TRAFFIC RECORDS NEEDS OF THE HIGHWAY SAFETY DIVISION OF VIRGINIA

by

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PREFACE

This study was conducted for the Highway Safety Division of Virginia in cooperation with the Traffic Records Information System Project initiated by the Governor's Secretary of Transportation and Public Safety, Wayne A. Whitham. The objective is the definition and description of the information requirements of the Highway Safety Division which may lead to the design and implementation of a State Traffic Records Information System fully meeting the needs of the Safety Division.

The Highway Safety Program Standard on Traffic Records states, "Each State, in cooperation with its political subdivisions, shall maintain a traffic records system. The Statewide system (which may consist of compatible subsystems) shall include data for the entire State. Information regarding drivers, vehicles, accidents, and highways shall be compatible for purposes of analysis and correlation. Systems maintained by local governments shall be compatible with, and capable of furnishing data to the State system. The State system shall be capable of providing summaries, tabulations and special analyses to local governments on request."

The author acknowledges the assistance provided by Deputy Director R. W. DuVal of the Highway Safety Division and the staff of the Highway Safety Division in the identification and collection of the Division's traffic records requirements. The author also expresses gratitude to C. P. Heitzler, Jr. of the Division of Automated Data Processing, and R. G. Edwards of the Division of Motor Vehicles for their aid in the analysis of the data obtained.

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SUMMARY OF FINDINGS

(1) Currently, the Commonwealth of Virginia cannot meet all of the traffic records requirements stipulated in Highway Safety Program Standard 4.4.10 Traffic Records.

(2) Failure of the Commonwealth to implement a complete and comprehensive traffic records system as described in Highway Safety Standard 4.4.10 Traffic Records could result in an annual loss to Virginia of approximately $18 million in federal funds.

(3) Individual record information is required by the Highway Safety Division for use in special studies to identify and evaluate the interaction of driver, vehicle, accident, and roadway information.

(4) Summaries and tabulations of fundamental characteristics within the traffic safety environment are required by the Highway Safety Division. These fundamental characteristics are sought for the driver, vehicle, roadway, accident, emergency medical services, traffic law enforcement and adjudication, and driver education.

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RECOMMENDATIONS

(1) The Highway Safety Division should more fully utilize the traffic records information currently retained in the state system as an interim substitute for an integrated traffic records system.

(2) The Highway Safety Division should initiate a program to inform the suppliers of requested data of the benefits achieved through the use of the requested data.

(3) The Highway Safety Division should initiate a study of the economic feasibility of implementing the integrated traffic records system proposed by the Traffic Records Feasibility Study Team.

(4) Contingent upon the results of recommendation (3), the Highway Safety Division should recommend to the Management Review Committee the design and implementation of an integrated traffic records system as identified by the Traffic Records Feasibility Study Team.

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INTRODUCTION

The attainment of a high level of traffic safety involves the identification and solution of complex problems resulting from the movement of persons and goods through the motor vehicle transportation system. The magnitude of these problems is attested to by the fact that 1,050 fatalities, 48,144 personal injuries, and an estimated $380,000,000 in economic loss were attributed to traffic accidents on Virginia's roadways in 1974.(1) Motor vehicle accidents rank as the leading cause of accidental deaths and the fifth leading cause of all deaths in the United States. They are the primary cause of death for persons between 1 and 24 years of age and are second to heart disease as the primary cause of death among persons from 22 to 44 years of age. In 1973, there was one motor vehicle death every 9 minutes and one motor vehicle injury every 16 seconds in the United States.(2) The magnitude of the traffic accident problem ranks it in a prominent position among all causes of death and gives it the characteristics of an epidemic.

The methodologies employed by various disciplines in the analysis of problems comparable to the traffic safety problem have varied according to the manner in which the problems were viewed. In the medical field, epidemiology, which has been used with considerable success in suppressing diseases, utilizes many principles applicable to the traffic safety problem. "Epidemiology is the study of the distribution and determinants of disease prevalence in man . . . . The study of the distribution of disease (descriptive epidemiology) describes the distribution of health status in terms of age, sex, race, geography, etc., ... The search for the determinants of the noted distribution, . . . involving interpretation of possible causal factors, is the special contribution of epidemiology."(3) Epidemiology primarily stresses three elements: the host, the agent, and the environment, identifying respectively the person or animal carrying the disease, the germ itself, and the surroundings in which the disease might develop. The application of epidemiology to the traffic safety "epidemic" is achieved by equating the driver to the host,

the motor vehicle to the agent, and the road to the environment. "The general epidemiological principles of control involve either singly, or in combination, reducing susceptibility of the host, making the agent less hazardous, and modifying the environment to lessen the possibility of adverse host-agent interaction."(4) The reduction in susceptibility of the host or driver, is accomplished in highway safety through driver education, driver license testing, driver improvement programs, traffic law enforcement, and adjudication. Making the agent or motor vehicle less hazardous is achieved by improving vehicle design, stimulating safety device usage and encouraging good vehicle maintenance through safety inspections. Modifying the environment or roadway to lessen the possibility of adverse host-agent interaction is accomplished by identifying and improving high accident locations, improving design standards, and continuing good maintenance programs to sustain a high standard of roadway quality. The basic principles of epidemiology recognize and utilize the interaction between various relevant elements and their effects singularly or in combination on the problem under investigation. These same basic principles can be employed to identify and solve the traffic safety problems.

The objective of the Highway Safety Division in supporting the development of a comprehensive traffic records system in the Commonwealth is to make available the information required to analyze and study traffic safety problems as the medical profession analyzes and studies epidemic problems. The major obstacle confronting the development of a comprehensive traffic records system is that administrators are accustomed to classifying knowledge in a way that corresponds to a departmental structure of government and, consequently, they act as though the nature of the traffic safety problem is also so structured. Nothing could be further from the truth. Individually, problems are not police problems, engineering problems, education problems, and so on. The various disciplines of engineering, education, police management, motor vehicle administration, law, and medicine represent different ways of looking at the traffic safety problem. Any problem can be looked at through the eyes of each discipline, but it is not always fruitful in the identification and solution of problems to do so. The solution of a problem as viewed from one discipline may "win the battle but help lose the war" against the traffic safety "epidemic."

PURPOSE

The purpose of this report is: (1) To document the Highway Safety Division's activities directed toward the development

of a comprehensive traffic records system, (2) to identify the Highway Safety Program Standard requirements for a traffic records system, (3) to document the traffic records needs of the Highway Safety Division, and (4) to identify the use of the needed data in planning, monitoring, and evaluating highway safety activities.

BACKGROUND

The complexity of the traffic safety problem precludes its solution by any single governmental agency or by any single highway safety countermeasure. Highway safety programs transcend federal, state, and local jurisdictional and agency boundaries and involve a wide range of activities within the traffic safety environment. In Virginia the management, coordination, and evaluation of highway safety activities are the responsibility of the Highway Safety Division. The Highway Safety Division's obligations in highway safety are derived from the Code of Virginia § 2.1-64.16, where the Division is directed to assist the Governor in:

(a) Formulating and administering the State Highway Safety Program;

(b) approving local highway safety programs;

(c) assisting localities in the development and formulation of local highway safety programs;

(d) organizing and aiding local safety commissions;

(e) evaluating Virginia's enforcement of and compliance with state and local laws relating to highway safety and developing specific recommendations for administrative and legislative action to strengthen their enforcement; and

(f) determining how to derive the greatest benefit for the state under the Federal Highway Safety Act of 1966.

In addition, the Director of the Highway Safety Division is charged with the responsibility to:

(a) Report to the Governor on all activities of State government directed to the promotion of highway safety;

(b) formulate highway safety program plans for the State;

(c) develop standards for local highway safety program evaluation; and

(d) review state agencies' highway safety program activities.

To satisfy these obligations, the Highway Safety Division requires a systematic method for planning, monitoring, and evaluating highway safety activities on a statewide basis. These functions can be accomplished only with the aid of timely traffic records information which can be used to (1) identify traffic safety problems; (2) establish objectives; (3) develop highway safety programs; (4) establish priorities in program activities; and (5) evaluate results on the basis of program objectives. A comprehensive traffic records system that supports highway safety decision making by supplying relevant information is mandatory, not only for the Highway Safety Division but also for the Secretary of Transportation and Public Safety and for all state and local agencies involved in traffic safety.

