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RESEARCH AGENDA FOR AN IMPROVED NOVICE DRIVER EDUCATION PROGRAM

REPORT TO CONGRESS

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U.S. DEPARTMENT OF TRANSPORTATION

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

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EXECUTIVE SUMMARY

The House Appropriations Committee report accompanying the FY 1994 Appropriations Bill requested that the National Highway Traffic Safety Administration (NHTSA), in consultation with the Federal Highway Administration, develop a research agenda and plan of action for a strengthened research program in driver education for youth. It requests that the report be provided by March 1994 to the House and Senate Appropriations Committees.

Traffic crashes are the number one cause of death for youth. As long as accident statistics have been kept, teenagers have been overrepresented in traffic crashes. The crash rate per mile for teenagers is four times higher than for adults.

The Agency is interested in countermeasures that will reduce the crashes, injuries, and fatalities of young drivers. Currently, effective methods include laws that require the use of occupant protection devices, nonuse of alcohol until age 21, and the loss of the driver license for major traffic convictions. Programs such as a graduated licensing system (learner permit, intermediate/provisional license, regular license) and the active enforcement of traffic laws have also been effective. For these laws and programs to be most useful, they must be backed by public education and information.

This report documents previous NHTSA efforts in driver education. These include the results of a major demonstration evaluation that was conducted in DeKalb County Georgia and a summary of a workshop held last year that resulted in numerous recommendations on how to reduce driver risk taking and improve driver education. It provides a discussion of why driver education may not be as effective as it could be, and explains why it is recommended that an improved novice driver education program be an integral part of a graduated licensing system. The report describes the range of NHTSA's educational programs throughout the school years designed to reduce the crash involvement of children and young people. It concludes with a comprehensive plan for research, development, and evaluation activities designed to restructure and improve novice driver education.

The proposed Research Agenda is based on 25 years of driver education and graduated licensing research, development, and evaluation, primarily sponsored by NHTSA, and incorporates results of research performed by States, non-government organizations and associations, and other countries. The plan is centered on developing a cost-effective two-stage driver education program that is an integral part of a graduated licensing system. The first driver education stage would provide basic vehicle handling skills, and the second stage would provide for other safe driving skills, including enhanced decision making to reduce the risk taking of young drivers. The effort also includes developing procedures that would extend the role of parents, and other adults in the process of educating and training novice drivers. An assessment of current simulation technology to provide a cost-effective learning environment for new drivers will also be performed.

RESEARCH AGENDA
FOR AN
IMPROVED NOVICE DRIVER EDUCATION PROGRAM

INTRODUCTION

The House Appropriations Committee report accompanying the FY 1994 Appropriations Bill requested that the National Highway Traffic Safety Administration (NHTSA), in consultation with the Federal Highway Administration (FHWA), develop a research agenda and plan of action for a strengthened research program in driver education. This agenda and plan was requested to be submitted to the House and Senate Appropriations Committees.

Driving is a complex and often demanding task, even for the best of drivers. Driving primarily involves controlling a motor vehicle from one point to another while complying with traffic laws and regulations. During the trip, there is constant interaction between those factors that make up the highway traffic system: the driver, vehicle, roadway, other roadway users, and the environment. The driver must obtain information from each of these constantly changing factors, decide what action to take, initiate that action, assess the consequences, take remedial action if necessary, and then repeat the process. A good driver performs these steps in a timely manner. A safe driver also performs these steps in a manner which minimizes the need to take corrective action. Luckily, most driving is done under conditions that do not require a constant, high level of attention, nor the need for advanced driving skills. However, with increased speed, changing roadway, traffic or environmental conditions, or the condition of the driver, a situation can arise for which the driver is not prepared, or is incapable of handling, and a crash occurs.

Driver education is a training program of organized learning and practice designed to provide the basic knowledge, attitudes, and skills needed to drive safely, and to provide the advanced knowledge and skills needed for safe driving performance under special circumstances. A good program should provide additional and/or more consistent information to the student than would otherwise be available. Training can enhance the level of skill, and it can provide a short-cut to the learning process. A good training program is invaluable in teaching complex skills. Driver education has the potential to be an effective tool in the preparation of new, safe drivers.

