

METHODOLOGY

To maximize the breadth and depth of this study, nine distinct approaches were used to gather information. Following the brief description of each of these approaches in this section, a summary of the highlights identified from each approach will be presented. Included in the appendices are the forms used and questions asked, as well as the detailed responses and results.

First, a **literature review** was conducted to examine published studies, research and reports from other states, and national perspectives about young drivers. The purpose of the literature review was to gain a thorough understanding of Virginia's licensing system vis-à-vis youth. The review included a review of documents and published works available at the General Accounting Office (GAO), the National Highway Traffic Safety Administration (NHTSA), libraries, and insurance companies.

The second methodology in the process involved **key informant interviews**. After consulting with the Department of Motor Vehicles, telephone interviews were conducted with 19 individuals having statewide or national responsibilities regarding young drivers. The interviews included representatives of NHTSA, Virginia Department of Motor Vehicles, Virginia Department of Education, Virginia Department of Alcoholic Beverage Control, American Automobile Association, statewide driving school association, and insurance companies; also included were judges, law enforcement personnel, and attorneys.

The third methodology was to conduct a survey of all states regarding their efforts to address young driver issues. To conduct the **national survey**, a **Young Driver Questionnaire** was developed to address issues such as graduated licensing; special approaches; specific youth-focused elements in place; language barriers; and any data (including evaluation studies) collected regarding youth involvement in fatal crashes, injuries, points, and license suspensions. The **Young Driver Questionnaire** was sent to all states in the nation, and to the District of Columbia. By the time of writing this report, a total of 39 states had completed and sent back the **Questionnaire**. The information from these surveys was coded onto a computerized database. This information was then analyzed quantitatively and qualitatively.

The fourth methodology included **telephone interviews** with key personnel in each state. The audience varied from state to state, typically including the highway safety representative, the transportation chief, and the head of the state police. The information gathered from the telephone interviews was coded according to the role of the individual interviewed. The specific questions asked during the telephone interviews included reflected insights from the literature review and initial results from the survey. Interviews were conducted with a total of 103 state officials in all states.

The fifth methodology included a review of **national and state data** obtained from Fatal Accident Reporting System, as well as other sources reporting on youth involvement in automobile crashes.

State data was obtained from the Virginia Department of Motor Vehicles and looked specifically at age groupings.

As part of the sixth methodology in the process, all cities and counties throughout the state were contacted to obtain current information on the status of **curfew laws** in their jurisdiction. Jurisdictions with a curfew law in place were asked to provide a copy of their law. This information was used to compare with the findings from the 1996 GMU study to determine whether the law has changed or has not changed.

In the seventh methodology in the approach, 60 jurisdictions (cities and counties) were identified throughout the state (10 in each of the DMV districts). Contact was made with 5 individuals in each jurisdiction to inquire about the effectiveness of laws addressing youth driving and the effectiveness of other approaches used in the jurisdiction. In selecting the jurisdictions for the review of the effectiveness of local laws, jurisdictions were selected to obtain a cross-section of the region/district with representation of both urban and rural areas. Individuals contacted in each jurisdiction included police, judges, high school administrators and counselors, and local DMV personnel (such as those who administer road tests). A total of 161 interviews were conducted with officials in these jurisdictions. Of these interviews, 39 were conducted with DMV personnel, 50 with school guidance counselors, 16 with driver education instructors, 16 with judges, and 40 with police officers.

In the eighth aspect of the project, **focus groups** were held throughout the state. Attempts were made to hold two focus groups (one for youth and one for parents) in each of the DMV jurisdictions; a total of six, three with parents and three with youth, were held in three of the DMV jurisdictions (Prince William County, Staunton, and Winchester). In addition, one focus group was conducted with driver education instructors, and those managing driver improvement clinics during their annual meeting in Staunton. These focus groups addressed various issues related to youth driving, with the purpose of collecting insights and in-depth information from the participants.

In the final aspect of the project, a review of preliminary findings and issues was held. This **group discussion** included representatives from DMV, the Virginia Alcoholic Beverage Control Board, and the American Automobile Association (AAA). The purpose of the discussion was to share the preliminary findings from this study with as many stakeholders as possible, in order to gather from them information which may provide more depth to these findings, or which may assist in developing additional research directions.

LITERATURE REVIEW

Introduction

Young, novice drivers are markedly over-represented in crashes internationally (Lonero, L. *et. al.*, 1995). Although teenagers accounted for only 10 percent of the US population in 1998, they are disproportionately represented in motor vehicle death rates, accounting for 14 percent of all the drivers involved in fatal motor vehicle crashes and 16 percent of all drivers involved in police-reported crashes in the same year (IIHS, 2000a; NHTSA, 1998b). Teenagers are not only at risk behind the wheel, but as passengers as well: 62 percent of teenage passenger deaths in 1998 occurred in crashes in which another teenager was driving (IIHS, 2000c). Sixteen to 19 year old drivers have the highest crash rates compared with drivers of all other ages, whether the rate is based on miles driven, number of licensed drivers, or per capita (Ferguson, S.A. *et. al.*, 1996), and were found by a 1995 study to have 3 times the risk of involvement in a fatal crash and 3.3 times the risk of involvement in injury crashes when compared to all drivers overall (Massie, Campbell, and Williams, 1995).

The factors that influence the skills, abilities, performance, and decisions any driver makes when behind the wheel are numerous and complex. Experiential, developmental, psychosocial, and personality factors have all been cited and studied as contributing factors to the performance of young drivers. However, the reciprocity among the factors is undeniable, and it is not reasonable to consider any one factor without also considering how it interacts with the many other influential variables. In considering young, novice drivers these factors can best be broken down into two broad categories, immaturity/youthful age and inexperience, both fundamental characteristics of adolescence that often make young drivers less capable and less cautious, placing them at increased risk for crashes, injury, and death.

The Young Driver: A Profile

Young Driver Skills and Abilities

Driving is a complicated mix of cognitive, perceptual, and psychomotor tasks. In addition to the cognitive processes involved in the driving task, a proficient driver must have mastery of the necessary performance skills, organized into three levels: the control of the vehicle (*operational*), maneuvering of the vehicle (*guidance*), and planning (*navigational*) (COMSIS Corporation and the Johns Hopkins University, 1995). The driver must continuously scan the environment, assimilate the information to assess potential situations, hazards, and risks, and develop appropriate response strategies to those conditions.

New technologies such as magnetic resonance imaging have revealed that the adolescent brain is far from mature, meaning that adolescents do not have the emotional, mental, and physical abilities of an adult. The prefrontal cortex, the site of judgment formation and acting CEO of the brain, is not fully developed until the late teens. Researchers currently believe that the excess of synapses and the unfinished development of the prefrontal cortex have numerous impacts on adolescent cognitions, including: difficulty keeping track of multiple thoughts; delayed access to