A UNIFORM TRANSIT SAFETY RECORDS SYSTEM FOR THE COMMONWEALTH OF VIRGINIA

by

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ABSTRACT

This study was conceived as the first phase of a three-phase program to develop a safety data base for intracity bus transit. It involved reviewing the state of the art of general transportation safety management, examining the current intracity bus safety records systems of the federal, state, and local governments and the transit industry, and developing the basis for an intracity bus safety records system for the Commonwealth of Virginia. Definitions of motor bus traffic accidents, passenger accidents, and crime were developed; data elements and codes were selected; and an accident/incident report form was designed. Guidelines for developing data files, coding, entry, editing, and data processing procedures were developed along with recommendations on the development of the last two phases of the program.

SUMMARY OF FINDINGS

1. General

   a. Since the petroleum shortage of 1973, bus transit ridership has increased while the ridership on other mass transit modes has decreased.

   b. The use of bus transit can result in a reduction of energy consumption, air pollution, and traffic congestion on highways and streets, and provide transportation for the disadvantaged.

2. Intracity Bus Safety Statistics

   a. The risk of fatality to bus riders is less than that for riders of any other mode; however, the risk of personal injury for bus riders is greater than that for riders of any other major urban mode except auto.

   b. Buses pose a greater risk to all highway users on a per vehicle mile basis than does any other urban transportation mode.

   c. Traffic accidents represent the greatest safety problem for intracity bus operations and account for the overwhelming majority of bus transit fatalities (approximately 90%) and most of the injuries (approximately 70%).

   d. In bus transit accidents, more of the bus passengers are injured as compared to the occupants of the other vehicles involved in accidents (approximately 30% and 12%, respectively), while more occupants of other vehicles are killed (approximately 32% and 7%, respectively).

   e. Bus transit traffic accidents occur at the rate of about 6 per 100,000 vehicle miles of travel; passenger accidents occur at the rate of about 2.5 per 100,000 miles; and crimes occur at the rate of about 0.7 to 2.0 per 100,000 miles, depending on the size of cities in which bus transit companies operate. Vandalism costs represent about 0.3% of the total operating costs of bus transit operations.

   f. The six largest intracity bus transit agencies in Virginia operate 96% of the industry's buses and were involved in 96% of the industry accidents in 1979.

3. General Safety Records Management Principles

   a. The reporting of safety data is the basis for any comprehensive transportation safety program.

   b. The functions of a safety records system for intracity bus transit are safety problem identification, countermeasure selection, and countermeasure evaluation.

   c. The criteria for evaluating intracity bus safety records systems are completeness of coverage; quality, comparability, and timeliness of data; and flexibility and economy of operation.

   d. The files essential for an intracity bus safety records system are a driver file, a vehicle file, a roadway file, and an accident file.

4. National Intracity Bus Transit Safety Records Management

   a. There are no universally accepted definitions of accidents or crimes in the bus transit industry.

   b. Data bases currently available for intracity bus safety throughout the nation are plagued with problems. The quality of reporting is generally low, reporting procedures vary for data contained in most files, and the files that do not have these problems contain too few reports on bus transit accidents to be used for statistical analysis.

   c. There is no national program for developing a comprehensive intracity bus safety records system.

5. Intracity Bus Safety Records Management in Other States

   a. Of the fifteen states responding to a request made to all fifty states for information on their bus transit safety records systems, none maintain a statewide safety records system capable of separating intracity bus accidents and analyzing them by statistical methods.

   b. Some of the large bus transit agencies in other states maintain automated safety records systems and use them to perform statistical analyses of accidents.

6. Intracity Bus Safety Records Management in Virginia

   a. None of the intracity bus agencies operating in Virginia maintain automated safety records systems.

   b. The basis for reporting motor bus traffic accidents and crimes varies among the intracity bus agencies operating in Virginia; thus the safety data are non-comparable.

   c. Virginia's current safety records system receives reports on approximately one-third of the intracity bus traffic accidents and none of the passenger accidents or crimes occurring in intracity bus operations.

   d. The need for a uniform statewide safety records system for intracity bus transit in Virginia has been widely recognized.

7. Deficiencies in Virginia's General Safety Records System

   a. Cross-referencing between the four major safety records files maintained by the Commonwealth of Virginia is difficult, time consuming, and expensive.

   b. There is much duplication in accident recording between the Virginia Department of Highways and Transportation, the Virginia State Police, and local governments in Virginia.

CONCLUSIONS

1. Need for Improvement of Traffic Records

   a. As intracity bus ridership increases, the need for monitoring intracity bus safety also increases.

   b. There is a need for a centralized safety records system to coordinate the traffic records files maintained by the Division of Motor Vehicles, the Virginia Department of Highways and Transportation, and the Virginia State Police.

   c. Standardization in safety reporting would vastly improve the comparability of data collected on intracity bus safety by the transit agencies, the Public Transportation of the Virginia Department of Highways and Transportation, and the Urban Mass Transit Administration.

   d. Since no Virginia bus transit agencies maintain automated safety records systems, the identification of safety problems is extremely cumbersome and limited in depth.

   e. A uniform, statewide, intracity bus safety records system is needed to effectively monitor and improve bus transit safety in Virginia.

2. Procedures for Improving Intracity Bus Safety Records

   a. The development of an intracity bus safety records system should be performed with the involvement of all the transit agencies operating in Virginia.

   b. The six largest transit agencies in Virginia should have the greatest input into the development of an intracity bus safety records system, since they report approximately 96% of the industry's accidents.

   c. ANSI D15.1 is the most comprehensive national standard for defining bus transit traffic and passenger accidents.

   d. The standardized categories of transit crimes developed by Jacobson et al. (1979) should serve as the basis for defining motor bus crimes.

   e. Activity measures most appropriate for intracity bus traffic accidents are vehicle miles of travel and

urban area population; for passenger accidents, vehicle miles, passenger miles, and passenger trips may be used; and for crimes, only passenger trips are appropriate.

f. Data elements and codes should conform closely with those of the Virginia State Police accident file and with the ANSI D20 accident data element list.

g. Primary accident data should be recorded by the bus driver on the prescribed accident/incident report form and should be forwarded to the implementing agency monthly.

h. Secondary accident/incident data should also be collected monthly.

i. System activity measures should be reported annually.

j. Continuous monitoring of intracity bus safety should be conducted by generating frequencies of the most frequently occurring types of accidents and crimes.

RECOMMENDATIONS

The recommendations resulting from this study are listed below and are made to assist state agencies in the promotion of highway safety. They have been derived only for the Commonwealth of Virginia.

1. A uniform, statewide, intracity bus safety records system should be implemented in the Commonwealth of Virginia to serve as the basis for a comprehensive intracity bus safety program.

2. The definitions, data elements and codes, and procedures for data collection, processing, output, and feedback suggested in this report should serve as the basis for the development of a statewide, intracity bus safety records system.

3. A committee should be appointed to review and amend the prescribed procedures for developing the system and should monitor the development of the project.

4. The review committee should be structured as suggested in this report.

5. The Virginia Highway and Transportation Research Council should develop the software needed to analyze the data collected and other procedures required for the efficient operation of the system.

6. Once the system is fully developed, the Virginia Department of Transportation Safety should coordinate a meeting with personnel of the Research Council and the Public Transportation Division of the Virginia Department of Highways and Transportation to decide which of these three agencies should maintain the system and to determine the procedure for transferring the system if necessary.

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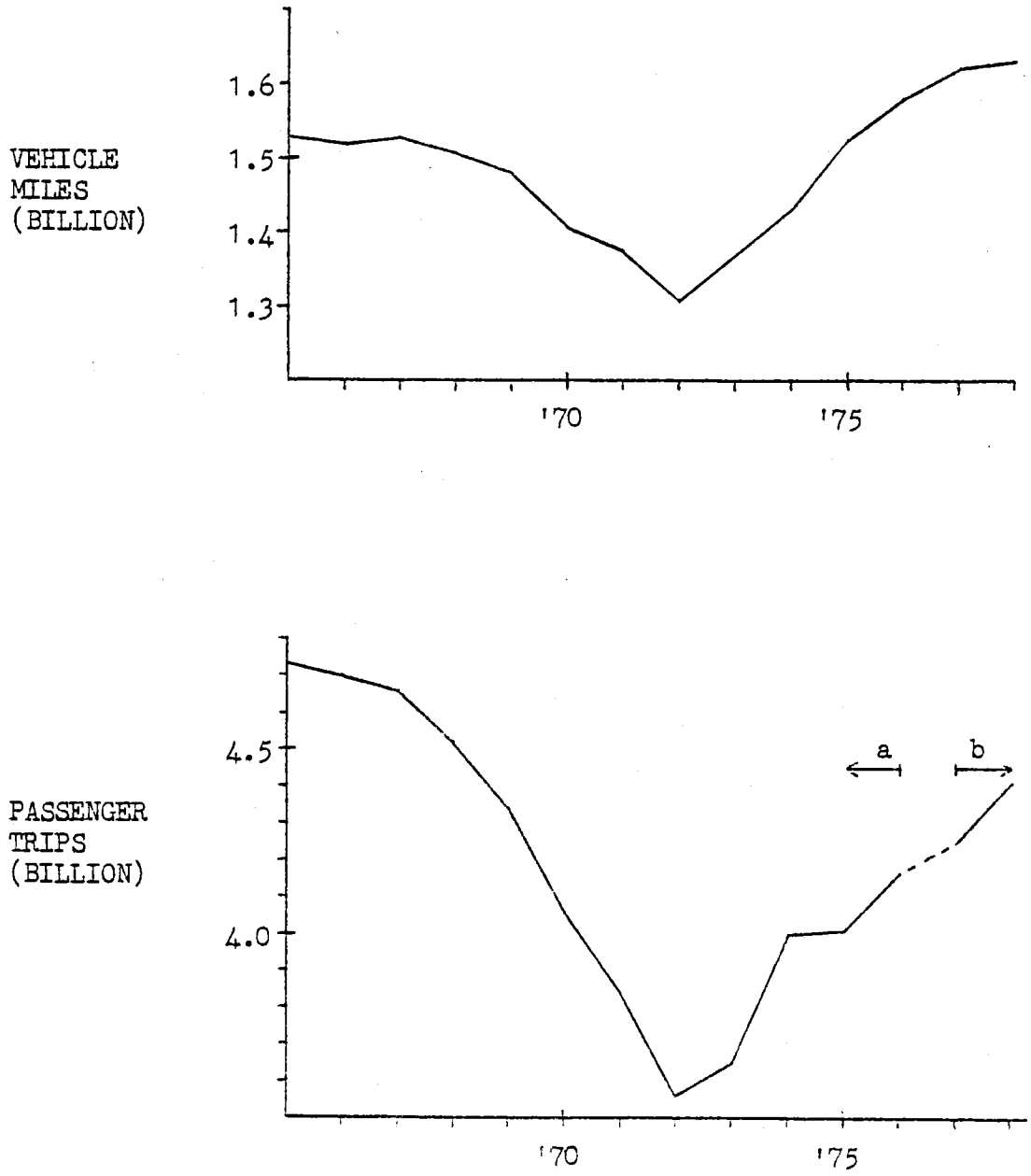
BACKGROUND

