U.S. Department of Transportation
Federal Highway Administration

1996 Federal Highway Administrator's Safety Awards

On the Covers:
Safety signs are displayed for the Washington Corridor Traffic Safety Program.

Administrator's Message

"I am encouraged by and grateful for the outstanding entries recognized by the Safety Awards Panel this year. The purpose of these awards is to commend the effective and efficient highway safety innovations to which so many local, State and Federal agencies and individuals are dedicated. These safety programs make a vital contribution toward our end goal of reducing highway-related deaths and injuries. I look forward to watching the continued success of all highway safety efforts throughout our Nation."

Rodney E. Slater

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Introduction

The Federal Highway Administration's (FHWA) Office of Highway Safety initiated a Highway Safety Awards competition to recognize outstanding safety achievements by Federal, State, and local highway agencies. Winners are selected from projects carried out under the Federal-aid highway program and the FHWA Section 402 Highway Safety Program. In this sixth competition, 45 entries were received from 20 States and one Region.

A panel of national highway safety experts selected the 1996 award winners. Selection criteria included:

- innovation
- effectiveness
- efficient use of resources

Six safety programs were selected to receive awards in 1996. All of the entries receiving recognition are excellent examples of safety efforts that may have application in other jurisdictions. This booklet contains a brief description of each winning entry along with the name of the person to contact for more specific information.

Program Planning, Development and Evaluation Award

New York State Department of Transportation

■ Goal Oriented Program Safety Goal

The New York State Department of Transportation (NYSDOT) has established a New Safety Goal. The development of this goal had two main purposes. The first purpose was to increase the role of highway safety in the NYSDOT's Capital Program. The second purpose was to establish and implement a systematic procedure for monitoring and evaluating the impacts of the enhanced highway safety program on accident experience.

This New Safety Goal, which is the centerpiece of NYSDOT's Safety Management System, is a process goal as well as an "end result" or impact goal. The established goal ensures that actions are taken toward the achievement of results which are measurable in terms of reduced accidents. It provides first that the top 20 percent of the Department's Priority Investigation Locations (PILs) be studied each year and treated, when amenable to cost effective treatments. PIL's are locations experiencing very high accident rates, indicating that the roadway environment may be a factor in accident causation. The goal also requires that all identified high accident sites occurring within the limits of capital projects be addressed and treated, whenever it is cost effective to do so. Highway related deaths, injuries and total accidents occurring at treated sites must be reduced by at least 25 percent. In addition, the Safety Goal requires the utilization of maintenance forces for low cost non-Capital safety improvements at high accident locations.

The impacts of safety treatments at high accident sites will be monitored and evaluated. The number and percentage of accidents expected to be reduced at these locations is estimated and then compared with actual accident reductions.

In the first year of the Safety Goal, accidents occurring at high accident locations in the state highway system were reduced by one percent.

