials was carried out by the Insurance Institute for Highway Safety. In the study, a package of commercials was shown intensively during prime and other selected times on one cable of a dual-cable television system designed for marketing studies in a medium-sized mid-Atlantic city. While one cable of 6,400 households received the messages, another cable of similar size, serving households only a few doors away from the message recipients, did not. If this campaign had been sponsored on a national basis, it would have cost about \$7 million in 1972 dollars.

Before and during the campaign, measurements were taken of observed belt use in the city. License plate numbers of the observed automobiles were also recorded. Matching license information with addresses, researchers determined whether observed drivers lived in households with cables carrying the seat belt messages. From this information, researchers concluded that the campaign had *no effect whatsoever on seat belt use. Before, during, and at the close of the campaign, belt use levels were virtually identical for those with the cable carrying the commercials and those with the other cable – as well as for others in the city not receiving either cable.* In all cases, belt use did not increase and was less than 20 percent throughout.

- In France, the government tried to increase voluntary use of seat belts with a six-month promotional campaign in 1973. A study near the end of the campaign indicated *a maximum usage rate not significantly different from the pre-campaign level. This inability to raise usage to an acceptable level was one of the arguments used to pass belt use legislation later in 1973.*

- Ontario also attempted to promote voluntary belt usage for several years before enacting a mandatory use law. However, the promotional campaign, which began in June 1974, *increased usage only two percent after nine months.* (It was later believed that this campaign facilitated acceptance of the mandatory belt use legislation introduced the following year.)

Other evaluations of seat belt promotional campaigns in Canada have been conducted, but *there has been limited evidence that these campaigns had any tangible benefits in terms of producing sustained increases in seat belt usage rates.*

- The DOT spent \$750,000 during 1972-1978 to develop, print, and distribute 10 pamphlets on the importance of belt use, which were made available to elementary schools, driver education teachers, college and university administrators of driver education preparation programs, audiovisual centers, insurance companies, and others. In addition, DOT spent \$82,500 on combined safety belt use/drunk driving television spot commercials, and undisclosed amounts on promotion of seat belt use in the department's films, slide shows, and public service radio commercials; these received an untold amount of free media exposure. The result was *no discerned effect on belt usage.*

- In 1977, Motorists Information, Inc., an organization formed by the four domestic automobile manufacturing companies specifically to promote belt use, undertook a \$1.75 million media blitz in Detroit and surrounding towns to increase belt use. The campaign involved both the electronic media and billboard ads. Touted by Motorists Information and the manufacturers as having a high chance of success, the campaign's results were measured on October 3, midway through the 10-week campaign.

The measurements, taken by the Insurance Institute for Highway Safety, were of actually observed seat belt use at 10 representative Detroit sites and along many miles of the city's highways. Observations were made before, during, and after the campaign. The Institute found that at these sites, *only five percent of drivers were wearing lap belts, and eight percent were wearing lap/shoulder belts. Only six percent of passengers were wearing shoulder belts.* Because of the observational technique, lap belt use for passengers not wearing shoulder belts, as in older cars with separate lap and shoulder belts, could not be observed.

These usage rates were “even lower than safety belt use levels observed by us in Detroit at the same sites in the spring of 1976” the Institute reported.

Subsequently, the Department of Transportation also measured the effects of Motorists’ seat belt use campaign. Based on more than 30,000 observations of belt use in three Michigan cities, the department’s study concluded that there was “no response” to the *advertising blitz*. In fact, in one of the cities belt use declined by one percent.

An earlier Motorists Information campaign in Grand Rapids, Michigan, was claimed to have resulted in an increase in belt use from 29 to 41 percent. However, it turned out that the claim was based on telephone interviewing of motorists – a technique well known to researchers as unreliable in assessing belt use – rather than on actually observed belt use. Subsequently, the Insurance Institute for Highway Safety, on the basis of extensive observations in Grand Rapids, reported that belt use levels at the conclusion of this \$225,000 campaign were so low that *only 13 percent of drivers were wearing any belts at all*.