In the time between World War II and the petroleum shortage of 1973, transit ridership in the United States steadily declined. Since 1973, however, the trend for bus transit ridership has reversed (Figure 1), while that for ridership on the rest of the mass transit industry has continued to decline (American Public Transit Association, 1979a).

This increase in bus transit ridership benefits the public by saving energy, reducing air pollution and traffic congestion on the nation's highways and city streets, and by providing increased transportation services for the very young, the elderly, the handicapped, and the economically disadvantaged (APTA 1979a; Gray and Hoel 1979).

Still, there are problems with safety in motor bus transportation. Although the risk of fatality to motor bus occupants per hour of exposure is lower than that for any other mode of travel, the risk of personal injury is greater than for any other major urban mode except auto (Stanley 1974). In addition, transit buses are involved in more accidents per mile traveled than any other urban transportation mode, and therefore pose a greater risk to all users of the highway/street system (see Figure 2). According to the latest accident trends, safety in bus transit appears to be getting worse instead of better (see Figure 3).



a - Revenue Passenger Rides
b - Linked Transit Passenger Trips (transfers counted as one linked transit passenger trip rather than as two or more revenue passenger rides)

Figure 1. Trends in U. S. bus transit operations. (Source: APTA 1979a.)

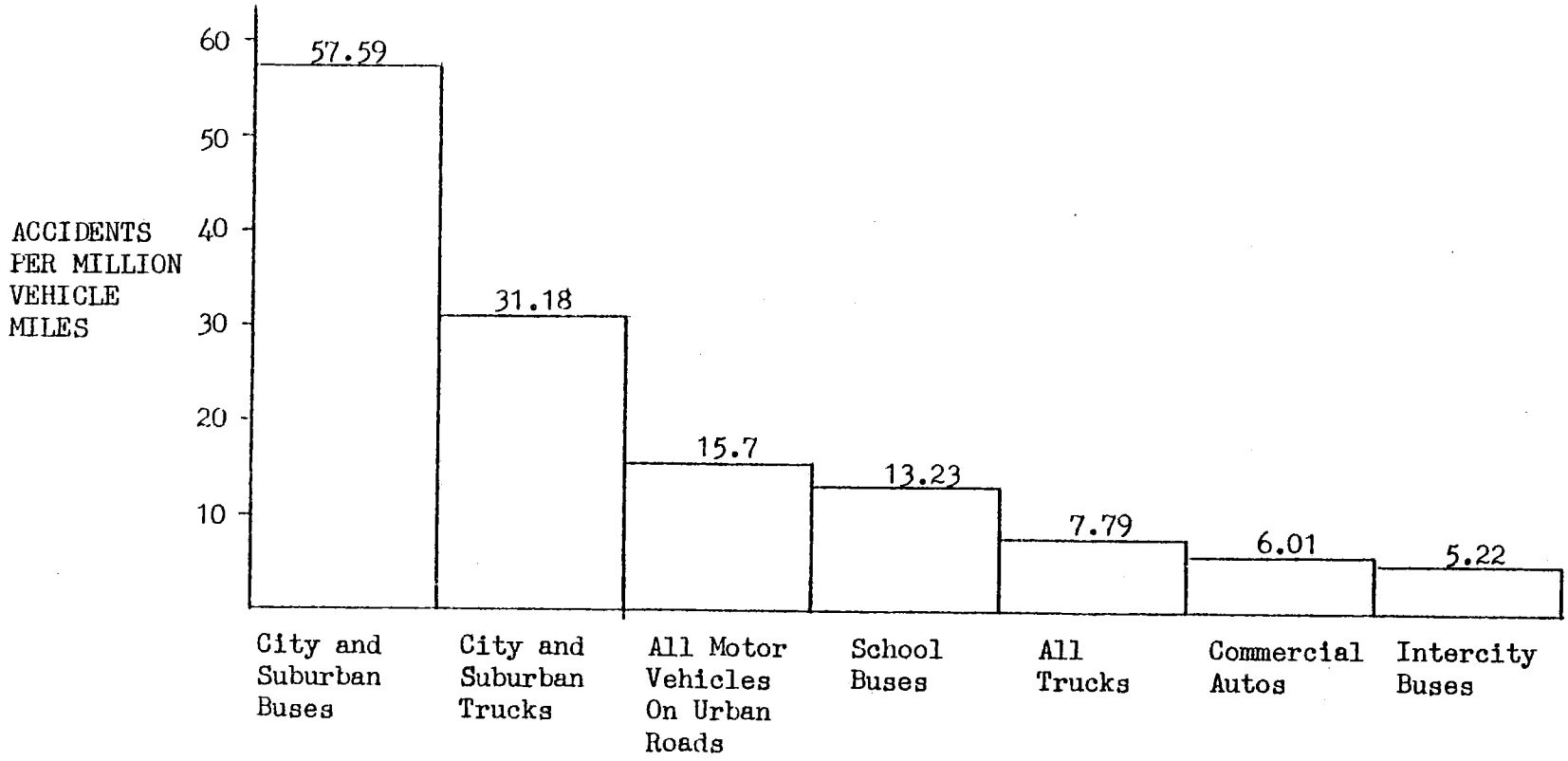


Figure 2. Accident rates for comparative modes — 1977. (Source: Accident Facts 1978.)

