

Researchers Explore Pedestrian Deaths

Pedestrian injuries will not be effectively reduced by traditional safety campaigns that concentrate on changing pedestrian behavior, according to three loss reduction researchers, because such programs fail to recognize that pedestrians most likely to be killed are those whose behavior is "hardest to influence."

Because of society's "tendency 'to blame the victim'", attention has been focused on pedestrian behavior and diverted from other elements in pedestrian collisions, the researchers said. They warned that the prominence of driver negligence in almost half of the pedestrian deaths they studied indicates that even the "prudent pedestrian" risks being killed "as long as he shares his route with motor vehicles."

The study was conducted by Susan P. Baker, M.P.H., of the Johns Hopkins School of Hygiene and Public Health, Leon S. Robertson, Ph.D., senior behavioral scientist in the Insurance Institute for Highway Safety and Brian O'Neill, IIHS's senior mathematical statistician. The study was sponsored by IIHS and the Maryland Medical-Legal Foundation.

The study was based on 180 fatal pedestrian collisions that occurred in Baltimore, Md., from Aug. 1, 1968, to July 31, 1971. Referees, working independently of each other, reviewed brief descriptions of each pedestrian crash. Each referee assessed whether driver behavior as well as pedestrian behavior

immediately preceding the crash was "probably negligent." In some cases — when it was not possible to make a judgment — negligence was listed as "not known." The age, sex and blood alcohol concentration of the involved pedestrians and drivers and the subsequent traffic charges arising from the collision were not given to the referees. Such information was withheld since the presence of alcohol, for example, might influence a referee to assume a person acted negligently, when in fact he had not.

DRIVERS

Almost half of the 180 drivers studied were categorized by the researchers as "probably negligent." Of the remaining drivers, 37 per cent were classified as "probably not negligent" and for 17 per cent, no estimate of negligence could be made.

Inside

- South Carolina Bumper Law Left Unenforced . . . Page 3
- 'Habitual Offender' Laws Now In 15 States . . . Page 4
- Hormone Concentrations Found Abnormal in Alcohol Addicts . . . Page 6
- Highway Loss Data Institute Formed . . . Page 7
- IIHS Establishes Film Loan Program . . . Page 7

Of 80 drivers categorized by the researchers as "probably negligent," 58 per cent had "poor" driving records prior to the crash. Only 39 per cent of the "probably not negligent" drivers had such records.

Using traffic violation "points" as a yardstick, the researchers were able to determine that the drivers in this study had "significantly worse" driving records than all other drivers licensed in Maryland. As to previous driving convictions, suspensions and assignments to driver rehabilitation clinics, the researchers found that the records of "probably negligent" drivers in their study were similar to those of fatally injured "at fault" drivers studied earlier by one of the researchers in a report for the Department of Transportation.

Of the 180 studied drivers, 46 were eventually convicted of traffic violations arising from the fatal pedestrian collision. Of these convicted drivers, 11 were sentenced to prison, 3 were given suspended sentences and "30 received fines only, usually totalling less than \$50," the researchers said.

Maryland officials had reviewed the licenses of 35 of the 46 convicted drivers. Of those 35 drivers, the licenses of 22 were revoked and three suspended. However, the length of time from the collision until a driver had his license revoked "ranged from 2½ months to 2 years, with a median of 8 months," the researchers said.

The researchers emphasized the difficulty of identifying drivers likely to kill pedestrians. They noted that almost half of the drivers classified as "probably negligent" in their study did not have any traffic violation points on their driving records. They estimated that only 1 out of 9,000 drivers in Baltimore, Md., will kill a pedestrian each year. Thus, "even if it were possible to identify drivers who were ten times as likely as other drivers to kill pedestrians, it would be necessary to remove 900 such drivers from the road for a year to save one pedestrian life," the researchers said.

PEDESTRIANS

They found that three-fourths of the fatally injured pedestrians were "either under the influence of alcohol, or less than 10 years of age, or 65 years or older." The "daily behavior on the street" of such groups cannot "easily be modified by education or exhortation," the researchers said.

