Educational Requirements for Administering Highway Safety Programs

Robert L. Marshall, Richard Tossell, Robert L. Baldwin, J. Harold Higgins, and Gerald C. Hunton, Central Missouri State University

This paper reviews the historical background of programs for training personnel in the administration of highway safety programs. It notes that federal legislation causes graduates of safety programs to move from one area to another among highway safety, occupational safety, transportation, law enforcement, and so on. There are problems in filling these positions, especially with the current minimal funding for personnel development. An example of one state's approach to administering programs to develop personnel for highway safety programming is presented to show the administrative principles used as well as the extensive planning necessary to pursue and maintain a personnel development program to cover identified educational and training needs.

The purpose of this paper is to discuss educational and training requirements for highway safety program administration. We believe that the ability to administer either single facets or entire program elements depends on the quality of the professional preparation of the personnel available for assignment to any particular program activity or responsibility. With some modifications, we will use the definitions developed by the National Safety Council (1) for specific terms that appear in this paper.

The term "highway safety personnel" denotes all persons working full time or part time in an administrative, supervisory, research, professional, specialist, or technical capacity in employment that requires specific knowledge of the principles and practices necessary to implement the highway safety standards established by the National Highway Traffic Safety Administration (NHTSA).

Administrators, managers, and supervisors are those who are responsible for managing, directing, and coordinating either specific activities of a major function or a total program that encompasses many functions. Included in this category are persons who may be termed generalists who have responsibilities that encompass the broad range of highway safety activities. In evaluating programs and counseling on improvement of activities, these people need a broad perspective and understanding of the many functional areas that make up a total highway safety program at the local, state, or federal level.

Professional personnel includes those persons engaged in jobs that require at least a college degree, such as traffic engineers, driver education teachers, or automotive engineers.

Specialists or technical personnel are those persons, such as motor vehicle inspectors, law enforcement officers, accident investigators, emergency medical specialists, and traffic-court personnel, who require some specialized training but not as much as that required by professional personnel.

HISTORICAL BACKGROUND

Little concern has been expressed about education and training programs for highway safety personnel from the initial development of motor vehicles until 10 years ago. This is not to say that there have not been outstanding educational programs for traffic engineers, traffic law enforcement personnel, driver education teachers, or the other 130 different job types or 36 composite occupations in highway safety described in a 1968 study (2) nor that a number of organizations or agencies have not devoted staff time and financial resources to the development of education and training programs. However, there has not been a national commitment on the part of both the federal government and the private sector for quality education and training programs for highway safety personnel. Even today that coordinated commitment is missing.

The 1924 National Conference on Highway Safety barely touched on education and training needs. In 1937 the Automotive Safety Foundation was established by the automobile industry and related groups. One of the basic charges to the foundation was education and training. Their record over the years speaks for itself through scholarship grants, research grants, publications, and many other types of support for education and training programs for highway safety personnel.

In 1938 the Traffic Education and Training Committee was established. Today this committee is part of the Traffic Conference of the National Safety Council. From

Publication of this paper sponsored by Committee on Planning and Administration of Transportation Safety.

the beginning this committee has recommended support for quality education and training programs for highway safety personnel (1). Representatives from approximately 40 organizations serve as members of this committee, which has been responding for nearly 40 years to its initial charge of recommending needed education and training programs to improve highway safety. It has neither the financial resources nor the official responsibility to implement and carry out its recommendations.

A number of organizations or programs have helped to educate and train highway safety personnel. The most notable have been:

1937—Traffic Institute, Northwestern University, which primarily trains law enforcement personnel and traffic engineers.

1937—Yale Bureau of Traffic Engineering, which prepared traffic engineers; since 1968 it has been located at Pennsylvania State University.

1937—Center for Safety Education, New York University, which offers graduate programs in safety.

1945—National Commission on Safety Education, National Education Association, which was active in numerous areas of school safety education until its termination in 1971, when the Automotive Safety Foundation withdrew its funds. One organization staffed by the commission, the American Driver and Traffic Safety Education Association, carries on many of the commission's traffic safety activities and remains as a department of the National Education Association (NEA).

The Highway Safety Act of 1966 established an Office of Safety Manpower Development in the National Highway Safety Bureau, now the NHTSA. Since it has limited resources and personnel, this office has not exerted leadership for the education and training programs that are urgently needed in the United States today.

