

Marihuana Detection Test Developed

Researchers for the first time have developed a fast, dependable means for determining the presence of marihuana in drivers and in other users of the drug.

The project was initiated and sponsored by the Insurance Institute for Highway Safety and conducted by Midwest Research Institute's senior scientist, Edward J. Woodhouse. A full report of its results will be published later in the *Journal of Public Health*. The report has also been submitted to the National Commission on Marihuana and Drug Abuse.

The work was carried out, according to a summary of the project, because, although "the distribution of most drugs after human ingestion can nowadays be followed (detected) by relatively simple analytical techniques," this has not been true of marihuana—a fact that has deterred development of efficient, fast detection of the drug by medical, police and other agencies.

"Marihuana is one of the few drugs for which a simple analytical technique (for detection) is not available once the marihuana components have entered the body. Conventional drug analysis techniques (including those used to determine the presence of alcohol in drivers) fail to reveal the presence of original marihuana components in the human body," the summary says.

In the project, urine samples from a group of regular marihuana smokers were analyzed after a 24-hour period "during which they could smoke as much or as little marihuana as they desired." The drug was supplied by the National Institute of Mental Health.

The analysis, unlike currently available but extremely complex radio tracer and chromatography detection methods, employed "a very simple extraction step, followed by a mass spectrum of the extract," according to the summary.

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Using this process, researchers were able to tentatively identify two marihuana components—tetrahydrocannabinol (THC) and cannabinal (CBN) in the urine samples of the smokers. They also identified four metabolites of marihuana. Neither the two components nor the four metabolites were present in the urine of tested non-smokers.

“For the first time,” the summary concludes, “the two major ingredients of marihuana and four metabolites have been detected and identified in the urine of the marihuana smokers. The detection system has applications in the areas of pharmacology, toxicology and routine (although expensive at \$40 per sample) screening of urine samples for detection of marihuana smokers The present results indicate a method for detecting smokers of marihuana is now feasible.”

The need for an efficient marihuana screening technique for application in the highway loss field was pointed up in an article in the January issue of *Journal of Drug Issues*—“Marihuana and Automobile Crashes,” by Arnold W. Klein, BA, Joseph H. Davis, MD, and Brian D. Blackbourne, MD.

On the basis of a number of interviews with marihuana smokers who drive, the authors concluded, “There is little doubt that marihuana is analogous to alcohol in the potential for detrimental effects upon driving. However, exact comparisons of psychological and physiological effects are difficult as the two drugs probably alter nervous systems differently.

“In either case, particularly with excessive doses, the end result can be fatal for the driver or an innocent victim. The lack of tissue, urine or blood analytical methods for marihuana constituents prevents the determination of its causation in traffic crashes. Unless adequate research is extended in this direction we may assume that marihuana related traffic crashes or abnormal behaviour shall remain unreported.”

Single prepublication copies of Midwest Research’s report and summary may be obtained by writing “Marihuana,” Insurance Institute for Highway Safety, Watergate 600, Washington, D.C. 20037.

Marihuana May Impair Drivers

There is “increased reason for believing a motorist’s performance is significantly impaired by marihuana intoxication, according to the Department of Health, Education and Welfare’s second annual report to the Congress on *Marihuana and Health*.

“Although initial research suggested relatively slight impairment of performance on a driver simulator, more recent work suggests that this may not be the case,” the report said.

The report cited recent research which indicates that marihuana intoxication may result in “an increase in time required for braking . . . (as well as) a marked increase in glare recovery time which persists for several hours following intoxication.”

However, the report pointed out that most research to date has been conducted “under laboratory conditions” where “the performance of a highly motivated test subject . . . may be considerably less impaired than that of a driver functioning under more typical driving conditions. Under usual driving circumstances multiple distractions are common and the driver may be less motivated.”

Year-Old Study Debunks NHTSA Control Arm Theory

A year-old National Bureau of Standards study, still being withheld from public inspection by the National Highway Traffic Safety Administration, disagrees with claims by NHTSA and Ford Motor Co. that Ford lower control arms have been failing due to impact or operating abuse rather than inherent defects.