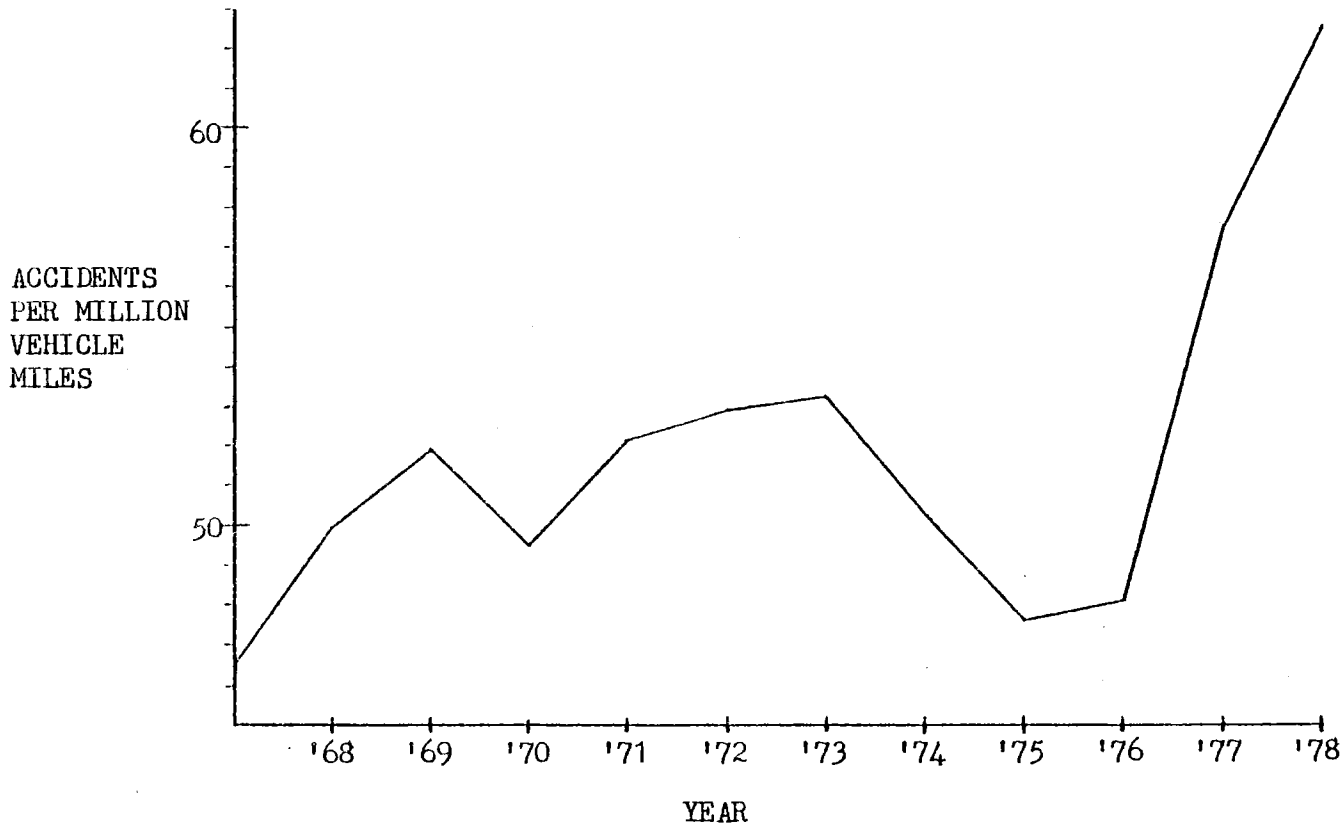


Figure 3. Bus transit accident rates. Source: Accident Facts — Includes all city and suburban bus accidents. Private carriers may be included in this chart but should comprise a small percentage of total bus accidents. Various years.

RECOGNITION OF RESEARCH NEEDS

Recognizing the need to enhance public safety in mass transit, the Virginia Department of Transportation Safety (VDTS) presented in 1978 a list of proposals. On this list were the recognized need for

> some sampling system ... to determine the kinds and types of accidents that are representative of problems encountered by mass transit, standardized accident forms, and ... [a] central data gathering system between all transit companies in the state to enhance safety through similar problem solving (Hanna 1978).

In addition, a meeting of representatives from local Virginia transit companies, labor, education, and local, state, and federal governments held at the Virginia Commonwealth University resulted in a report that also noted "the lack of a standardized accident reporting, classification, and review process." (Transportation Safety Training Center 1979, p. 2) The first recommendation of this report was

> that specific attention be given to the development and implementation of a practical, "uniform transit accident reporting system or process," which would meet with the approval of all transit systems, and which would provide the minimum basic data necessary for effective accident prevention and loss reduction programming (TSTC 1979, p. 5).

Finally, the Virginia Highway and Transportation Research Council conducted personal interviews with representatives of all fifteen of the common carrier bus transit companies in Virginia in 1979. At that time, all the companies favored the development of a uniform transit safety records system and said they would be willing to collect some extra data if doing so was not too costly and would report such data for inclusion in the system.

SCOPE AND OBJECTIVES

Scope

In developing a safety records system for mass transit in Virginia, it was decided to focus on intracity bus agencies

offering common carrier services. Intracity buses operate in an environment unique from those of other mass transit modes; therefore, to include other modes would render the study group non-homogeneous and would confound an analysis of the safety problems. Carriers offering services to limited classes of riders were also excluded, since it was considered desirable to obtain the greatest benefit to the broadest spectrum of the public. Carriers offering limited services could be included in the system in the future if desired.

The following bus transit agencies cooperated in the project.

Bristol City Bus Company
Charlottesville Transit Service
City of Danville Transit
Greater Lynchburg Transit Company
Greater Richmond Transit Company
Greater Roanoke Transit Company
Harrisonburg City Bus Service
James City County Transit
Peninsula Transportation District Commission (PENTRAN)
Petersburg Area Transit
Radford City Transit Service
Staunton Transit Service
Tidewater Regional Transit (TRT)
Washington Metropolitan Area Transit Authority (WMATA)
Winchester City Transit

Objectives

The objectives of this project, most of which had been previously established (Hajec 1979), were as follows:

1. To determine the state of the art of safety-related data collection and analysis procedures for public bus transit.
2. To determine the legal context in which bus-transit-safety-related data must be reported.
3. To identify the safety-related data deficiencies in the current bus transit reporting system.
4. To develop definitions of bus transit accidents, criminal acts, and other incidents.

5. To develop measures of bus transit safety and security.

6. To develop a standardized reporting system for bus-transit-safety-related data.

7. To develop guidelines for collecting and analyzing bus-transit-safety-related data.

METHOD

The methodology used in this study roughly comprised the six tasks described below.

Task 1: Literature Review

A search was made for relevant materials available through the Highway Research Information Service, and the National Technical Information Service. Also current data acquisition and processing practices of Virginia and other states were reviewed to determine the state of the art. Finally, the laws governing transit safety reporting requirements were reviewed.

Task 2: Determine Data Needs

Virginia's traffic safety records system was reviewed along with the recommendations made by federal agencies for bringing Virginia into compliance with federal standards. The current reporting procedures of the intracity bus agencies operating in Virginia were also reviewed to determine their need for safety data.

Task 3: Develop Definitions

Definitions of motor bus traffic accidents, passenger accidents, crime and other incidents were developed in a form consistent with existing standards.

Task 4: Develop Data Element List

A preliminary list of data elements relative to bus transit safety was prepared and submitted in questionnaire format to the

transit agency safety directors. Based upon their responses, a final list, complete with coding information, was generated for inclusion in the safety records system.

Task 5: Design Report Form

A standard accident form to be filed by the bus operator or safety supervisor for each accident or incident was designed for possible use in the system.

Task 6: Develop Implementation Guidelines

Recommendations for implementing a transit safety records system were enumerated. These included suggested output data to be returned to the individual transit agencies, suggestions on which state agency should develop a pilot program, which agency should maintain the program permanently, and the mechanism for feedback from the transit agencies.

ANALYSIS

General Traffic Records Management

This section on general traffic records management reports the first phase of a two-phase evaluation of the state of the art of traffic records systems. This phase consisted primarily of a search of the literature on the management of general safety records relevant to intracity bus transit, and was supplemented by contacts with experts in the field. The discussion begins with a review of the most general concepts of managing traffic safety and proceeds to the state of the art of traffic safety records systems on the federal and state levels.

Framework

Procedures for conducting investigations of traffic accidents and for constructing a taxonomy for such accidents are reviewed in the succeeding paragraphs to provide background for a discussion of the uses of accident data in managing traffic safety.

Investigating Traffic Accidents

A comprehensive safety program requires varying degrees of sophistication in accident investigation. Three levels of accident investigation — basic reporting, limited investigation, and intensive investigation — are suggested in the literature (Garrett and Tharp 1969; Jones et al. 1977).

Basic reporting is the foundation of any credible safety program and is performed by the involved vehicle operator or by police in their routine accident investigation. This level of investigation involves collecting limited data on a maximum number of cases. Such data are analyzed by statistical methods to isolate problems for deeper investigation. The development of this level of investigation is the focus of this particular study.

The safety problems identified in the first level investigation are explored in greater depth by a limited investigation of a statistical sample of the larger accident population. Technicians or special police may be employed to collect data prescribed by professional investigators. The analysis of the data collected during this phase could aid in the discovery of underlying causes of particular kinds of accidents.

Intensive investigations conducted by multidisciplinary professional research teams represent the third level. These investigations are also performed on a limited sample and should result in the hypothesis of causal relationships, the improvement of investigative techniques, and the establishment of research needs.

Developing a Traffic Accident Taxonomy

To effectively manage basic accident data, described in the previous section as the first level of accident investigation, it is necessary to develop an accident taxonomy describing the most important chains of events of the types of accidents that occur most frequently. A University of Southern California research team has developed a traffic accident causal chain consisting of three elements as shown in Figure 4 to aid in the classification of traffic accidents (Jones et al. 1977).

The "triggering event" is the first occurrence in the causal chain, although it is not necessarily the primary cause. The underlying cause may not be readily observable. For example, the triggering event may consist of a driver exceeding the safe

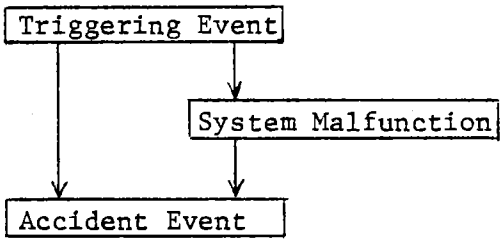


Figure 4. Traffic accident causal chain. (Source: Jones et al. 1977.)

operating speed in a residential area and therefore may be appropriately described as a driver error. The underlying cause of the driver error may be an operating schedule that requires the driver to travel too fast in some circumstances to remain on time. The triggering event is most easily identified in empirical investigations, while more analytic investigations may be necessary to determine the primary cause.

A "System malfunction" is the second element in the causal chain if it occurs, and may involve one or more vehicle components or other system components. To continue the previous example, a pedestrian may step into the street in a marked crosswalk in the path of an oncoming bus, which is traveling too fast for conditions, and the driver may apply the brakes in an attempt to avoid collision. If a brake failure then occurs, it would be an obvious case of a system malfunction. System malfunctions that occur frequently in traffic accidents are also most easily identified by empirical methods, while analytic investigations may be necessary to determine their cause.