FEDERAL LEGISLATION

During the past 10 years more than 70 laws have been passed by the U.S. Congress that relate to safety and that have implications for qualified available personnel, including the Highway Safety Act of 1966, the Law Enforcement Assistance Act of 1968, and the Occupational Safety and Health Act of 1970. If fully implemented at the regional, state, and local levels, these laws would create a personnel need in the vicinity of 4 000 000 people.

When the personnel needs of approximately 67 other laws are added to this, it is obvious that, if the enacted legislation were fully implemented, highway safety personnel could be trained for highway safety but be employed by other agencies concerned with a much wider variety of safety activity. A well-qualified police officer with a background in traffic safety, given additional training, could move into the area of occupational safety and health as a director of industrial safety for an industry in which traffic safety is just one of his responsibilities, or into the law enforcement area in a state or federal government agency as a staff person responsible for law enforcement assistance programs. Although the financial support provided by legislation is greatly needed, the legislation creates a demand for personnel in each area of safety that may actually drain off well-qualified highway safety personnel to other positions.

PRESENT NEEDS

In addition to the personnel needs previously listed, young people in elementary and secondary schools today have little opportunity to learn about the career opportunities currently available in the highway safety field. One of the problems is that many of the position titles in the 36 composite occupations, which include more than 130 individual job descriptions (3), are not readily available to elementary and secondary school teachers or guidance counselors.

The Occupational Outlook Handbook (4), published by the U.S. Department of Labor's Bureau of Labor Statistics every other year, contains job descriptions and employment outlook information for white-collar, blue-collar, and service occupations. The publication is designed as a basic reference source for vocational counselors and personnel planners, as well as for people seeking career information. Of the more than 800 occupations listed, only a few could possibly be classified as related to highway safety: police officers, state police officers, intercity bus drivers, local transit bus drivers, local truck drivers, long-distance truck drivers, parking attendants, taxi drivers, automobile mechanics, motorcycle mechanics, and truck and bus mechanics.

Highway safety positions are not specifically listed in the Occupational Outlook Handbook, nor are transportation safety positions listed. Guidance counselors and teachers are at a disadvantage in recommending highway safety positions as career opportunities to their students. With the lack of career guidance information in this field, a steady flow of new personnel to fill developing jobs or as replacements for retiring personnel is not forthcoming. However, some driver education textbooks are beginning to include units on career opportunities in highway safety and transportation safety (5).

Much more research also needs to be done by the individual states to determine specific highway safety personnel needs. Education and training requirements can then be planned to meet these existing needs. The Booz, Allen, and Hamilton study (2) laid a groundwork at the state level. The National Association of Counties conducted a second study of highway safety personnel needs in 1970-71. The survey identified highway safety personnel required at the local, city, and county levels.

What the separate states need to do now is to identify personnel needs at specific locations and to develop plans for educational and training programs to meet these needs. Missouri's activity in developing education and training programs to prepare qualified highway safety personnel is not a singular approach. It incorporates many of the facets of earlier traffic safety efforts and recommendations promulgated by agencies and organizations previously cited in this paper.

MISSOURI'S SAFETY CENTER

In 1965 and 1966 leaders in Missouri realized that one college or university in the state should specialize in safety. In 1966 the Missouri Commission on Higher Education, in collaboration with the Governor's Traffic Safety Coordinating Committee, requested that Central Missouri State University (CMSU) develop the Missouri Safety Center. On July 1, 1967, the Missouri Safety Center became operational. The center had four specific charges: instruction at the undergraduate and graduate levels, research, publications, and special services.

As CMSU began to assemble staff for the Missouri Safety Center, operational guidelines were developed. The guidelines, adapted from an NEA publication (6), have been adjusted periodically to stay abreast of expanding activities. On September 1, 1971, because of the rapid growth in the number of students, courses, and programs, the School of Public Services was established. It included the Departments of Criminal Justice Administration, Safety, and Industrial Safety and Hygiene, and

the Missouri Safety Center. Units of the center include: the National Center for the Administration of Criminal Justice, Publications, Special Services, Project Management, and the National Public Services Research Institute.

