

A PERFORMANCE REPORT FOR USE IN
DRIVER EDUCATION EVALUATION

by

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(The opinions, findings, and conclusions expressed in this report are those of the authors and not necessarily those of the sponsoring agencies.)

Virginia Highway & Transportation Research Council
(A Cooperative Organization Sponsored Jointly by the Virginia
Department of Highways & Transportation and
the University of Virginia)

Charlottesville, Virginia

February 1984
VHTRC 84-R18

1012

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ABSTRACT

The Virginia Highway and Transportation Research Council was asked by the state Department of Education (DOE) driver education staff to analyze the various driver education programs taught in the state and the methods used for reporting on their effectiveness. The researchers determined that the current data were not amenable for use in conducting an evaluation of the various driver education programs. The first step, therefore, was to develop a new data acquisition system that monitored student performance. The reporting system detailed in this document is the result of this effort and is designed to be used by the DOE and local school divisions in evaluating driver education programs used throughout the state.

The first task was to review the Curriculum Guide for Driver Education in Virginia, the textbooks used as the major source documents in the driver education courses, and the entire list of the Division of Motor Vehicles conviction codes and their relevant sections in the Code of Virginia. The second major task was to align the 247 separate conviction codes into 17 categories based on driver education text materials and the Curriculum Guide for Driver Education in Virginia. The concept behind these new groupings was to tie together types of driving errors with classroom and in-car instruction. The final task was to develop a computer software system designed to produce a variety of statistical reports for use by educators and administrators.

The reporting format distinguishes among the types of schools attended (public, nonpublic, or commercial), as well as the types of programs taught (two-phase, three-phase using simulators, three-phase using multiple car driving ranges, or four-phase). In addition, the reporting format categorizes crash and conviction data according to three driver experience levels (less than 1 year of driving experience, 1 to 2 years, and 2 to 3 years). Reports will be produced which use statewide data and others will be specifically tailored either for an entire school division or for an individual school.

From the points of view of the state DOE and the individual school divisions there is a need to verify which instructional programs are most efficient and cost effective. This system provides one component for such evaluation and decision making. The performance of students can be monitored across time and between curriculum types. By factoring in program costs, administrators can select the training program they believe is educationally sound for their students and is also cost effective.

The system also provides the opportunity for each school division to compare the driving performances of their students with those of all students in the state. Variations, whether positive or negative can be investigated to determine factors which can be improved upon or promoted.

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The DOE can also use the system to provide information on the successes in one locality to school officials in other localities.

The report contains computer program listings, illustrations of the formats, and a discussion and interpretation of the software.

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INTRODUCTION

From the point of view of the educational system, there are three major objectives of an instructional program for beginning drivers. The first is to prepare each student to operate a motor vehicle within the skills possessed at the time of instruction, the second is to assist the beginning driver to develop the proper attitudes toward safe driving, and the third is to lay a foundation of basic knowledge and skill to carry the driver through subsequent years of motor vehicle operation.

Driver education and training courses also serve a number of student purposes depending upon the type of course offered and the age, skills, and expectations of the student. The student's objective could vary from a desire to accumulate basic knowledge in order to pass the state licensing test to a need to practice the necessary skills to properly and comfortably drive in traffic.

In addition, there is a desire on the part of school administrators at both the local and state levels, to have the most cost effective educational program possible. Accompanying this desire for quality is the necessity of showing results in order to maintain the level of funding received during preceding years.

The differences presented by variations in program, student, and administrator objectives limit the methods that can be used to evaluate driver education programs. An additional impediment to the conduct of a truly scientific evaluation of the state's driver education program is the state statute requiring persons between 16 and 18 years of age to have successfully completed a driver education course approved by the Department of Education (DOE) prior to being licensed. This statute militates against the use of a control group in determining program effectiveness by comparing the performances of trained and untrained drivers.

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In light of these factors, the Virginia Highway and Transportation Research Council was asked by the state driver education staff to evaluate the existing DOE performance reporting system, redesign the system to yield a maximum of available data relevant to program evaluation, and to test and implement the new system on DOE hardware. The project is considered to be in two parts; the first is the development of a data acquisition system (this report), and the second is an evaluation of the various educational programs being used throughout the state (a future report).

PURPOSE AND SCOPE

The major objectives of this project were to design, test, and implement a new computerized student performance reporting system for use by both state DOE and local school division personnel in determining the relative effectiveness of driver education programs.

The scope included building an information system using the accident/conviction data recorded on an individual's driver history file and stored by the Division of Motor Vehicles (DMV). The reporting system uses three years of data and includes information on the type of curricula and the educational setting in which the instruction was given.

BACKGROUND

Since 1971, the DMV has been producing a yearly computer tape containing the accident/conviction records of drivers who have successfully completed driver education within the previous school year. This tape is sent to the DOE, which produces a document, referred to as the "statistical readout", that shows student performance categorized along the variables of sex, school type (public, nonpublic, and commercial), and school level (statewide, school division, and individual school). (See Appendix A for a representative sample of these reports.) In the accident data, the numbers of crashes were categorized according to total, property damage, personal injury, and fatal.

The intent of this statistical readout is to show the effectiveness of state approved driver education programs. Over the years, several drawbacks to this reporting system became apparent to the users. The data were for only a portion of a single year, the conviction categories were not specifically developed for use by driver educators, and there were no data dealing with the various instructional programs.

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The records system at the DMV makes provisions for the accumulation of data on 247 conviction code categories. These offenses were combined into 58 conviction categories which were developed primarily for use by the DMV, but because of convenience, were adopted by the DOE for use in preparing the statistical readout. An analysis of the statistical readouts for the two years immediately preceding the initiation of the current project showed that 25 of these conviction categories had less than two entries per year in the statewide data. This was taken by the researchers to be an indication that either these offenses were not ones for which beginning drivers were often convicted or that the grouping of the data was less than adequate for the intended purpose of evaluating state approved driver education programs.

LITERATURE REVIEW

It has long been recognized that highway crashes are the leading cause of death and serious injury among the youth of this country. Teenaged drivers have more than double the number of crashes that drivers over 35 have, and there are fewer of these young drivers on the highway. Since 1970, over 80,000 teenagers have died in motor vehicle crashes in the United States.(1)

Numerous studies have shown that accident and conviction rates are much higher for drivers under 25 than for older drivers. These young drivers are overrepresented in single car crashes, fatal run-off-the-road crashes, those between 6 p.m. and midnight, and those involving alcohol. In addition, young drivers are more often found to be at fault when they are involved in a crash. The most frequent types of driving errors among young drivers are those associated with risk taking (speeding, reckless driving, etc.) and recognition errors (signs, signals, right-of-way, etc.).

Even though there is a strong belief among safety enthusiasts that the driver is the major factor in automobile crashes, no great number of studies have been conducted to fully test this belief. One reason for this lack of research is that there are few ways to determine the application of learned knowledge, skills, and attitudes to actual motor vehicle operation. Secondly, there is limited knowledge of what specific skills should be taught. And, finally, testing or selection programs are less than exact in assuring that "poor drivers" are not licensed to drive and that "good drivers" are.

Because of the time and costs associated with education and training, there is a need for data concerning the effectiveness of each program. Proponents of high school driver education argue that without such a program there is little way to assure that beginning drivers gain certain knowledge and attitudes or learn the fundamentals of proficient

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motor vehicle operation. Opponents state that there is little scientific evidence to prove that a new driver's skills have been improved beyond that which would have occurred in a training system less expensive to the general public. There has been little disagreement that some training and education is needed; it is only the extent of the program and who bears the cost that have caused concern.

A resolution to this debate between the proponents and opponents of publically sponsored driver education programs is desirable. The nature of highway traffic and the consequences of misapplied behaviors and attitudes militate against allowing beginning drivers to enter a motorized society without some form of instruction. On the other hand, programs which are unable to economically and efficiently educate these beginning drivers must be examined to determine if they should be altered. Even if formal instruction can not be proven to be cost effective with regard to safe vehicle operation by the beginning driver, consideration must be given to whether abandoning the system will result in improved safety for all motorists.

There is significant diversity in programs to educate or train drivers. There are specialized retraining schools, public and nonpublic school curricula for beginning drivers, schools which use the classical approach, and others which use a variety of media including films, simulators, and multiple car driving ranges. Because of this variety, many research projects with varying objectives have been conducted. These may be classified according to the objectives as follows: (1) a comparison of the accident/conviction records of persons with formal training against those of persons with informal training, (2) a determination of differences in driving records due to socio-demographic and psychological characteristics, and (3) comparisons of various teaching methods.

There are other factors that school divisions and the state DOE consider in providing courses in driver education. The Federal Highway Safety Act of 1966 states that the Secretary of Transportation shall not approve any state highway safety program that does not "provide for comprehensive driver training programs. . . administered by appropriate school officials." Many states also have laws requiring driver education for certain groups because of age, experience, or driving record. Even if these programs were not required by statute or regulation, the general public believes that such programs should be offered in the schools.

Because of the differences in pupils, teachers, and instructional programs, research in driver education has been difficult to properly carry out. In large-scale experimental studies, it is hard to control for all factors that influence results, while in small-scale studies it is hard to get statistically significant results. Also, the role of expert opinion has been considered more valuable than the role of data

acquisition and analysis in determining the benefits of driver education. Added to this is the fact that research has questioned the value of certain instructional programs and has, therefore, been seen as a threat to all programs for educating and training drivers. In spite of these problems, investigators have carried out a number of studies of varying degrees of sophistication and significance.

Some of these studies have tried to determine the influence of various segments of instructional programs, including the use of simulators preparatory to behind-the-wheel driving, practice driving on specially developed multiple car ranges, practice driving in traffic, and the use of specialized audiovisual classroom instruction. One important appeal of simulation is that it provides training in steering, braking, and other basic responses in the driving task for groups of students at a low cost. Multiple car driving ranges are used for the development of manipulative skills in a relatively safe and controlled environment while in a simulated traffic mix. The traditional on-street instruction provides students a learning environment within their community; they are made aware of certain hazards and driving conditions in the area where most of their driving will be done.