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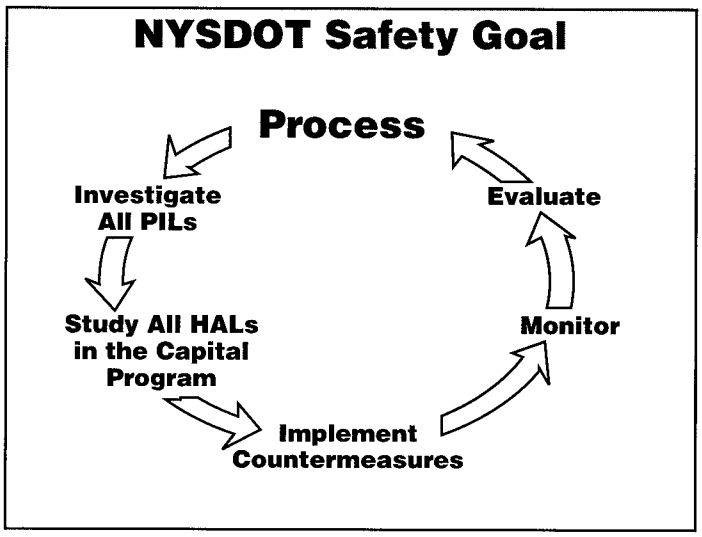
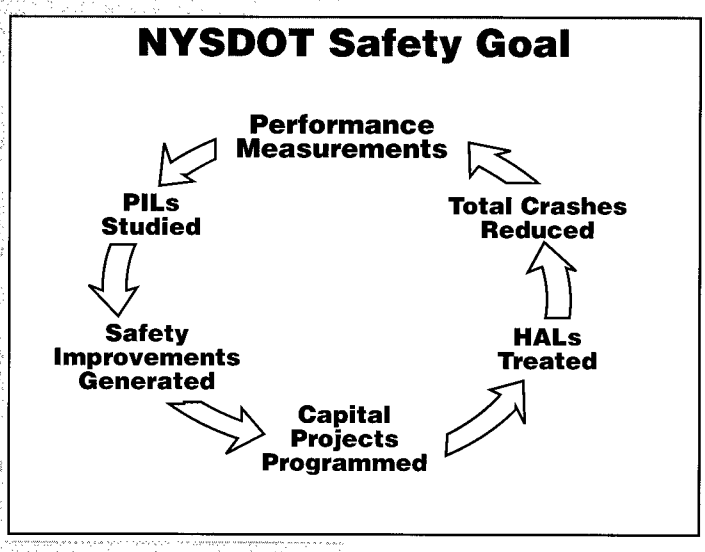
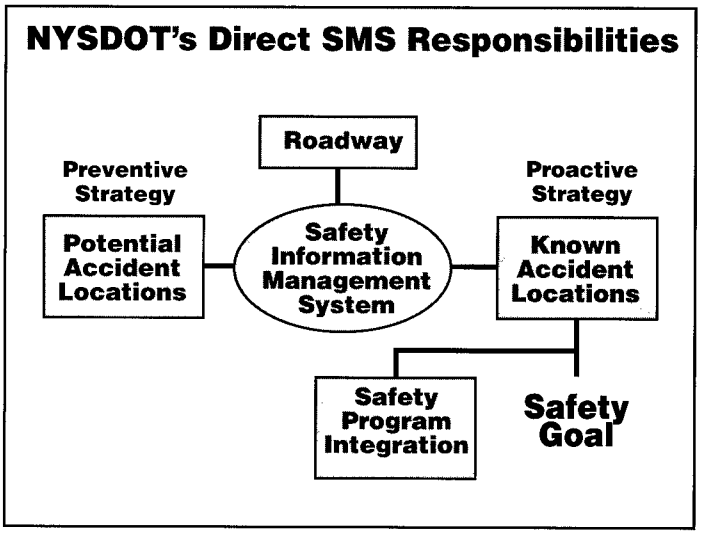
Strategies

- Safety Capital Projects
- Capital Program Safety Enhancements
- Non-Capital Safety Improvements







Safety Improvements Award

North Dakota Department of Transportation

■ Driveslope Flattening Initiative

The North Dakota Department of Transportation (NDDOT) has initiated a program for improving the safety of its roads by flattening "driveslopes." On rural highways without controlled access, farmers and ranchers get to their fields from the highway by using a path on top of a bridge of dirt placed across the highway ditch. The dirt bridge allows vehicles to drive from the highway to the field without going down into the ditch. The land that slopes away from the dirt bridge and down into the ditch is called the "driveslope." A steep driveslope is a dangerous obstacle for vehicles that go off the road. The car leaves the highway and travels into the ditch until it crashes into the driveslope. If the slope is steep, the vehicle may shoot high into the air, depending upon its speed.

Between 1977 and 1982, NDDOT studied driveslope crashes and discovered that an average of 236 driveslope crashes occurred every year. Only deer and roadway slope crashes were more numerous than driveslope crashes on highways. Driveslope crashes far exceeded crashes into ditch pipes or box culverts and accounted for eight percent of the state's highway fatalities.