The Highway Safety Division has actively promoted the development of a comprehensive traffic records system to meet the needs of all traffic safety agencies. In December 1969, Federal Highway Administrator F. C. Turner approved the Highway Safety Program of Virginia and expressed, "the need for legislative and administrative actions for implementation of your [Virginia's highway safety] program particularly in the areas of alcohol in relation to highway safety and traffic records. In the latter standard acceptable progress has not been shown."(5) In Virginia's evaluation summary of December 1969, it was noted "With the conspicuous exception of Traffic Records, the State's Highway Safety Program is explicit in its intent and if appropriate legislation is adopted and effective implementation follows, the state's program will be responsive to its highway safety needs."(6)

In November 1970 the Governor's Management Study was released and stated in part:

> The present procedure for handling highway accident statistics requires separate keypunch and data processing runs for the Division of Motor Vehicles, the Department of State Police, and the Department of Highways. Each agency must obtain selective data, which involves unnecessary duplication and severe delay. Early availability of these data is required to promote improved highway safety.

> The proposed procedure will require a detailed systems analysis to develop a revised [accident] report form, preferably filled out by the investigating officer for mark-sensing equipment, and a new program to produce printouts from the common data base. This will satisfy each of the several agencies' requirements. The development, testing, and implementation of the streamlined system should be carried out by the Highway Safety Division.
>
> Potential savings in keypunching and data processing functions exceed the cost of system development. Furthermore, the significantly improved promptness of data collection should help reduce the occurrence of accidents.(7)

To evaluate the traffic records situation, the Highway Safety Division established a Traffic Records Committee in early 1970 to study and analyze Virginia's traffic records system. This committee appointed an interagency Feasibility Study Team in early 1971 "to define the current traffic records system of the Commonwealth of Virginia so as to identify deficiencies as specifically as possible; to suggest changes to upgrade the system to meet current and projected demands at maximum efficiency and minimum costs; and finally, to determine the feasibility of the proposed system."(8)

The Feasibility Study Team identified seven major deficiencies in the present traffic records system of the Commonwealth as follows:

(1) There is a lack of centralization in the collection, processing, storage, and retrieval of traffic records data;

(2) there is inaccurate and incomplete recording of accident locations;

(3) accident reporting is not uniform, even though the FR-300 accident report form is a uniform report;

(4) there is no uniform correctional system for detecting and correcting substandard execution of accident reports;

(5) there are untimely and inefficient processing and dissemination of accident data;

(6) there is no direct data inquiry to traffic records data by the Highway Safety Division; and

(7) there is a failure to provide feedback of accident data to localities.

To improve the traffic records system, the Feasibility Study Team made sixteen recommendations, which are given below:

(1) A central authority should be established that will be responsible for the control, integrity, and operation of the total system.

(2) All accidents involving fatalities, personal injuries, or tow-away vehicles should be investigated by a law enforcement officer.

(3) A revised uniform traffic accident report and uniform reporting standards should be developed and implemented.

(4) The present method of estimating damage should be modified from one of only a monetary estimation to one of a severity code as well as a monetary value.

(5) A statewide training program should be instituted to train all law enforcement officers throughout the Commonwealth in the administration and use of the revised uniform reporting system.

(6) The amount of time allowed for an officer to submit the accident report to the state should be reduced to 72 hours from the time of the accident.

(7) A correctional system should be adopted so that any errors in accident reporting can be brought to the attention of the administering officer.

(8) The uniform accident report information should be entered into a traffic records data base directly through on-line terminals in order that all users of accident data will have equal and timely access to the data. In addition, this entry terminal should be located at the Department of State Police Headquarters and the responsibility for the entry, accuracy, and timeliness of the data should be vested with that Department.

(9) Once the information on the accident report is entered and verified at State Police Headquarters, the report form should be forwarded to the Division of Motor Vehicles within 24 hours.

(10) A uniform statewide locator system should be established for the roadway network.

(11) Legislation should be introduced requiring that all traffic summons for moving violations issued by all law enforcement officers in the state be forwarded directly to the Division of Motor Vehicles, where they in turn will be entered directly into the traffic records data base.

(12) A report in graphic or statistical format should be issued monthly to each locality giving the total accident and enforcement figures for that locality.

(13) The Department of Highways and Transportation should assume the responsibility for maintaining an Accident File and Highway File.

(14) The Division of Motor Vehicles should be responsible for maintaining Driver and Vehicle Files.

(15) The four basic files (Driver, Vehicle, Highway, and Accident) should be integrated to allow file compatibility and that a Statistical File should be constructed. In addition, the Department of State Police should be responsible for maintaining this Statistics File.

(16) The Division of Motor Vehicles should effect alterations to the driver's history segment of the Driver File to include basic driver education data.

The Feasibility Study Team then described how the traffic records system might work if all of its recommendations were implemented. The Team concluded that the technical feasibility (Is this application possible within the limits of available technology and our own resources?") and the operational feasibility ("If the system is successfully developed, will it be successfully used?") are both affirmative. The economic feasibility ("Will this application return more dollar value in benefit than it will cost to develop?") could not be determined by the Feasibility Study Team due to the incompatibility in information supplied by the traffic safety agencies.

With the Governor's Management Study and The Report of the Virginia Traffic Records Feasibility Study Team to the State Traffic Records Committee as the foundation, the Traffic Records Information System (TRIS) Project was begun in August 1974 with the objective of producing a description of the current system and documenting the information needs of all state and local agencies involved in motor vehicle transportation safety. The project organizational structure is made up of a management review committee, a project director, a project manager and a project team. The management review committee is chaired by the Governor's Secretary of Transportation and Public Safety and the members are the heads of the transportation and public safety agencies, with one representative of local government. In May 1975, an "Executive Summary of the Virginia Traffic Records Information System Project" in draft form, was presented to the management review committee and the involved traffic safety agencies.

As a direct result of that report the review committee initiated a project to satisfy as many of the unmet traffic records data requirements of the Highway Safety Division and localities as possible from the current system. The development of a statistical summary of pedestrian traffic accidents for the Highway Safety Division has been programmed by the Department of State Police using their crash tape as the data source. Other statistical summaries are planned for other highway safety problem areas such as teenage drivers, school bus accidents, motorcycle accidents, and bicycle accidents.

The present report represents an extension of the work performed by the Feasibility Study Team and by the Traffic Records Information System Project Team in the specific area of the traffic records needs of the Highway Safety Division. These traffic records needs can be satisfied by the development and implementation of an integrated traffic records system as described in The Report of the Virginia Traffic Records Feasibility Study Team to the State Traffic Records Committee.

HIGHWAY SAFETY PROGRAM STANDARD 4.4.10 TRAFFIC RECORDS

In June 1967 the National Highway Traffic Safety Administration (then National Highway Safety Bureau) issued the Highway Safety Program Standard 4.4.10 Traffic Records in compliance with the Federal Highway Safety Act of 1966. (The text of the Standard is reproduced in Appendix A.)

The purpose of this standard is to assure that appropriate data on drivers, vehicles, highways, and traffic crashes are assembled and entered into a records system in such a manner that they are retrievable for use in support of highway safety planning, operation and evaluation functions. The planning functions include the identification of traffic safety problems and the establishment of the "critical path" to problem solution. The "critical path" is the sequential arrangement of traffic safety activities in such a manner as to provide optimum utilization of available resources in the solution of traffic safety problems. The operation functions include the initiation and monitoring of projects along the "critical path." The evaluation functions include the determination of project effectiveness, indication of project successes and failures, and an historical record of efforts necessary for a basic understanding of traffic safety problems.

From an economic standpoint, the purpose of a traffic records system is to provide meaningful information concerning the cost-benefit ratio in the expenditure of highway safety funds. Since the NHTSA is in the business of traffic safety, it must show a return on its investment in traffic safety programs.

The Highway Safety Division of Virginia has the responsibility to "assist the Governor in determining the benefits which may accrue to the State under the Federal Highway Safety Act of 1966, and the means to take advantage of the federal act and federal programs in the field of highway safety."(9) With a comprehensive traffic records system, the Highway Safety Division will be provided the management information necessary to identify and promote profitable traffic safety programs and to identify and withdraw from ineffective ones. The result should be a more cost-effective traffic safety program.