The final element in the causal chain is the "accident event", and it always results in either death, injury, or property damage. In the previous example, if the pedestrian is struck and injured by the bus, such an occurrence is considered the accident event. The accident event is the element toward which empirical analysis is most often directed. Empirical methods are quite effective in isolating specific types of accident events that occur most frequently.

To develop an accident taxonomy that is useful for monitoring the frequency of accidents, items from the three elements in

the causal chain are linked to provide a specific chain of events that can describe a particular accident. As may be readily seen, if there are several items or categories in each element of the causal chain, the number of taxa can be quite large. For example, if there are ten categories in each of the three elements of the causal chain, then there are at least a thousand possible combinations of those categories in the traffic accident taxonomy. Clearly, it is impractical to generate statistics for each taxon on a routine basis. Therefore, it is suggested that only the most important taxa, i.e. those with high accident frequencies, be continuously monitored (Jones et al. 1977).

Function of Traffic Records

According to the National Highway Traffic Safety Administration (NHTSA 1976), data collected in the first level of accident investigations can be used with great effectiveness to perform the three basic functions of safety data analysis: problem identification, countermeasure selection, and countermeasure evaluation. These three functions are shown as elements in the systems approach to safety problem solving in Figure 5 and are discussed in detail below. The other elements in Figure 5 are influenced more indirectly by traffic safety data and rely heavily on political input as well; therefore they are not particularly relevant to this project.

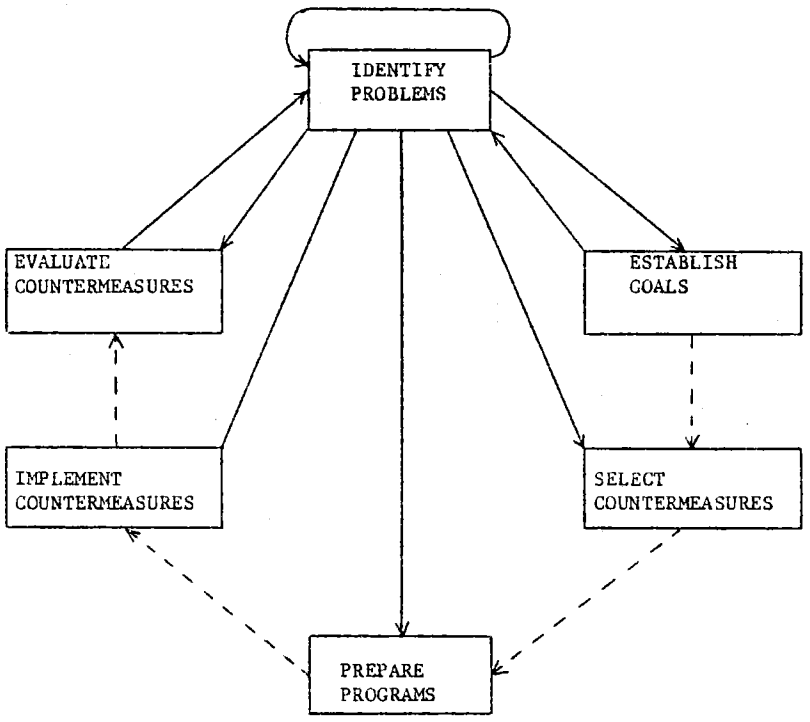


Figure 5. Systems approach to safety problem solving. (Source: NHTSA 1976.)

Problem Identification

The identification of safety problems involves the collection and statistical analysis of sufficient quantities of data to ascertain with a reasonable level of confidence that certain subpopulations are overrepresented in traffic accidents. This process, which is basic to any transportation safety program, is presented in Figure 6.

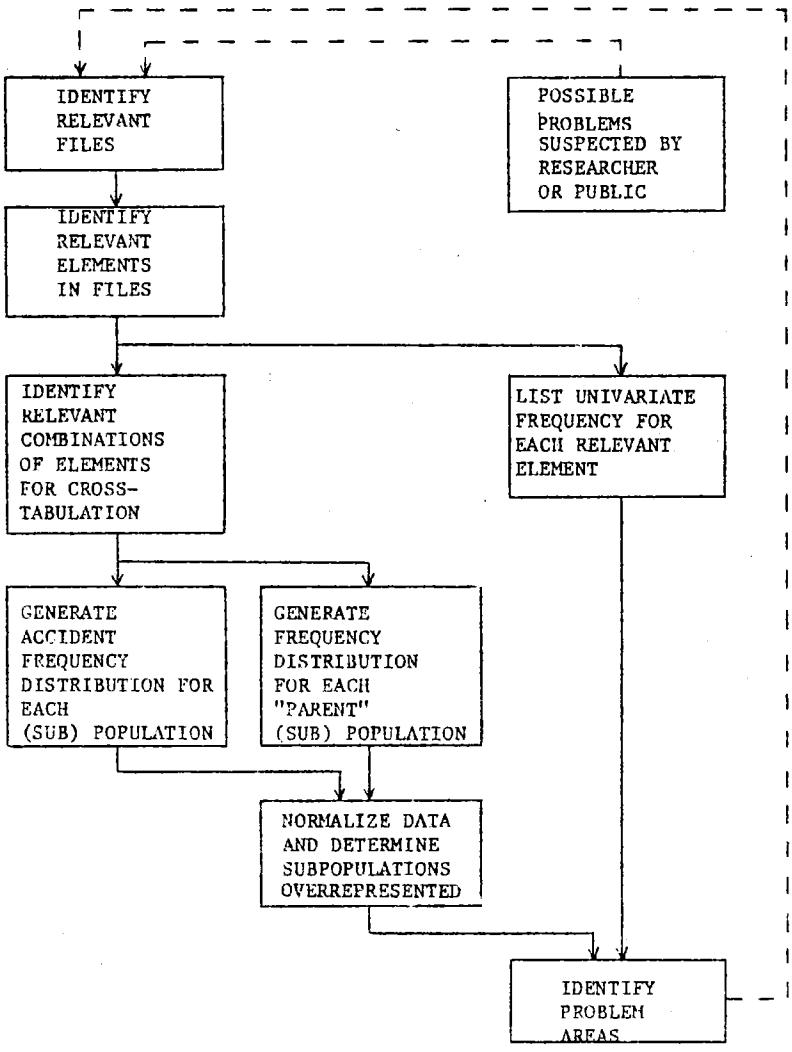


Figure 6. Traffic safety problem identification process. (Source: NHTSA 1976.)

The first step is to identify the relevant data files that are available. The National Highway Traffic Safety Administration (NHTSA) has identified several of the necessary files as follows:

1. driver
2. vehicle
3. roadway
4. accident
5. emergency medical services
6. enforcement and adjudication
7. educational services
8. highway safety management

The first four files are used in practically every highway safety system, the fifth and sixth are frequently available, and the last two are becoming widely used.

After the relevant files have been identified, the elements in each file should be examined. An extensive list and description of the recommended data elements for each file is contained in the ANSI D20 Data Element Dictionary (ANSI 1979). A univariate frequency distribution should be listed to point out potential problems. It should be noted that continuous data elements such as driver age should be recoded as ordinal (or grouped) data.

The next step is to determine the important element or combination of elements to be used in stratifying a file population or subpopulation. Frequency listings of the number of accidents should be generated for each population or subpopulation that has been so stratified. Likewise, corresponding frequency listings should be generated for the parent population/subpopulation from which the population experiencing accidents has been drawn. In some cases outside sources, such as the census bureau, must be consulted or additional studies must be conducted to determine the frequency distribution of the parent population.

Next, the accident data are normalized by comparing the percentage of the accident involvement in each cell of the frequency distribution for the accident-involved population with the percentage of the total population in corresponding cells. Thus, the subpopulations that are overrepresented in accident involvement are identified. The significance of this overrepresentation, according to a preselected level of confidence, can be determined using the appropriate statistical test — binomial, Poisson or

chi-square (see Laughland et al. 1975 for a discussion of the appropriateness of each of these tests).

Finally, the overrepresented subpopulations are ranked according to the amount of overrepresentation and the magnitude of the problem identified from the univariate frequency list. This process is then repeated until all elements, or at least the major ones, that may contribute to the overrepresentation have been identified.

This process may appear somewhat vague in that there are no guidelines for selecting the data elements by which the population is to be stratified. The analyst must rely on judgement in selecting the data elements to be analyzed or else analyze all data elements. The latter option is seldom viable due to budgetary constraints.

Countermeasure Selection

The problem identification process provides information pertaining to the magnitude of specific problems that may be treated by countermeasures, but the selection of countermeasures is largely determined by economic and political considerations. Therefore, the primary use of traffic accident data in selecting countermeasures is to assess the potential impact of the proposed countermeasures. The generation of proposed countermeasures requires insight and ingenuity and is not reducible to a simple algorithm.

Countermeasure Evaluation

The evaluation of countermeasures, on the other hand, follows a procedure similar to the one outlined for identifying problems. When the accident data before and after the implementation of a specific countermeasure are compared, the significance of any reduction in accidents may be determined. The time periods for which the before and after data are taken must be short enough to minimize changes in accident experience due to other variables and must be long enough to yield statistically significant results; generally one to three years.

Organization of Traffic Records Systems

The management of traffic safety records can be divided into a five-stage process: planning and control, data collection, archival and storage, data processing, and communication and feedback (Garrison, Thomas, and Worrall 1966). Brief descriptions of

these elements are given here along with a discussion of how this study approached each element.