The Missouri Safety Center is an organization formed by CMSU and dedicated to highway accident prevention and other safety fields. It draws the institution's resources together in a common effort, providing a liaison unit that serves college personnel, state and local officials, business, industry, professional interests, and the public at large. It uses a staff of specialists and the services of personnel from many academic departments to provide organized leadership and a unified program in accident prevention.

The following guidelines provide direction for the center.

1. The center is an instrument of all the departments and schools of the university.
2. The center uses the university's total resources on an interdisciplinary basis.
3. The center uses a staff of specialists and the services of professional personnel from various academic departments and administrative offices to provide academic programs, conferences, short courses, research activities, publications, and public information programs for the entire state of Missouri.
4. The center does not duplicate efforts conducted elsewhere in the university.
5. Those associated with the center program are employed and recognized on the same basis as their counterparts elsewhere in the university. Dual or joint appointments of academic and research staff for the center enable each staff member to preserve his identity with his particular discipline and at the same time to contribute from his discipline to the projects and activities of the center.
6. The dimensions of the center's program will develop in the directions and to the extent that the university believes will help it to fulfill its role as the safety center for the state of Missouri and as a national safety center. Areas of interest include school safety, traffic safety, Traffic Management Institute programs, law enforcement, industrial safety, sanitary science, industrial hygiene, traffic engineering, fire science, aviation safety, transportation, public administration, agricultural safety, and other safety areas to meet the needs of the state.
7. The university provides the basic financial support for establishing and operating the center, with supplemental support from legislative appropriations, foundation and government grants, and other sources. A specific budget is allocated from general university funds for the center to conduct its programs and activities.
8. Responsibility for policy decisions on the center's organization, procedures, programs, and budget is vested in the university president.
9. Administration of the center's program is the responsibility of its director (under the supervision of the vice president for academic affairs) whose rank and function are such as to provide managerial authority. The director of the center is in charge of its day-to-day operations, the activities of the staff, and management of its program. He or she remains in close communication with the vice president for academic affairs on matters involving changes and extension of the center's programs and particularly on those that may involve university policy.

As of June 1, 1975, the School of Public Services was authorized to offer undergraduate degrees in criminal justice administration, corrections, driver and safety education, fire science, industrial safety, industrial security, safety, and sanitary science, as well as graduate degrees in administration, agricultural safety, aviation safety, corrections, criminal justice administration, industrial hygiene, industrial safety, industrial security, safety, safety education, and transportation safety. Graduates of the School of Public Services are highly sought after and are accepting positions throughout the United States and in other countries.

In the fall of 1974, the Office of Manpower Planning, Department of Social Services, and the Division of Highway Safety, Department of Public Safety, engaged the Missouri Safety Center to conduct a survey of personnel needs for highway safety specialists within Missouri.

The survey included highway safety personnel positions at the state, county, and city levels of government, as well as positions in the private sector. The data were collected through use of a survey questionnaire that was developed and field tested before being administered in person by the research staff in all major cities and a cross section of smaller towns and villages throughout the state.

The survey questionnaire contained items believed to be vital in determining present and future needs for highway safety specialist personnel, including job title, job description, entry requirements, recruitment resources and selection procedures, education and training provided immediately after employment, resources for such training, education requirements for maintenance of competency, usual career pattern, location of the job title in the organizational structure, salary range and other financial benefits, age and tenure of persons currently employed, and the number of persons filling or needed to fill the position under the job title at present and for each of the next five years. General information on educational and training problems related to each job title was also requested.

The information obtained through this survey of highway safety personnel needs will be vital to the state of Missouri in achieving the goal of having available adequate numbers of qualified personnel to plan, develop, implement, coordinate, and evaluate traffic safety programs in each area of highway safety standards.

After 8 years of operation, the Missouri Safety Center has trained more than 42 000 persons in short courses, seminars, and workshops, including law enforcement workshops for local law enforcement officers, safety education officers' seminar for local law enforcement and fire officers, Traffic Management Institute, school transportation workshops for supervisors of pupil transportation, motorcycle workshops for college professors and driver education teachers, traffic engineering seminars, and so on.

LONG-RANGE NEEDS

There are a number of long-range needs that should be considered by all agencies, colleges and universities, professional associations, and individuals concerned with the education and training of highway safety personnel. These needs are not necessarily ranked according to priority but are submitted for consideration as we see them.