The Federal Highway Safety Act of 1966 ensures the implementation of the Standards by conditioning the distribution of federal funds in two areas. First, "The Secretary shall not apportion any funds under this subsection to any state which is not implementing a highway safety program approved by the Secretary in accordance with this section."(10) This subsection accounts for approximately $2 million annually in highway safety funds for the Commonwealth. Second, "any state which is not implementing a highway safety program approved by the Secretary in accordance with this section shall be reduced by amounts equal to 10 per centum of the amounts which would otherwise be apportioned to such state under section 104 of this title . . .".(11) Ten percent of the amounts apportioned to Virginia under section 104 would be approximately $16 million based upon 1974 fund allocations. Thus Virginia's

noncompliance with the Highway Safety Program Standards could result in the loss of approximately $18 million annually in federal funds. In the past, the Secretary of the U. S. Department of Transportation has supported Virginia's Highway Safety Program based on the state's efforts to implement the Highway Safety Program Standards.

In Virginia's 1967 base line study[12] submission to the federal government, the separate processing of traffic records by the Division of Motor Vehicles, the Department of State Police, and the Department of Highways was cited as a cause of noncompliance with the Traffic Records Standard. Today, separate processing of traffic records is still a major cause of noncompliance with the Traffic Records Standard.

Virginia's initial efforts to implement the Traffic Records Standard took the form of the Traffic Records Committee established in early 1970. This Committee was established as a result of the National Highway Safety Bureau's identification of Virginia's lack of acceptable progress in traffic records. As noted in the previous section, a subcommittee of the Traffic Records Committee reported in January 1973 that it had identified seven major deficiencies in the state traffic record system and gave sixteen recommendations for improving the system.[13] A few of these recommendations have been addressed by individual agencies but very little progress has been made toward the correction of any of the seven major deficiencies.

An interagency involvement in the correction of the traffic records deficiencies was noted with the establishment of the Management Review Committee under the Governor's Secretary of Transportation and Public Safety in July 1974. The work of this committee through a project team has identified the traffic records data requirements of all traffic safety agencies and described the current system with its duplicated processing. This effort by the Management Review Committee has resulted in efforts toward the correction of three of the seven major traffic records deficiencies identified by the Traffic Records Feasibility Study Team. The three deficiencies currently being addressed are (1) untimely and inefficient processing and dissemination of accident data, (2) no direct data inquiry to traffic records by the Highway Safety Division, and (3) failure to provide feedback of accident data to localities.

While the progress made by the Management Review Committee is a step in the right direction, the question which should be foremost in the minds of state traffic safety administrators and a determining factor in the sincerity of their efforts is "How long can the Secretary of DOT continue to support Virginia's Highway Safety Program without any sustained measurable progress?"

Virginia's traffic records problems have been enumerated to the Secretary of DOT for eight years, and four of the seven major system deficiencies continue to exist with no signs of correction in the near future. These deficiencies are (1) absence of centralization in the collection, processing, storage, and retrieval of traffic records, (2) inaccurate and incomplete recording of accident locations, (3) nonuniform accident reporting, (4) no uniform correctional system to deal with substandard execution of accident reports. While the deficiencies currently being addressed are critical to the Highway Safety Division in identifying and monitoring problems in the total traffic safety environment, the four deficiencies which are not being addressed by the Management Review Committee seriously challenge the validity of information being generated from the current traffic records system.

IDENTIFICATION OF TRAFFIC RECORDS REQUIREMENTS

The eighteen Highway Safety Program Standards promulgated by the NHTSA cover all areas within the traffic safety environment. These eighteen standards are as follows:

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
13. Traffic Engineering Services
14. Pedestrian Safety
15. Police Traffic Services
16. Debris Hazard Control and Cleanup
17. Pupil Transportation Safety
18. Accident Investigation and Reporting

Some of the standard areas are totally within the responsibility of one agency, others are the responsibility of more than one, and still others are not the specific responsibility of any particular agency. It is, however, the responsibility of the Highway Safety Division to carry "out the State's highway safety program . . . including specifically the duties to (a) assist the Governor in the formulation and administration of the State's highway safety program . . . and (f) assist the Governor in determining the benefits which may accrue to the State under the Federal Highway Safety Act of 1966 . . . ." (14)

In each of the Highway Safety Program Standards, with the exception of "Codes and Laws" and "Traffic Courts", there is a requirement for the periodic evaluation of the standard by the state. An evaluation summary is also to be provided to the NHTSA. The two exception standards are addressed in the Code of Virginia, where the Highway Safety Division is charged with the responsibility "to review and report to the Governor on the enforcement of and compliance with State and local laws relating to highway safety and develop specific recommendations for administrative and legislative action to the end that such laws are fully enforced and complied with . . . ".(15) Thus, the Highway Safety Division has federal and state legislative obligations to evaluate the eighteen Highway Safety Program Standards.

The traffic records requirements of the Highway Safety Division are informational requirements in all areas within the traffic safety environment. The specific requirements were identified after reviewing the traffic records data elements in the Design Manual for State Traffic Records Systems,(16) searching through the traffic records files at the Highway Safety Division, and interviewing members of the Highway Safety Division staff. The results of these efforts are listed on an element by element basis in Appendix B. The remainder of this section is devoted to an explanation of the Highway Safety Division's requirements in relation to legislative obligations and operational and research activities.

The traffic records requirements listed in Appendix B are arranged in the following order:

1. Driver
2. Vehicle
3. Roadway
4. Accident
5. Traffic Law Enforcement and Adjudication
6. Emergency Medical Services
7. Management Summary

The categorization of the informational requirements of the Highway Safety Division in the above manner was done to facilitate the presentation of the requirements. The first four categories represent the four basic ingredients of the traffic safety environment: the driver, the vehicle, the roadway, and the accident. The fifth category is concerned with traffic law countermeasure programs evaluation. The emergency medical services category deals with the capability to provide services to traffic crash victims. Each of the requirements in these six categories is needed on an individual record basis with the capability of linking information in each category for special studies of the traffic safety environment. The seventh category contains summary information, similar to that in Virginia Crash Facts, on various aspects of the traffic safety environment. This category represents the operational source of information for the Highway Safety Division.

The following subsections briefly identify the categories by describing their contents and basic uses.

1. DRIVER (see Appendix B, pp. B1-B2) — The driver category contains data pertaining to driver license status, physical description, and driving history (i.e., traffic convictions, license revocation and suspension, accident involvement and driver education). This information is required on each licensed driver in the Commonwealth with the primary use by the Safety Division being in special studies involving the correlation of driver characteristics with the vehicle, roadway, accident, enforcement, adjudication, and emergency services information. This information will be used to identify driver related problems and to evaluate the effectiveness of driver improvement programs.

2. VEHICLE (see Appendix B, pp. B3-B4) — The vehicle category contains data pertaining to vehicle description, registration information, safety inspection data, accident involvement, and stolen vehicle data. This information is required on each vehicle registered in the Commonwealth with the primary use by the Safety Division being in special studies involving the correlation of vehicle data on an aggregate basis with accident involvement and safety inspection data. Thus, the need for certain motor vehicle safety standards could be determined; and the evaluation of the effectiveness of the vehicle safety components such as occupant restraint systems, side beams, and energy absorbing steering columns could be accomplished.

3. ROADWAY (see Appendix B, pp. B5-B9) — The roadway category contains, on a milepost or roadway section basis, data pertaining to roadway descriptions, structures, geometrics,

average daily traffic flow, traffic control devices, posted speed limits, skid characteristics, intersection/interchange information, and roadway accident, summons, and countermeasures history. This information is required on all roadways in Virginia. Due to the volume of data, localities should retain the data on their roadway systems. The information would be used by the Safety Division primarily in special studies on the nature of accidents that occur in various roadway environments in relation to the characteristics of drivers and vehicles involved and the severity of their accidents.

4. ACCIDENT (see Appendix B, pp. B10-B15) — The accident category contains primarily information appearing on the accident report form as it relates to the involved drivers, vehicles, and highway location. In addition, the accident category contains data suited to a supplementary reporting system such as police notification and response data, EMS related data and in-depth crash investigation data. Supplementary reporting should be on a sampling basis. The primary use of the information by the Highway Safety Division is in the linkage with the driver, vehicle, roadway, emergency services, law enforcement, and adjudication data. The accident category represents an essential measuring device required to monitor and evaluate all traffic safety programs.