Between 1984 and 1993, in an attempt to reduce the number and severity of crashes at driveslopes, NDDOT flattened approximately 30,000 driveslopes on the rural state highway network. The number of crashes has declined by about 54 percent. In addition, because North Dakota's highway network is mature and no major changes are planned, the flattened driveslopes will remain in place, saving lives and preventing injuries for decades.

Recent evaluations led NDDOT to broaden the design standard for driveslope flattening so that it would be included in all state highways.

For further information contact:

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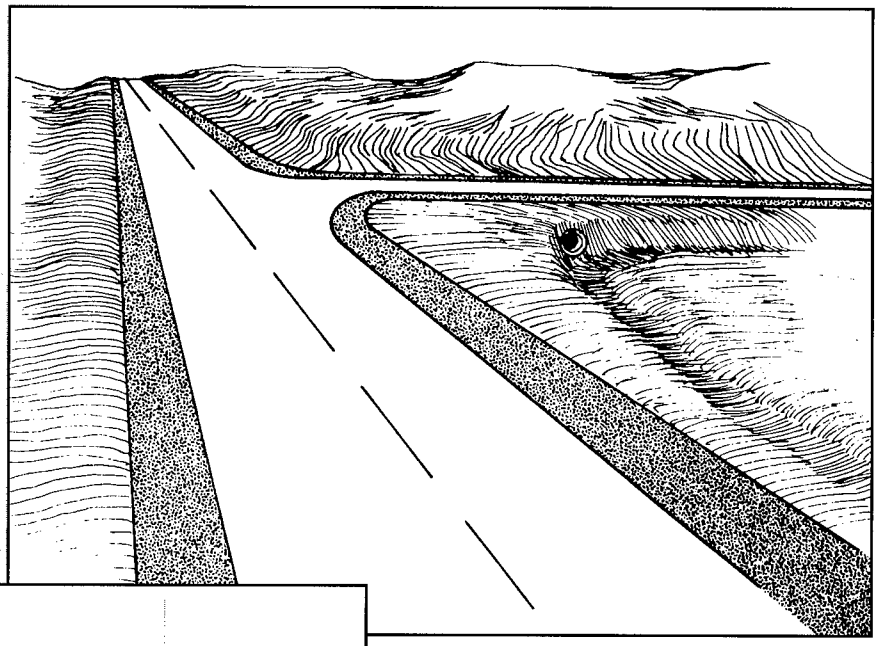

In the schematic above, slopes in the vicinity of the approach roadway are flattened and the drainage culvert located away from the main roadway as far as practicable resulting in a lessening of the hazard of the roadway.

Non-corrected drive slope 4-to-1 grade.

Corrected drive slope 8-to-1 grade.

Operational Improvements Award

Washington Traffic Safety Commission

■ Corridor Safety Program

The Washington Traffic Safety Commission (WTSC) has developed the Corridor Safety Project, operated in conjunction with the Washington State Department of Transportation, which utilizes the efforts of State and local government, business and civic leaders to attack a problem roadway with a myriad of solutions.

The concept of addressing traffic safety issues on a cooperative, interagency basis through the Corridor Safety Program is gaining favor as more organizations and individuals become familiar with the approach. The Corridor Projects bring together local officials from such areas as law enforcement, engineering and public works, and emergency medical services.

The Corridor Safety Program addresses sections of roadway rather that spot problem locations, providing the opportunity and the need for dialogue and cooperative development of action plans.The government officials work with local elected officials and civic and business leaders to identify ways that the collision rate on their local problem roadway can be reduced.