1. A state highway safety education and training committee should be established within an existing highway safety program advisory committee; it would work in cooperation with the governor's representative for highway safety and his staff person responsible for personnel development programs. The committee would assist in determining education and training needs of the

state, interesting education and training agencies and institutions in conducting programs, and interesting agencies involved in highway safety at both state and local levels in having their personnel attend training courses, conferences, and seminars.

2. The state's personnel and training needs, existing programs, and available resources for training and education activities at both the state and local levels should be analyzed periodically, and the additional programs and resources required should be determined. This assessment should include the existing personnel performing highway safety activities; the additional personnel needed; the length and scope of all existing training programs; the numbers of technicians, specialists, and professionals enrolled in training programs per year, as well as the number of students in preparatory programs for highway safety careers; the capacity of training and education facilities of educational institutions, governmental agencies, and private agencies; and the numbers of instructors by subject and their qualifications.

3. The federal government needs to plan an equal-partner role with state and local governments and agencies in the private sector in a meaningful effort to deal with deficiencies in the development of highway safety personnel.

4. NHTSA's highway safety personnel should recognize the training capabilities available in establishing educational institutions. Failure to recognize available programs will be detrimental to these qualified institutions, those who need to be trained, and NHTSA's budget for personnel development.

5. The private sector needs to reinstate its extensive funding and programming of highway safety personnel development.

6. Educational institutions should provide the following types of programs when they are qualified to do so: (a) education for doctoral and postdoctoral research; (b) doctoral programs for professionals, i.e., driver education teachers and supervisors, engineers, university highway safety program directors; (c) graduate and undergraduate degree programs for career highway safety personnel, both at the preentry and in-service stages; (d) junior college programs for subprofessional and technical levels, preentry education of career highway safety personnel, and in-service career advancement of specialists and technicians; (e) training programs ranging from conferences to longer courses for highway safety specialists, technicians, supervisors, administrators, and instructors; and (f) assistance to government agencies that conduct entry-level, in-service, and advanced training programs.

7. Scholarships and other types of financial assistance for students should be greatly increased by the colleges and universities, with support from the private sector and government agencies.

8. Well-designed and informative career guidance materials need to be developed to explain career opportunities in highway safety programs; they should be made available to elementary and secondary school teachers and guidance counselors.

9. Recruitment of the best qualified young people into the highway safety field should be a goal of all personnel concerned with highway safety.

10. Federal, state, and local highway safety offices and the private-sector groups involved in highway safety should provide financial support and provide internships for college and university students for a specified period of time (7).

11. The numerous recommendations of the National Safety Council (1) should be carefully reviewed and implemented.

SUMMARY

For more than 70 years, educational and training programs for highway safety personnel have been growing in an uncoordinated way. Around 1937 the private sector supported a handful of education and training programs in several leading colleges and universities. During that period government agencies provided little or no direction or financial support for education and training programs for highway safety personnel. Since 1966 financial support and staffing by the federal government for such programs have been inadequate, while the private sector withdrew financial support almost entirely.

Both the federal government and the private sector have recognized the need to expand their concern from highway safety alone to safety in all modes of transportation. With the development of departments of transportation in various states and cities, and with the new thrust of the Transportation Research Board to all areas of transportation, attention should be directed to the educational and training needs of all personnel involved in transportation.

REFERENCES

1. Highway Safety Manpower and Training—A Report on Highway Safety Manpower and Training Needed to Implement Highway Traffic Safety Programs. Traffic Education and Training Committee, National Safety Council, Chicago, 1972.
2. Safety Specialist Manpower. Booz, Allen, and Hamilton, and National Highway Safety Bureau, U.S. Department of Transportation, 1968.
3. M. H. Chorness and others. The Feasibility of Establishing Highway Safety Manpower Development and Research Centers at University-Level Institutions. Stanford Research Institute, Menlo Park, Calif., and National Bureau of Standards, U.S. Department of Commerce, July 1969.
4. Occupational Outlook Handbook. Bureau of Labor Statistics, U.S. Department of Labor, Bulletin 1785, 1974.
5. R. L. Marshall and others. Safe Performance Driving. Ginn and Company, Lexington, Mass., 1975.
6. University Transportation and Accident Prevention Centers. National Commission on Safety Education, National Education Association, Washington, D.C., 1961.
7. Internship Guidelines. School of Public Services, Central Missouri State Univ., Warrensburg, 1971.