Based on its examination of three failed arms, NBS said it "found no evidence that an excessive load had been applied to the arms prior to crack initiation." Excessive loads would include those experienced in crash impact or as a result of driving abuse.

NBS's report was submitted to NHTSA on February 23, 1971, and has been a part of the latter's investigation of the lower control arm failure problem since then. NHTSA refuses to make public the contents of the investigation docket, although it is understood that the agency did provide a copy of the report to Ford Motor Co. for comment.

In its study NBS examined three failed arms removed from Ford passenger cars. The report concluded that for the three arms, "There was some corrosion, but the severity of the attack was no greater near the origins (of the cracks in the failed arms) than elsewhere, nor was it more severe than would be expected under the normal operating conditions of the arms." In January, Value Engineering Laboratory reported on the basis of tests run for the Insurance Institute for Highway Safety that corrosion played a prominent role in some of the failures. (See *Status Report*, Vol. 7, No. 1, Jan. 17, 1972.)

NBS's report raised the possibility that poor fit between parts of the arms might be involved in the failures. "Examination of the surfaces of the failed assemblies showed many areas where there had been rubbing between faying (closely fitted) surfaces. We did not consider any of these reliable evidence of poor fit of the parts before failure because the extensive cracking that preceded failure could have allowed excessive movement between the parts. Consequently we cannot provide any direct evidence that the fatigue cracks occurred in assemblies in which the fit was poor, but this hypothesis agrees with the details of the fractures on the three arms submitted," it said.

The NBS findings counter claims by the National Highway Traffic Safety Administration and Ford Motor Co. that the arms fail as a result of "severe impact loadings," such as "in crossing a median strip or a curb at high speed." Ford and the NHTSA used this argument in limiting a 1970 recall campaign of the arms to police pursuit vehicles, and NHTSA stressed it in an October 1970 "consumer bulletin."

Ford Motor Co. made a mid-production year design change on 1970 models which measurably thickened the control arm and added to its strength. Arms of the thinner variety, used on some four million Ford vehicles manufactured in model years 1965 through 1969 and part of 1970, are suspected of being defective.

In October 1970, the safety administration announced that Ford Motor Co. would recall about 85,000 police pursuit vehicles and said that both laboratory and field tests support its "view that it is the severe impact loading encountered by police pursuit vehicles (for example, in crossing a median strip or a curb at high speed) that will initiate the lower control arm cracking that leads—under further severe impact loading—to a sudden failure."

More recently *Status Report* learned that the safety administration has signed a contract with an independent testing laboratory to determine whether the arms tend to fail as a result of curb impacts. (See *Status Report*, Vol. 6, No. 19, Oct. 18, 1971.) In their January report to the Institute, Value Engineering research note that "the complete failures thus far examined show no evidence that they were primarily caused by driver abuse such as by striking curbs."

'Worth Of Life' Dollar Estimates Vary Widely

Cost-benefit studies have frequently been cited to justify positions for and against proposed safety standards. These studies usually require estimates of the dollar-value of a human life.

The most commonly cited dollar-value of a human life is one regularly estimated and publicized by the National Safety Council. That figure was placed at \$45,000 by the NSC in July 1971. The Council's calculations include wage loss, medical expense, insurance administrative costs and property damage:

In attempting to determine the cost-benefit ratio of a proposed override safety standard for large trucks, the National Highway Traffic Safety Administration has cited the NSC's calculated per-life estimate of worth but used instead its own "preliminary estimate" of \$200,000 per life, which it said "is considered to be much more realistic." (The agency determined the cost of the overrides still would not be worth the dollar value of lives saved. See *Status Report*, Vol. 6, No. 13, July 16, 1971.)

The NHTSA also has made "cost-benefit" studies in connection with its passive restraint ("Occupant Crash Protection") standard (FMVSS 208). In a preliminary report on that study a year ago it used a \$43,000-per-life value derived from then available National Safety Council estimates of wage losses, medical costs and insurance administration expenses per fatality, and \$2,200 in similar costs per "disabling" injury.