- In March 1980, the National Academy of Sciences presented to DOT a report of the Academy’s investigation of methods to encourage the use of seat belts by passengers and drivers of motor vehicles. The Academy noted that “past attempts to induce people to use their safety belts have not been particularly successful. . . . Some of the measures that have failed – the interlock and the media campaigns, for example – might have been successful elements of a larger effort.” *The Academy’s principal conclusion about all efforts to increase seat belt use was that “no single program is likely to work.”*

In part because of these worldwide failures to increase voluntary seat belt use through promotional campaigns, many countries have enacted mandatory belt use laws. In Australia, for example, a government effort was launched in the late 1960’s to encourage seat belt use. High usage rates were never achieved in that country, even with relatively intense promotion of belts. Only after use laws were passed and enforced were substantial increases in use experienced.

In 1977, DOT reviewed these efforts to increase seat belt usage through education and promotion, and concluded that such campaigns “in the United States or any foreign nation have not been successful in increasing voluntary seat belt usage to an effectively high level.”

Correction:

In an article in the *Status Report*, Vol. 16, No. 8, June 10, 1981, entitled “Exploding Rims Continue to Inflict Death, Injury,” the inadvertent omission of a word changed the meaning of a statement quoted from a letter by IIHS President William Haddon, Jr., M.D., to Ray Peck, head of the National Highway Traffic Safety Administration. The last paragraph of that article should have read:

“In his letter to Peck, Haddon noted, ‘The OSHA regulation will *not* protect the millions of workers and ordinary citizens who, unaware of the hazards of handling a multipiece wheel, are constantly exposed to them simply because they share the road with them or drive a vehicle equipped with them.’ ”

Highway Loss Data Institute Profile Published

The Highway Loss Data Institute (HLDI) has published a report describing the Institute and summarizing its major findings to date.

Incorporated in 1972, HLDI "collects and analyzes insurance coverage and claims data relating to the human injury and other losses associated with various motor vehicle types." HLDI's findings "provide an objective source of information about the real-world insurance loss experience of different kinds of motor vehicles, and about the relative success of the vehicles' producers in providing designs and construction that protect against damage to occupants and to the vehicles themselves."

HLDI's loss experience findings include the following:

- "Among the different car size groups, small cars have the *worst* insurance crash loss experience. In general, both injury and collision losses increase as car size decreases." [See Figure 1.]
- "Among the different car body styles, sport and specialty models have the *worst* insurance crash loss experience, and four-door models and station wagons usually have the best experience." [See Figure 2.]
- "There is *great variation* in the insurance crash loss experience of individual vehicle types, even among vehicles of the same size class and body style subgroup." [See Figure 3.]
- "There are *even larger variations* in the theft loss experience of different cars. Sport and specialty models have the worst theft losses." [See Figure 4.]

Copies of the report, "The Highway Loss Data Institute," may be obtained from the Highway Loss Data Institute, Watergate 600, Washington, D.C. 20037.

FIGURE 1
Personal Injury Protection Coverage
Relative Injury Claim Frequencies by Car Size
1977-1979 Passenger Cars

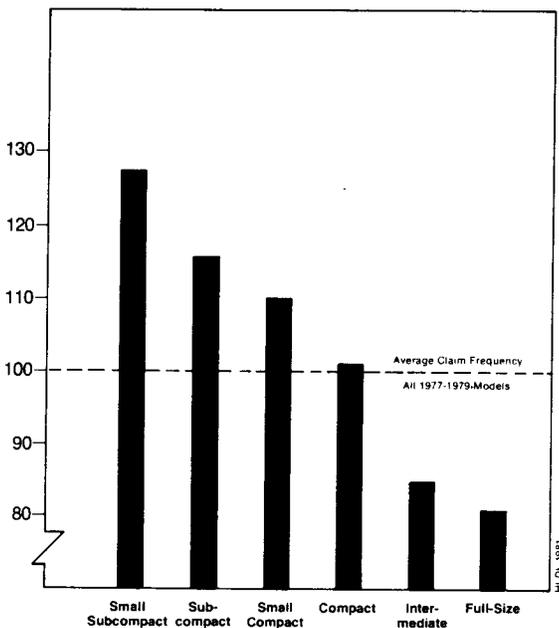


FIGURE 2
Collision Coverage
Relative Average Loss Payments
Per Insured Vehicle Year
By Body Style
1980 Subcompacts