Planning and Control

The planning element involves system development, implementation, and periodic updating, and requires input from vehicle operators and users. The planning element was the focus of this project and laid the ground rules for the subsequent four elements of the traffic records management process.

Data Collection

The data collection element involves reporting, encoding, editing, and filing the data in a form that facilitates analysis. This project focused primarily on the selection of data elements and codes, the development of a useable reporting form, and recommendations for editing and filing the data so that retrieval is made as easy as possible.

Archival and Storage

This element involves the method and duration of data storage. The method of storage (i.e. file structure) was developed in this project, although the length of time the data should be stored was not considered. Modern computer technology renders a discussion of storage time moot since vast amounts of data may now be stored in small amounts of space. The particular archival procedures are left for development by systems analysts.

Data Processing

The data processing element involves the systematic analysis of the data on file to provide insight on how to improve system safety. The general analytical techniques enumerated later in the report involve the use of automated data processing facilities as well as graphic techniques.

Communication and Feedback

This element involves returning the results of the data processing analysis back to the users, along with an interpretation of the results, and also involves the receipt of suggestions from

users on how to improve the system. This project developed recommendations on how the communication and feedback should function so the system will be responsive to user needs.

Performance Criteria for Traffic Records Systems

In evaluating transportation safety records systems, researchers have used many criteria (Jones et al. 1977; Garrison, Thomas, and Worrall 1966). The most important are:

1. completeness
2. quality
3. comparability
4. flexibility
5. timeliness
6. economy

To maximize the performance of a system in any single area invariably reduces the system's performance in one or more other areas. A high performance data system, therefore, is one in which all areas of performance are maximized simultaneously. To provide an understanding of how this task may be accomplished, each criterion is examined briefly below.

Completeness

Seven areas have been identified where adequate data should be maintained for effective safety system management (Jones et al. 1977). These areas cover:

1. Facts surrounding the accident itself
2. Conclusions concerning causal factors
3. Data which relate the accident to an exposure index
4. Data which relate the accident, or component failures involved, to the total population of like factors or components
5. Data which relate failures, failure rates, and maintenance and operating practices to failure-induced accidents
6. Data relating safety countermeasures to failures and accidents which permit evaluating the effectiveness of accident countermeasures

7. Data which indicate the severity and/or costs of accidents.

Complete data collection can be enhanced by adequately designing the accident report form, instructions on how to fill out the form, a program for checking the report form and returning incomplete forms to those responsible for filling them out, and, a program to ensure that there are no omissions in encoding the data.

Quality

Accuracy is another important criterion in the collection of data. Accurate, high-quality data are ensured by using clear and concise report forms and instructions for filling them out, a program of field checks by safety supervisors, and manual and/or computer editing procedures in the data processing office.

Comparability

The data that are collected should be comparable with the data collected for other modes and should also be comparable from year to year. To make the data comparable, they should be associated with an appropriate measure of exposure to risk. There are four commonly used exposure types (Byun et al. 1979b):

1. time — vehicle hours, passenger hours, system year; favors low speed modes.
2. event — number of operations, trips, links; favors short trip modes.
3. activity — vehicle miles, passenger miles; favors high speed, long distance modes.
4. population — number of registered vehicles, licensed drivers, passengers or population; favors high capacity, low mileage modes.

Factors that may confound comparability between modes or years are (1) changes in driver age or experience, (2) changes in vehicle characteristics, (3) changes in traffic volume or mix, and (4) transportation systems management changes. Every effort should be made to note these changes when they occur (Byun et al. 1979a).

Flexibility

Transportation safety data systems should be responsive to changes in user demands. Changes in operational characteristics, program emphasis, or advances in the state of the art may result in a need to modify the system. Systems that can be easily modified are, therefore, obviously superior to those that must be redesigned entirely.

Timeliness

The timely availability of information is another important consideration in the design of a safety data system. The effective management of a safety program requires up-to-date data so that countermeasures may be implemented that respond to current needs.

Economy

The economy of implementation and operation is the bottom line for any transportation program. In light of the recent drop in revenue from traditional sources, i.e., gasoline taxes, and the nationwide trend toward reduced funds for government services, the cost factor is of increasing importance in the design of data systems.

Existing Traffic Records Systems

Traffic records systems that can be used for statistical problem identification and that are not mode-specific are reviewed in this section. The states have traditionally been responsible for maintaining accident records, but the federal government has become involved in recent years due to the recognized need for nationwide standardization for comparison purposes. The systems in use or under development by the U. S. government are reviewed briefly and the traffic records system used by the Commonwealth of Virginia is reviewed in somewhat greater detail.

Federal

The NHTSA has developed or is developing three accident records systems: (1) the Fatal Accident Reporting System (FARS), (2) the Data Analysis and Reporting Techniques (DART), and (3) the National Accident Sampling System (NASS).

FARS was the first nationwide traffic accident records system,having been developed and implemented in 1974. It contains data pertaining only to fatal accidents, although the data included are quite extensive. Vehicle, occupant, and environmental data are obtained from police accident reports, state driver license files, motor vehicle registration files, highway department files, and vital statistics files (National Center for Statistics and Analysis 1977).

DART is a software package designed by the NHTSA for use by the states in problem identification. It was made available to all the states between 1977 and 1979, although not all states have decided to use it. DART provides a standardized system for restructuring the states' accident files so statistical analyses can be performed. It is intended not to replace but to supplement the states' current traffic accident records systems. When used with the Design Manual for State Traffic Records Systems (NHTSA 1973), DART meets all the previously stated criteria for adequate accident records systems (The DART System 1978).

NASS is under development as a supplement to FARS. It will provide a small statistical sample of all accidents occurring nationwide but will be plagued by inconsistencies in the states' reporting requirements and procedures (Jones et al. 1977).

Virginia

In Virginia, the four files designated as being essential to traffic safety management (NHTSA 1976) are maintained by three state agencies. Vehicle and driver history files are maintained by the Division of Motor Vehicles (DMV); the roadway file by the Virginia Department of Highways and Transportation (VDH&T); and accident files by the VDH&T and the Virginia State Police (VSP). The data kept in each file and the structure of the VSP accident file are shown in Appendix A. Cross-referencing between files presently is difficult, time consuming, and expensive. The only continuous effort to do so has been with the VDH&T accident and roadway files in the identification of hazardous locations.

Several studies have examined Virginia's traffic safety records and have found them lacking (Governor's Management Study 1970; Kelsh 1979; Lisle 1975 and 1976; Lisle and Heitzler 1975; NHTSA 1980; Taylor 1973). The most pressing need is for a centralized records system that can have data input by the various state agencies and data retrieval by selected users. A study is being conducted to determine the costs of alternative traffic records systems (Kelsh, Heitzler, and Petersen 1980).

Virginia's accident recording mechanism is illustrated in Figure 7. A typical accident occurring in a Virginia city might be investigated by city police, who would file a police report form with the local government, who, in turn, would code, edit, and write the items desired onto its accident file. Some localities then wait for several reports to be filed before forwarding them to the DMV. The DMV would forward a copy of the police report to the VSP, and would then code, edit, and post the data it requires to the driver history file and vehicle file. The State Police then receive the report, assign an accident case number, check to see that a duplicate has not been filed by another officer, separate urban and rural, and hold the report until no additional accidents are reported in that month for three consecutive days. Then the State Police code, keypunch, edit, and write the data on the monthly crash tape, a copy of which is forwarded to the VDH&T along with the police report. In this particular case the accident report is further used only in composing collision diagrams. For rural accidents, the same data from the State Police crash tape are recoded, edited once again, and written on the VDH&T accident file.

The inadequacies of Virginia's present traffic records system are significant. Essentially duplicate accident files are maintained by the VDH&T, VSP, and local governments, although the scope of these files differs. Such duplication results in untimely data processing due to the delays inherent in such a system; inflexibility, since a change in reporting requirements makes changes in each accident file necessary; and high costs due to the need to maintain several systems. The inefficiencies in the present system are not easily remedied because of the desire of each involved agency to maintain control over its own data systems.

Conclusion

Although this discussion has covered the state of the art of traffic safety records systems in general, it also applies to intracity bus safety records systems specifically. The procedures for investigating traffic accidents and developing a traffic accident taxonomy are applicable to intracity bus safety records systems. Also, the functions and organization of an intracity bus safety records system and the performance criteria for evaluating such a system are the same as those outlined here for general traffic records systems. Finally, the traffic records systems discussed attempt to provide safety data for intracity bus safety program management and are, therefore, pertinent to this study. A more detailed discussion of the state of the art of intracity bus safety records management is presented next.