A number of studies conducted during the late 1950s and throughout the 1960s generally concluded that there was a transfer of driving ability between simulator training and some of the tasks associated with vehicle operation. (2,3,4,5,6,7) This transfer was found to be greater for communications, procedure-following, and decision-making tasks than for performance skills.

When the significance of the number of hours of simulator training was studied, it was concluded that a plateau was reached at about 6 hours of training and little was gained with additional practice. (8,9,10,11,12,13) Three studies found that students with simulator training had better driving records, when based on the number of convictions, accidents, and accident severity, than did students who had only the standard classroom/behind-the-wheel educational program. (14,15,16) The validity of the results of these three studies is limited by the absence of a control group in the research methodology.

The influence of instruction on off-street driving facilities has also been investigated. Data from North Carolina indicates no significant difference in accident involvement between students trained on these facilities and those trained in the standard "30 and 6" course. (17) A study by Dreyer and Janke found crash results that differed from those of North Carolina. (18) They concluded that students trained on a multiple car driving range had fewer total accidents in the year following training. They also concluded that there was no difference in licensing test score or in the time in becoming licensed and that students not trained on a multiple car driving range had higher course grades.

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In 1976 a comprehensive review of the driver education literature was published by the Illinois DOT.(19) The stated objectives of this effort were to assess the effectiveness of classroom and laboratory instruction as an accident deterrent and to evaluate the effectiveness of different laboratory training techniques. It was concluded that (1) only classroom instruction was an effective accident countermeasure, (2) both classroom and laboratory instruction made a positive contribution to safe driving skills, knowledge, and attitudes, and (3) there was no difference in the effectiveness of simulator and multiple car driving range programs and on-street, behind-the-wheel programs.

As a result of a bill passed during the 1969 session of the California legislature,(20) Jones conducted a study concerned with only the in-car instruction part of the curriculum. She found no difference in the accident rates of students trained by public schools and those of students trained by commercial schools. There was a small difference in conviction rates in favor of public school programs.

The studies reviewed to this point were concerned with the transfer of learning, the effectiveness of simulator and behind-the-wheel experiences, the number of hours of instruction, and the type of school. A limited number of studies analyzed the effectiveness of a full safety education course rather than determining the effectiveness of separate segments of a program. Studies carried out in the state of Oregon and in the city of Memphis, Tennessee, found driver education students had fewer accidents, violations, and license suspensions than did students without formal instruction.(21,22) A third study found no relationship between trained and non-trained subjects in terms of accidents, violations, personal injury, or vehicle damage,(23) and an Insurance Institute for Highway Safety study reported negative safety effects for students who completed driver education and were licensed to drive prior to 18 years of age.(24)

A study by Conger, Miller, and Rainey found that students who elected to take and completed a driver education course had fewer violations or points than did students who wanted to take the course and were unable to do so, or those who did not want to take the course.(25) No differences were found for crashes in which the driver was deemed responsible for the occurrence, however, the analysis revealed significant differences among the groups on the number of miles driven per year, student I.Q., and socioeconomic status. It is possible that factors other than driver education may have influenced the study in such a way as to yield positive results.

Research in driver education carried out prior to the mid-1970s is generally characterized as being weak in experimental design. Until studies are conducted that control for variables other than education

itself, it will not be possible to definitively establish the effects of programs which teach skills and knowledge to beginning drivers.

The most comprehensive study of driver education undertaken to date is in progress in DeKalb County, Georgia. This federally funded study is attempting to accommodate the criticisms of previous studies. Students who volunteered for driver education have been randomly placed in one of two public school instructional programs (the Safe Performance Curriculum [SPC] or the Pre-Driver Licensing Curriculum [PDL]) or in a control group. The fact that approximately 17% of the control group had received driver education instruction through private or commercial programs before being licensed to drive complicates the analysis of the data.

Preliminary results indicate that students completing the SPC course have a slightly higher licensing rate than those in the PDL course or those in the control group (87% vs. 85% and 82%). In terms of effectiveness, there is no difference in the crash rates for the three groups (0.33, 0.32, and 0.32). There are, however, differences in the violation rates (0.82, 0.81, and 0.89), with trained students (SPC and PDL) having a statistically significant fewer number of violations. Finally, the mean number of DUI convictions of both the SPC and PDL groups were significantly lower than those for the control group (0.013, 0.018, and 0.023).

The major conclusion drawn from the literature was that it was not possible to definitively show the effectiveness or ineffectiveness of driver education and training as a countermeasure for either accidents or convictions for traffic offenses.

This situation led to the development of the "Performance Reporting System" described in the remainder of this report. This system will be used by the Virginia Department of Education's driver education staff as an aid in the evaluation of educational programs used throughout the Commonwealth to educate and train young drivers. It can also be used by school divisions and individual schools in analyzing the results of their programs for teaching students to drive.

METHOD

One of the first tasks in developing the performance reporting system was to review the State Curriculum Guide for Driver Education in Virginia, the textbooks used throughout the state as the major source documents for students enrolled in the driver education courses, and the entire list of DMV conviction codes and their relevant sections in the Code of Virginia.

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The second major task was to align the 247 conviction codes into categories based on driver education text materials and the state DOE instructional guide. The concept behind these new groupings was to tie together types of driving errors with classroom and laboratory instruction. The major categories are driver infractions, license related infractions, vehicle infractions, reporting infractions, alcohol or drug infractions, criminal actions, and unsafe motorcycle actions. Convictions for speeding, reckless driving, improper passing, improper turning, improper vehicle operation, failure to stop or yield, and failure to obey signs are all included as subcategories of driver infractions. (See the Administrators Guide, Appendix B, for a list of each of the data categories used in the performance reports).

The reporting format distinguishes among the types of schools attended (public, nonpublic, or commercial) as well as the types of programs taught (two-phase, three-phase using simulators, three-phase using multiple car driving ranges, or four-phase). The system will produce reports that use statewide data and others tailored for either an entire school division or an individual school.

The third major task was to coordinate development of the software with the principal participants. This was accomplished through several meetings between representatives from the DOE, the DMV, and the Research Council. At these meetings, agreement was reached as to the responsibilities of each group and the schedule to be maintained to provide the DOE with a timely and accurate performance reporting system.

OVERVIEW OF THE SOFTWARE SYSTEM

The driver performance report software system is designed to provide both the DOE and local school divisions with the most useful data available for making decisions about (1) the relative effectiveness of each program type, (2) the relative effectiveness of various schools administering similar programs, (3) the impact of driver experience on driver performance, and (4) the effectiveness of a school division's driver education curriculum over a period of years. This system supercedes the system that generated output similar to that shown in Appendix A.

The driver performance report system is composed of six programs whose interrelationships are illustrated in Figure 1. The DMV provides crash and conviction data on all drivers who have completed a state approved driver education program, received their first operator's license within the last 3 fiscal years, and are not over 21. Additionally, a record is provided for each person receiving an operator's license in the most recent fiscal year. This information is to be

provided by the DMV to the DOE's Management Information Service (MIS) by September 1 of each year in the form of a computer tape.

Information about the type of educational program being taught at each school is provided by the state driver education staff to the DOE's MIS group. This information is obtained from the status questionnaire submitted by each school teaching a state approved driver education program. A 5-year history of the type of each school's driver education program is maintained. This file procedure requires a facility for accommodating school code changes associated with school closings, openings, or consolidations. Since the history file maintains both the old and the new codes, the most recent code change information can be used to update this file before the performance report is run during the month of September. Program C701 updates the school history file to reflect these school code changes. Program C702 is run to match the proper school codes, the DMV conviction data, and the school program type data. Program C702 also maps the DMV violation codes into the major categories used by the reports. The school history file is then updated to reflect the current public, nonpublic, and commercial school program type and enrollment data using program C703.

Three programs are required to produce the various statewide, community, and individual school reports. Program C704 is used to produce the driver experience report, which shows conviction rates as a function of the number of years of driving experience. Program C705 provides a summary of driver education enrollment, licensed drivers, and accident and conviction data for each school division and for the entire state. Program C706 produces a driver performance report for each school in the state, with an indication of how its performance compares with that of schools with similar driver education programs.

A detailed explanation of each of these programs, with examples of the reports generated, is provided in the following sections. The system runbook is provided in Appendix C while the program listings are Appendix D.*

*In the interest of economy, only a limited number of reports have been produced that include these Appendixes; however these Appendixes are available upon request.