That study also increased these levels to \$46,900 and \$2,400 for death and disabling injury respectively for the period 1976 to 1987, when passive restraints would be required on all vehicles.

A subsequent NHTSA memorandum said such an analysis was of a "low cost situation" and that one of a "high cost situation" placed the dollar cost of a human fatality at \$300,000 "based on information obtained in the Federal Aviation Administration," another agency of the U.S. Department of Transportation. The memorandum noted, "This is the highest estimate known to be used in conventional cost-benefit analysis and may be challenged by some as being too high."

Still other air-travel related estimates were contained in a 1968 report on "Aviation Safety" by Gary Fromm, published by Duke University and reprinted by The Brookings Institution. Fromm said that in 1966 a value of \$450,000 was estimated for each air carrier crash fatality and \$502,000 for each general aviation fatality.

These estimates, however, included "double counting," he said, since they counted a man's income both as lost value to himself and as lost value to his family. Fromm concluded: "A conservative estimate (without double counting) of the value of life based only on lost productive services and resources expended would be \$275,000."

That figure would include, in addition to lost income value and other costs counted by the National Safety Council, "losses in contributed community service time, employer recruiting and training costs, and accident prevention and investigation costs." Using a similar formula, Fromm estimated that the average loss due to air crash injury that resulted in six months' recuperation time would be \$33,000 for air carrier crashes and \$28,000 for general aviation crashes, and that more conservative estimates based "only on lost productive services and resources expended" would be \$28,000 and \$22,000 respectively.

The Fromm study, however, cautioned against the dangers of placing dollar values on human lives. It said that, while such studies are not "capricious," the setting of "specific values for human life is difficult, controversial and necessarily arbitrary."

NHTSA Urged To Move Faster On Improved Child Seats

A researcher at the University of Michigan has said that, even with current federal safety standards, child “safety seats” are “still not up to the point where we can say that we are giving children the same protection that we are giving adults.” He has urged the safety administration to accelerate plans to improve its child seating device standard.

In a recent contract report submitted to the safety agency, Dr. Verne L. Roberts, a research engineer at the University of Michigan’s Highway Safety Research Institute, urged that plans to strengthen NHTSA’s current standard (FMVSS 213)—slated for amendment in December of this year—be moved forward “with both the public and government benefiting from such an action.”