Evaluated Elements

* Total Collisions
* Types and Causes of Collisions
* Proximity of Residence
* Alcohol-Related Collisions
* Daily Traffic Volumes and Peak Collisions Times
* Fatal and Disabling Injurty Collisions Causes
* Comparisons of Collision Causes and Types with Other State Routes

From signs on the backs of local delivery trucks and informational brochures to increased law enforcement and roadway engineering changes, the success of the projects has been largely the result of local input and local control.Commission Director John Moffatt has estimated savings in medical and other costs of $21,780,996 due to collisions that did not occur. The four most recent corridor safety projects saved society an estimated $37 for every $1 invested. The projects have reduced collisions an average of 11 percent. The collision rate for other roadway projects not in the Corridor Safety Program have gone up five percent. On some corridor roadways, serious injuries were down over 40 percent.

For further information contact:

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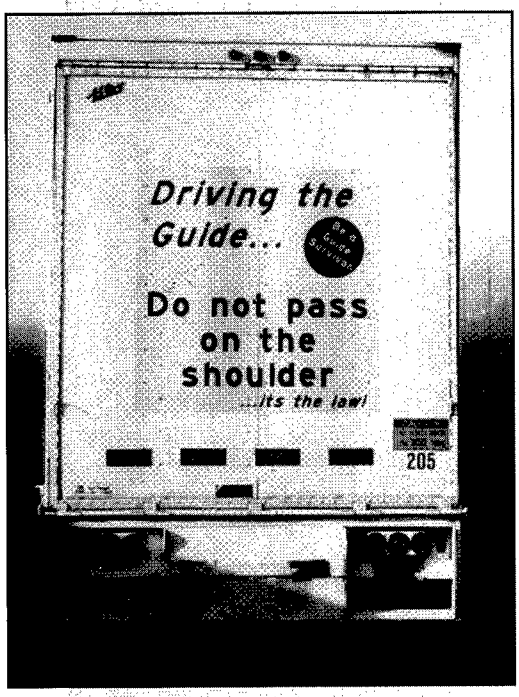
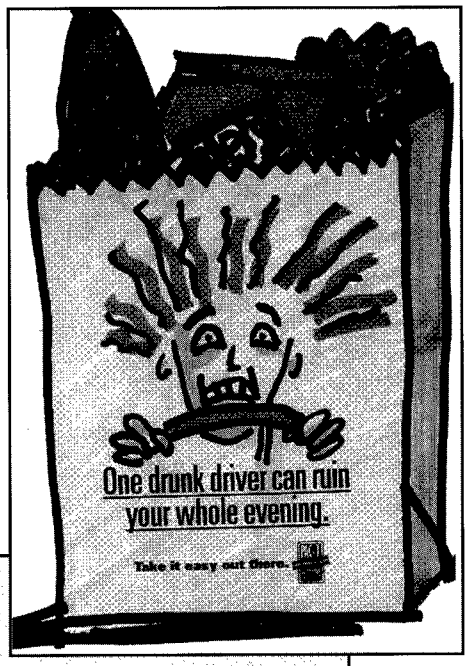


Truck mounted safety message (trucks operated regularly on corridor).

Example of a grocery bag with safety message as part of the education element of the corridor project.



Corridor Identification sign.

Bus tour of the corridor project by an interdisciplinary team.

Emphasis patrol team.

Most Effective Use of Technology Award

Tennessee Department of Transportation

■ Fog Detection and Warning System

The Tennessee Department of Transportation (TDOT) has developed and applied a unique fog detection system on 19 miles of rural interstate (I-75) near Chattanooga, Tennessee.

The project was developed from recommendations of the National Transportation Safety Board (NTSB), a task force of TDOT engineers, representatives from the Tennessee Department of Safety and the FHWA. The system is designed to help detect and predict weather conditions conducive to heavy fog and to communicate appropriate warning to motorists. The task force was formed following a fog-related accident involving 99 vehicles in which 12 people were killed and 42 were injured in 1991.

The system is controlled by an on-site computer which continually monitors climatological conditions in and near the three-mile fog prone area by using eight fog detectors and two meteorological stations. Special software uses threshold criteria to alert operators at a central control station who can respond by activating predetermined messages on some or all of the ten variable message signs included in the project. Message scenarios include warnings, changing of speed limits, activation of highway advisory radio messages, and, if necessary, activation of six swing gates on ramps.

