

State Versus Federal Priorities

NHTSA and FHWA have been encouraging states to identify their most pressing highway safety problems before selecting projects to correct them. In some states, such as Maryland and South Dakota, officials told GAO investigators that they found the problem identification process to be a good way to manage grant funds. Other state officials, however, complained that the process does not work; the breakdown occurs, they said, because less than one-third of the grant funds is available to solve different state-identified problems than those already identified by the federal government.

Although federal earmarking of funds is likely to continue even when state problem identification analyses indicate that funds could be better spent elsewhere, the situation should improve. Congress is concerned with the ability of the states to identify and address their highway safety problems. A recent U.S. Senate bill (S. 1377, June 17, 1981) proposes to amend section 402(a) of the Highway Safety Act to read:

"Each State shall have a highway safety program designed to reduce traffic deaths and injuries by identifying its highway safety problems, by adopting measures to reduce its highway safety problems, and by evaluating the effectiveness of such measures."

If the bill is adopted by Congress and subsequently becomes a part of the Highway Safety Act, the requirement for states to identify their highway safety problems will then be firmly recognized.

GOAL-SETTING PROBLEMS

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About a year ago there was much discussion—and some confusion—about setting quantified or numerical goals for programs. Some states saw quantified goals as something NHTSA wanted for them, whereas NHTSA felt that it was responding to a need expressed by the states.

Basically, goal quantification is an advance statement of how well the planner hopes a program will succeed. The problem is that in many cases there is no objective data to indicate the benefits of a particular program. Frequently, past evaluations and analyses have not been done, and numbers are pulled out of the air. For instance, 30 percent improvement sounds good, but it is unrealistic and unattainable. To bring about such a large improvement would require a higher level of funding than is usually available. Even if the project were funded, the evaluation data might not be sensitive enough to show a definite improvement.

Actually, the best number to pick for a goal is close to zero. Then, if the data suggest that the impact is somewhere around zero—it may not be zero, but it is probably not 60 or 70 percent either—the improvement is probably fairly modest.

Goals made in advance often have no basis. Program planners do not necessarily know how their countermeasures will work. In one project in North Carolina, a pilot project was set up to teach students a few rudimentary emergency maneuvers as part of their driver education. The standard 30 classroom h and 6 h behind the wheel were augmented with additional time behind the wheel during which the students were taught recovery maneuvers on the range—i.e.,

off the street and under safe circumstances. There was no basis for forecasting a percentage improvement that the program was to effect. In fact, when the project was evaluated, no improvement was found. If there were a benefit, it could not be measured in terms of subsequent accidents within the size population analyzed.

It is easier to set and meet administrative goals than impact goals. A goal of distributing 100 000 posters or of making 50 speeches to an average audience of 30 each is realistic, and the success of the project can be measured.

If impact goals must be set, however, several rules of thumb may help in setting them realistically. When a project planner starts with a program, he or she generally knows how much money can be spent. The planner also has the capability to estimate the cost of an accident. A 1974-1975 NHTSA estimate was \$4000 per accident. Fatalities, injuries, and property damage were factored into this figure. Adjusted for inflation, this figure may be about \$6000. By dividing the project amount by the accident cost, the planner gets a number of accidents that represents the project break-even point. For example, for a \$60 000 project, the break-even point (the goal) would be to prevent 10 accidents.

Another way to set realistic goals is to determine the size of change that can be detected with some statistical significance. Where there is no such basis, setting quantitative goals should be avoided.

MANAGEMENT USE OF ACCIDENT STATISTICS: ADMINISTRATIVE AND ORGANIZATIONAL PROBLEMS Cordell Smith, Colorado Division of Highway Safety

One of the most difficult problems faced by state highway safety managers is the lack of integrated and consistent traffic records. As the national highway safety effort was being developed, the need for systematic records was recognized, but not emphasized. As policy has shifted toward improved planning and evaluation, the seriousness of this oversight has become apparent.

In Colorado, available traffic records are used (a) to identify problems and set priorities, (b) to evaluate project or program impact, (c) to determine program cost/benefit, (d) to set goals within the departmental management-by-objective program, and (e) to justify programs to state legislators. But, like most states and NHTSA, Colorado is not doing the job that it could in these areas. The data are inadequate, and there are insufficient resources to upgrade our traffic records system.

The Colorado records system is used to address these specific questions:

- Which municipality or county has the worst accident problem based on vehicle miles of travel, population, miles of road, etc.? Would increased enforcement affect this problem?
- Which emergency medical service (EMS) district has the slowest response time or the best on-scene medical care? Why?
- Who are the people involved in alcohol-related crashes? If we develop a profile, could we intervene at some point before the individual is involved in a serious crash?
- What is the contribution of the roadway environment to the crash situation?
- What is the contribution of the motor vehicle inspection program?

- What is the contribution of the use of motorcycle helmets and occupant restraints in preventing serious injury or death?