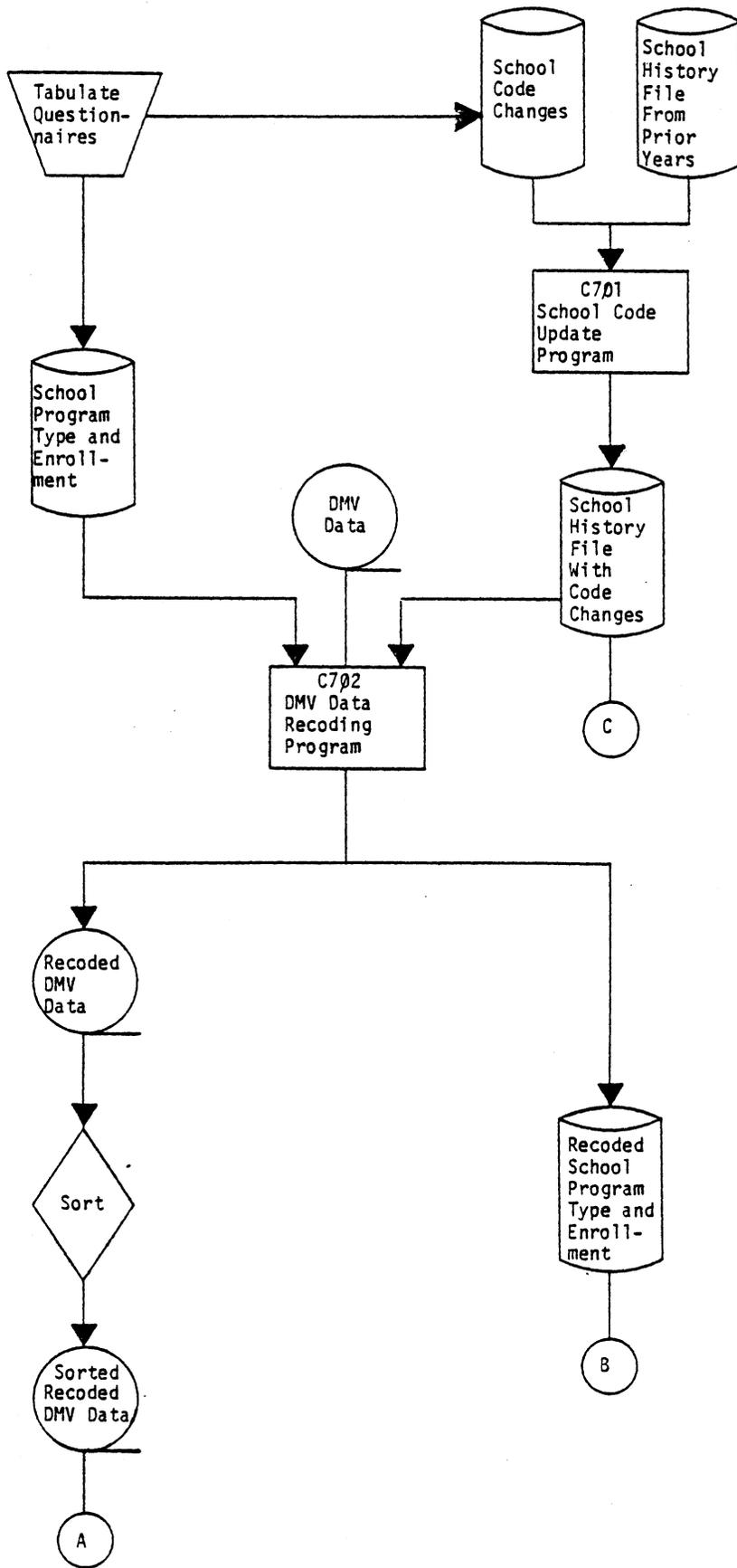


Figure 1. Driver performance report system flowchart.

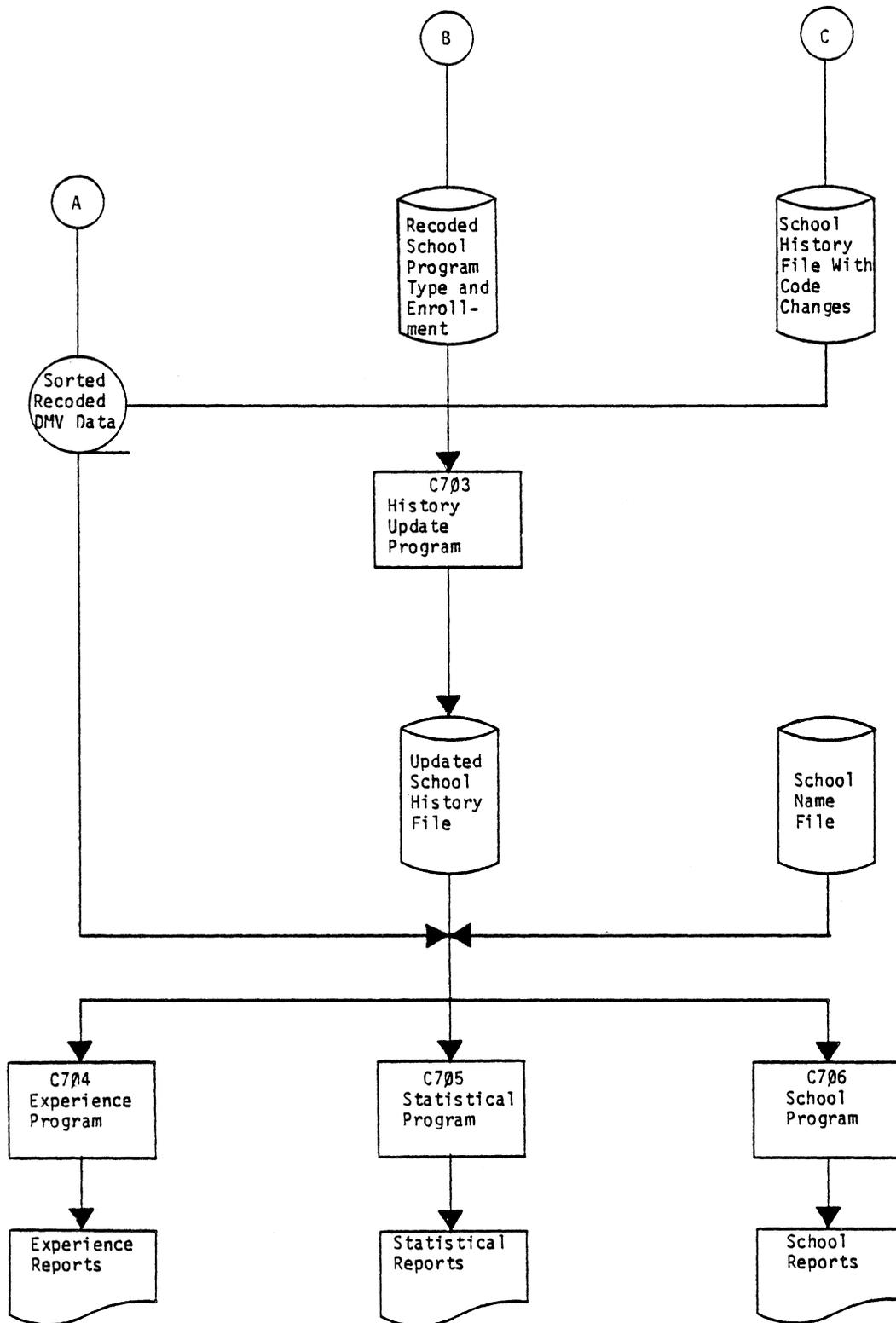


Figure 1. Continued.

COMPONENTS OF THE SOFTWARE SYSTEM

School Code Change Program

Program C701 reads the school history file and a file of school code changes and produces a new history file that reflects these changes. School codes change as a result of school closings, the construction of new schools, or the combining of two or more existing schools. These code changes are input as a new code/old code pair and the file is modified in a manner that allows history data to be accessed using either the old or new code.

The school history file contains a 5-year history of the driver education program curriculum used, the number of students enrolled, and the number of licenses issued to students. A flowchart illustrating this school code updating procedure is shown in Figure 2.

DMV Conviction Data Recoding Program

Program C702 is used to recode the DMV conviction data by mapping the 247 conviction codes into the 17 major categories used by the reporting system. The school codes appearing in the conviction records are verified and corrected if a school code change has occurred. School code changes are also applied to the program type and enrollment file. As can be seen in Figure 3, two updated files are produced by this run; a disk file of program type and enrollment for each public, nonpublic, and commercial school, and a tape file of recoded conviction records and newly licensed drivers.

After school code changes are applied through the use of program C702, the school name file and the DMV conviction data file are sorted in school code order.

School History File Update Program

Program C703 produces a completely updated school history file of driver education program type (two-phase, three-phase using a simulator, three-phase using a multiple car driving range, or four-phase), student enrollment, and number of driver's licenses issued to students in the fiscal year ending June 30. Program type and enrollment data are obtained from the status questionnaire. The DMV conviction data file provides the number of driver's licenses issued. The school history file used as input has been modified by C701 to include all school code changes. Figure 4 illustrates the function of C703.

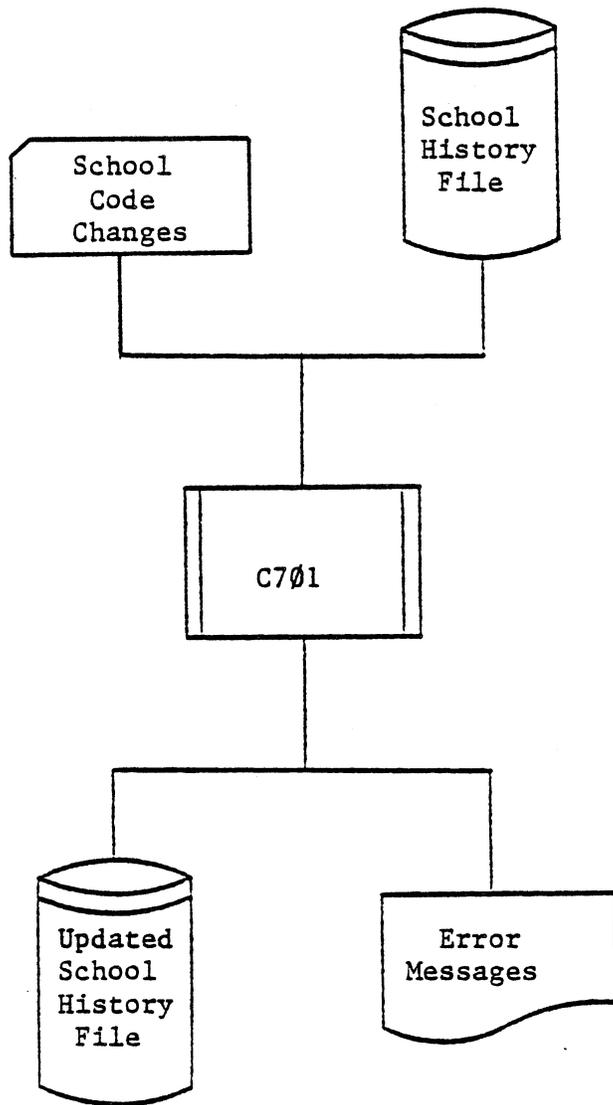


Figure 2. School history file code change procedures.