5. TRAFFIC LAW ENFORCEMENT AND ADJUDICATION (see Appendix B, pp. B16-B18) — This category contains data pertaining to selective countermeasures actions, traffic summons, conviction and non-conviction data. The primary use of these data by the Safety Division is to "review and report to the Governor on the enforcement of and compliance with State and local laws relating to highway safety and to develop specific recommendations for administrative and legislative action to the end that such laws are fully enforced and complied with . . . ."(17)

6. EMERGENCY MEDICAL SERVICES (see Appendix B, pp. B19-B20) — This category contains data pertaining to EMS inventory, hospital/medical center emergency room inventory, and EMS operations. The primary use of this information by the Safety Division is for highway safety analysis studies such as the severity of personal injuries and the medical treatment required in relation to the roadway location and type and vehicle type.

7. MANAGEMENT SUMMARY (see Appendix B, pp. B21-B31) — This category contains data summaries and tabulations of fundamental characteristics within the traffic safety environment. These fundamental characteristics are similar to information contained in the Department of State Police publication Virginia Crash Facts, which is developed from accident reports. In addition to the information developed from accident reports, the Safety Division

requires fundamental characteristics for driver, vehicle, roadway, emergency medical services, traffic law enforcement and adjudication, and driver education. The management summary category provides the capability for Safety Division management to review and make decisions with respect to the traffic safety environment and specific traffic safety programs within the Commonwealth. Specifically, the management summary category provides the functional capabilities for evaluating the current traffic safety situation on a state and local basis, identifying problem areas and potential countermeasure programs, and monitoring and evaluating the effectiveness of the countermeasure programs in terms of traffic safety improvement.

The general traffic records requirements of the Highway Safety Division as identified above can be divided into two types. The first type, which comprises the first six categories, is individual record information. This information is sought by the Highway Safety Division for use in special studies to identify and evaluate the interaction of the driver, vehicle, and roadway information in relation to accident involvement, law enforcement and adjudication actions, transportation system user training and improvement programs, emergency services, and vehicle safety inspections. The principles and concepts to evaluate these relationships have been developed and successfully employed in other disciplines as medicine, law, engineering, and the social sciences. Thus, access to relevant and useful information coupled with the capability to correlate all information is necessary for the Highway Safety Division to identify and evaluate the unknowns of the traffic safety problem.

The second type of traffic records information needed by the Highway Safety Division comprises the seventh category — summaries and tabulations of fundamental characteristics within the traffic safety environment. This information differs from the first type described above in that the fundamental characteristics are pre-identified characteristics which are sought to monitor and identify trends within the traffic safety environment. This information is required by the Highway Safety Division on a continuing basis to determine the progress of the state's highway safety program.

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APPENDIX A

HIGHWAY SAFETY PROGRAM STANDARD 4.4.10 TRAFFIC RECORDS

Purpose

To assure that appropriate data on traffic accidents, drivers, motor vehicles, and roadways are available to provide:

1. A reliable indication of the magnitude and nature of the highway traffic accident problem on a national, state, and local scale.

2. A reliable means for identifying short-term changes and long-term trends in the magnitude and nature of traffic accidents.

3. A valid basis for:

   A. The detection of high or potentially high accident locations and causes.

   B. The detection of health, behavioral, and related factors contributing to accident causation.

   C. The design of accident, fatality, and injury countermeasures.

   D. Developing means for evaluating the cost effectiveness of these measures.

   E. The planning and implementation of selected enforcement and other operational programs.

Standard

Each State, in cooperation with its political subdivisions, shall maintain a traffic records system. The statewide system (which may consist of compatible subsystems) shall include data for the entire state. Information regarding drivers, vehicles, accidents, and highways shall be compatible for purposes of analysis and correlation. Systems maintained by local governments shall be compatible with, and capable of furnishing data to, the State system. The State system shall be capable of providing summaries, tabulations, and special analyses to local governments on request.

The record system shall include (a) certain basic minimum data, and (b) procedures for statistical analyses of these data.

The program shall provide as a minimum that:

I. Information on vehicles and system capabilities includes (conforms to motor vehicle registration standard):

A. Make.

B. Model year.

C. Identification number (rather than motor number).

D. Type of body.

E. License plate number.

F. Name of current owner.

G. Current address of owner.

H. Registered gross laden weight of every commercial vehicle.

I. Rapid entry of new data into the records or data system.

J. Controls to eliminate unnecessary or unreasonable delay in obtaining data.

K. Rapid audio or visual response upon receipt at the records station of any priority request for status of vehicle possession authorization.

L. Data available for statistical compilation as needed by authorized sources.

M. Identification and ownership of vehicles sought for enforcement or other operational needs.

II. Information on drivers and system capabilities includes (conforms to driver licensing standard):

A. Positive identification.

B. Current address.

C. Driving history.

D. Rapid entry of new data into the system.

E. Controls to eliminate unnecessary or unreasonable delay in obtaining data which are required for the system.

F. Rapid audio or visual response upon receipt at the records station of any priority request for status of driver license validity.

G. Ready availability of data for statistical compilation as needed by authorized sources.

H. Ready identification of drivers sought for enforcement or other operational needs.

III. Information on types of accidents includes:

A. Identification of location in space and time.

B. Identification of drivers and vehicles involved.

C. Type of accident.

D. Description of injury and property damage.

E. Description of environmental conditions.

F. Causes and contributing factors, including the absence of or failure to use available safety equipment.

IV. There are methods to develop summary listings, cross tabulations, trend analyses, and other statistical treatments of all appropriate combinations and aggregations of data items in the basic minimum data record of drivers and accident experience by specified groups.

V. All traffic records relating to accidents collected hereunder shall be open to the public in a manner which does not identify individuals.

VI. The program shall be periodically evaluated by the State and the National Highway Safety Bureau shall be provided with an evaluation summary.

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APPENDIX B

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TRAFFIC RECORDS REQUIREMENTS OF THE
HIGHWAY SAFETY DIVISION

FUNCTIONAL AREA: Driver

DATA ELEMENT NAME	COMMENTS
*Driver DP Number or Driver License Number	
Resident Jurisdiction	
Birth Date	
Sex	
Race	
License Status	
License Restrictions	
License Type	
Impairments	
Driver Education Indicator	
School Type	For Each Experience
School Jurisdiction	
Classroom Date	
In-Car Date	
Financial Responsibility Indicator	
Operator/Chauffeur Indicator	
Minor Habitual Offender Count	
Major Habitual Offender Count	
Surrender Reason	
Date of Original Issue	
Latest Exam Date	
Points Accrued	
Driver Improvement Actions	

*Required for file linkage only

FUNCTIONAL AREA: Driver (Continued)

DATA ELEMENT NAME	COMMENTS
*Accident Case Number	For Each Past Accident
Accident Date	
Accident Jurisdiction	
Driver/Owner Indicator	
Accident Type	
Number of Fatalities	
Liability Amount	
Severity Code	
Roadway Location Indicator	
Fault Indicator	
Case Disposition Code	
Original Conviction Charge	For Each Past Violation Conviction
Issuing Police Agency	
Roadway Location	
Court Type Code	
Court Jurisdiction	
Trial Date	
*Conviction Document Number	
Conviction Data	
Conviction Code	
Court Suspension Period	
Not Innocent Indicator	
Reason for Lesser Conviction Than Charged	
Fine	
Court Disposition Indictor	

* Required for file linkage only

FUNCTIONAL AREA: Vehicle

DATA ELEMENT NAME	COMMENTS
*Vehicle Identification Number	
*Title Number	
*Current License Number	
Make	
Model Year	
Series	
Body Style	
Vehicle History Indicator	
Residence Jurisdiction or Garaging	
License Plate Type	
Color	
Vehicle Engine CID	
Motorcycle CC	
Motorcycle Modification Type	
Fuel Type	
Curb Weight	
Commercial Vehicle Gross Weight	
Commercial Vehicle Length	
Commercial Vehicle Width	
Axel Count	
Bus Designator	
Bus, Rated Seat Capacity	
Odometer Reading at Transfer of Ownership	
Current Inspection Sticker Number	For Each Safety Inspection
Inspection Date	

*Required for file linkage only

FUNCTIONAL AREA: Vehicle (Continued)