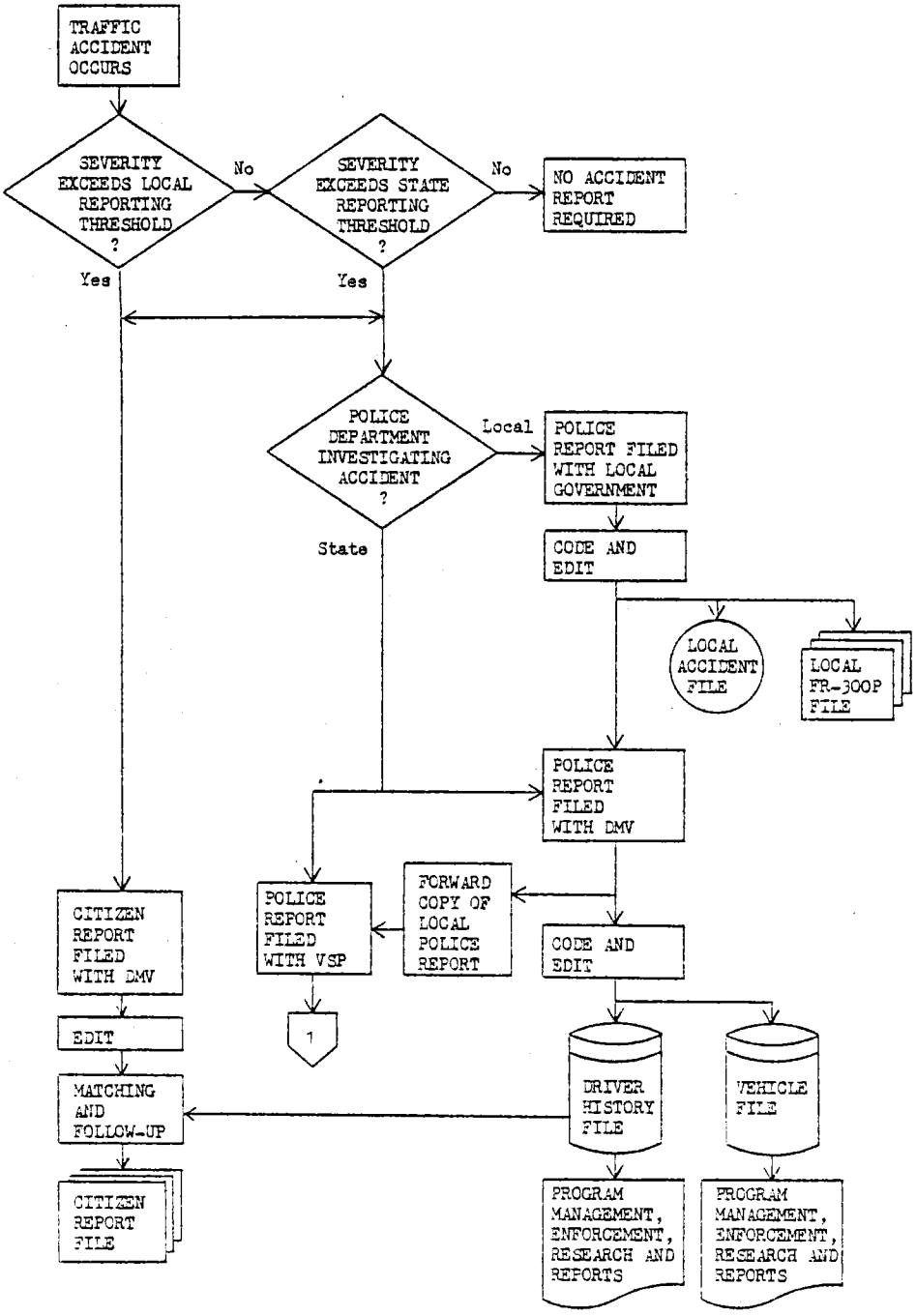


Figure 7. Virginia's accident recording mechanism. (Sources: Edwards 1980; Kelsh 1980, Somerville 1980; Taylor 1973.)

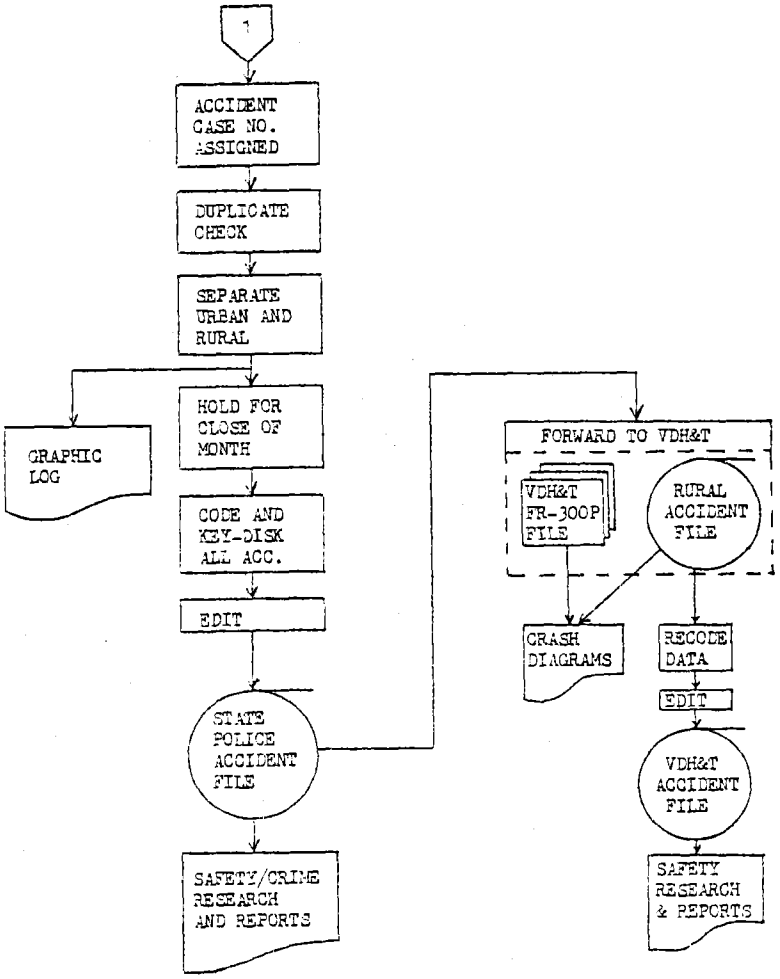


Figure 7 (continued). Virginia's accident recording mechanism. (Sources: Edwards 1980; Kelsh 1980; Sommerville 1980; Taylor 1973.)

Intracity Bus Safety Records Management

This section surveys the state of the art of intracity bus safety records systems in the U. S. Previous studies of urban bus transit safety are reviewed to determine the primary safety problem areas. Definitions and activity measures that apply to the mode are reviewed and discussed in detail and a set of definitions to be used in this project is established. Urban bus safety records systems that presently exist are reviewed along with the data reporting requirements mandated by federal, state, and local laws as well as those imposed by the various transit agencies on themselves.

Safety Problem Areas

To set the stage for a discussion of the state of the art of intracity bus transit safety records, it is helpful to identify the major safety problems in the industry. Previously published studies and transit company safety reports have been reviewed and the most comprehensive are discussed in this section.

The Office of Safety and Product Qualification (OSPQ) in the Urban Mass Transportation Administration combined several of what are considered to be the best data sources available and derived a breakdown of bus transit injuries and fatalities as shown in Figure 8. This analysis shows that between traffic and passenger accidents, the former represent the greater safety problem by far, especially in the area of high severity injuries; i.e. fatalities. The majority of casualties involve pedestrians, followed by occupants of other vehicles, and bus passengers. More occupants of other vehicles than bus passengers are killed, while more bus passengers are injured. The OSPQ reports that the data sources available to it have problems with quality or accuracy, however, and should be accepted with caution (Jones et al. 1977).

Accident data from the Chicago Transit Authority (CTA) support the findings of the OSPQ (see Table 1). CTA statistics show traffic accidents outnumbering passenger accidents by three to one; boarding, alighting, and on-board passenger accidents are split roughly evenly. The CTA accident rates are comparable to the accident rates computed from data reported by Virginia's intracity bus companies in fiscal year 1979 — 5.84 collision vs. 2.75 non-collision accidents per 100,000 vehicle miles (Public Transportation Division 1979b).

To gain some insight into the magnitude of incidences of crime and vandalism in comparison with traffic and passenger accidents, the data collected by Thrasher and Schnell (1974) and data from the CTA (1978) were analyzed. The results of this analysis are presented in Tables 2 and 3.