Assuming safety agencies could answer such questions and were to develop countermeasure programs, they probably still could not determine the impact of individual projects. It may not always be possible to measure the effects of highway safety programs, but without quantifiable impacts to show, safety agencies cannot sell their concepts and programs to state legislatures, to the administration, and to Congress. In short, the system fails at the points critical to the continuation of highway safety.

WHY DOES IT FAIL?

State traffic records systems generally evolve in response to specific and varied demands and requirements. No one could have foreseen their extensive use in planning and evaluating highway safety programs. Consequently, the record systems are often out of date and lack the sophistication to deliver the complex data needed by highway safety researchers.

In addition, there is a lack of coordination between the efforts of the federal and state governments. The time has passed when records systems would have been most amenable to consolidation and change. To make these changes now would be prohibitively expensive.

Data inconsistencies result from differing definitions and lack of coordination between strategies, different reporting timeframes, and reporting errors on the part of source agencies. Because each agency designs its data files with specific uses in mind, few data can be integrated and much cannot be used for highway safety analysis at all. For example, under Colorado law, the Department of Revenue is charged with collecting and maintaining accident record, driver licensing, and vehicle registration files. These files are maintained for tax and fee collection, not for highway safety analysis. Hence, the data are not adequate for use by the Division of Highway Safety, and the manipulations that must be performed to develop useful files are time-consuming and costly.

Lack of timeliness in reporting data by some agencies affects the responsiveness of highway safety programs. Often, as a result of these delays, data are a year old before they are available for problem analyses.

Investigating officers are often responsible for the inaccuracy or incompleteness of data on accident reports. This is a situation that does not readily lend itself to correction. Although desirable, it would be extremely expensive to train every investigating officer in the state.

Most of these problems could be solved with enough money. Funding, however, is simply not adequate to correct most of these shortcomings, and the current national sentiment to reduce the cost of government does not make the future look promising.

WHAT CAN BE DONE?

Coordinating efforts of state and federal agencies could alleviate some of the duplication and inconsistencies in reporting. Ideally, one central agency should be responsible for data collection and dissemination. If this is not possible, then coordination between agencies must be established.

Innovative programs should be developed for on-site accident investigation. These programs could augment the Fatal Accident Report System (FARS) and National Accident Sampling System (NASS). Comprehensive management information systems should be developed for those areas of activity for which few or no data exist. Colorado is doing this with EMS. Data are not yet available to determine the impact of the program, but the system was designed with this in mind.

Intensive impact evaluations of selected programs could be performed on a national scale. The product of these

evaluations would be observable, measurable impacts to demonstrate the effectiveness or ineffectiveness of highway safety programs. However, application of this approach to projects whose success depends on changes in human driver behavior is difficult. Past efforts at the national level have not resulted in products that are practical or possible to implement at the state level.

In many instances, these national efforts to quantify impacts have produced vague and inconsistent findings that have led state decision makers to question, perhaps prematurely, the value of established, existing programs. An obvious example of this is the motor vehicle inspection program. After more than 10 years and after the expenditure of millions of dollars, the crash reduction potential of these programs still has not been demonstrated conclusively. As a result, decision makers in several states have repealed or abolished inspection requirements, some of which had been in place for more than 40 years.

In many instances, NHTSA's research activity has been directed or influenced by political whim. Priorities established by federal administrators result in research and expenditures in areas that are of questionable value to the states. The result is the atmosphere of criticism characterized by U.S. General Accounting Office reports.

The absence of long-range research planning by NHTSA is an impediment to proper long-term planning for state highway safety programs. NHTSA research programs now drift with the constantly changing management decisions (or lack of them). When emphasis program areas are established in NHTSA, states should be an integral part of the process. States have the right to expect that such emphasis programs will be based on logic, that the programs will be supported by evidence of accident reduction, and that evaluation models containing data requirements and records system demands must be made available.

Today, driving in the United States is safer than driving anywhere else in the world. Much of this has been accomplished since the passage of the Highway Safety Act in 1966 and the establishment of a State Highway Safety Agency. Yet, despite these accomplishments, the Highway Safety Program remains the target of criticism—for which the lack of national leadership and lack of a unified national highway safety program are largely responsible.

ESTABLISHING THE LEVEL OF ANALYSIS REQUIRED TO ADEQUATELY ADMINISTER SAFETY PROGRAMS

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We have come a long way since 1967 when we first started looking at traffic accident statistics. There have been many improvements in highway safety projects, and some of our programs to justify and evaluate these projects have become quite sophisticated. But federal support is shrinking. The question now is, What level of analysis is really necessary?

There is no set level. The National Highway Traffic Safety Administration (NHTSA) and the Federal Highway Administration (FHWA) have set minimal levels. New programs are being designed, and the rules of the game are changing. But with cuts in funding, states will not support a lot of these activities. It will be difficult to develop and use more sophisticated programs or to implement recommended improvements. States may even be asked to justify why they need to collect traffic accident data at all. Thus, the level of analysis needed cannot be prescribed. It will depend on what the states can afford and what will result in the