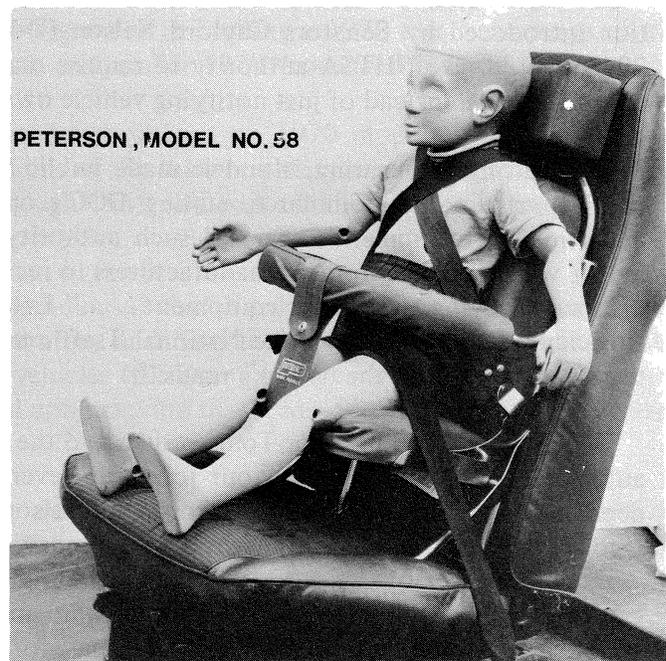
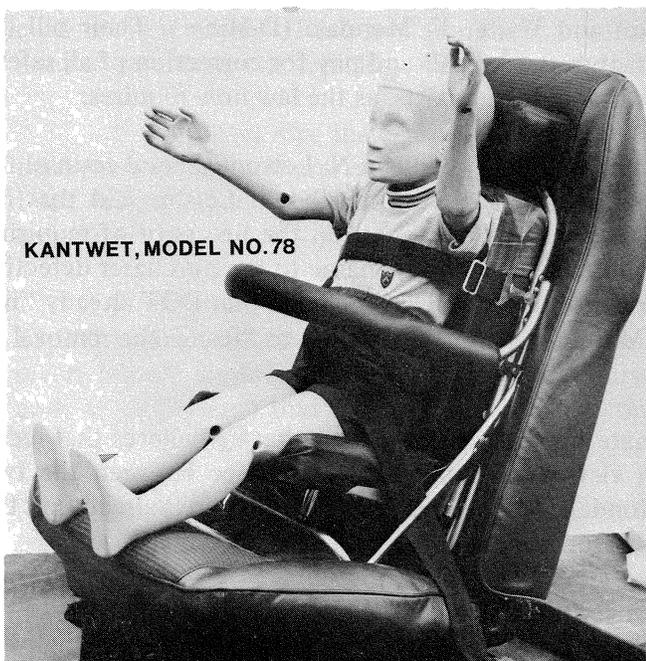
Roberts told *Status Report*, “Many of the seats that we see now which do comply, or at least the manufacturers say they comply (with FMVSS 213), in fact give very little increased protection over similar models that were being sold before the standard (was issued).” The standard took effect April 1, 1971.

Preliminary data from the first of a series of Roberts’ NHTSA-sponsored tests of child seats indicate that some seats which are certified as meeting federal requirements allow a child-size test dummy’s head to strike the dash panel in a 30 mile per hour frontal collision, Roberts said.

In another contract report to NHTSA, he pointed out that inadequate design features are found in many child seating devices that comply with the federal safety standard. Some of the tubular frame-type seats that are equipped with upper torso restraints “violate many of the published guidelines for upper torso restraint construction,” Roberts said in his report. He singled out the “lateral single strap available with one device” (Kantwet, Model No. 78), the “two diagonal straps” available with another (Peterson, Model No. 58), and the “lack of a crotch strap” in a third design configuration (Strolee, Model No. 590).

“It is also worth noting,” Roberts told the safety agency, “that none of the designs in question provide any lateral restraint and (it) is presumed that they will not provide lateral restraint until a standard is written which requires consideration of this severe problem.”

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Two Of Three Child Seat Types Critized By Researcher

In an earlier publication, Roberts and two of his associates, D.H. Robbins and A.W. Henke, reported that "the Ford Tot-Guard, the GM Infant Carrier, and a small-size harness with vest, crotch strap and shoulder strap manufactured by Sears, Roebuck and Company were found to provide a fair degree of protection in forward impact."

Some child seat manufacturers have not been able to meet requirements of the current safety standard, which a safety administration press release has indicated are minimal. Earlier this month NHTSA announced that four manufacturers of child seating systems have agreed to "take corrective action for seats that fail to comply" with the child seating system standard. The agency identified the manufacturers as: Cosco Household Products, Inc., Columbus, Ind.; Pride Trimble, Inc., Burbank, Calif.; Frank F. Taylor, Inc., Frankfort, Ky., and Buckeye Plastics Co., Reynoldsburg, Ohio.

Earlier this year NHTSA published a long-awaited brochure that includes general guidelines for consumers to follow in purchasing child seats. Physicians for Automotive Safety has published a similar but more specific brochure.

The safety agency's brochure, entitled "What to Buy in Child Restraint Systems," can be purchased for 20 cents from the U.S. Government Printing Office, Washington, D.C. 20402.

The brochure published by Physicians for Automotive Safety, entitled "Stop Risking Your Child's Life," can be obtained for 25 cents and an unstamped, self-addressed envelope from Physicians for Automotive Safety, 50 Union Avenue, Irvington, N.J. 07111.