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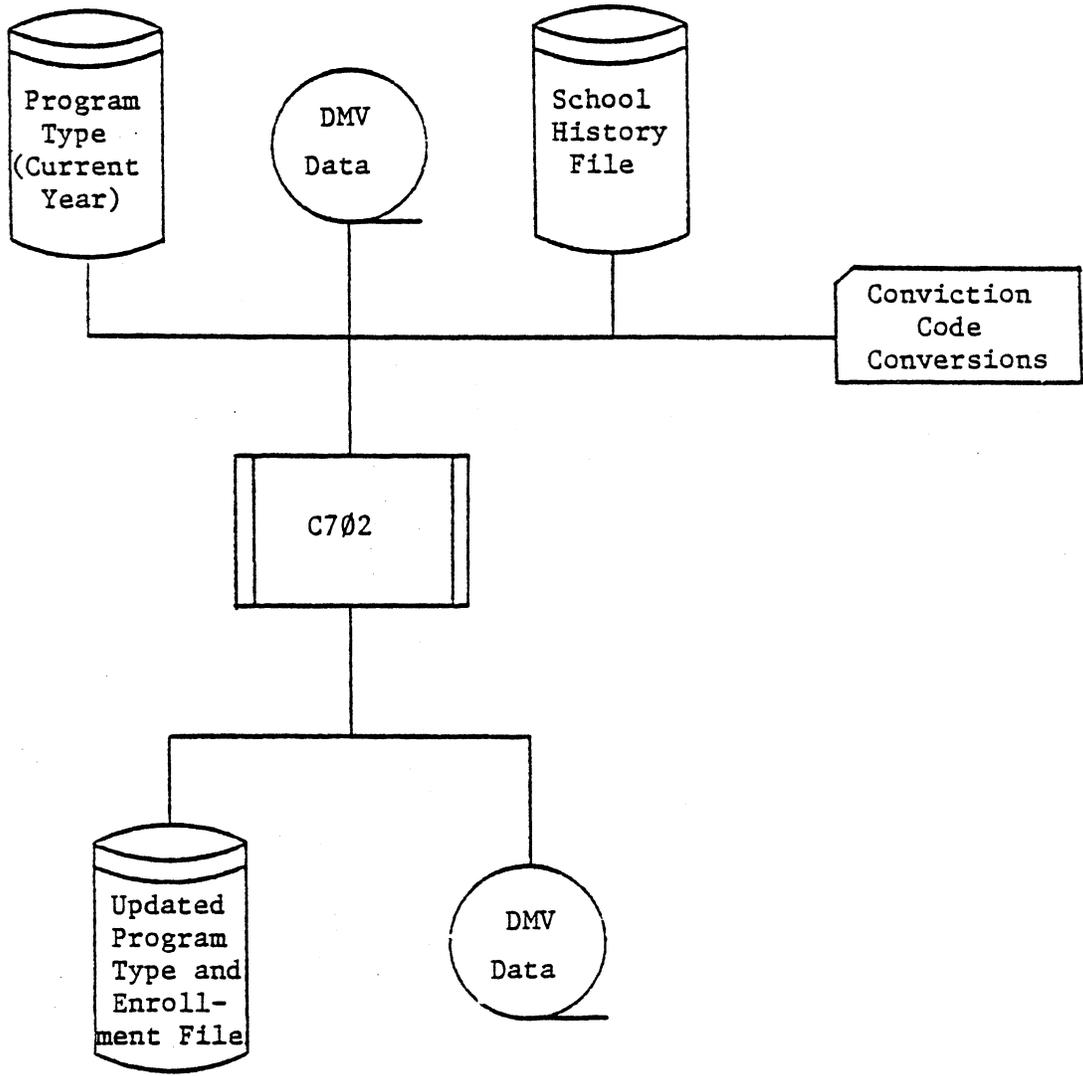


Figure 3. Conviction data recoding and school code updating procedures.

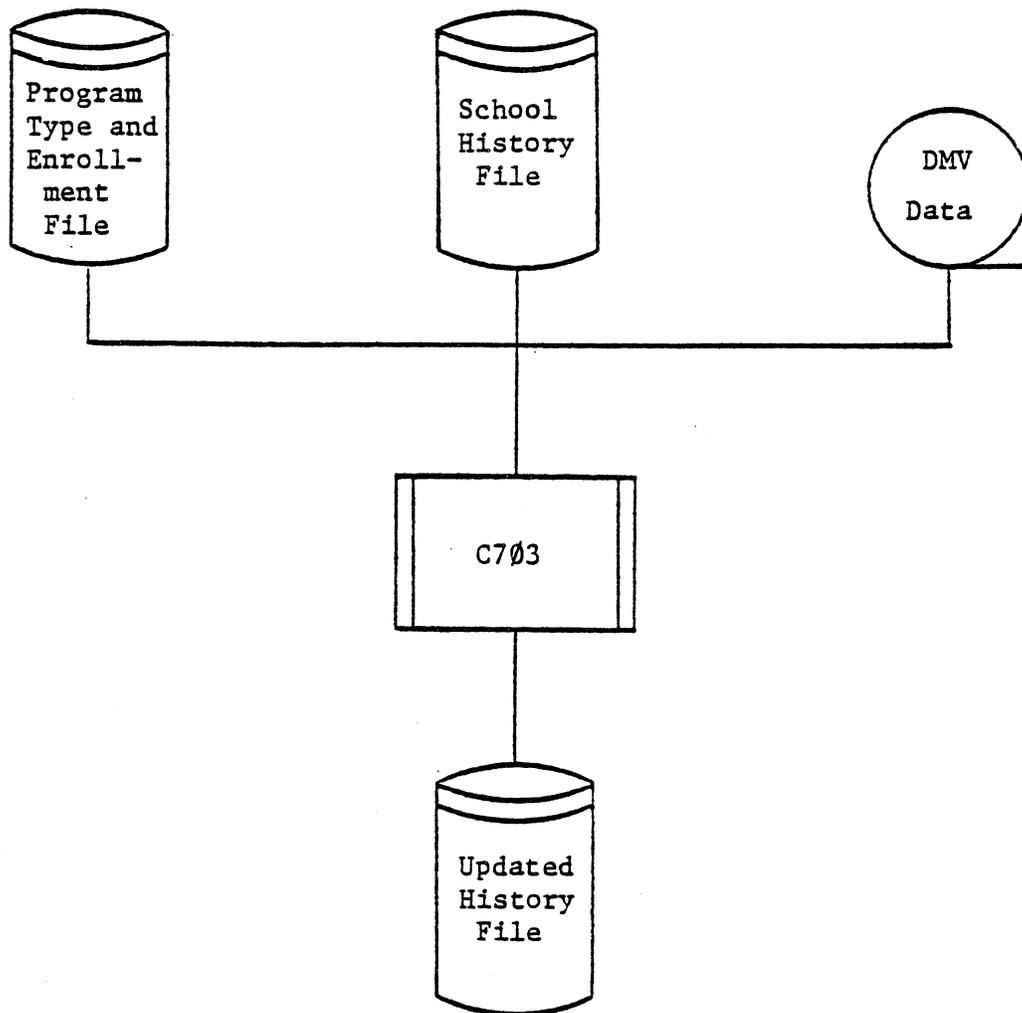


Figure 4. School history file update procedures.

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Data are maintained for the most recent 5 years. The updating process removes the oldest year's data while adding the most recent year's data.

Driver Experience Report Program

Two types of driver experience reports are produced by Program C704. The first categorizes crash and conviction data on the basis of years of driving experience. Reports are produced on a statewide basis for the public, nonpublic, and commercial schools, and on a school division level basis for the public schools. Figure 5 is an example of one of these reports. The second report categorizes the data on the basis of years of driving experience and on the type of educational program the driver received. This report is produced only for the public schools and on both a statewide and division level basis. Figure 6 is a representation of this report format.

Each of the experience reports follows the same general reporting format for the presentation of the data. The computer program reads the division name file, the program type and enrollment file, the updated school history file, and the recoded DMV conviction data (see Figure 7). The years of driving experience are based on the date the drivers received their operator's license, crashes are handled as if they all occurred at the end of each fiscal year, and the number of convictions is based on the date the citation was issued and not the date when the conviction occurred.

One of the key elements of the performance reporting system is the categorization of data on the basis of years of driving experience. The number of individuals in each of the three experience categories changes on a daily basis as a function of the date a person receives an operator's license. In past reporting systems, crash, conviction, and licensing data have been placed in school year and/or calendar year blocks, and, therefore, are simple counts within some specified time frame. Because of the variable and changing nature of the number of persons in an experience category, it was necessary to develop an accurate estimate of the number of drivers who could be involved in a crash or be convicted of a motor vehicle law violation. The best estimate of the number of these drivers was defined as the average driver population based on licenses issued. This figure is established by using the average number of licenses issued over the two most recent years in each of the experience categories.

The reporting format also includes data on the crashes and convictions per 100 drivers, which is included in the upper portion of the report. The remainder of the report provides a percentage breakdown of convictions into the 17 categories. The actual number of convictions, by type, can be calculated by multiplying the number of convictions at the top of a column by the percentage associated with the offense.

PUBLIC SCHOOLS

	1 YEAR EXPERIENCE		1-2 YEARS EXPERIENCE		2-3 YEARS EXPERIENCE	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
AVERAGE DRIVER POPULATION BASED ON LICENSES ISSUED	328.5	340.0	376.5	344.0	392.5	380.0
NUMBER OF CRASHES	22	8	35	24	30	25
CRASHES PER 100 DRIVERS	6.7	2.4	9.3	7.0	7.6	6.6
NUMBER OF CONVICTIONS	76	32	122	26	159	52
CONVICTIONS PER 100 DRIVERS	23.1	9.4	32.4	7.6	40.5	13.7

PERCENT OF NUMBER OF CONVICTIONS

<u>DRIVER INTERACTIONS</u>						
SPEEDING	39.9	34.4	36.1	57.7	39.0	55.8
RECKLESS DRIVING	6.6	0.0	4.9	0.0	4.4	3.8
IMPROPER VEHICLE OPERATION	17.1	25.0	12.3	7.7	10.7	5.8
IMPROPER TURNING	1.3	0.0	0.8	7.7	0.6	0.0
IMPROPER PASSING	1.3	0.0	0.0	0.0	1.3	0.0
FAILURE TO OBEY SIGNS, ETC.	6.6	6.3	4.9	3.8	5.0	9.6
FAILURE TO YIELD OR STOP	5.3	12.5	3.3	0.0	0.0	11.5
<u>LICENSE RELATED INTERACTIONS</u>						
NO LICENSE/PERMIT	0.0	0.0	2.5	0.0	2.5	0.0
IMPROPER LICENSE	0.0	0.0	0.0	0.0	0.6	0.0
OPERATING UNLICENSED VEHICLE	1.3	3.1	3.3	3.8	3.1	0.0
<u>VEHICLE INTERACTIONS</u>						
IMPROPER OR UNSAFE EQUIPMENT	9.2	12.5	14.9	7.7	14.5	11.5
INVALID INSPECTION STICKER	3.9	3.1	4.9	0.0	8.2	1.9
IMPROPER PLATES, REGISTRATION, ETC.	2.6	3.1	4.1	0.0	3.1	0.0
REPORTING INFRACTIONS	1.3	0.0	0.0	0.0	0.6	0.0
ALCOHOL OR DRUG INFRACTIONS	2.6	0.0	3.3	3.8	5.7	0.0
CRIMINAL ACTIONS	1.3	0.0	0.0	3.8	0.6	0.0
UNSAFE MOTORCYCLE ACTIONS	0.0	0.0	0.8	3.8	0.0	0.0

Figure 5. Example of a type I statewide experience report.