DATA ELEMENT NAME	COMMENTS
Inspection Odometer Reading	For Each Safety Inspection
Inspection Failure	
Inspection Defects Repair Cost	
*Accident Experience Case Number	For Each Past Accident
Accident Experience Date	
Accident Experience Vehicle Damage Severity	
Insurance Indicator	
Statutory UMF	
Taxi	
Ex-Taxi	
Date Vehicle Stolen	
Date Vehicle Recovered	

* Required for file linkage only

FUNCTIONAL AREA: Roadway

DATA ELEMENT NAME	COMMENTS
ROADWAY LOCATION DIRECTORY	
*Roadway Location Identifier	
Roadway Location, Type of Area Development	
Roadway Location History Indicator	
Roadway Location Accidents Totals	
Roadway Location Violations Totals	
Highway Accident Location Status	
High Violation Location Status	
BASIC ROADWAY CHARACTERISTICS	
* Roadway Location Identifier	
Access Control	
Number of Traffic Lanes	
Width of Traffic Lanes	
Auxiliary Lanes	
Median Type	
Median Width	
Speed Limit, Maximum, Passenger Vehicle	
Speed Limit, Modifier	
Speed Limit, Minimum	
Operating Speed	
Type of Surface	
Surface Skid Number	
Shoulders, Type of Surface	
Shoulders, Width	
Curb & Gutter, Presence	

*Required for file linkage only

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FUNCTIONAL AREA: Roadway (Continued)

DATA ELEMENT NAME	COMMENTS
Lighting Support Type	
Lighting, Lateral Placement From Travel Lane	
Guardrail, Type	
Guardrail, Type Hazard Protection	
Guardrail, Lateral Placement From Travel Lane	
Traffic Control Device, Type	
Traffic Control Device, Support Type	
Traffic Control Device, Support Lateral Placement From Outside Travel Lane	
Traffic Control Device, Support Lateral Placement From Inside Travel Lane	
Delineators, Presence	
Vertical Curve, Grade	
Horizontal Curve, Degree of Curvature	
Horizontal Curve, Superelevation	
No Passing Zone, Reason for Restriction	
*Bridge, Structure Number	
Intersection, Roadway Location Identifier	
Railroad Crossing, Railroad Name	
Railroad Crossing, Number of Trains Daily	
Railroad Crossing, Number of Tracks	
Railroad Crossing, Width	
*Bridge Overpass, Structure Number	
*Tunnel, Structure Number	
Tunnel, Width	
Tunnel, Number of Traffic Lanes	

*Required for file linkage only

FUNCTIONAL AREA: Roadway (Continued)

DATA ELEMENT NAME	COMMENTS
Tunnel, Width of Traffic Lanes	
Tunnel, Lateral Clearance to Sidewall	
Tunnel, Lighting	
Non-intersection Freeway Exit	
Driveway, Type Property Served	
Cross Over, Permitted Usage	For divided highways
Toll Station, Number of Lanes	
Average Daily Traffic Volume w/Monthly Variation	
Roadway Design Capacity	
Latest Traffic Volume Measurement, Date	
INTERSECTION CHARACTERISTICS	
*Intersection - Roadway Location Identifier	
Intersection/Interchange Type	
Intersection/Interchange, Type of Area Development	
Intersection-Type	Description data for intersections
Intersection - Turn Restrictions	
Intersection - Turn Restrictions, Hours	
Intersection - Sight Restrictions	
Intersection - Channelization	
Interchange - Type	Description data for interchanges
Interchange - Number of Ramps	
Interchange - Type Access/Egress	
Interchange - Channelization	
Interchange - Traffic Control Devices	

*Required for file linkage only

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FUNCTIONAL AREA: Roadway (Continued)

DATA ELEMENT NAME	COMMENTS
BRIDGE STRUCTURE INVENTORY	
*Bridge Structure Number	
State Highway District	
County	
Municipality	
Inventory Route	
Features Intersected	
Milepoint	
*Road Section Number	
Bridge Description	
Year Built	
Lanes on Structure	
Average Daily Traffic	
Approach Roadway Width	
Bridge Median	
Type Service	
Structure Type, Main	
Structure Type, Approach Spans	
Number of Spans in Main Unit	
Number of Approach Spans	
Total Horizontal Clearance	
Length of Maximum Span	
Structure Length	
Sidewalk Widths	
Bridge Roadway Width, Curb to Curb	

*Required for file linkage only

FUNCTIONAL AREA: Roadway (Continued)

DATA ELEMENT NAME	COMMENTS
Deck Width	
Wearing Surface	
Deck Condition	
Approach Roadway Alignment Condition	
Safe Load Capacity Rating	
Approach Roadway Alignment Rating	
ROADWAY LOCATION HISTORY	
*Roadway Location Identifier	
*Accident Case Number	For each accident at roadway/intersection location
Accident Date	
Accident Type	
Accident Severity Index (Total)	
*Traffic Summons Number	For each summons at roadway/intersection location
Summons Date	
Violation Type	
*Traffic Countermeasures Action, Reference Number	For each countermeasures action at roadway/intersection location
Traffic Countermeasures Action, Type	
Traffic Countermeasures Action, Method	
Traffic Countermeasure Action, Status	

*Required for file linkage only

FUNCTIONAL AREA: Accident

DATA ELEMENT NAME	COMMENTS
*Accident - Case Number	
Accident - Date	
Accident - Day of Week	
Accident - Time of Day	
Total Injured	
Total Killed	
Total Property Damage Amount	
Total Vehicles Involved	
Total Drivers Involved	
Type of Collision	
Accident - Severity Index (Total)	
Investigation Indicator	
Major Contributing Factor	
Accident - First Harmful Event Type	
Accident - First Harmful Event Location	
Accident - Subsequent Harmful Event Type	
Accident - Subsequent Harmful Event Location	
Accident Diagram	
Accident Description	
Property Damage Other Than Vehicles (object, owner, damage, repair cost)	
County	
City	
Town	
*Accident - Roadway Location Identifier	
At Intersection	

* Required for file linkage only

FUNCTIONAL AREA: Accident (Continued)

DATA ELEMENT NAME	COMMENTS
Not at Intersection	
Name of Intersecting Street	
Street/Highway	
Surface Condition	
Roadway Defects	
Roadway Alignment	
Fixed Object	
Manner of Collision	
Speed Limit	
Sight Distance	
Roadway Design Speed	
Accident First Reported by	
Time Police Notified	
How Accident Reported	
Time Police Arrived at Scene	
Date Accident Report Completed	
Time EMS Called	
Time EMS Arrived	
Time EMS Left Scene	
Time EMS Arrived (Hospital)	
Extriction	
Weather Condition	
Light Condition	
Traffic Control Device - Type	
Traffic Control Device - Condition	

FUNCTIONAL AREA: Accident (Continued)

DATA ELEMENT NAME	COMMENTS
Zone of Impact	
Time Traffic Flow Restored	
District (Hwy)	
Driver - Accident Vehicle Number	For each driver involved
*Driver License Number	
Driver - License State	
Driver - License Type	
Driver - Date of Birth	
Driver - Sex	
Driver -Race	
Driver - Marital Status	
Driver - Occupation	
Driver - Operator Experience	
Driver - License Restrictions	
Driver - License Restrictions Compliance	
Driver - Condition	
Driver - Causative Factors	
Driver - Impairments Observed at Scene	
Driver - Precrash Actions	
Driver - BAC Test Type	For each driver tested
Driver - BAC Test Time	
Driver - BAC Test Result	
Vehicle - Accident Vehicle Number	For each vehicle involved
*Vehicle - License Plate Number	
Vehicle - License Plate Year	

* Required for file linkage only

FUNCTIONAL AREA: Accident (Continued)

DATA ELEMENT NAME	COMMENTS
Vehicle - License Plate State	For each vehicle involved
*Vehicle - Vehicle Identification Number	
Vehicle - Make	
Vehicle - Model Year	
Vehicle - Series	
Vehicle - Color	
Vehicle - Body Style	
Vehicle - Trailer Type	
Vehicle - Trailer License Plate State	
Vehicle - Trailer License Plate Year	
*Vehicle - Trailer Inspection Sticker Number	
Vehicle - Usage	
*Vehicle - Inspection Sticker Number	
Vehicle - Odometer Reading	
Vehicle - Number of Occupants	
Vehicle - Seat Belts Installed by Seat Position	
Vehicle - Seat Belts in Use by Seat Position	
Vehicle - Parts Damaged	
Vehicle - Approx. Cost of Repair	
Vehicle - Maneuver	
Vehicle - Direction of Travel Before Accident	
Vehicle - Estimated Speed at Impact	
Vehicle - Final Location of Vehicle	
Vehicle - Point of Impact	
Vehicle - Angle of Impact	