Chemical tests for alcohol showed that about one-fifth of the pedestrians had been drinking and that they had a median blood alcohol concentration of 0.17 per cent. (The Department of Transportation currently requires that state drunk driving laws set 0.10 per cent as evidence that a person is intoxicated.)

COUNTERMEASURES

Educational programs alone cannot be considered a solution to the problem of pedestrian fatalities, the researchers warned. They noted that of the 180 drivers who killed a pedestrian, 23 had previously attended Maryland driver rehabilitation clinics. In addition, there was no substantial decrease in the number of speeding convictions received by the drivers after being involved in a fatal pedestrian collision. Thus, even killing a pedestrian appears to have "little effect" on the subsequent driving behavior of the involved driver, the researchers said.

The researchers urged that:

- All drivers involved in a fatal pedestrian crash be given chemical tests for possible intoxication. (Although fatally injured pedestrians were "routinely" tested for blood alcohol concentrations, the researchers found that not to be the case with drivers who had killed a pedestrian.)

- Motor vehicle administrators suspend, prior to trial, the licenses of drivers charged with serious traffic violations. (Such a suspension is “no less reasonable” than holding a person in jail prior to trial, when he is considered “a menace to society,” the researchers said. Several states currently have, but are not utilizing, laws that permit the motor vehicle administrator to take such action, the researchers stated.)

- “Fresh and imaginative approaches” to vehicle and environmental modifications be explored in order to reduce pedestrian injuries. The researchers cited several environmental changes which have already been suggested, such as decreasing “the likelihood that the paths of pedestrians and vehicles will cross” and increasing “the ability of pedestrians and drivers to see one another.” (The National Highway Traffic Safety Administration has recently indicated that its anticipated rule on pedestrian-injuring vehicle protrusions will not become effective until Sept., 1980, instead of Sept., 1976, as it had announced earlier. See *Status Report*, Vol. 7, No. 22, Nov. 27, 1972.)

The findings were presented at the recent 16th annual meeting of the American Association for Automotive Medicine in Chapel Hill, North Carolina.

South Carolina Won't Enforce Its Bumper Law

The only state with standards for bumper damage for 1973 model cars—South Carolina—is not enforcing the law, because of an opinion by the state attorney general's office that federal safety standards preempt the state act.

South Carolina was the only state to pass new legislation last year setting damageability standards, according to a survey by *Status Report*. States with laws already on the books that take effect in the future are California, Florida, Georgia, Maryland, Minnesota and North Carolina. (See *Status Report*, Vol. 6, No. 16, Sept. 7, 1971.)

The South Carolina non-enforcement posture was based on a U.S. Department of Transportation interpretation of Federal Motor Vehicle Safety Standard 215 (Exterior Protection) issued under the 1966 National Traffic and Motor Vehicle Safety Act. Since the state ruling, the 1972 federal Motor Vehicle Information and Cost Savings Act has become law. It specifically provides that states with their own bumper laws can enforce them until new federal standards are issued. (It has been argued that until enactment of the 1972 act, DOT had no authority to issue property damage standards and therefore its vehicle safety standards would not preempt state laws directed at cutting property damage.)

The South Carolina law, approved last February, requires manufacturers of a car to warrant that “without compromising existing standards of passenger safety it can be driven front directly into a standard Society of Automotive Engineers (SAE J-850) test barrier at a speed of five miles per hour, rear directly into a standard Society of Automotive Engineers (SAE J-850) test barrier at a speed of two and one-half miles per hour without sustaining any damage to the automobile.”

Under the law, in lieu of a warranty, manufacturers can file a “written certification under oath with the state highway department, on a form to be provided by that department, that the particular make and model described therein complies with the applicable standards of this act.”

E. P. Austin Jr., director of the Motor Vehicle Division of the State Highway Department in Columbia, S.C., told *Status Report* that he had requested an opinion from the State Attorney General after

being contacted by auto dealers and manufacturers, who said their 1973 models "had already been tooled." Austin wrote State Attorney General Daniel R. McLeod, enclosing an opinion by the U.S. Department of Transportation on state and federal bumper standards.