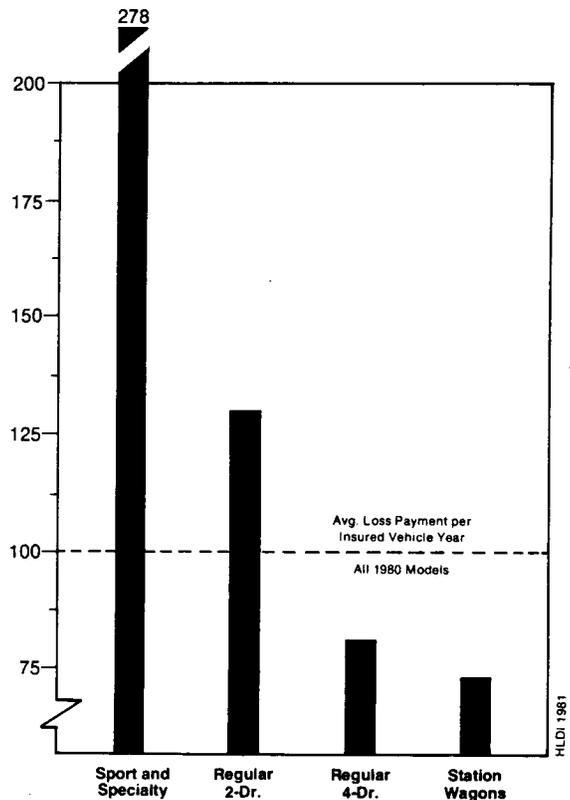


FIGURE 3
Personal Injury Protection Coverage
Relative Injury Claim Frequencies
1977-1979 Passenger Cars with the Best
and Worst Injury Loss Experience

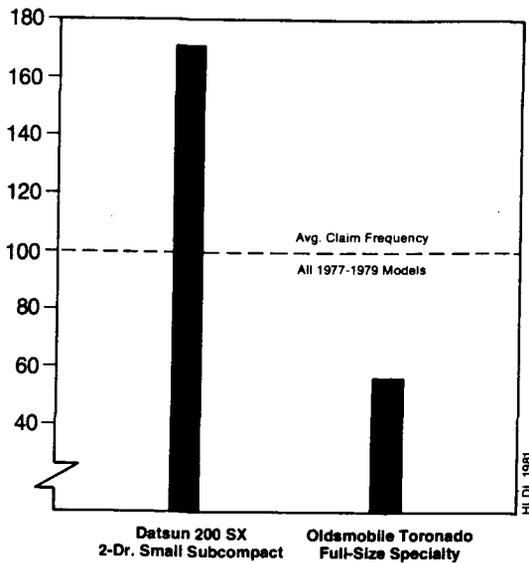
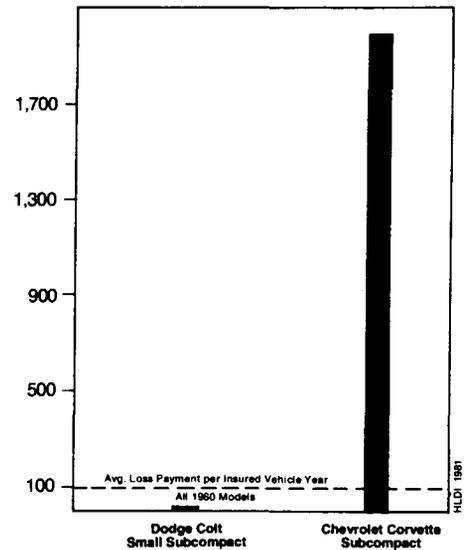


FIGURE 4
Comprehensive Coverage
Relative Average Loss Payments
per Insured Vehicle Year
1980 Cars with the Best and
Worst Theft Loss Experience



Injury Control: A Neglected Field

Guidance for a rational approach to the long-neglected field of injury control is offered in a chapter of a newly published book, *Preventive and Community Medicine*.

