

## OPENING REMARKS

**Robert L. Marshall, School of Public Services and  
Missouri Safety Center, Central Missouri State University**

This conference is being sponsored by the National Highway Traffic Safety Administration and the Federal Highway Administration and conducted by the Transportation Research Board of the National Research Council. These three organizations have worked cooperatively on a number of projects of mutual concern over the years. This particular conference concerns a subject critical to the various state and government agencies. Its specific objectives are

1. To provide impetus for state program managers to maximize their use of safety data available within the states to effectively and efficiently administer their programs;
2. To present, discuss, and evaluate analytical techniques that augment the states' capabilities for using data to identify problems, set goals, develop programs, establish priorities for projects, and evaluate highway safety programs, projects, and countermeasures; and
3. To establish the level of data analysis necessary to adequately administer state safety programs under the process approach to managing highway safety.

## KEYNOTE

**Patricia F. Waller, University of North Carolina**

The costs of our highway transportation system—and the cost of failure—are high. Local, state, and federal governments have spent enormous sums of money on the highway transportation system, not just for the highways themselves but also for the supporting programs and institutions necessary to maintain the system. And virtually all segments of society have invested heavily in the vehicles that use the highway system.

In spite of this, the area of highway safety has been neglected in relation to its importance. Injuries from motor vehicle accidents are a major health and economic problem in the United States and are the leading cause of death for persons between the ages of 6 months and 40 years. Children from 1 through 14 are more than 100 times more likely to die from motor vehicle injuries than from tuberculosis, diphtheria, whooping cough, strep throat, scarlet fever, polio, measles, and typhus combined. Motor vehicle injuries account for more new cases of paraplegia and quadriplegia than all other causes combined; they are the leading cause of head injuries, epilepsy, and death in the peacetime military.

According to a recent report in the American Journal of Public Health, more than 1.5 million persons suffer from cancer, coronary heart disease, and stroke each year, but more than 4 million will be injured in motor vehicle accidents. The costs of motor vehicle injuries, second only to those of cancer, exceed \$20 billion per year. These costs are for emergency medical aid, hospital care, rehabilitation, lost wages, and other direct and indirect costs. They do not include costs of property damage or of the enforcement, judicial, penal, and other administrative systems that are called on to deal with the consequences of motor vehicle accidents.

Highway safety becomes an issue when the highway transportation system fails and injury or death results. It is important that we be able to identify the factors leading to system failure so that we can invest our limited dollars

where they will have the greatest effect. Unfortunately, these factors cannot always be identified. Our current data systems either do not include the necessary information, or the data are included in a form that does not readily permit retrieval and analysis. An adequate data records system, therefore, is our starting point.

With an adequate system to link motor vehicle crash information to detailed injury and cost information, we can identify the kinds of crashes that lead to the more costly injuries. With a system to link data on driver licensing, training, and history with information on judicial proceedings and accidents, we can look for problem areas in our current programs.

Most of our traffic safety programs are based on the collected wisdom and best judgment of the people working in the field over the years. With sound data, we can know the effectiveness of these programs and can make decisions on implementing new programs that may entail the commitment of scarce resources or raise controversial questions of individual rights. We can replace subjective opinion and "best guesses" with objective data.

As agency budgets are cut, traffic accident data systems, like everything else, are being closely scrutinized. We will be required as never before to justify our data-collection and storage programs. Justification may be difficult, as the data system itself cannot reduce accidents. Yet, without this system, it will be impossible to evaluate the effectiveness of our highway safety programs and to decide how best to spend our limited dollars. We will have to translate our need for better accident statistics into costs and benefits. To meet the challenge, we will have to pool our expertise and develop innovative approaches to identifying and solving highway safety problems.

## CHALLENGE TO THE CONFERENCE: THE FHWA PERSPECTIVE

**Edwin M. Wood, Federal Highway Administration**

State highway records systems have improved markedly since 1970 when the federal government provided separate funding for safety improvement. In 1976, only 30 states had location reference systems that included all federal-aid highways; by 1981, at least 46 states had such systems. Only 10 states could correlate traffic volume and accident data in 1976; today, 45 states have this capability, and more than half the states can also correlate highway inventory data with accident records.

The investments made by local, state, and federal governments in traffic, accident, and highway records systems have been substantial. NHTSA has been responsible for most of the federal grant money invested in traffic records systems, but since 1973 FHWA has also devoted more than \$32 million of its 402 funds to accident data collection and records analysis.

To help improve the use of traffic records in developing highway safety programs, FHWA has named the link between accident data and traffic and highway inventory data as an emphasis area. The study of these data will help determine exposure rates and the safety performance of geometric features and highway hardware.