In a reply March 23, 1972, Assistant Attorney General Joseph C. Good, Jr. wrote Austin:

"After reviewing [South Carolina] Senate bill 253 and the National Traffic and Motor Vehicle Safety bill . . . I am of the opinion that the federal standard preempts this field. I think that the legislative history of the federal act clearly states that the intent of the act is to establish a uniform set of regulations for manufacturers.

"Some question may arise as to the difference in the wording of our Senate bill and that of the federal act. Senate bill 253 uses the term 'without sustaining damage to the automobile,' inferring property damage, whereas the federal statute addresses itself to personal injury. In my opinion, the choice of terms used would not affect the basic preemptive effect of the federal standard. To rule otherwise would be to nullify the Congressional intent and goals of the federal standard."

Austin said he subsequently advised a foreign-car importer, who had inquired how to comply with the South Carolina law, that it would be applied in conformity with the federal standard. That standard provides that a limited number of so-called "safety-related" items remain functional, under the crash test conditions, regardless of other damage to the vehicle.

As of yet, the state highway department has not produced the forms for written manufacturers' certifications as provided by the law, according to Austin.

The 1972 federal law states:

"Until a Federal bumper standard takes effect with respect to an aspect of performance of a passenger motor vehicle or of an item of passenger motor vehicle equipment, neither this Act nor the National Traffic and Motor Vehicle Safety Act of 1966 . . . shall affect the authority of a state to continue to enforce any bumper standard which is applicable to the same aspect of performance of such vehicle or item of equipment, which is not in conflict with any Federal standard promulgated under . . . the National Traffic and Motor Vehicle Safety Act of 1966, and which was in effect or had been promulgated on the date of enactment of this Act."