The NHTSA agrees with the House Report that improved and continuing driver education, coupled with a graduated licensing system, holds promise in reducing young driver crashes. The Agency will research, develop and evaluate an improved novice driver education program. Results from these activities will be used to develop program materials for the states, communities, and interested safety organizations and associations.

BACKGROUND

Traffic Safety Problems of Youth

Traffic crashes are the number one cause of death for youth and represent approximately 40 percent of all deaths of young people between 15-20 years of age. Over 5,900 teenagers die as a result of traffic crashes each year. While these drivers make up about 8 percent of the population, they account for about 15 percent of motor vehicle deaths. The crash rate per mile for drivers 15-20 years of age is about 4 times as high as for adults. About 40 percent of teenage motor vehicle deaths in 1993 occurred in alcohol-related crashes, and about 24 percent of teenage drivers involved in fatal crashes had alcohol involvement (i.e., the highest blood alcohol concentration (BAC) in the crash was 0.01 percent or greater). Even though these rates have decreased 18 and 22 percent, respectively, since 1982, the involvement rate is too high. Many of the crashes of novices involve outright speeding or traveling too fast for conditions. While not all young drivers are unsafe, about 15 percent of them have a crash in their first year of driving.

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(Source: Traffic Safety Facts 1992, DOT HS 808 022, September 1993)

The extremely high injury and fatality rates seen in the first years of driving serve as a grim reminder of the need to focus on this age group. There is no simple solution to reducing the crash involvement of young people. In many cases, these crashes are not caused by a lack of knowledge of basic traffic laws or lack of basic vehicle handling skills. The issue is more complex. The problem appears to be more a function of the developmental characteristics of youth and their propensity to take risks, their belief that they are invincible, and their susceptibility to peer pressure. Part of the problem is caused by the various mores and habits of our culture, including the accepted use of alcohol for a variety of situations and celebrations. Add to this problem the limited driving experience, sometimes poor attitudes, and differing perceptions of the risk of various traffic situations, such as high speed driving, and a significant lack of good judgment in critical driving situations, and you have an increased probability of unsafe traffic behaviors that frequently result in a crash with injuries or death for young drivers.

Novice Driver Education

Education clearly plays an important role in addressing the traffic safety problems of youth. NHTSA directs considerable effort to young people throughout their school years regarding pedestrian, bicyclist, and motorcyclist safety; alcohol and driving; and safety-belt use. The early involvement of young people in motor-vehicle crashes underscores the need for safety education prior to their driving years.

Providing instruction to individuals on how to drive is not a new concept. The first known novice driver education program was developed in 1916. The first textbook for safety education was published in 1919. In the early 1930s, the first recorded in-school driver education class was taught, and by the late 1930s, a small number of colleges were offering courses designed to prepare driver education teachers.

The first National Conference on High School Driver Education was held in 1949. One of the recommendations was that a minimum novice driver education course should be "30 & 6." That is, 30 hours of classroom instruction and 6 hours of behind-the-wheel instruction. This formula is still followed today in many driver education programs.

In 1952, Allstate Insurance Company started offering discounts to students who completed a high school driver education program. Other insurance companies followed. Also during the 1950s and 1960s, several evaluations were conducted which proclaimed the effectiveness of high school driver education. What followed was the promotion of high school driver education and the almost complete acceptance by the general public that novice high school driver education was an effective approach for reducing the crashes of new drivers. This resulted in an explosion of high school driver education programs across the Nation when, in fact, the crash reduction potential of these programs was unknown.

In the early 1970s, as the knowledge of evaluation design grew, closer examination of the earlier driver education evaluations showed that they were seriously flawed and the crash reductions touted for driver education could have easily been caused by other factors (e.g., student volunteer bias) or poor evaluation design (e.g., lack of adequate control groups, random assignment of students to training). The actuarial data of insurance companies that offered discounts for driver education did show that students who took driver education had fewer crashes than did those who did not take it; however, such actuarial data does not show "cause and effect." It only indicates these individuals have better driving records, not why.

Other issues evolved concerning the driver education instructor. As driver education became popular, there were not enough trained driver education teachers to meet the demand. Teachers were borrowed from other subject areas to teach driver education part time. Many teachers taught for the extra money. Many received little, if any, training in teaching driver education. Besides affecting the potential quality of instruction, it also caused driver education in many states to be viewed as less important than more traditional high school courses. This perception by both teachers and administrators meant that little effort was expended for improving driver education.