Another component of the system is a series of 44 vehicle flow detectors which monitor the speed and number of vehicles. Thresholds in changes of speed and/or flow automatically activate control messages on the variable message signs.

The Fog Detection and Warning System was made operational in December 1993. By December 1995, the system had been activated for 122 reduced visibility events. Accident records collected for this time period indicate that there were no accidents reported during fog conditions.

For further information contact:

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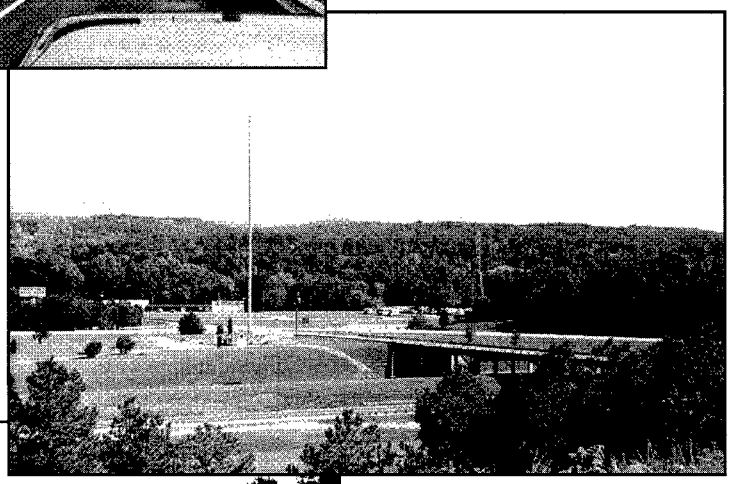
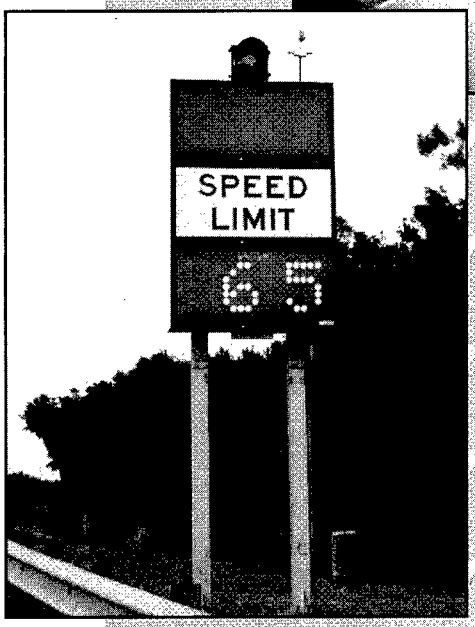
Variable Message Signs (VMSs) warn motorists at strategic locations.

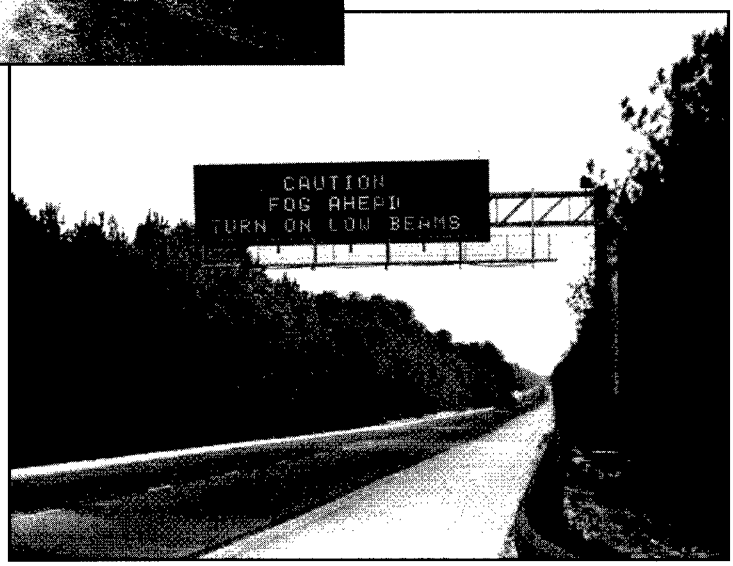


Fog detectors.