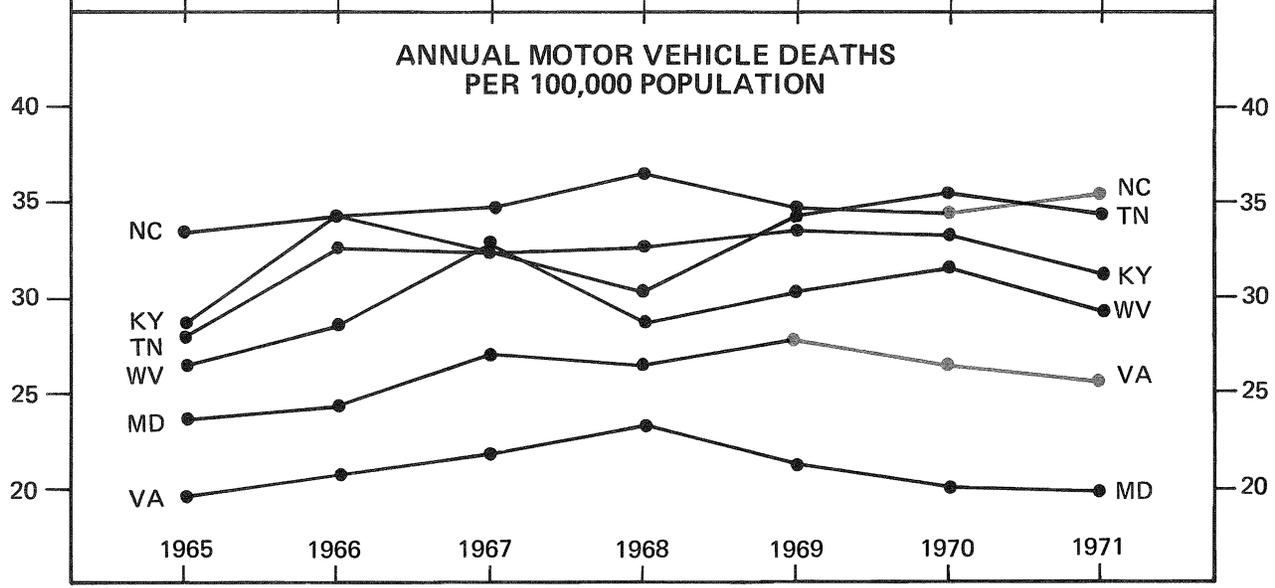
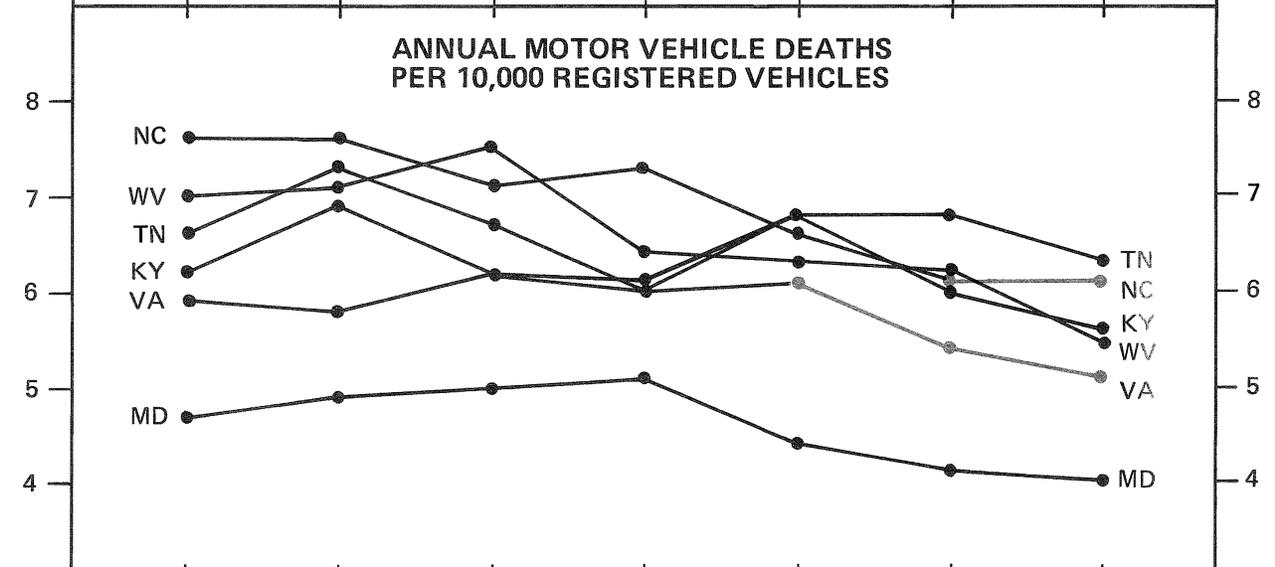
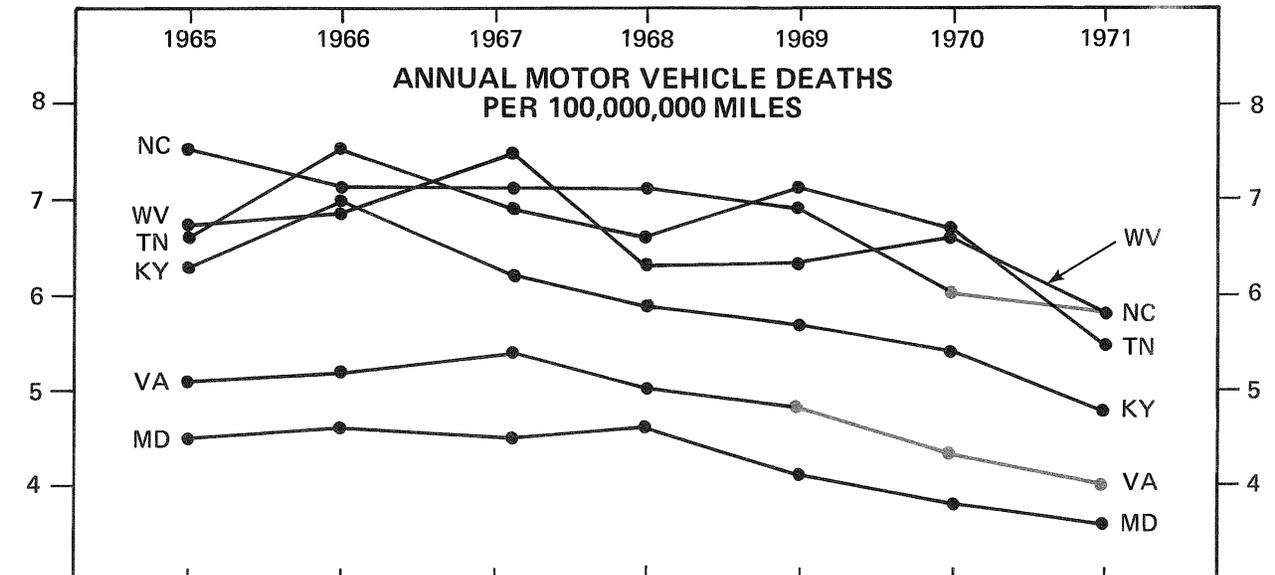
'Habitual Offender' Laws Now In 15 States