VIRGINIA DEPARTMENT OF EDUCATION
 EXPERIENCE REPORT SCHOOL DIVISION: CARROLL
 YEAR ENDING JUNE 30, 1983

C704 - 12/19/83
 DIV # 018

5 1 YEAR EXPERIENCE

PUBLIC SCHOOLS

	TWO PHASE		THREE PHASE/SIM.		THREE PHASE/RANGE		FOUR PHASE	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
AVERAGE DRIVER POPULATION BASED ON LICENSES ISSUED	0.5	0.5	0.5	0.5	175.5	142.0	0.5	0.5
NUMBER OF CRASHES	0	0	0	0	6	7	0	0
CRASHES PER 100 DRIVERS	0.0	0.0	0.0	0.0	3.4	4.9	0.0	0.0
NUMBER OF CONVICTIONS	0	0	0	0	32	14	0	0
CONVICTIONS PER 100 DRIVERS	0.0	0.0	0.0	0.0	18.2	9.9	0.0	0.0

PERCENT OF NUMBER OF CONVICTIONS

<u>DRIVER INFRACTIONS</u>									
<u>SPEEDING</u>	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0
<u>RECKLESS DRIVING</u>	0.0	0.0	0.0	0.0	9.4	7.1	0.0	0.0	0.0
<u>IMPROPER VEHICLE OPERATION</u>	0.0	0.0	0.0	0.0	25.0	35.7	0.0	0.0	0.0
<u>IMPROPER TURNING</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<u>IMPROPER PASSING</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<u>FAILURE TO OBEY SIGNS, ETC.</u>	0.0	0.0	0.0	0.0	6.3	7.1	0.0	0.0	0.0
<u>FAILURE TO YIELD OR STOP</u>	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.0	0.0

<u>LICENSE RELATED INFRACTIONS</u>									
<u>NO LICENSE/PERMIT</u>	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.0	0.0
<u>IMPROPER LICENSE</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<u>OPERATING UNLICENSED VEHICLE</u>	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0

<u>VEHICLE INFRACTIONS</u>									
<u>IMPROPER OR UNSAFE EQUIPMENT</u>	0.0	0.0	0.0	0.0	3.1	7.1	0.0	0.0	0.0
<u>INVALID INSPECTION STICKER</u>	0.0	0.0	0.0	0.0	3.1	14.3	0.0	0.0	0.0
<u>IMPROPER PLATES, REGISTRATION, ETC.</u>	0.0	0.0	0.0	0.0	9.4	14.3	0.0	0.0	0.0

<u>REPORTING INFRACTIONS</u>									
<u>ALCOHOL OR DRUG INFRACTIONS</u>	0.0	0.0	0.0	0.0	12.5	0.0	0.0	0.0	0.0
<u>CRIMINAL ACTIONS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<u>UNSAFE MOTORCYCLE ACTIONS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Figure 6. Example of a type II statewide experience report.

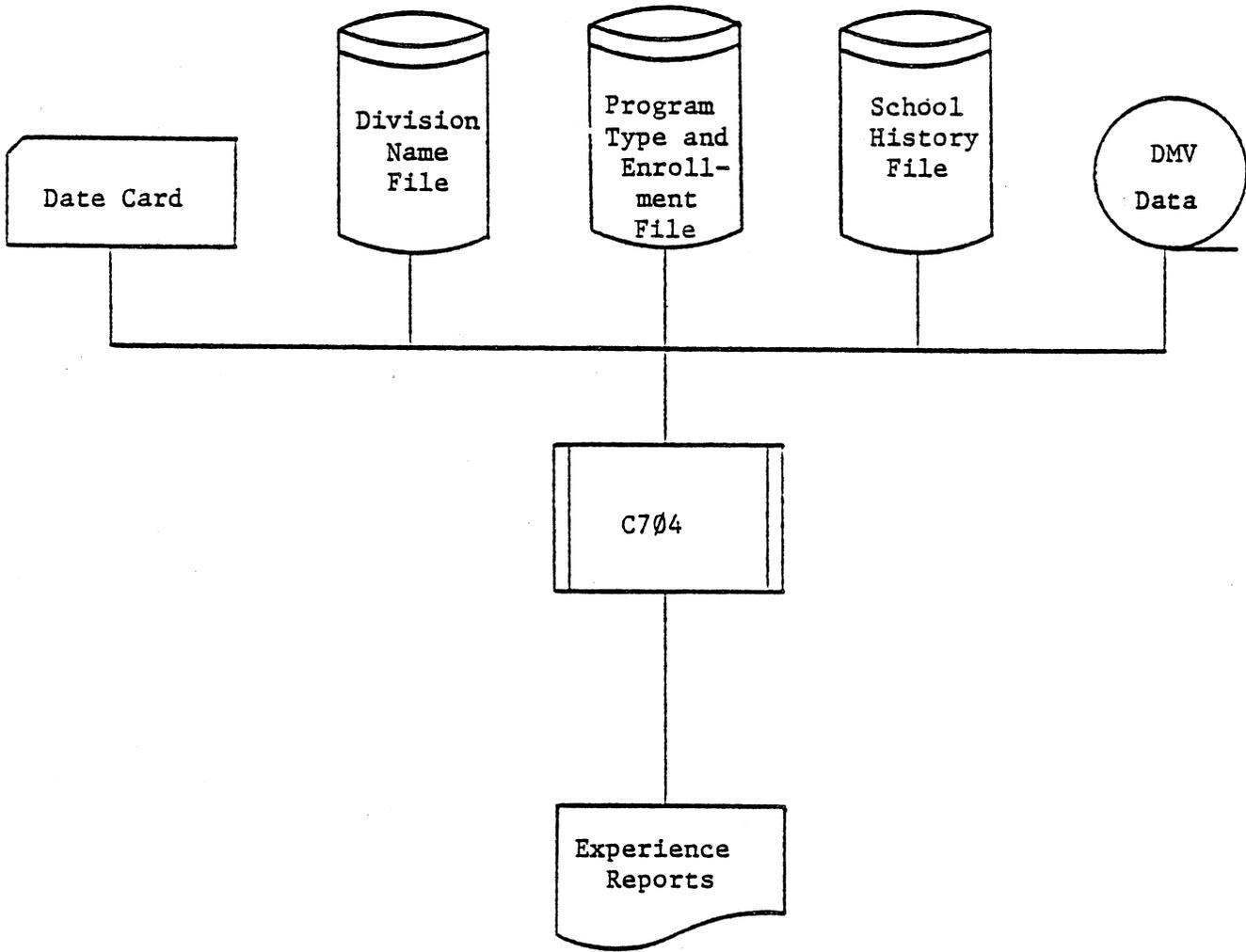


Figure 7. Driver experience report program procedures.

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The first type of experience report was designed to provide information regarding the influence of years of driving on the crash and conviction rates of motor vehicle operators, the second type, which extends over three pages, one for each year of experience, was designed to provide insight into the relative effectiveness of the various types of driver education programs used in Virginia. Both report formats allow judgements to be made about possible deficiencies in aspects of the curriculum as it applies to each of the 17 conviction categories.

Statistical Report Program

Program C705 produces two types of statistical reports; one uses statewide data for the public, nonpublic, and commercial schools, while the second uses data specific to each public school division and presents comparisons with the statewide data for all public schools. The program procedure is illustrated in Figure 8.

The statewide statistical report, Figure 9, lists the number of students earning a driver education certificate (item 1) and those who have received their operator's license within the most recent fiscal year (item 2). Item 1 data come from the status report questionnaire, which in its present form does not contain a breakdown by sex. Item 3 shows the number of convictions charged to young drivers who received their operator's license in the most recent fiscal year. Item 4 lists the number of individuals who have received their operator's license and have been convicted for some driving offense, with individuals having more than one conviction during the last fiscal year being counted only once. Item 5 is an expression of the percentage of new drivers who have had a conviction. Item 6 is the number of accidents involving new drivers. Item 7 is the number of new drivers who were involved in accidents, while item 8 is this number expressed as a percentage of all new drivers.

The school division form of this report, Figure 10, will be sent to each division superintendent for distribution within the school system. The report provides the same data contained in the statewide statistical report, but adds data unique to the school division receiving it. A school division receives only its own report and not those for all school divisions within the state.