Authored by William Haddon, Jr., M.D., president of the Insurance Institute for Highway Safety, and Susan P. Baker, M.P.H., associate professor at The Johns Hopkins University School of Hygiene and Public Health, the chapter stresses the magnitude of the injury problem and the relative lack of attention devoted to it.

“Until recently, few physicians – with the exception of specialists in emergency care and some pediatricians, forensic pathologists, and surgeons – have worked professionally to reduce society’s injury problem,” the authors said. “Greater awareness of the professional opportunities in this neglected field could and should shift attention from lesser sources of morbidity and mortality that now receive disproportionate emphasis.”

The chapter discusses strategies for injury control in various age groups, and specifically considers the problems of injuries related to transportation, products, the home, recreation, and occupational environments.

The authors conclude that, “Injuries, the leading cause of death for more than half the span of human life, can be greatly reduced in frequency, severity, and sequelae. To do so, physicians, other health workers, and the public must employ approaches based on science rather than guesswork. Through relationships with patients and the public, and with decision-makers in industry and government, those who understand the issues and scientific concepts involved can contribute effectively to substantial reduction of this huge problem.”

The book, *Preventive and Community Medicine*, was edited by Duncan Clark and Brian MacMahon. It has been published by Little, Brown & Company.

Single copies of the chapter on injury control are available at no charge from: Injury Control, Insurance Institute for Highway Safety, Watergate 600, Washington, D.C. 20037.

Insurance Institute For Highway Safety Reviews Year's Work

The Insurance Institute for Highway Safety (IIHS) has issued a report describing the major activities of the Institute during 1980-1981.

In the past year as in every year, IIHS research has primarily involved “finding out what kinds of losses are sustained in motor vehicle crashes, and how costly these losses are to society.” In addition, IIHS has sought “broad ways to approach the problem of motor vehicle losses,” such as a matrix for sorting out pre-crash, crash, and post-crash factors. IIHS has also identified new loss reduction measures and has evaluated existing ones.

For example, during the past year IIHS-supported work showed that utility vehicles have a higher roll-over rate than passenger cars and that a utility vehicle particularly susceptible to rollover is the Jeep CJ-5. Other studies analyzed roadway and roadside characteristics associated with rollover crashes. In crash tests, IIHS evaluated the protection afforded by car bumper designs in low-speed collisions; with on-road experience, IIHS demonstrated a reduction of one half in rear-end crashes for vehicles equipped with a center, high-mounted brake light. IIHS analyzed and endorsed changes in vehicle standards to permit use of a new windshield designed to reduce facial injuries, and did research on automatic restraints, multipiece tire rims, and the use of child restraints.

Additional studies focused on the effects of driver education on the crash involvement of teenaged drivers. IIHS-supported work analyzed the efficacy of drinking-driving laws on alcohol-related crash fatalities. IIHS researchers examined the impact of motorcycle helmet-use laws on reducing fatalities and how signal intervals affect driving behavior at signalized intersections. IIHS also supported a National Highway Traffic Safety Administration proposal for improved guard structures to prevent cars from sliding under the rear end of trucks in underride crashes.

A copy of the report, “The Year's Work 1980-1981,” may be obtained by addressing: Year's Work, Insurance Institute for Highway Safety, Watergate 600, Washington, D.C. 20037.

Fog, Trucks, And Small Cars A Lethal Mix

The National Transportation Safety Board has completed an investigation into a fog-related chain crash that left seven dead, 17 injured, and involved 24 vehicles – all of which were demolished or nearly so.