* Required for file linkage only

FUNCTIONAL AREA: Accident (Continued)

DATA ELEMENT NAME	COMMENTS
Vehicle - Damage Severity	For each vehicle involved
Vehicle - Vision Obstruction	
Vehicle - Defects	
Vehicle - Contributing Defects	
Vehicle - Tires	
Vehicle - Towed Away	
Vehicle - Roadway Surface Condition	
Vehicle - Road Surface Defects	
Vehicle - Skid Marks	
Vehicle - Speed Restrictions	
Vehicle - Placement	
Injured Occupant - Accident Vehicle Number	For each occupant injured
Injured Occupant - Age	
Injured Occupant - Sex	
Injured Occupant - Injury Classification	
Injured Occupant - Seat Position	
Injured Occupant - Safety Device in Use	
Injured Occupant - Ejection From Vehicle	
Injured Occupant - Ejected Through	
Pedestrian Injured - Age	For each non-motor vehicle occupant injured
Pedestrian Injured - Sex	
Pedestrian Injured - Injury Classification	
Pedestrian Injured - Type	
Pedestrian Injured - Location	
Pedestrian Injured - Clothing	

FUNCTIONAL AREA: Accident (Continued)

DATA ELEMENT NAME	COMMENTS
Pedestrian Injured - Precrash Actions	For each non-motor vehicle occupant injured
Pedestrian - BAC Test Type	For each pedestrian tested
Pedestrian - BAC Test Time	
Pedestrian - BAC Test Results	
*Summons Number	For each applicable individual
Summons Charge	
Other Contributing Violation Not Charged	

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FUNCTIONAL AREA: Traffic Law Enforcement and Adjudication

DATA ELEMENT NAME	COMMENTS
ENFORCEMENT AND ADJUDICATION DIRECTORY	
* Summons - Number	
Summons - Location, County	
Summons - Location, Municipality	
Issuing Police Agency	
Operational, Action Type	
Countermeasures Action Reference Number	
Summons - Adjudication Identifier	
Adjudication Jurisdiction	
SELECTIVE COUNTERMEASURES ACTION	
*Countermeasures Action Reference Number	
*Special Program Identifier	
*Roadway Location Identifier	
Reason for Action	
Date Initiated	
Date Scheduled for Termination	
Day(s) of Application	
Time(s) of Application	
Countermeasures Method	
Action By	
*Summons - Number	For each summons issued as a result of action
Summons - Date	
CONVICTIONS DATA	
*Summons - Number	
Summons - Date	

*Required for file linkage only

FUNCTIONAL AREA: Traffic Law Enforcement and Adjudication (Continued)

DATA ELEMENT NAME	COMMENTS
Summons - Day of Week	
Summons - Time of Day	
*Summons - Location, Roadway Location Identifier	
*Driver - License Number	
Driver - Date of Birth	
Driver - Sex	
Driver - State of License	
Driver - License Type	
Driver - License Restrictions	
Driver - License Restrictions Complied with	
*Vehicle, License Plate Number or VIN	
Vehicle, License Plate State	
*Countermeasures Action Reference Number	— If applicable
Original Summons Charge	
Charge Tried On	
Charge Convicted On	
Reason for Lesser Conviction Than Charged	
Date of First Appearance	
Date of Trial	
Date of Conviction	
Sentence - Fine	
Sentence - Time	
Sentence - Modifier	
Sentence - Special Order by Court	
Date Conviction Reported by Court	

* Required for file linkage only

1962

FUNCTIONAL AREA: Traffic Law Enforcement and Adjudication (Continued)

DATA ELEMENT NAME	COMMENTS
Court Recommendations	
*Accident Case Number	If summons issued as the result of an accident investigation
NON-CONVICTIONS DATA	
*Summons - Number	
Summons - Date	
Summons - Day of Week	
Summons - Time of Day	
*Summons - Location, Roadway Location Identifier	
*Countermeasures Action Reference Number	If applicable
Original Summons Charge	
Charge Prosecuted	
Reason for Dropping/Reducing Charge or Non-conviction	
Date of First Appearance	
Date of Trial	
Date Disposition of Charge Reported	

*Required for file linkage only

FUNCTIONAL AREA: Emergency Medical Services

DATA ELEMENT NAME	COMMENTS
EMERGENCY SERVICES DIRECTORY	
Emergency Organization Name	
Emergency Organization Address	
Emergency Organization Jurisdiction	
Emergency Organization Type	
Type of Emergency Services Provided	
EMS INVENTORY	
EMS Organization Name	
Special EMS Equipment/Capabilities	
Hours of EMS Organization Operation	
Number of Doctors on EMS Organization Staff	
Number of Nurses, Registered, on EMS Organization Staff	
Number of Nurses, Practical,on EMS Organization Staff	
Number of Trained Ambulance Attendants	
Number of Personnel with Basic Red Cross Training	
Number of Personnel with Advanced Red Cross Training	
Number of Personnel with DOT Basic Course Training	
Number of Personnel with DOT Advanced Course Training	
Number of Personnel with DOT Refresher Course Training	
Number of Personnel with DOT Extrication Course Training	
Number of Personnel with DOT Dispatcher Course Training	
Number of Personnel with State Extrication Course Training	
HOSPITAL/MEDICAL CENTER EMERGENCY ROOM INVENTORY	
Hospital/Medical Center Name	
Emergency Room, Service/Capabilities	

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FUNCTIONAL AREA: Emergency Medical Services (Continued)

DATA ELEMENT NAME	COMMENTS
Emergency Room, Hours of Operation	
Number of Doctors Assigned/Available for ER Duty	
Doctors' Availability for ER Duty	
Number of Nurses, Registered	
Number of Nurses, Practical	
EMS OPERATIONS	
EMS Organization Name	For each emergency call**
EMS Call, Data	
EMS Call, Time Called	
EMS Call, Time Left Station	
EMS Call, Time Arrived at Scene	
EMS Call, Time Left Scene	
EMS Call, Time Arrived at Emergency Room	
EMS Call, Time Returned to Station	
Emergency Patient Name	For each emergency victim served
Services Rendered to Patient at Scene	
Services Rendered to Patient En Route	
Patient Treatment Status at Emergency Room	
Services Rendered to Patient at Emergency Room	
*Traffic Accident Case Number	-If applicable

* Required for file linkage only.
**Collection of these data on sampling basis may be more practical.

FUNCTIONAL AREA: ~~Management Summary~~

DATA ELEMENT NAME	COMMENTS
DRIVER DATA SUMMARY	
Total Number of Licensed Drivers	PY, CT
Total New License Applicants	PY, CT, RP
Total New Licenses Denied by Reason Category	PY, CT, RP
Total New Licenses Granted	PY, CT, RP
Number of Drivers by Age Group	PY, CT
Number of Drivers by Type of License	PY, CT
Number of Drivers by Political Jurisdiction	PY, CT
Number of Licenses Denied/Withdrawn by Reason Category	PY, CT, RP
VEHICLE DATA SUMMARY	
Total Vehicles Registered by Type by Weight	PY, CT
Total New Registrations	PY, CT, RP
Number of Vehicles by Make/Model	PY, CT
Number of Vehicles by Model Year	PY, CT
Number of Vehicles by Body Type	PY, CT
Number of Vehicles by Political Jurisdiction	PY, CT
Number of Motorcycles by CC Class	PY, CT
Number of Motorcycles by Modification Type	PY, CT
Total Annual Vehicle Mileage Traveled	PY, CT
Total Vehicles Inspected	CT, RP
Number of Inspection Failures by Category	PY, CT, RP
Number of Inspection Failures by Category by Model Year	PY, CT

PY — Total(s) for previous year(s)
CT — Cumulative total to date for current year
RP — Current reporting period total

FUNCTIONAL AREA: Management Summary (Continued)