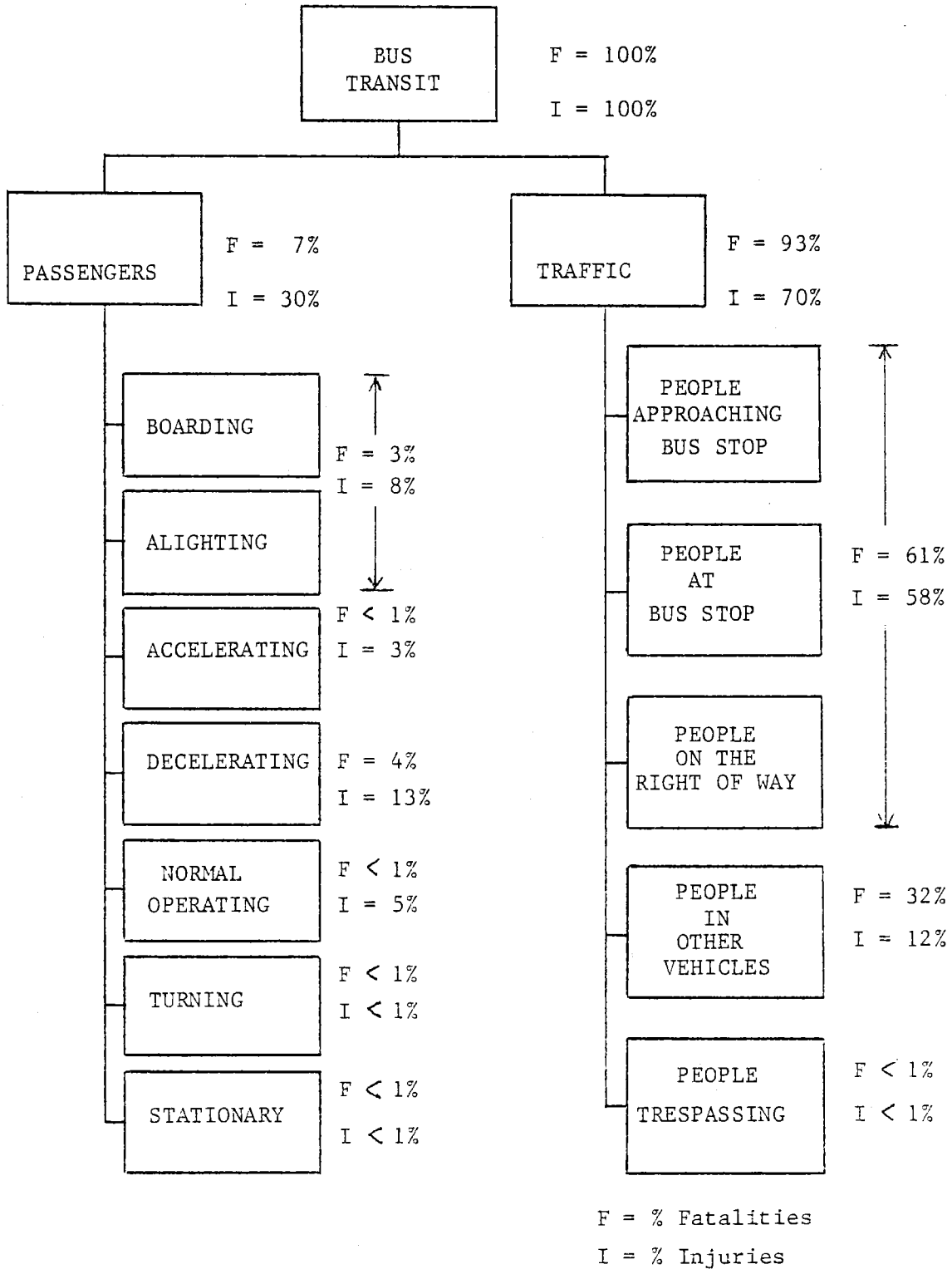


Figure 8. Non-employee injuries and fatalities in U. S. bus transit. (Source: Jones et al. 1977.)

TABLE 1

CHICAGO TRANSIT AUTHORITY BUS ACCIDENT EXPERIENCE

YEAR	TRAFFIC ACCIDENTS		PASSENGER ACCIDENTS						TOTAL
			ALIGHTING		BOARDING		ON-BOARD		
	REPORTED	BLIND*	REPORTED	BLIND*	REPORTED	BLIND*	REPORTED	BLIND*	
1975	5,673	570	387	381	175	226	678	482	
1976	5,664	601	347	332	189	163	413	677	
1977	5,666	548	368	284	205	135	368	611	
MEAN	5,668	573	364	332	190	175	468	590	
TOTAL	6,241		696		365		1,076		8,378
PERCENTAGE	75%		8%		4%		13%		100%
			25%						
ACCIDENT RATE (Per 100,000 Veh. Mi.)	7.27		0.81		0.43		1.25		
			2.49						

* Blind cases are unsolicited reports from outside sources describing a previously unknown occurrence (APTA 1979c).

SOURCE: CTA 1978.

TABLE 2

TRANSIT CRIME AND VANDALISM IN 1971

CITY Population	CRIME RATE [a]		VANDALISM COSTS AS PERCENT OF OPERATING COST
	VIOLENT	OTHER	
> 1,000,000 [b]	0.15	1.82	0.303
250,000 - 1,000,000	0.08	1.04	0.344
<250,000	0.05	0.63	0.273

[a] incidences per 100,000 vehicle miles

[b] includes rail transit

SOURCE: Thrasher and Schnell 1974.

TABLE 3

ACCIDENTS, CRIME AND VANDALISM IN THE
CHICAGO TRANSIT AUTHORITY IN 1971

ACCIDENTS[a]	
ALIGHTING	1.18
BOARDING	0.55
ON-BOARD	1.40
TRAFFIC	6.97
CRIME[a b]	
VIOLENT	0.49
OTHER	1.65
VANDALISM COSTS	
AS A PERCENT OF OPERATING COST	0.325

[a] incidences per 100,000 vehicle miles

[b] includes rail transit

SOURCES: Thrasher and Schnell 1974; CTA 1978.

It is interesting to note that although the crime rate varies according to city size, it appears to be of the same order of magnitude for all cities. When compared to operating costs, vandalism costs show even less variation between cities. Violent crime in the CTA system is much higher than average but may be due to unique characteristics of the CTA rail transit system, which accounts for most of the systems' crime. It might be more accurate to compare the crime rates from Table 2 with the accident rates in Table 3, which are typical for the bus transit industry. The incidence rates of violent crime appear to be hardly significant upon face value, but the impact of violent crime is very significant to riders, who will often avoid using the system if they believe the system has unusually high incidences of crime (APTA 1976b). Consequently, this project focused on crime as well as traffic and passenger accidents in developing a safety records system for intracity bus transit.

Definitions

According to the APTA there are no universally accepted definitions of accidents in the transit industry (APTA 1979c). Likewise, the laws governing criminal liability also vary among states and localities. In developing a traffic safety records system that can be used for statistical analyses, uniform definitions of the data are imperative. The purpose of this section, therefore, is to present the standard definitions of traffic accidents, passenger accidents, and crime that do exist; to examine the discrepancies between standards; and to formulate uniform definitions to be used throughout the state's intracity bus transit industry.

The guidelines to be used in formulating these definitions are the applicable performance criteria for data systems enumerated previously; namely, completeness, comparability, and economy. The quality and timeliness of the data and the flexibility of the system are more dependent on system design than on data definition and are, therefore, excluded from use in this task.

Motor Bus Traffic Accidents

In defining what constitutes a motor bus traffic accident in Virginia, three standards are applicable. The first, ANSI D16.1 (1976), defines traffic accidents in general; the second, ANSI D15.1 (1976), defines traffic accidents for motor vehicle fleets; and the third standard is the common practice of the Commonwealth of Virginia, which applies to all motor vehicles operating on roadways in the states.

ANSI D16.1 defines a traffic accident as it applies to motor vehicles (or a motor vehicle accident) as

> a set of events not under human control ... that involves a motor vehicle ... in motion or on a roadway ... which includes at least one occurrence of injury or damage ... not directly resulting from a cataclysm ... in which the first harmful event is not produced by discharge of a firearm or explosive device ... and is not an aircraft accident or watercraft accident, and does not include any harmful event involving a railway train in transport prior to involvement of a motor vehicle in transport (ANSI D16.1 1976, pp. 3-9).

Acts of deliberate intent are excluded from this definition, but the unintended consequences of such acts are not excluded.

ANSI D15.1 sets the standard definition of a motor vehicle fleet accident and is therefore more specific to bus modes. This definition is:

> Any occurrence involving a fleet motor vehicle that results in death, injury, or property damage, unless such fleet vehicle is properly parked. ... However, a motor bus ... stopped for the purpose of loading or unloading passengers is not considered parked (ANSI D15.1 1976, p. 7).

In contrast to ANSI D16.1, this definition includes accidents occurring off the roadway and accidents involving any other transport vehicle such as an aircraft, watercraft, or railway train. A complete definition of the ANSI D15.1 motor vehicle fleet accident with interpretations is presented in Appendix B.

On the state level in Virginia, there is no written standard except as defined by the precedents established by the rulings of courts of law. The practice of the DMV is the standard in areas where the courts have not ruled. The guideline used by the DMV is that events involving vehicles on the roadway in which liability may be in question are to be considered traffic accidents (Edwards 1980).

To simplify the presentation of conflicts between these three standards, Table 4 is presented. As can be seen, the ANSI D15.1 standard is clearly preferred since it contains the only definition which includes accidents occurring off the regular roadway. In this project there is interest in accidents involving urban buses in their normal operation wherever that may be.

TABLE 4

CONFLICTS AMONG STANDARD DEFINITIONS OF A MOTOR BUS TRAFFIC ACCIDENT

EVENT	INCLUSION IN STANDARD		
	ANSI D16.1	ANSI D15.1	VIRGINIA
Off-roadway Accident	No	Yes	No
Cataclysm	No	No	Yes
Consequences of Cataclysm	No	Yes	Yes
Accident Involving Aircraft, Watercraft, Railway Train	No	Yes	Yes
Deliberate Crash	No	No	Yes
Consequences of Use of Firearm/ Explosives	No	Yes	Yes

When examining the three standards according to the criterion of comparability, it is apparent that each has advantages in certain contexts. Table 5 lists, in descending order of need, the definitions required for comparisons of accident data with intracity bus transit data, and also shows the standard that best serves the purpose of comparisons of accident data. As the table shows, all three standards are required for comparison of accident data in all contexts. Since there is a subfile on the DSP crash tapes with accidents defined according to the Virginia standard, the new file should meet the definition of a motor vehicle fleet accident as defined by ANSI D15.1 for the optimization of data comparisons. The benefits derived from meeting the ANSI D15.1 standard are substantial — the coverage of accident experience is made more complete than if either of the other standards is used and comparability of accident experience is greatly enhanced, particularly in the context of intracity bus transit throughout the U. S.