As a result, the safety board has reiterated recommendations it has forwarded to the National Highway Traffic Safety Administration (NHTSA) in the past – some as much as 10 years ago. The board also urged NHTSA to devise procedures to minimize the likelihood of chain-reaction collisions on high-speed multilane highways, including segregation of vehicles by weight under adverse weather conditions. They also urged the adoption of an improved truck underride guard and adding standard avoidance instructions to driver education programs.

Here's what board investigators say happened:

About 7:25 a.m., Monday, Nov. 10, 1980, motorists traveling on a busy stretch of California's I-15, a few miles from San Bernardino, suddenly encountered a dense fog bank.

The motorists had time to see the fog before they entered it, investigators said, but their reactions varied. Witnesses reported visibility was suddenly reduced to 0-50 feet as soon as they hit the fog, while traffic speed was averaging 55 mph. Some drivers slowed down; others did not. Some said they expected the patch to be momentary. It wasn't.

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Witnesses reported a small car abruptly cut across the path of a tractor hauling a heavy trailer. The rig's driver jammed on his brakes to avoid hitting the car and a 1977 GMC ½-ton pickup truck then rammed into the rear of the trailer, underriding it. Both of the pickup's occupants were instantly killed, investigators found.

Another car then plowed into the rear of the pickup and within the space of five or ten minutes, witnesses said, 24 vehicles – including nine heavy trucks, two pickups, and 13 small cars weighing under 2,000 pounds – were strewn over 450 feet.

Five people were killed inside their vehicles, four of them victims of underride crashes. Two more were killed while trying to extricate victims trapped in their vehicles. But in no case, said the board, was anyone killed in an impact between vehicles of comparable size. And only two of the 31 people involved were wearing safety belts. Neither was injured.

The board said in its report the circumstances of the chain collision “demonstrate the need for better underride protection.” They reiterated their call for an improved truck underride guard with a ground clearance of no less than 18 inches. The lower guard would ensure that the engine and engine blocks of small cars are engaged by the guard in a crash to prevent passenger compartment intrusion – and occupant decapitation – by the rig's overhanging rearend.

NHTSA is currently considering a rule that would require a ground clearance of 21.75 inches (55 centimeters). (See *Status Report*, Vol. 16, No. 3, Feb. 25, 1981.)

Automatic Restraint Delay Challenged

The Center for Auto Safety has challenged the legality of the Department of Transportation's one-year delay of the automatic restraint rule.

In a filing with the U.S. Court of Appeals for the District of Columbia, the Center alleged the department suppressed and failed to consider results of a research study completed two months prior to the decision to delay implementation of a rule requiring automatic protection in large cars.

The study, conducted by the Opinion Research Corp., found the reported use rate of automatic seat belts by owners of 1980 model Chevrolet Chevettes and Volkswagen Rabbits was between 70 and 89 percent. These results, the Center said, “refuted” the argument used by the department that automatic belts would be used by only 7 to 15 percent of car buyers because of consumer dislike for the equipment.

The delay was announced by Transportation Secretary Drew Lewis on April 6. Had the delay not been ordered, Federal Motor Vehicle Safety Standard (FMVSS) 208 would have required automatic protection for front seat occupants of large cars starting in the 1982 model year. (See *Status Report*, Vol. 16, No. 8, June 10, 1981.)

The department filed motions opposing the lawsuit on technical legal grounds and, in a general statement released to the press, denied the Center's allegations.

“The printed version of the study was only received by the department on April 15 and placed in the public docket on April 17,” the statement said. “Preliminary data were available to the department, were referred to in the preamble to the rule, and were considered in decision-making.”

The statement also said the data received in the 1980 study were “identical” to 1979 data compiled by the same contractor. A National Highway Traffic Safety Administration official said the results were not considered significant, since the study involved automatic restraints in small cars, not large models – which were the only cars affected by the delay.

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the highway loss reduction

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