DATA ELEMENT NAME	COMMENTS
ROADWAY DATA SUMMARY	
Number of Roadways by Class	PY, CT
Total Mileage by Roadway Class	PY, CT
Total Mileage by Roadway Class by Political Jurisdiction	PY, CT
Total Traffic Volume by Roadway Class	PY, CT
Number of Bridges by Roadway Width, by Number of Lanes, by Roadway Class	PY, CT
Number of Intersections/Interchanges by Type	PY, CT
Number of High Accident Locations by Political Jurisdiction	PY, CT, RP
Number of High Violation Locations by Political Jurisdiction	PY, CT, RP
EMERGENCY SERVICES DATA SUMMARY	
Total EMS Organizations	PY, CT
Total EMS Calls	PY, CT, RP
Total Traffic Accident Related EMS Calls	PY, CT, RP
Total Number of Consumers Served	PY, CT, RP
Average EMS Response Time	PY, CT, RP
Number of EMS Vehicles	PY, CT
Number of EMS Personnel	PY, CT
Number of EMS Personnel Trained in EMS Skills by Category	PY, CT
Number of EMS Vehicles by Type	PY, CT
TRAFFIC LAW ENFORCEMENT DATA SUMMARY	
Number of Summons by Violation Type	PY, CT, RP
Number of Convictions by Violation Type	PY, CT, RP
Number of Convictions by Type Different From Summons Violation by Type	PY, CT, RP
Number of Court Traffic Cases	PY, CT, RP

For the state and each jurisdiction

For the state and each jurisdiction

DATA ELEMENT NAME	COMMENTS
Number of Court Cases with Sentences Other Than Fines	PY, CT, RP
Number of Selective Traffic Countermeasures Action Locations by Type	PY, CT, RP For the state and each jurisdiction
Number of Summons Arising From Selective Countermeasures Action by Violation Type	PY, CT, RP
EDUCATIONAL SERVICES DATA SUMMARY	
Number of Public High Schools Offering Driver Education Courses	PY, CT
Number of Public High School Students Completing Courses	PY, CT
Number of NonPublic High Schools Offering Driver Education Courses	PY, CT
Number of Nonpublic High School Students Completing Courses	PY, CT
Number of Public Schools Teaching Pedestrian Safety	PY, CT
Number of Public School Students Instructed in Pedestrian Safety	PY, CT
Number of Nonpublic Schools Teaching Pedestrian Safety	PY, CT
Number of Nonpublic School Students Instructed in Pedestrian Safety	PY, CT
Number of Public Schools Teaching Bicycle Safety	PY, CT
Number of Public School Students Instructed in Bicycle Safety	PY, CT
Number of Nonpublic Schools Teaching Bicycle Safety	PY, CT
Number of Nonpublic School Students Instructed in Bicycle Safety	PY, CT
Number of Adult Education Schools Offering Driver Education Courses	PY, CT
Number of Adult Students Completing Driver Education Courses	PY, CT

FUNCTIONAL AREA: Management Summary (Continued)

DATA ELEMENT NAME	COMMENTS	
ACCIDENT INCIDENCE SUMMARY		
Total Fatal Accidents & Fatalities	PY, CT, RP	
Total Injury Accidents & Injuries	PY, CT, RP	
Total Property Damage Only (PDO) Accidents	PY, CT, RP	
Total Accidents Involving Pedestrians	PY, CT, RP	
Total Passenger Fatalities	PY, CT, RP	
Total Passenger Injuries	PY, CT, RP	
Total Pedestrian Fatalities	PY, CT, RP	
Total Pedestrian Injuries	PY, CT, RP	
Total Vehicular Property Damage	PY, CT, RP	
Total Non-vehicular Property Damage	PY, CT, RP	
Number of Accidents Investigated by Police	PY, CT, RP	For the state and each jurisdiction
Number of Accidents Selected for In-depth Investigation	PY, CT, RP	
Total Bicyclists Fatalities	PY, CT, RP	
Total Bicyclists Injured	PY, CT, RP	
Number of Fatalities by Crash Severity by Seat Belt Usage by Seat Position	PY, CT, RP	
Number of Injuries by Crash Severity by Seat Belt Usage by Seat Position	PY, CT, RP	
Number of PDO Accidents by Crash Severity by Seat Belt Usage by Seat Position	PY, CT, RP	
ACCIDENT VS. DRIVER FACTORS		
Number of Fatal Accidents by Driver Age Group	PY, CT, RP	
Number of Fatalities by Driver Age Group	PY, CT, RP	
Number of Fatal Accidents by Sex of Driver	PY, CT, RP	
Number of Fatal Accidents by Driver License Status	PY, CT, RP	
Number of Fatal Accidents by Driver BAC Level	PY, CT, RP	

FUNCTIONAL AREA: Management Summary (Continued)

DATA ELEMENT NAME	COMMENTS
Number of Fatal Accidents by Condition of Driver	PY, CT, RP
Number of Fatal Accidents by Traffic Violation	PY, CT, RP
Number of Fatal Accidents by Driver Accident History	PY, CT, RP
Number of Fatal Accidents by Driver Medical Impairment History	PY, CT, RP
Number of Injury Accidents by Driver Age Group	PY, CT, RP
Number of Injury Accidents by Sex of Driver	PY, CT, RP
Number of Injuries by Driver Age Group	PY, CT, RP
Number of Injury Accidents by Driver License Status	PY, CT, RP
Number of Injury Accidents by Condition of Driver	PY, CT, RP
Number of Injury Accidents by Traffic Violation	PY, CT, RP
Number of Injury Accidents by Driver Accident History	PY, CT, RP
Number of Injury Accidents by Driver Education	PY, CT, RP
Number of Injury Accidents by Driver Medical Impairment History	PY, CT, RP
Number of PDO Accidents by Driver Age Group	PY, CT, RP
Number of PDO Accidents by Sex of Driver	PY, CT, RP
Number of PDO Accidents by Driver License Status	PY, CT, RP
Number of PDO Accidents by Condition of Driver	PY, CT, RP
Number of PDO Accidents by Traffic Violation	PY, CT, RP
Number of PDO Accidents by Driver Accident History	PY, CT, RP
Number of PDO Accidents by Driver Education	PY, CT, RP
Number of PDO Accidents by Driver Medical Impairment History	PY, CT, RP
ACCIDENT VS. MOTORCYCLISTS FACTORS	
Number of Motorcycle Fatal Accidents by Motorcyclist's Age and Operator Experience	PY, CT, RP

FUNCTIONAL AREA: Management Summary (Continued)

DATA ELEMENT NAME		COMMENTS
Number of Motorcycle Actions	Fatal Accidents by Motorcyclist's	PY, CT, RP
Number of Motorcycle Noted	Fatal Accidents by Safety Defect	PY, CT, RP
Number of Motorcycle Condition	Fatal Accidents by Motorcyclist's	PY, CT, RP
Number of Motorcycle Device Condition	Fatal Accidents by Traffic Control	PY, CT, RP
Number of Motorcycle	Fatal Accidents by Weather Conditions	PY, CT, RP
Number of Motorcycle	Fatal Accident by Visibility	PY, CT, RP
Number of Motorcycle	Fatal Accidents by Light Conditions	PY, CT, RP
Number of Motorcycle	Fatal Accidents by Month of Year	PY, CT, RP
Number of Motorcycle	Fatal Accidents by Day of Week	PY, CT, RP
Number of Motorcycle	Fatal Accidents by Hour of Day	PY, CT, RP
Number of Motorcycle Clothing	Fatal Accidents by Motorcyclist's	PY, CT, RP
Number of Motorcycle and Operator Experience	Injury Accidents by Motorcyclist's Age	PY, CT, RP
Number of Motorcycle Actions	Injury Accidents by Motorcyclist's	PY, CT, RP
Number of Motorcycle Conditions	Injury Accidents by Motorcyclist's	PY, CT, RP
Number of Motorcycle Device Condition	Injury Accidents by Traffic Control	PY, CT, RP
Number of Motorcycle Conditions	Injury Accidents by Weather	PY, CT, RP
Number of Motorcycle	Injury Accidents by Visibility	PY, CT, RP
Number of Motorcycle	Injury Accidents by Light Conditions	PY, CT, RP
Number of Motorcycle	Accidents by Month of Year	PY, CT, RP
Number of Motorcycle	Injury Accidents by Day of Week	PY, CT, RP

FUNCTIONAL AREA: Management Summary (Continued)