Swing gates control ramp access.



Special signs give safe operating speeds under all conditions of visibility.



Variable Message Signs (VMSs) displays predetermined messages in accordance with the fog or speed condition scenario in effect.

Special Recognition Award

Michigan Truck Safety Commission

The Michigan Truck Safety Commission (MTSC) has developed innovative programs aimed at driver awareness and safety when dealing with commercial motor vehicles (CMVs). Through its driver training and outreach programs, MTSC has identified and addressed significant safety issues regarding the operation of CMVs.

MTSC was created by legislature in 1988. The legislation provided a fee assessment to all commercial motor vehicles of $15.00. This fee is allocated to the MTSC for the development of safety programs to increase cooperation between automobile drivers and operators of CMVs. MTSC is comprised of a variety of groups and organizations including industry, insurance, labor and government. The commission is responsible for allocating funding to different programs regarding commercial vehicle safety.

Some of the innovative programs which have been developed by the MTSC include a mobile classroom which is used throughout the State for education at truck stops, weigh scales and motor carrier facilities. In addition, the MTSC has a defensive commercial vehicle driving track which is available at $25.00 per participant. This track provides the opportunity for commercial vehicle drivers to learn important defensive driving techniques.

MTSC also seeks to increase the awareness of non-CMV drivers regarding truck safety issues. In addition, videos, billboards and brochures targeted for the general public have been produced.

The MTSC programs have received positive recognition from the public sector. The public awareness campaigns have successfully provided increased public awareness regarding the limitations and requirements of commercial motor vehicles.

For further information contact:

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The entire MTSC staff and two Commissioners gather at the Commission's Upper Peninsula office. (L to R) Project Director Rich Davis, Commissioner Harold Bondy, Commissioner William Taylor, Communications Director Christine Caswell, Safety Training Specialist Chris Earl, Safety Training Specialist Don Wilcutt, Vice President Secretary Ann Olson and Vice President Safety Training Specialist Bob Rameds.

The Commission's Mobile Classroom provides on-site safety training on a variety of topics. The trailer has been converted into a classroom that holds up to 20 people.

MTSC produces a high school driver education video, asking new drivers, "Let's share the road, Michigan."

Honorable Mention: Program Planning, Development and Evaluation

Iowa Department of Transportation

■ Mobile Accident Reporting System

The Iowa Department of Transportation (IADOT) has developed a Mobile Accident Reporting System (MARS) designed to reduce the amount of time that officers spend on paperwork. MARS is the first component of a more comprehensive Officer Information Manager (OIM) that will allow law enforcement officers to complete accident reports, citations, and implied consent forms (for drunk driving) on a pen-based computer. The development of OIM involved a cooperative effort of all levels of law enforcement and included representation from State and Federal agencies who use data collected using the MARS system.

Mobile data collection coupled with on-site validation improves data integrity. Electronic transfer of reports and forms eliminates paper handling and mail delays, reducing the crash data life cycle from 18 months to as little as a week. Additionally, information common to all OIM forms need only be entered once and is automatically applied to subsequent forms when required.

A demonstration of the project's effectiveness came early in its application. One agency used the data collected through OIM/MARS to generate customized accident data summaries which enabled the city engineer/planner to identify problem accident locations and plan appropriate improvements. These improvements were completed before the IADOT's engineering report could be sent to the city identifying the same locations as needing improvements.

The MARS system has been successfully piloted and is available for general distribution. Forty-two law enforcement agencies in Iowa have implemented MARS, and plans for additional implementations are being made.

