

Highway Safety Program: A Status Report

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The highway safety program consists of improvements to the driving environment that promote safety. The National Emphasis Program, which addresses the need for and methods to achieve highway safety, emphasizes (a) accurate identification of accident locations, (b) development of traffic engineering capability, (c) development of skid accident reduction programs, (d) use of uniform regulatory and warning signs, and (e) development of safer pedestrian crossings. This paper relates the states' activities in these areas.

The National Highway Safety Program has existed for more than 7 years. During that time there has been considerable effort by the states and the federal government to reduce the accident toll. We have made progress; both the fatality rate and the total number of fatalities have decreased nationally. Still there has been no dramatic breakthrough in solving the highway safety problem. This paper has two purposes: to report the present status of the states' efforts to implement their highway safety programs and to identify future trends in program activities.

The highway safety program consists of both capital and operational improvements to the driving environment that will correct hazards and promote safety. Highway-related standards have been established in four categories: identification and surveillance of accident locations; highway design, construction, and maintenance; traffic engineering services; and accommodation of pedestrians.

The majority of the activity associated with these program standards involves improvements to the highway system that are not so visible to the general public.

Even physical improvements, which are sometimes costly and require extensive planning and analysis before implementation often go unnoticed by the general public. However, they represent a vital segment of the total safety program. These activities provide the basic data needed to determine safety needs and effect improvements. Roadway and operational improvements have the immediate and long-lasting effect of reducing the number and severity of accidents. The effectiveness of these improvements can be measured directly.

To give a detailed status report of the more than 40 elements of the highway-related safety program standards would require too much space. We can, however, indicate states' efforts to implement programs in special areas of emphasis and point out trends in developing programs.

In the early years of the highway safety program, the states concentrated on identifying their needs and developing the resources needed to produce effective improvements. These efforts were necessary because, in many cases, the basic data did not

exist and the 1966 Highway Safety Act specifically prohibited the use of highway safety funds for construction of highway improvements.

The states also identified some specific national problem areas. First, most states had at least a partial data base for identifying accident locations on the federal-aid system of highways. This was a requirement for safety improvement programs on the federal-aid system instituted by the Bureau of Public Roads in 1962. But highway safety applies to all roads, and accurate identification of accident locations off the Interstate and federal-aid primary systems was far from adequate. The states needed to improve their capability in this area. Because of limited resources, local jurisdictions had difficulty meeting the uniform safety standard requirements.

There was also an immediate need for uniform signing on local streets and highways. As a result, Congress indicated that the intent of the 1966 Highway Safety Act had been misinterpreted and that safety funds should be used for accident reference systems and regulatory and warning sign improvements off the federal-aid system. Previously, these activities had been considered ineligible under the 1966 Highway Safety Act.

FHWA's program goals at the national level are (a) to develop accident data and manpower to implement effective countermeasures, (b) to encourage the immediate implementation of proven high-payoff improvements, and (c) to provide the necessary resources to initiate an effective improvement program for all highways. The first steps toward these goals were to analyze national needs and to emphasize those program features oriented to the national goals. The National Emphasis Program, issued as part of the FHWA Highway Safety Program Management Guide in 1972, initiated the program. This program

1. Provides for the basic capability to identify problem areas and develop corrective measures for all streets and highways;
2. Emphasizes features of the highway standards that produce the greatest reductions in traffic deaths, injuries, and property damage in the shortest possible time; and
3. Establishes target dates for completing various elements of the emphasis program.

Some states already have implemented portions of the emphasis program and have moved on to other projects.

The five elements of the emphasis program furnish the necessary bases on which to develop the specific accident countermeasures needed and to provide professional and technical manpower to implement the program. The priorities also focus on identified nationwide highway safety problems.

The first element is accurate identification of accident locations. To develop effective highway accident countermeasures, jurisdictions must have accurate information on where accidents are occurring. Currently, many jurisdictions, particularly the smaller local agencies, do not have this basic resource. The emphasis program sets a target date of 1975 for a nationwide capability to accurately identify accident locations and to establish appropriate accident reference files.

The second is traffic engineering capability. One of the major hurdles to implementing FHWA safety standards has been the lack of professional manpower to analyze accident data and to develop, install, and evaluate accident countermeasure programs. This is especially true for many small local jurisdictions. Therefore, a high priority for the national safety program is the development of the traffic engineering capability to implement the standards. The emphasis program sets a target date of 1976 for developing needed expertise in all cities and counties throughout the United States.

The third element of the emphasis program is skid accident reduction programs. Skidding accidents contribute significantly to the nation's accident toll. About 20 percent of all accidents occur on wet pavements, and that pavement slipperiness causes these accidents has been clearly established by accident studies and highlighted in congressional hearings. The identification and correction of locations with an incidence of skidding accidents can lead to a dramatic reduction in wet weather crashes. Fre-

quently, a corollary benefit is a reduction in dry weather accidents. The emphasis program sets 1976 as a target date for all states to develop such a program.