DATA ELEMENT NAME	COMMENTS
Number of Motorcycle Injury Accidents by Hour of Day	PY, CT, RP
Number of Motorcycle Injury Accidents by Motorcyclist's Clothing	PY, CT, RP
ACCIDENT VS. VEHICLE FACTORS	
Number of Fatal Accidents by Vehicle Make	PY, CT, RP
Number of Fatal Accidents by Body Style	PY, CT, RP
Number of Fatal Accidents by Model Year	PY, CT, RP
Number of Fatal Accidents by Vehicle Series	PY, CT, RP
Number of Fatal Accidents by Crash Severity	PY, CT, RP
Number of Fatal Accidents by Vehicle Defect Noted	PY, CT, RP
Number of Fatal Accidents by Vehicle Accident History	PY, CT, RP
Number of Injury Accidents by Vehicle Make	PY, CT, RP
Number of Injury Accidents by Body Style	PY, CT, RP
Number of Injury Accidents by Model Year	PY, CT, RP
Number of Injury Accidents by Vehicle Series	PY, CT, RP
Number of Injury Accidents by Crash Severity	PY, CT, RP
Number of Injury Accidents by Vehicle Defect Noted	PY, CT, RP
Number of Injury Accidents by Vehicle Accident History	PY, CT, RP
Number of PDO Accidents by Vehicle Make	PY, CT, RP
Number of PDO Accidents by Body Style	PY, CT, RP
Number of PDO Accidents by Model Year	PY, CT, RP
Number of PDO Accidents by Vehicle Series	PY, CT, RP
Number of PDO Accidents by Crash Severity	PY, CT, RP
Number of PDO Accidents by Vehicle Defect Noted	PY, CT, RP
Number of PDO Accidents by Vehicle Accident History	PY, CT, RP

FUNCTIONAL AREA: Management Summary (Continued)

DATA ELEMENT NAME	COMMENTS
ACCIDENT VS. PEDESTRIAN FACTORS	
Number of Pedestrian Fatal Accidents by Pedestrian Conditions	PY, CT, RP
Number of Pedestrian Fatal Accidents by Traffic Control Device Condition	PY, CT, RP
Number of Pedestrian Fatal Accidents by Pedestrian Age Group	PY, CT, RP
Number of Pedestrian Fatal Accidents by Pedestrian Actions	PY, CT, RP
Number of Pedestrian Fatal Accidents by Weather Conditions	PY, CT, RP
Number of Pedestrian Fatal Accidents by Visibility	PY, CT, RP
Number of Pedestrian Fatal Accidents by Light Condition	PY, CT, RP
Number of Pedestrian Fatal Accidents by Month of Year	PY, CT, RP
Number of Pedestrian Fatal Accidents by Day of Week	PY, CT, RP
Number of Pedestrian Fatal Accidents by Hour of Day	PY, CT, RP
Number of Pedestrian Fatal Accidents by Pedestrian Clothing	PY, CT, RP
Number of Pedestrian Injury Accidents by Pedestrian Condition	PY, CT, RP
Number of Pedestrian Injury Accidents by Traffic Control Device Condition	PY, CT, RP
Number of Pedestrian Injury Accidents by Pedestrian Age Group	PY, CT, RP
Number of Pedestrian Injury Accidents by Pedestrian Actions	PY, CT, RP
Number of Pedestrian Injury Accidents by Weather Conditions	PY, CT, RP
Number of Pedestrian Injury Accidents by Visibility	PY, CT, RP
Number of Pedestrian Injury Accidents by Light Conditions	PY, CT, RP
Number of Pedestrian Injury Accidents by Month of Year	PY, CT, RP
Number of Pedestrian Injury Accidents by Day of Week	PY, CT, RP
Number of Pedestrian Injury Accidents by Hour of Day	PY, CT, RP
Number of Pedestrian Injury Accidents by Pedestrian Clothing	PY, CT, RP

FUNCTIONAL AREA: Management Summary (Continued)

DATA ELEMENT NAME		COMMENTS
	ACCIDENT VS. BICYCLISTS FACTORS	
Number of Bicycle	Fatal Accidents by Bicyclist's Clothing	PY, CT, RP
Number of Bicycle	Fatal Accidents by Bicyclist's Action	PY, CT, RP
Number of Bicycle	Fatal Accidents by Safety Defect Noted	PY, CT, RP
Number of Bicycle	Fatal Accidents by Bicyclist's Conditions	PY, CT, RP
Number of Bicycle Conditions	Fatal Accidents by Traffic Control Device	PY, CT, RP
Number of Bicycle	Fatal Accidents by Weather Conditions	PY, CT, RP
Number of Bicycle	Fatal Accidents by Visibility	PY, CT, RP
Number of Bicycle	Fatal Accidents by Light Conditions	PY, CT, RP
Number of Bicycle	Fatal Accidents by Month of Year	PY, CT, RP
Number of Bicycle	Fatal Accidents by Day of Week	PY, CT, RP
Number of Bicycle	Fatal Accidents by Hour of Day	PY, CT, RP
Number of Bicycle	Fatal Accidents by Bicyclist's Conditions	PY, CT, RP
Number of Bicycle	Injury Accidents by Bicyclist's Age Group	PY, CT, RP
Number of Bicycle	Injury Accidents by Bicyclist's Actions	PY, CT, RP
Number of Bicycle Noted	Injury Accidents by Safety Defect	PY, CT, RP
Number of Bicycle	Injury Accidents by Bicyclist's Conditions	PY, CT, RP
Number of Bicycle Condition	Injury Accidents by Traffic Control Device	PY, CT, RP
Number of Bicycle	Injury Accidents by Weather Conditions	PY, CT, RP
Number of Bicycle	Injury Accidents by Visibility	PY, CT, RP
Number of Bicycle	Injury Accidents by Light Conditions	PY, CT, RP
Number of Bicycle	Injury Accidents by Month of Year	PY, CT, RP
Number of Bicycle	Injury Accidents by Day of Week	PY, CT, RP
Number of Bicycle	Injury Accidents by Hour of Day	PY, CT, RP

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FUNCTIONAL AREA: Management Summary (Continued)

DATA ELEMENT NAME	COMMENTS
Number of Bicycle Injury Accidents by Bicyclist's Clothing	PY, CT, RP
ACCIDENTS VS. ROADWAY FACTORS	
Number of Fatal Accidents by Roadway Class	PY, CT, RP
Number of Fatal Accidents by Intersection/Interchange Type	PY, CT, RP
Number of Fatal Accidents by Road Surface Conditions	PY, CT, RP
Number of Fatal Accidents by Weather Conditions	PY, CT, RP
Number of Fatal Accidents by Visibility	PY, CT, RP
Number of Fatal Accidents by Light Conditions	PY, CT, RP
Number of Fatal Accidents by Traffic Control Device Condition	PY, CT, RP
Number of Fatal Accidents by Month of Year	PY, CT, RP
Number of Fatal Accidents by Day of Week	PY, CT, RP
Number of Fatal Accidents by Hour of Day	PY, CT, RP
Number of Injury Accidents by Roadway Class	PY, CT, RP
Number of Injury Accidents by Intersection/Interchange Type	PY, CT, RP
Number of Injury Accidents by Road Surface Conditions	PY, CT, RP
Number of Injury Accidents by Weather Conditions	PY, CT, RP
Number of Injury Accidents by Visibility	PY, CT, RP
Number of Injury Accidents by Light Conditions	PY, CT, RP
Number of Injury Accidents by Traffic Control Device Condition	PY, CT, RP
Number of Injury Accidents by Month of Year	PY, CT, RP
Number of Injury Accidents by Day of Week	PY, CT, RP
Number of Injury Accidents by Hour of Day	PY, CT, RP
Number of PDO Accidents by Roadway Class	PY, CT, RP
Number of PDO Accidents by Interchange/Intersection Type	PY, CT, RP
Number of PDO Accidents by Road Surface Condition	PY, CT, RP

FUNCTIONAL AREA: Management Summary (Continued)

DATA ELEMENT NAME	COMMENTS
Number of PDO Accidents by Weather Conditions	PY, CT, RP
Number of PDO Accidents by Visibility	PY, CT, RP
Number of PDO Accidents by Light Conditions	PY, CT, RP
Number of PDO Accidents by Traffic Control Device Condition	PY, CT, RP
Number of PDO Accidents by Month of Year	PY, CT, RP
Number of PDO Accidents by Day of Week	PY, CT, RP
Number of PDO Accidents by Hour of Day	PY, CT, RP

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