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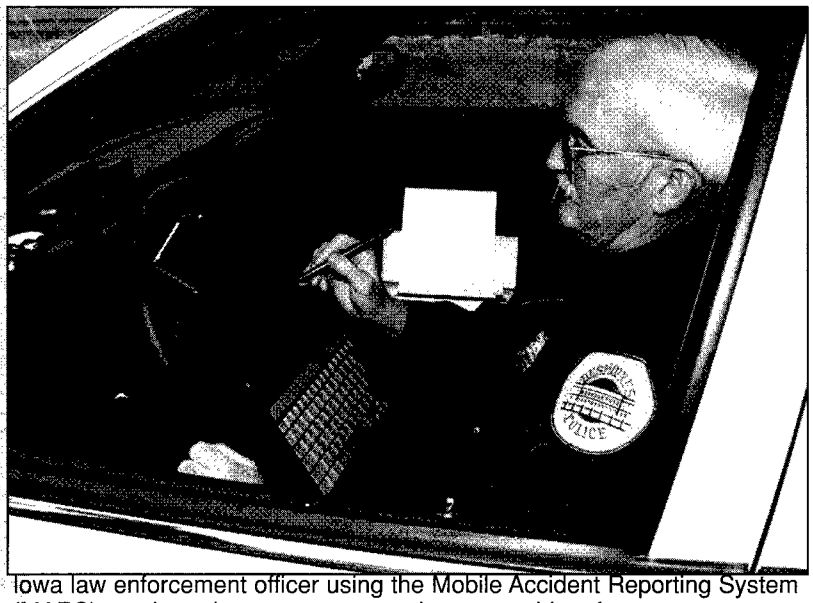
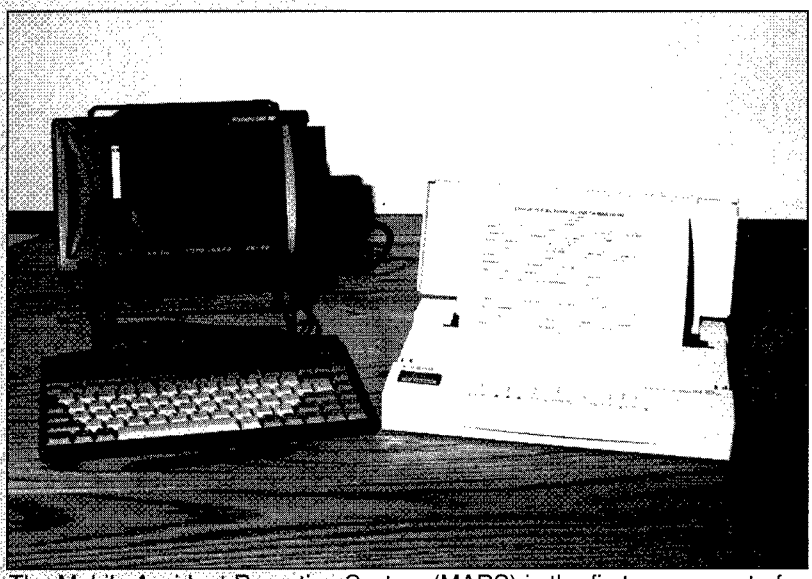


Iowa law enforcement officer using the Mobile Accident Reporting System (MARS) pen-based computer to complete an accident form.



The Mobile Accident Reporting System (MARS) is the first component of a more comprehensive Officer Information Manager (OIM)

Awards Panel

Clarke Bennett
Retired, FHWA, Office of Highway Safety

Thomas Brahms
Institute of Transportation Engineers

Barbara Harsha
National Association of Governor's Highway Safety Representatives

David Hensing
American Association of State and Highway Officials

James McCauley
FHWA, Office of Motor Carriers

Richard Pain
Transportation Research Board

Carlton Robinson
Retired, Highway User's Federation

Safety Awards Panel (left to right): Richard Pain, James McCauley, Carlton Robinson, Thomas Brahms, Barbara Harsha, David Hensing, Clarke Bennett.

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