During the past four years some fifteen states have passed "habitual offender" laws or regulations aimed at keeping habitually crash-involved drivers off the road. In all likelihood, a number of additional state legislatures will consider this kind of statute in their 1973 sessions.

The common denominator of "habitual offender" laws is that they require license suspension or revocation for drivers with records of multiple violations over given periods of time, and also require long-term jail sentences for such drivers if they are convicted of driving under license suspension or revocation.

How motor vehicle crash death rates are faring in two states that already have habitual offender laws on the books is shown in the accompanying chart. (See next page.) Virginia's habitual offender statute was the first to be passed in the country; North Carolina's took effect a year later.

(cont'd. on page 6)



SOURCE ACCIDENT FACTS 1966-72 EDITIONS

(cont'd. from page 4)

The chart, prepared by the Insurance Institute for Highway Safety because of current interest in such laws, shows annual motor vehicle crash death rates for each state before and after enactment of its "habitual offender" legislation. The post-enactment periods are shown in red. Rates are shown per 100 million vehicle miles driven, per 10,000 registered vehicles and per 100,000 population. Corresponding rates are shown for Tennessee, Kentucky, West Virginia and Maryland – states that have no habitual offender laws in effect, and are contiguous to Virginia or North Carolina.

As of now, in addition to Virginia and North Carolina, the states of Delaware, Florida, Georgia, Indiana, Kansas, Louisiana, Ohio, Maine, Massachusetts, New Hampshire, Rhode Island, and Washington have habitual offender laws in operation, and Iowa has adopted a motor vehicle regulation with the same intent. States that considered but did not pass such legislation last year were Connecticut, Mississippi, New York, West Virginia and New Jersey.

Dr. B. J. Campbell, director of the Highway Safety Research Center at the University of North Carolina at Chapel Hill, reported earlier that his research had produced data showing that most highway crashes involve drivers with no record of traffic violations in the preceding few years. (See *Status Report*, Vol. 6, No. 13, July 12, 1971.)

Abnormal Hormone Concentrations Found In Alcoholics

Researchers have found that alcohol addicts tend to have abnormally high concentrations of a hormone that is thought by some to be associated with aggressive behavior.

Dr. Jack H. Mendelson, a professor of psychiatry at Harvard Medical School, and Dr. Nancy K. Mello, a researcher with the National Institute of Alcoholism and Alcohol Abuse, recently reported that male volunteers who had histories of alcohol addiction and records of violent and aggressive behavior also had "significantly higher" concentrations of the hormone than is normally found in non-alcoholic males.

The researchers also reported finding that, under clinical conditions, those hormone concentrations decreased during periods when the subjects ingested alcohol.

The researchers cautioned that, "Further studies are necessary to determine the mechanisms underlying these phenomena and to ascertain if the abnormality is a causal or associational entity in chronic alcohol abusers."

According to the researchers, the nine male subjects who were studied were "accustomed to consuming about one quart of whiskey each day." They said that, except for their alcohol addiction, the volunteers "were in good health."