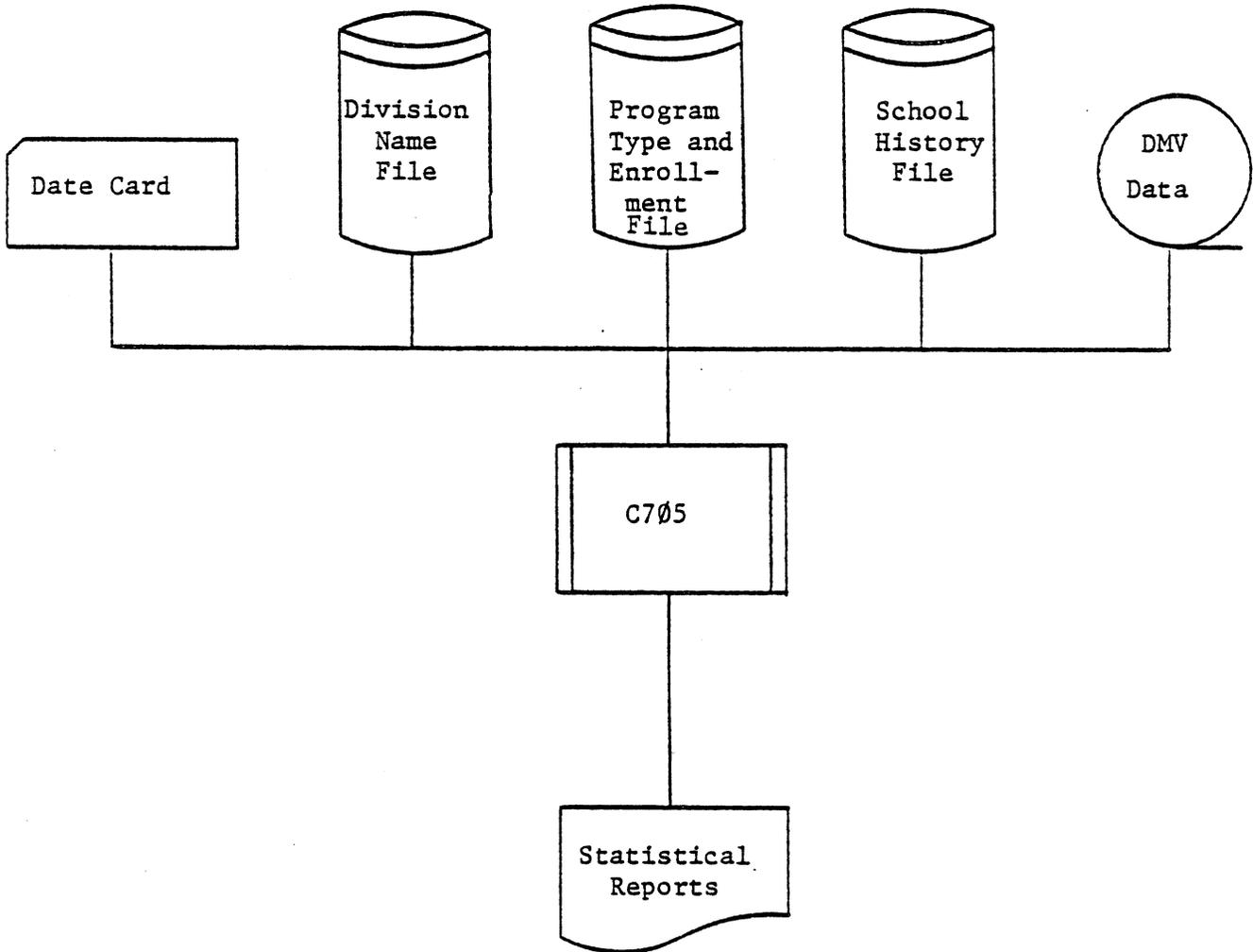


Figure 8. Statistical report program procedures.

STATISTICAL REPORT FOR PUBLIC SCHOOLS
YEAR ENDING JUNE 30, 1983

STATE
TOTAL MALE FEMALE

1. STUDENTS EARNING A D.E. CERTIFICATE THIS YEAR	54,502		
2. STUDENTS ISSUED AN OPERATORS LICENSE THIS YEAR			
CITY	12,707	6,366	6,341
COUNTY	37,456	18,982	18,476
TOTAL	50,165	25,348	24,817
3. NUMBER OF CONVICTIONS CHARGED TO STUDENTS WHO WERE ISSUED AN OPERATORS LICENSE THIS YEAR			
CITY	936	673	263
COUNTY	2,599	1,971	628
TOTAL	3,535	2,644	891
4. NUMBER OF STUDENTS ISSUED AN OPERATORS LICENSE WHO HAD ONE OR MORE CONVICTIONS			
CITY	773	533	240
COUNTY	2,141	1,579	562
TOTAL	2,914	2,112	802
5. PERCENT OF STUDENTS WITH ONE OR MORE CONVICTIONS			
CITY	6.1	8.4	3.8
COUNTY	5.7	8.3	3.0
TOTAL	5.8	8.3	3.2
6. NUMBER OF ACCIDENTS INVOLVING STUDENTS WHO WERE ISSUED AN OPERATORS LICENSE THIS YEAR			
PROPERTY DAMAGE	1,656	1,005	651
INJURY	1,097	613	484
FATAL	10	7	3
TOTAL	2,763	1,625	1,138
7. NUMBER OF STUDENTS ISSUED AN OPERATORS LICENSE WHO WERE INVOLVED IN ONE OR MORE ACCIDENTS			
CITY	689	383	306
COUNTY	1,960	1,184	796
TOTAL	2,649	1,547	1,102
8. PERCENT OF STUDENTS IN ONE OR MORE ACCIDENTS			
CITY	5.4	6.0	4.8
COUNTY	5.2	6.1	4.3
TOTAL	5.3	6.1	4.4

Figure 9. Example of a statewide statistical report.

DIV # 120

STATISTICAL REPORT FOR PUBLIC SCHOOLS
YEAR ENDING JUNE 30, 1963
PETERSBURG

YOUR SCHOOL DIVISION
TOTAL MALE FEMALE

	STATE		YOUR SCHOOL DIVISION	
	TOTAL	FEMALE	TOTAL	FEMALE
1. STUDENTS EARNING A D.E. CERTIFICATE THIS YEAR	54,502		285	
2. STUDENTS ISSUED AN OPERATORS LICENSE THIS YEAR	CITY	6,360	6,541	134
	COUNTY	10,982	18,476	0
	TOTAL	50,105	25,348	273
3. NUMBER OF CONVICTIONS CHARGED TO STUDENTS WHO WERE ISSUED AN OPERATORS LICENSE THIS YEAR	CITY	673	263	6
	COUNTY	1,971	628	0
	TOTAL	3,535	2,044	6

	STATE		YOUR SCHOOL DIVISION	
	TOTAL	FEMALE	TOTAL	FEMALE
4. NUMBER OF STUDENTS ISSUED AN OPERATORS LICENSE WHO HAD ONE OR MORE CONVICTIONS	CITY	533	240	4
	COUNTY	1,579	562	0
	TOTAL	2,914	2,112	5

	STATE		YOUR SCHOOL DIVISION	
	TOTAL	FEMALE	TOTAL	FEMALE
5. PERCENT OF STUDENTS WITH ONE OR MORE CONVICTIONS	CITY	6.4	3.8	1.8
	COUNTY	6.3	3.0	0.0
	TOTAL	5.8	3.2	1.8

	STATE		YOUR SCHOOL DIVISION	
	TOTAL	FEMALE	TOTAL	FEMALE
6. NUMBER OF ACCIDENTS INVOLVING STUDENTS WHO WERE ISSUED AN OPERATORS LICENSE THIS YEAR	PROPERTY DAMAGE	1,656	1,005	651
	INJURY	1,097	613	484
	FATAL	10	7	3
TOTAL	2,763	1,625	1,138	10

	STATE		YOUR SCHOOL DIVISION	
	TOTAL	FEMALE	TOTAL	FEMALE
7. NUMBER OF STUDENTS ISSUED AN OPERATORS LICENSE WHO WERE INVOLVED IN ONE OR MORE ACCIDENTS	CITY	383	306	6
	COUNTY	1,980	1,184	0
	TOTAL	2,649	1,547	10

	STATE		YOUR SCHOOL DIVISION	
	TOTAL	FEMALE	TOTAL	FEMALE
8. PERCENT OF STUDENTS IN ONE OR MORE ACCIDENTS	CITY	5.4	4.8	3.7
	COUNTY	5.2	4.3	0.0
	TOTAL	5.3	4.4	3.7

Figure 10. Example of a school division statistical report.

School Performance Report Program

Program C706 is used to compare the performance measures for an individual school with the data from schools with similar programs. The program procedure is illustrated in Figure 11. This format provides the school's driver education administrator with both absolute and relative measures of the quality of the local program. The report consists of three pages; one for each of the experience categories (see Figure 12). The line items for this report are interpreted in a manner consistent with the reports produced by C704. Each school administrator should be provided a copy of Appendix B by the DOE staff. This document explains the relationship between the conviction categories and the driver education curriculum. Armed with this information, the administrator can adjust curriculum emphasis to counteract areas of poor driver performance. The "similar school" comparison gives insight into problems that may be common to his fellow administrators or, for some reason, unique to a particular school.

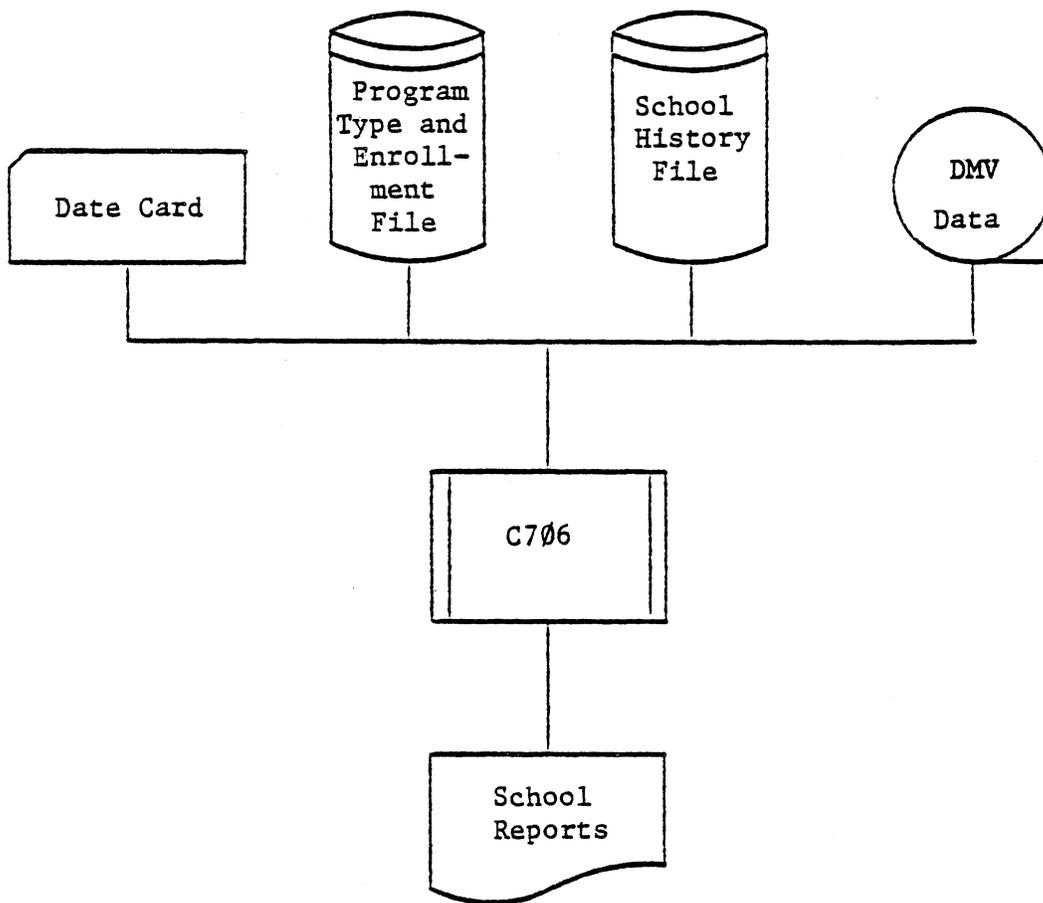


Figure 11. School report program procedures.