The popularity of high school driver education peaked in the late 1960s and early 1970s when up to 14,000 high schools provided some type of training program to over 2 million teenagers per year, or around 70 percent of those students who were eligible. Also at this time, about 30 states provided at least partial reimbursement to high schools to off-set local expenses to train driver education students.

There are no data on the number of students who currently take high school driver education. It appears that fewer than half of all high schools offer any type of driver education. However, about 25 States require some form of driver education if a young person wants to be licensed before age 18.

The majority of teenagers currently do not receive any type of formal high school driver education training. They learn from their parents, friends, or by other means. Some do learn through commercial companies. Where programs are offered in the high schools, some have the in-vehicle training provided under contract by commercial companies. Many of the high schools that provide driver education require the parents or students to pay for all or some part of the training.

There are no Federal requirements for driver education programs. Training programs are regulated by the States, but the requirements can be minimal. For example, most States do not have a program requiring achievement of specific safe driving objectives. Where high school driver education is given, it often is no more than two dozen hours of classroom instruction and a couple of hours of behind the wheel training. Such a program is by design very basic and often results in nothing more than the student getting licensed. This was not the intent of those safety educators who developed driver education.

Driver Education And The National Highway Traffic Safety Administration

The National Highway Safety Bureau (NHSB), the forerunner of the NHTSA, was created by Congress under the Highway Safety Act of 1966. Originally, the Bureau was part of the Federal Highway Administration (FHWA) within the new United States Department of Transportation. In 1970, the Bureau was elevated to the status of an Administration and charged with the responsibility to reduce crashes and resultant injuries and deaths of roadway users. The Highway Safety Act of 1966 also required the establishment of Uniform Standards for State Highway Safety Programs to assist the States and local communities in organizing their highway safety programs.

Eighteen (18) State Highway Program Standards accompanied by Program Manuals were developed by the NHSB in the late 1960s. The Standards were:

1. Periodic Motor Vehicle Inspection
2. Motor Vehicle Registration
3. Motorcycle Safety
4. Driver Education
5. Driver Licensing

6. Codes and Laws
7. Traffic Courts
8. Alcohol in Relation to Highway Safety
9. Identification and Surveillance of Accident Locations
10. Traffic Records
11. Emergency Medical Services
12. Highway Design, Construction, and Maintenance (now handled by FHWA)
13. Traffic Engineering Services (now handled by FHWA)
14. Pedestrian Safety (now jointly administered by NHTSA & FHWA)
15. Police Traffic Services
16. Debris Hazard Control and Cleanup (now handled by FHWA)
17. Pupil Transportation Safety
18. Accident Investigation and Reporting

At the time (1967), Highway Safety Program Standard #4, Driver Education, appeared to have the potential to be an excellent tool for reducing the crashes of novice drivers. Driver education was very popular at the time, earlier evaluations had found the training to reduce crashes, it had strong face validity, and it had been around for many years.

In the late 1960s and early 1970s, the Agency supported the Driver Education Standard by providing state and community Highway Safety Grant Program funds (Section 402) to the states to improve and evaluate their driver education programs. The states used these funds primarily to expand their programs and spent very few dollars to improve the quality of the programs or to evaluate them.

Because of the potential of high school driver education to reduce crashes, the Agency used Highway Safety Research and Development funds (Section 403) to initiate a major program of research, development and evaluation. The primary intent of this program was to determine the effectiveness of high school driver education to reduce the crashes of novice drivers.

Four contracts were awarded to review the state-of-the-art of driver education and to determine the best approach for establishing the effectiveness of this type of training. Two National Symposiums were held in 1968 and 1969 to review existing information and gather additional information. In 1969, the National Research Council of the National Academy of Sciences was asked to consolidate the results from the Symposiums and the four initial contracts and recommend a program of research, development and evaluation. The Agency used these recommendations to guide its driver education research.

The first research effort was to examine the behaviors needed for successful driving, a driver task analysis (1970). Over 1700 driving behaviors were identified and rated for their criticality. Criticality was based on the frequency of the behavior, likelihood that the behavior would be performed incorrectly, likelihood the incorrect performance would be related to crash involvement, and the potential severity of the crash. Instructional objectives (1971) were then developed based on these identified critical driver behaviors. This was followed by the development of specifications for a novice driver education curriculum (1973). Two