The fourth effort is uniform regulatory and warning signs. Standard 13 requires that all traffic control devices conform to the Manual on Uniform Traffic Control Devices. The 1971 revised manual requires a nationwide effort toward conformity as quickly as possible. In addition, there must be an extensive program to ensure public understanding of the new devices when the signing and marking system is improved. Uniformity in application and design and a public understanding of the new devices are essential to safe traffic operations. The emphasis program urges states and their local subdivisions to achieve conformity with the new manual by 1975.

The fifth is pedestrian crossing programs. This portion of the program concentrates on identifying hazardous pedestrian locations and applying traffic engineering measures and good highway design to develop a systematic plan for providing better pedestrian protection. Its importance is obvious, for pedestrians are the victims of one-fifth of highway fatalities.

Beginning with the 1973 Annual Work Program, states were expected to plan and program activities in these five areas. The states have responded well. Analysis of the states' 1974-78 comprehensive plan and their annual work programs indicates the following:

1. Only two states have not yet started work on a program to accurately identify accidents on all road systems. A majority of states already have this capability on the state highway system and are developing location systems for nonstate highways.
2. Forty-four states now have a program to increase the traffic engineering capability of medium-sized cities and counties. Thirty-seven states are working on a program to provide a traffic engineering capability to cities with populations between 25,000 and 50,000.
3. Thirty-six states are now performing a skid inventory on at least their state highway system, and 29 of these states have also started on a corrective program. All but two states are at least in the planning stage of the program.
4. All states are developing a plan to bring their traffic control devices into conformance. Already 14 states have started to replace nonconforming signs at the local level. Another 28 states will be starting shortly.
5. The area that has been the least active is the pedestrian safety program. Only 21 states now have a specific program to identify hazardous pedestrian crossings or to implement improvements. More work will be done in this area after the states begin operation of a basic accident identification system.

Clearly, the states are making substantial progress toward developing basic data needed for a systematic safety improvement program. This does not mean that the states are delaying needed safety improvements before a complete inventory is established. Last year the states spent almost \$250 million on safety improvement projects on the federal-aid system alone. However, a better data base will assist the states in planning safety improvements statewide.

The emphasis program will provide the basis for the next step in the safety program: priority implementation. As reflected by the 1973 Highway Safety Act, the safety program is quickly moving into this phase. Congress, impressed by the effectiveness of many highway-related accident countermeasures, authorized a number of specific safety improvement programs and \$975 million to assist in their implementation during the next 3 years. These specific programs are identified under five sections of the act.

1. Section 203 calls for the elimination of hazards at railroad-highway crossings on the federal-aid system.
2. Section 205 amends Chapter 1, Title 23, U.S.C., to establish a pavement marking program for both federal-aid and non-federal-aid highways.

3. Section 209 amends Chapter 1, Title 23, U.S.C., to provide for the correction of hazards at specific locations on the federal-aid system.

4. Section 210 amends Chapter 1, Title 23, U.S. C., to authorize the states to develop projects to reduce hazards caused by roadside obstacles on the federal-aid system.

5. Section 230 adds Section 405 to Chapter 4, Title 23, U.S.C., to authorize states to develop improvements for the elimination or correction of safety hazards on those highways not on any federal-aid system. (This section is significant because, for the first time, federal-aid funds can be used for safety improvements off the federal-aid system.)

Federal-aid funds will cover most of the cost for these programs. Section 205 will be completely federally funded. All other sections will be 90 percent federally funded. It should also be noted that, in every case, projects on the Interstate System have been excluded.

Among other unique features of the 1973 Highway Safety Act is a requirement for statewide comprehensive engineering surveys on all roads. Information from these surveys will be used to establish improvement priorities on the basis of potential pay-off regardless of administrative control of the highway.

The 1973 legislation fills a critical gap that once existed under the safety program. Now the results of high accident location studies, roadside inventories, and other surveys conducted under the safety program can be implemented with the support of federal funds on a statewide basis.

In many ways the highway safety program is only just getting started. We are now entering the action phase; we have laid the basic groundwork and have launched a systematic attack on highway hazards. In the past, our efforts have had a relatively small impact on the nation's accident toll. But the application of corrective measures to the highway safety problem during this phase of the program should result in quick, significant, and long-lasting reductions in traffic deaths and injuries.

The Interstate System, the largest construction effort ever undertaken, is nearing completion. Its most outstanding characteristic is its low fatality rate. A major problem remains: We must make all existing highways safer. Finding the solution to this problem is our challenge for the future.