LAKE BRADDOCK SECONDARY

2-3 YEARS EXPERIENCE

	YOUR SCHOOL		SCHOOLS WITH SIMILAR PROGRAM	
	MALE	FEMALE	MALE	FEMALE
AVERAGE DRIVER POPULATION BASED ON LICENSES ISSUED	280.5	284.0	15,973.0	15,756.5
NUMBER OF CRASHES	24	17	2,140	1,329
CRASHES PER 100 DRIVERS	8.6	6.0	13.3	8.4
NUMBER OF CONVICTIONS	59	36	3,815	1,457
CONVICTIONS PER 100 DRIVERS	21.0	12.7	23.7	9.2
<u>***PERCENT OF NUMBER OF CONVICTIONS***</u>				
<u>DRIVER INFRACTIONS</u>				
SPEEDING	35.6	50.0	40.7	51.6
RECKLESS DRIVING	6.8	2.8	5.1	1.8
IMPROPER VEHICLE OPERATION	1.7	8.3	9.0	7.2
IMPROPER TURNING	0.0	0.0	0.8	0.5
IMPROPER PASSING	3.4	0.0	0.9	0.5
FAILURE TO OBEY SIGNS, ETC.	15.3	2.8	11.4	13.3
FAILURE TO YIELD OR STOP	5.1	5.6	2.0	3.7
<u>LICENSE RELATED INFRACTIONS</u>				
NO LICENSE/PERMIT	6.8	0.0	1.8	0.7
IMPROPER LICENSE	0.0	0.0	0.5	0.4
OPERATING UNLICENSED VEHICLE	1.7	2.8	2.7	2.4
<u>VEHICLE INFRACTIONS</u>				
IMPROPER OR UNSAFE EQUIPMENT	6.8	2.8	9.7	4.7
INVALID INSPECTION STICKER	6.8	13.9	5.7	5.6
IMPROPER PLATES, REGISTRATION, ETC.	6.8	5.6	4.2	4.0
<u>OTHER INFRACTIONS</u>				
REPORTING INFRACTIONS	0.0	0.0	0.4	0.2
ALCOHOL OR DRUG INFRACTIONS	3.4	5.6	4.4	3.2
CRIMINAL ACTIONS	0.0	0.0	0.3	0.2
UNSAFE MOTORCYCLE ACTIONS	0.0	0.0	0.4	0.0

Figure 12. Example of a school performance report.

CONCLUSIONS AND RECOMMENDATIONS

The software system described in this report is not designed to answer directly questions of the form "Should driver education be discontinued in Virginia?" or "How many lives are saved by the driver education/training program?" These questions can not be answered directly using Virginia data without a change in policy that would allow a control group of untrained drivers. What this system does provide is a tool that driver education administrators can use to identify the strengths and weaknesses of the present school programs. These effectiveness measures can impact the driver education budget by making possible cost/benefit analyses of the current curricula.

In designing the performance reporting system, limitations in the data had to be recognized and accommodated. The first concerned the use of conviction data, which is not a precise measure of the number of times a driver makes an illegal maneuver. Conviction data serve as a surrogate measure of citations issued, which in turn is a proxy for infractions. In addition, citations are dependent upon enforcement and convictions are dependent upon several factors, including socioeconomic and legal influences. While these limitations must be recognized, they do not negate the use of the data for analyzing program effectiveness.

There are three basic reports in the reporting system: the experience report, the statistical report, and the school report. In addition, an administrators guide has been prepared that explains the relationship between the conviction categories and the driver education curriculum.

The statewide report can be used to show the influence of driving experience on crash and conviction rates. Also, the variation in performance across time of male and female students can be monitored separately on each of the 17 conviction classifications. In addition, these statewide data provide the opportunity to monitor the performance of students by curriculum type over a period of several years.

The school division report provides the opportunity for each school division to compare the driving performances of its students with those for the state as a whole. Variations, whether positive or negative, can be investigated to determine those factors which can be improved or promoted. The State DOE can also use these data to provide information on the successes in one locality to officials in other localities.

The individual school report provides the opportunity for the state, school division, and individual school to compare the subsequent driving performance of the students who attended a particular school with the performance of all others who attended a similar educational program. Again, there is an opportunity for the driver education

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community to accentuate positive findings from various schools throughout the Commonwealth.

From both the State DOE point of view and that of the individual school division, there is a need for verification of which instructional programs are the best possible. The performance report system provides a basis for this decision making. The performance of students can be monitored across time and between curricula. By factoring in program costs, school administrators can select the program they believe provides the most educationally sound program for the least cost.

The system is designed to provide driver education personnel with the most useful data available for making decisions about (1) the relative effectiveness of each program type, (2) the relative effectiveness in various schools administering similar programs, and (3) the impact of driver experience on driver performance.

ACKNOWLEDGEMENTS

The authors express gratitude for the interest and cooperation received from the many individuals and organizations participating in this effort. Notable among these were Billy Johnson and Bob Miller from the Driver Education staff of the DOE; Tom Obenschain, Tom Lewis, and Wanda Cibo from the DOE's MIS; and George White and Richard Edwards from the DMV.

Those on the Research Council's staff who contributed are Jerry Korf -- systems analysis; Toni Thompson, Jan Kennedy, Susan Kane and Barbara Turner -- typing; Harry Craft -- editing; Jean Vanderberry -- preparation of the final draft; and Jerry Garrison -- copying and binding.

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APPENDIX A

SAMPLE COPIES OF THE STATISTICAL READOUTS
PREVIOUSLY USED IN VIRGINIA

BREAKDOWN OF DRIVER EDUCATION STATISTICS
 FOR SCHOOL YEAR ENDING AUGUST 31, 1979
 VIRGINIA PUBLIC SCHOOLS

SCHOOL DIV LYNCHBURG
 SCHOOL NAME HERITAGE HIGH SCHOOL

ACCIDENTS	DRIVERS INVOLVED	
	TOTAL	FEMALE
PERSONAL INJURY	14	5
PROPERTY DAMAGE	16	7
FATALITY	0	0
TOTALS	34	12

CITATION EVASIONS	TOTAL		MALE		FEMALE	
	TOTAL	FEMALE	MALE	FEMALE	MALE	FEMALE
	0	0	0	0	0	0

CONVICTIONS TYPE	DRIVERS INVOLVED		CONVICTIONS TYPE		DRIVERS INVOLVED	
	TOTAL	FEMALE	TOTAL	FEMALE	TOTAL	FEMALE
SPEEDING	14	10	4	0	1	0
DRIVE UNDER INFLUENCE OF ALCOHOL	0	0	0	0	0	0
DRIVE INTOXICATED	0	0	0	0	0	0
DRIVING UNDER REVOCATION OR SUSPENSION	0	0	0	0	0	0
FAIL TO REVALIDATE LICENSE	0	0	0	0	0	0
IMPROPER DRIVING	10	6	4	0	1	1
OPERATING IMPROPER/UNSAFE EQUIPMENT	0	0	0	0	0	0
FAIL TO YIELD WHEN REQUIRED	3	1	2	0	0	0
FAIL OBEY SIGNS	3	3	0	0	1	1
IMPROPER PASSING	0	0	0	0	3	0
THEFT - VEHICLE PART	0	0	0	0	0	0
UNAUTHORIZED USE OF VEHICLE	0	0	0	0	0	0
FAIL TO REPORT ACCIDENT	0	0	0	0	0	0
OPERATING IN VIOL. RESTRICTION OF LIC	0	0	0	0	0	0
LENDING LICENSE	0	0	0	0	0	0
OPERATING OR PERMIT OPER UNINSURED VEH	1	1	0	0	2	0
FAIL/IMPROPER STOP WHEN REQUIRED	0	0	0	0	3	1
CARRY PASSENGER UNLAW. ON MOTORCYCLE	0	0	0	0	0	0
INVOLUNTARY MANSLAUGHTER	0	0	0	0	0	0
FELONY - VEHICLE USED	0	0	0	0	0	0
FALSE APPLICATION FOR LICENSE	0	0	0	0	0	0
ALTERED OR FORGED LICENSE PLATES	0	0	0	0	0	0
NO OPERATORS LICENSE	2	2	0	0	1	0
NO PERMIT	4	4	0	0	0	0
TITLE, REGISTRATION, LICENSE PLATES	0	0	0	0	0	0
OPFR. PUBLIC VEH. UNDER AGE/NO LIC.	0	0	0	0	0	0
COURT ACTION - NON MOTOR VEHICLE	0	0	0	0	0	0
TRUCK VIOLATIONS	0	0	0	0	0	0
FAIL TO ANSWER SUMMONS	0	0	0	0	0	0
TOTALS	52	40	12	12	0	0