DOT, Commerce Differ On Recall Powers

The Department of Commerce and the Department of Transportation are at odds over whether the government should have authority to require that auto makers recall and bear the expense of repairing vehicles with safety related defects. DOT thinks it should have the authority. DOC thinks it shouldn't.

The conflict surfaced during a recent Senate Commerce Committee hearing that touched on legislation introduced by Senators Gaylord Nelson (D-Wisc.) and Walter F. Mondale (D-Minn.). Their bill (S. 2946) would give NHTSA authority to require manufacturers to recall and pay for correction of all safety related defects, instead of just notifying vehicle owners that a defect exists, as the law now requires.

During the hearing, Mondale made public a letter written by William N. Letson, general counsel for the Department of Commerce, stating DOC's opposition to the defect recall bill. Letson said that his department "recommends against" such authority. "In particular, we question the necessity of requiring motor vehicle and equipment manufacturers to recall and remedy without charge to the purchaser defective or noncomplying vehicles or equipment . . .," Letson wrote. He said DOC believes that DOT already "has sufficient authority" under the National Traffic and Motor Vehicle Act of 1966 to "insure the removal of unsafe vehicles from the nation's roads."

Safety Administrator Toms earlier told the Senate Commerce Committee that he believes that recall authority is necessary "to do our job." However, in view of the unsettled difference between the two departments, Toms declined to endorse the Nelson-Mondale bill, saying that his views are "already on the record" and that his agency is "working on a position" regarding mandatory recall authority.

Following the hearings, General Motors announced that it "does not oppose an amendment to the statute to require that the manufacturer pay for repair to the vehicle, so long as the National Highway Traffic Safety Administration is required to hold a due process hearing which would include sworn testi-

mony, cross-examination of witnesses and a decision based solely on the record.” Chrysler, Ford and American Motors subsequently made public a similar position, according to the *Detroit News*.

The renewed congressional interest in mandatory recall legislation was prompted by GM’s refusal to pay for heater repairs on Corvairs after the auto maker had informed Corvair owners that a safety related defect exists in the heater.

Toms told the committee that, as of December 1971, GM had “sent out a total of approximately 756,000 safety defect notification letters Some 32,000 owners have taken their cars into Chevrolet dealers for inspection and repair; another 23,000 advised GM that they will not take their cars in; and 84,000 others reported that they did not own a Corvair at the time to take to the dealer. Some 68,000 notification letters have been returned to GM with the notation that the letter was undeliverable.”

One possible explanation for the poor response to the defect notification campaign is that the necessary repairs would cost the owner about \$170 for a car that has an “average trade-in value” of \$150, Toms said.

“If GM’s letter had included an offer to remedy the defect at no expense to the vehicle’s owner, this would no doubt have increased the percentage of returns,” he added.

Four New Members Appointed To Advisory Council

The Department of Transportation has announced the appointment of four new members to its National Motor Vehicle Safety Advisory Council.

The 22-member council was created by the National Traffic and Motor Vehicle Safety Act of 1966 to consult with the Secretary of Transportation on the development of motor vehicle safety standards.

New members are John N. Noettl, director of membership services, Automobile Club of Missouri, St. Louis, Mo.; William B. Robertson, special assistant to the governor of Virginia on minority groups and consumer affairs, Richmond, Va.; Herbert D. Smith, public affairs vice president, Uniroyal, Inc., New York, N.Y., and Marcy Taylor, investment analyst, Bank of America, San Francisco, Calif.

Ralph T. Millet, SAAB-SCANIA of America, Inc., Orange, Conn., was appointed for a second term on the council.

Liepina Joins Institute

Rita G. Liepina, a research librarian, has joined the Insurance Institute for Highway Safety and will be in charge of its library.

She was formerly employed by the National Science Foundation and the Library of Congress as a research librarian and analyst. Ms. Liepina is a graduate of George Washington University.

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STATUS REPORT

Ralph W. Hoar, Jr., Editor

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