The researchers monitored hormone concentrations in the volunteers during three periods: a six to nine day "pre-drinking phase," a seven to twelve day "drinking phase" and a seven to nine day "post-drinking or withdrawal phase." In the drinking phase the subjects were allowed to "consume up to 32 ounces of alcohol per day (86 proof bourbon)," the researchers said. During the pre-drinking and post-drinking phases the volunteers consumed no alcohol.

The researchers said they observed that "chronic ingestion" of alcohol was associated with a fall in the hormone's concentration "to values which were frequently below the lower limits of the normal range for adult males." In most of the volunteers, pre-drinking concentrations of the hormone returned when drinking ceased.

The findings were reported in a paper, "Androgens and Aggression in Alcohol Addicts," in New York City at the annual meeting of the Association for Research in Nervous and Mental Diseases.

The research was sponsored by the Insurance Institute for Highway Safety, the National Institute of Mental Health and the Laboratory of Alcohol Research of the National Institute of Alcoholism and Alcohol Abuse.

Single copies of the report may be obtained by writing "Alcoholism," Insurance Institute for Highway Safety, Watergate 600, Washington, D.C. 20037. (With each copy of the study, IIHS is making available single reprint copies of "He and She: The Sex Hormones and Behavior" which appeared in the May 7, 1972, issue of *The New York Times Magazine*. The article, by free-lance writer Maggie Scarf, details recent research findings suggesting relationships between certain hormones and behavior, including aggression.)

Highway Loss Data Institute Formed

A nonprofit organization has been formed to gather, process and provide the public with insurance industry data concerned with human and economic losses resulting from highway crashes.

Called the Highway Loss Data Institute (HLDI), the organization initially will carry forward the Vehicle Data System project initiated in 1971 by the Insurance Institute for Highway Safety. The project has been developing computer systems for processing actual policy and claim data from participating insurance companies to produce loss information for specific vehicle types and characteristics.

(cont'd. on page 8)

IIHS Films Available For Loan

In order to increase the availability of its films, the Insurance Institute for Highway Safety has initiated a policy of making prints available for one-time viewing at no fee, on a first-come, first-served basis.

The policy, effective with all requests for loan prints received on or after January 1, 1973, applies to the Institute's three currently available 16 mm color documentary films. They are:

... IN THE CRASH – 22 minutes. (Purchase price, \$195)

SMALL CARS AND CRASHES – 23 minutes. (Purchase price, \$175)

BOOBYTRAP! – 28 minutes. (Purchase price, \$200)

Requests for preview/loan prints of the above films can be obtained by writing directly to Harvest Films, 309 Fifth Avenue, New York, New York 10016. Please allow a minimum of four weeks for processing of requests.

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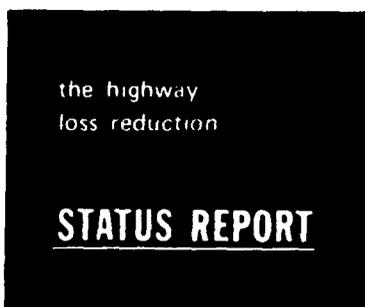
The HLDI will publish the results of this and other research in scientific journals and other media, and will make the results available to the public.

The organization's eight-member board represents insurance companies that are supplying data to HLDI. The members are: (Chairman) M. Stanley Hughey, executive vice president, Lumbermens Mutual Casualty Co.; R.W. Griffith, vice president, Nationwide Mutual Insurance Co.; Robert E. Hainline, assistant vice president, The Hartford Insurance Group; Thomas C. Morrill, vice president, State Farm Mutual Automobile Insurance Co.; F.S. Mostero, senior vice president, The Home Insurance Co.; John S. Trees, assistant vice president, Allstate Insurance Co.; Frank E. Walton, vice president, The Travelers Insurance Companies and Roger H. Wingate, vice president, Liberty Mutual Insurance Co.

President of HLDI is William Haddon, Jr., M.D., who also is president of the Insurance Institute for Highway Safety. Andrew R. Hricko, general counsel of IIHS, is secretary-treasurer of the new organization. Its vice president for technical operations is Beryl Blickstein, who until now has been a special assistant to the president of IIHS.

HLDI's address is Suite 380, Watergate 600, Washington, D.C. 20037.

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January 3, 1973

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