BREAKDOWN OF DRIVER EDUCATION STATISTICS
FOR SCHOOL YEAR ENDING AUGUST 31, 1979
VIRGINIA PUBLIC SCHOOLS

SCHOOL DIV LYNCHBURG
SCHOOL NAME HERITAGE HIGH SCHOOL
TOTAL MALE FEMALE
54414

	SCHOOL DIV	HERITAGE HIGH SCHOOL	LYNCHBURG	MALE	FEMALE
1. TOTAL NUMBER OF STUDENTS IN PUBLIC SCHOOLS SUCCESSFULLY COMPLETING A STATE-APPROVED DRIVER EDUCATION PROGRAM IN IN THE STATE.					
2. TOTAL NUMBER OF STUDENTS IN PUBLIC SCHOOLS SUCCESSFULLY COMPLETING A STATE-APPROVED DRIVER EDUCATION PROGRAM IN YOUR SCHOOL DIVISION.	650				
3. TOTAL NUMBER OF STUDENTS SUCCESSFULLY COMPLETING A STATE-APPROVED DRIVER EDUCATION PROGRAM IN YOUR SCHOOL.	375				
4. TOTAL NUMBER OF OPERATOR'S LICENSES ISSUED TO STUDENTS IN PUBLIC SCHOOLS SUCCESSFULLY COMPLETING A STATE-APPROVED DRIVER EDUCATION PROGRAM IN THE STATE.	59966	30307		29659	
5. TOTAL NUMBER OF OPERATOR'S LICENSES ISSUED TO STUDENTS IN PUBLIC SCHOOLS SUCCESSFULLY COMPLETING A STATE-APPROVED DRIVER EDUCATION PROGRAM IN YOUR SCHOOL DIVISION.	649	367		322	
6. TOTAL NUMBER OF OPERATOR'S LICENSES ISSUED TO STUDENTS SUCCESSFULLY COMPLETING A STATE-APPROVED DRIVER EDUCATION PROGRAM IN YOUR SCHOOL.	267	140		127	
7. PERCENT OF STUDENTS IN PUBLIC SCHOOLS SUCCESSFULLY COMPLETING A STATE-APPROVED DRIVER EDUCATION PROGRAM AND ISSUED OPERATOR'S LICENSE IN THE STATE.	CITY 94.6 COUNTY 118.9 TOTAL 110.2				
8. PERCENT OF STUDENTS IN YOUR SCHOOL DIVISION SUCCESSFULLY COMPLETING A STATE-APPROVED DRIVER EDUCATION PROGRAM AND ISSUED OPERATOR'S LICENSE.	106.0				
9. PERCENT OF STUDENTS SUCCESSFULLY COMPLETING A STATE-APPROVED DRIVER EDUCATION PROGRAM AND ISSUED OPERATOR'S LICENSE IN YOUR SCHOOL.	71.2				
10. TOTAL NUMBER OF CONVICTIONS CHARGED TO STUDENTS IN PUBLIC SCHOOLS SUCCESSFULLY COMPLETING A STATE-APPROVED DRIVER EDUCATION PROGRAM IN THE STATE.	CITY 1614 COUNTY 3987 TOTAL 5601	1252	362	3161	826
11. TOTAL NUMBER OF CONVICTIONS CHARGED TO STUDENTS IN PUBLIC SCHOOLS SUCCESSFULLY COMPLETING A STATE-APPROVED DRIVER EDUCATION PROGRAM IN YOUR SCHOOL DIVISION.	122	85		37	
12. TOTAL NUMBER OF CONVICTIONS CHARGED TO STUDENTS SUCCESSFULLY COMPLETING A STATE-APPROVED DRIVER EDUCATION PROGRAM IN YOUR SCHOOL.	52	40		12	
13. PERCENT OF STUDENTS IN PUBLIC SCHOOLS SUCCESSFULLY COMPLETING A STATE-APPROVED DRIVER EDUCATION PROGRAM AND ISSUED OPERATOR'S LICENSE AND WERE CHARGED WITH CONVICTIONS IN THE STATE.	CITY 8.7 COUNTY 9.6 TOTAL 9.3				
14. PERCENT OF STUDENTS IN PUBLIC SCHOOLS SUCCESSFULLY COMPLETING A STATE-APPROVED DRIVER EDUCATION PROGRAM AND ISSUED OPERATOR'S LICENSE AND WERE CHARGED WITH CONVICTIONS IN YOUR SCHOOL DIVISION.	17.7				
15. PERCENT OF STUDENTS IN YOUR SCHOOL SUCCESSFULLY COMPLETING A STATE-APPROVED DRIVER EDUCATION PROGRAM WHO WERE ISSUED OPERATOR'S LICENSES AND WERE CHARGED WITH CONVICTIONS.	19.5				

11002

APPENDIX B

ADMINISTRATOR'S REFERENCE GUIDE TO THE
DRIVER EDUCATION PERFORMANCE REPORT

This guide is designed to assist the administrator in correlating conviction rates contained in the performance reports with specific areas of instruction specified in the Curriculum Guide for Driver Education in Virginia. A high rate of convictions for a particular offense would suggest that the portion of the curriculum related to these convictions should be given greater emphasis. The effectiveness of these corrective measures should be evident in the reports presented over successive years.

The establishment of data categories for use in the reporting system included reviewing all of the DMV conviction codes, their relevant sections in the Code of Virginia, the state driver education curriculum guide, the textbooks used throughout the state, and the previously used statistical readout. After completion of these tasks, there were 17 categories into which the data could be logically placed for reporting and analyses. The concept behind these groupings was to tie together types of driving errors with classroom and in-car instruction. The 7 major divisions of data are driver infractions, license related infractions, vehicle infractions, reporting infractions, alcohol or drug infractions, criminal actions, and unsafe motorcycle actions.

The reporting format also distinguishes among the type of school attended (public, nonpublic, or commercial), and the type of program taught (two-phase, three-phase using simulators, three-phase using multiple car driving ranges, or four-phase). Some reports produced use statewide data and others are tailored for a school division or for an individual school.

A review of the reports produced by the performance reporting system and their significance for driver educators is contained in the following sections.

A statewide report, based only on the three driver experience levels, is produced for the public, nonpublic, and commercial schools. These data can be used to show the influence of driving experience on driving. In addition, the variation in performance of male and female students can be separately monitored across time on each of the conviction classifications.

A statewide report based on the four educational programs in conjunction with the three experience levels is produced for the public and nonpublic schools. From both the State Department of Education point of view and that of the individual school divisions, there is a need for verification of which instructional programs are the best possible. These data provide a basis for this decision making. The performance of students can be monitored across time and between curriculum types. By factoring in program costs, administrators can select

the education/ training program they believe provides the most educationally sound instruction for the least cost.

A school division report based only on the three driver experience levels and a school division report based on both the four educational programs and incorporating the three experience levels are produced for the public schools. These data provide the opportunity for each school division to compare the driving performance of its students with that for students statewide. Variations, whether positive or negative, can be investigated to determine those factors which can be improved or promoted. The state DOE can also use these data to provide information on the successes in one locality to officials in other localities. For example, if one school system is having a statistically significant lower crash or conviction rate, its program can be analyzed for factors applicable to other areas of the state,

The final type of report is that produced for each public, non-public, and commercial school that teaches driver education and it incorporates the three experience levels. The reporting format presents data from an individual school and data from all schools in the state with similar instructional programs during the reporting period. These data provide the opportunity for the state, school division, and individual school to compare the subsequent driving performance of the students who attended a particular school with the performance of all others who attended a similar educational program.

If the crash and conviction performance of students from a particular school varies greatly from the performance of students in all the schools which taught a similar course, this should raise concern throughout the community, within the school division and in the school staff. By referring to Table B-1, the administrator can determine those portions of the instructional program which relate to the conviction category in question. A determination can then be made as to whether increased instructional emphasis is needed and whether the existing curriculum needs to be modified.

For example, when a school has a greater number and percentage of its driver education graduates being convicted of violating the motor vehicle laws, this should lead to a critical analysis of its entire driver education program. One explanation for this student performance could be a lack of sufficient quality in instruction. If so, then by referring to Table B-1, it can be determined what material should have been covered in the classroom, simulator, multiple car driving range, and in-car instruction phases of the curriculum. Increased emphasis, or a redesign of the course, could then be initiated. Results would be evident in future reports. It is important to keep in mind that the instructional program is not the only influencing factor in a student being convicted; special enforcement projects at the local level, the

social and demographic characteristics of the community, and political/-judicial realities also influence conviction rates. Each of these factors must be considered when analyzing reporting data.

It can also be seen that there were four violation categories for which the state curriculum guide did not require formal instruction. While this does not mean that students are not given instruction in these areas, it does suggest that there is a need for the guide to be revised and updated at frequent (2 to 3 year) intervals to assure that all schools are emphasizing the most recent and significant materials in these programs.

Table B-1

Relationship of Conviction Category and Program of Instruction

Conviction Category	Curriculum Guide Reference			
	Classroom	Simulator	Single Car	Range
Driver Actions				
Speeding	II-G; III-B; V-A, B, C	N/A	VI-C	N/A
Reckless Driving	II-G; V	N/A	VII-A	N/A
Improper Vehicle Operation	II-B; II-D, E, F; V	III; VII; VIII; IX	III; IX; X	VII; VIII IX; X
Improper Turning	II-C	II; III-C	VII-E; X	III
Improper Passing	II-E	IV; VI-D; VI-F	VI-F; X	V-E; VI
Failure to Obey Signs, etc.	IV-A, B, C	III-F; IV; XI	VIII-D, E, F, G	N/A
Failure to Yield or Stop	IV-A, B, C	III-F	VIII-D, E, F, G	N/A
Crash Involvement	III-C; VI-D;	N/A	N/A	N/A
Operating an Unlicensed Vehicle	VIII-A-2	N/A	N/A	N/A
Alcohol/Drug Actions	VII-A, B	N/A	N/A	N/A
Criminal Actions	N/A	N/A	N/A	N/A
Operator License Actions				
No License/Permit	VIII-A-2	N/A	N/A	N/A
Improper License	VIII-A-2	N/A	N/A	N/A
Vehicle Infractions				
Improper/Unsafe Equip.	IX-C	N/A	N/A	N/A
Invalid Inspection Sticker	VIII-A-1	N/A	N/A	N/A
Improper Plates Registra- tion	VIII-A-2	N/A	N/A	N/A
Reporting Action	N/A	N/A	N/A	N/A
Unsafe Motorcycle Actions	N/A	N/A	N/A	N/A
Others	N/A	N/A	N/A	N/A

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