The need for traffic safety data and analysis capability is increasing with changing types and sizes of vehicles. The standard passenger car is becoming smaller and lighter. The trucking industry is increasing pressure to allow multiple trailers and heavier payloads. Motorcycle travel and moped sales are rising at a rapid rate. State highway data systems

must provide the facts needed to identify problems resulting from the changing vehicle mix, to design countermeasures, and to develop, implement, and evaluate highway safety programs. To get these facts, we may need to modify our present record systems.

In spite of progress and increased need, recent gains may be eroding. Although state and federal financial resources have remained relatively constant over the past few years, inflation has reduced real buying power. States can afford only essential and effective highway safety improvements, and these uses must compete with other highway budget items for available funds.

At the same time, the administration has stated its intention to return decision-making authority to state and local governments and has eliminated separate funding categories that require a prescribed level of funding for specific program areas. This seeming reduced emphasis on safety has led some states to tighten their budgets by reducing the data to be included in their records systems.

This is a false economy. Every effort should be made to improve rather than reduce information going into records systems. Since safety programs will now have to compete with alternative uses, management has an increased need for records systems that will help identify problems, evaluate results, and provide justification for highway safety improvements. The challenge to the state highway safety agencies is clear. To improve their decision-making capability they must

- Increase the usefulness and responsiveness of accident, traffic, and highway records systems. Records systems must provide information needed for good safety management and justification of countermeasures. This information must be in a form that will allow meaningful analysis.
- Make full use of available information. States cannot afford to wait until they have the ideal records system. Most states have better information than decision makers have traditionally used. States must use the best information now available to improve decisions, work closely with the records system staff to identify what information is available, and begin using information even while it is being refined and improved.
- Improve communication between decision makers and records systems management. The records system should serve decision makers, but management does not always communicate its needs to the records systems staff. Nor do the records staff always tell management when they find a problem.
- Include property-damage-only accidents in the records systems. Under pressure to reduce expenses and in response to reductions in federal funding for categorical safety improvements, some states have considered the elimination of property-damage-only accidents from the records systems. This would be a mistake. The effectiveness of the accident records system in helping to identify high-hazard locations and to design appropriate countermeasures would be drastically reduced. Several injuries (and perhaps fatalities) would have to occur before the hazardousness of a specific location would be recognized.
- Assess the potential for success before systems are implemented. Knowing the accident problem does not always help identify appropriate countermeasures. For example, driver errors and alcohol are often identified as major factors in traffic accidents, but trying to convince drivers that they should not make errors or drink alcohol is not necessarily an effective solution. Modifying human behavior is an expensive and difficult task and, in fact, it has been ineffective in reducing the

accident toll. Effective and efficient use of available resources requires that countermeasures be implemented, not where the problem is greatest but rather where the countermeasure will produce the most benefit.

- Improve the compatibility of state records systems. The hindsight of some states can serve as the foresight of others. Pitfalls can be avoided and more rapid progress can be made at a considerable savings. Good identification of safety needs and comprehensive evaluations are expensive. Each state should not need to prove the extent of each problem or the worth of each solution. By improving the compatibility of state records systems, states can share information and avoid unnecessary expense. The Office of Highway Safety will work with interested states to develop compatible records systems.
- Identify "most hazardous elements" for safety upgrading. State records systems must be used to detect hazardous elements as well as high accident locations. States must give more attention to preventing accidents involving highway elements that have been identified through accident records as being hazardous.

The Office of Highway Safety is working to enhance traffic records capabilities of state and local governments. Efforts will be concentrated on providing technical assistance (including assistance in developing training programs), serving as a clearinghouse for new technology, and initiating multistate analyses to identify problems and evaluate results.

We have made a tremendous investment in state traffic records systems. Now it is time to make that investment pay dividends. We must increase the use of the data we already have and continue to plug the data gaps. We must work together across state and local lines. We must share our experience and support each other in this effort.

We have a common goal—to make our safety programs more effective. Our records systems can help us accomplish this goal. The FHWA is committed to supporting improvement of traffic records systems through increased technical support.

**CHALLENGE TO THE CONFERENCE:  
THE NHTSA PERSPECTIVE  
Robert B. Voas, National Highway  
Traffic Safety Administration**

The task before this conference is simple and compelling. We are here to help states plan their safety programs scientifically on the basis of accident data, that is, to help them put safety efforts and funds where objective data indicate the safety problem is worst.

Two recent developments have made this task critical: the 60 percent reduction in the FY 1982 budget for the state and community highway safety program and the recent U.S. General Accounting Office criticism of the current problem identification process prescribed by NHTSA.

The reduction in funding has required limiting federal support to a few areas. Federal funds can still be used for state data systems, but the funding of administrative costs for all highway safety programs is no longer permitted. As a result, program planning activities will probably be shifted to state budgets. This may mean less money for problem