TABLE 5

STANDARD DEFINITIONS REQUIRED FOR BEST COMPARISON
WITH OTHER TRANSPORTATION CONTEXTS

CONTEXT FOR COMPARISON	REQUIRED STANDARDS
Highway Transportation in Virginia	Virginia
Non-Highway Transit in Virginia	Virginia & ANSI D15.1
Intracity Bus Transit In U. S.	ANSI D15.1
Other Mass Transit in U. S.	Virginia & ANSI D15.1
Highway Transportation in U. S.	ANSI D16.1
Non-Highway Transportation (Va./U.S.)	Virginia & ANSI D15.1

Coding the events in which ANSI D16.1 conflicts with ANSI D15.1 is also relatively inexpensive, but the benefits of meeting the ANSI D16.1 standard are not sufficient to merit doing so, because few states meet the standard and the ability to compare the intracity bus accident experience with that of other highway modes across the U. S. is of low priority.

Therefore, it is desirable that the definition of a motor bus traffic accident in a uniform, statewide, intracity bus transit safety records system for the Commonwealth of Virginia meet only the ANSI D15.1 standard definition of a motor vehicle fleet accident in addition to the Virginia standard.

Motor Bus Passenger Accidents

The most recently published national standard defining passenger accidents for motor bus carriers is ANSI D15.1. This definition, which is included in Appendix B, implies exclusion of intentional acts as does the definition of a motor vehicle fleet accident under the same standard. In addition, the use of this standard by the APTA establishes that an incident resulting in the death or injury of two or more passengers is reported as two or more passenger accidents (APTA 1979c).

This definition of a motor bus passenger accident (defined in ANSI D15.1 as a motor vehicle fleet passenger accident) was accepted for use in this project. Because there are no other standardized definitions of a passenger accident used on a national scale that conflict with this definition, a discussion of selection criteria would be superfluous. (See page 39 for qualifying information.)

Motor Bus Crimes

There is no standard definition of what constitutes a crime since laws differ from one jurisdiction to another. Therefore, a definition of crime had to be developed for this project. A survey of the literature revealed one study that attempted to develop a standardized categorization of crime for the purpose of comparing the crime experience of different transit systems (Jacobson et al. 1979). The four recommended crime categories and associated offenses are:

1. Crimes Against Persons
   - assault
   - battery
   - rape
   - homocide
   - abduction

2. Crimes Against Persons' Property
   - robbery
   - pocket picking
   - purse snatching

3. Crimes Against System Property
   - robbery
   - burglary
   - fare evasion
   - vandalism
   - petty theft
   - trespassing
   - arson
   - missiling (rock throwing)
   - theft of system property

4. Crimes Against the Public
   - drug law violations
   - sex offenses
   - drunkenness
   - disorderly conduct
   - carrying concealed weapons
   - suicide
   - terrorism

This served as a basis for the development of a motor bus crime definition.

The criteria used in the development of this definition was those previously used to define a motor bus traffic accident with the addition of a new criterion — consistency with the previous definitions in this section. These categories were assumed to meet the criteria of completeness and comparability, at least for crimes occurring on transit systems. The reference cited (Jacobson et al. 1979) developed these categories for automated guideway transit, but they should be applicable to bus transit because the operational differences between modes do not preclude crimes occurring on one mode from occurring on the other — or on any other mode of public transportation. Because all elements in these categories represent injury (in the legal sense) to persons involved with bus transit, this categorical definition of transit crime is considered consistent with the previous definitions of motor bus traffic and passenger accidents. Any attempt to restrict this list for the purpose of economizing on data collection and processing would so negatively affect the completeness of coverage, comparability of the data with those for other systems, and consistency with the previous definitions as to be unwarranted.

The scope of occurrence was specifically limited to crimes committed against occupants or passengers of a motor bus as defined by ANSI D16.1 and ANSI D15.1, respectively, and to crimes committed by an occupant or passenger against non-occupants. In the interest of consistency with the previous definitions in this section, conviction of the perpetrator of the alleged crime was not deemed to be necessary, just as fault in accidents was not required for the recording of traffic or passenger accidents. Any report by an occupant or observance of alleged crimes by the driver is a sufficient warrant for recording a motor bus crime. (See qualifying information below.)

Other Incidents

The definition of other incidents was required to provide for the recording of occurrences that result in death, injury, or loss of property not covered by the previous definitions. Most transit agencies studied use such a catch-all category in the interest of complete coverage of incidents for which the transit agency might be held responsible. Incidents such as illnesses or attacks by animals should normally be recorded as other incidents. This category is not intended for data comparison purposes but should be used to monitor the magnitude of incidents that might at some time require special attention.

Qualifying Information

In the interest of conformance with ANSI D15.1 and its normal use as recommended (APTA 1979c), a few qualifying remarks are necessary.

1. Only incidents resulting in death, injury or property damage are to be recorded as traffic accidents or passenger accidents. Injuries or property damage merely need to be alleged, not apparent, but deaths should be verified.

2. All of the above definitions are mutually exclusive (i.e. no death, injury, or damage to property of an individual should be reported under more than one category).

3. Only incidents involving occupants or passengers (as defined by ANSI D16.1 and ANSI D15.1, respectively) and harm done to other persons by occupants or passengers should be reported.

4. "Blind cases," or incidents previously unreported that are reported by outside sources, are to be included in these reports, but should be designated as blind cases.

Activity Measures

As mentioned previously, the accident experience of any transportation mode needs to be associated with some measure of exposure to hazards to allow comparisons of the accident experiences of the various modes and comparisons for the same mode from year to year. By converting the number of accidents to an accident rate, i.e., accidents per some measure of activity, the accident experience is normalized and trends in safety can be observed.

To provide safe mass transit service, the Urban Institute recommends that both accidents and crime be monitored (Greiner et al. 1977). Rate denominators to be used for total accidents are vehicle miles; for deaths and injuries, passenger trips and paggenger miles should be used. The Office of Safety and Product Qualification (OSPQ) favors vehicle miles as an activity measure since that measure is consistent with the major area of loss—

non-passenger casualties (Jones et al. 1977). The OSPQ also suggests that passenger trips and passenger miles would be best used for cross-modal comparisons. For the measurement of criminal activity, the Urban Institute recommends that passenger trips be used for normalization. A summary of activity measures and their applicability is presented in Table 6. Activity measures to be used in this project are given later.

TABLE 6

RECOMMENDED ACTIVITY MEASURES FOR MONITORING BUS SYSTEM SAFETY

SYSTEM ACTIVITY MEASURE	SAFETY PROBLEM AREA MONITORED	MODE FOR WHICH ACCIDENT RATES ARE FAVORED BY USING ACTIVITY MEASURE
VEHICLE MILES	TRAFFIC ACCIDENTS	LOW DENSITY LONG TRIP HIGH SPEED
PASSENGER MILES	PASSENGER ACCIDENTS	HIGH DENSITY LONG TRIP HIGH SPEED
PASSENGER TRIPS	PASSENGER ACCIDENTS, CRIME	HIGH DENSITY SHORT TRIP

SOURCES: Greiner et al. 1977; Jones et al. 1977.

Existing Systems

This section describes the state of the art of intracity bus safety records management. Federal, state, and local governments, as well as local transit agency systems, are reviewed with the focus on reporting requirements, data elements reported, and data processing capabilities. Particular attention is given to the participation in the various systems by the transit agencies conducting operations in Virginia.

Federal

It is the responsibility of the Urban Mass Transportation Administration (UMTA) to develop the nation's transit system. The thrust of the UMTA's concern has been to keep transit systems operating and to encourage the formation of new systems; consequently, little attention has been directed toward the development of a standardized safety records system capable of effectively indentifying problems. Efforts have been made to develop a system for monitoring rail transit safety in cooperation with the Federal Rail Administration, but no substantial progress has been made in developing a safety records system for bus transit. A good reason this has not been accomplished is the limitations in the data bases available to the UMTA (see Table 7). In those areas where sufficient data are available for statistical analyses, the results of such analyses are not very reliable because of variations in reporting procedures.

Nevertheless, reporting requirements have been established by the UMTA (United States Code 1977) for all transit agencies receiving federal assistance under Section 5 of the Urban Mass Transportation Act, and these are of some interest in the development of this project even though the reports required serve mainly to facilitate the apportionment of subsidies and are, therefore, not specifically safety oriented. The applicable data required (Code of Federal Regulations 1979) are contained in Form Numbers 405 and 406 (see Appendix C).

Form Number 405 specifies the accident data required of the recipient agencies and Form Number 406 contains operational data that can be used as measures of system activity. The Form 405 accident data are summary in nature and therefore of little value in problem identification. Form Number 406, on the other hand, requires submittal of activity measures that are of value in normalizing accident data. The activity measures of particular interest are total vehicle miles, unlinked passenger trips, and unlinked passenger miles. Since seven of the fifteen intracity transit agencies receive Section 5 funds (Federal Register 1979) and three more may receive these funds in fiscal year 1981 (Berg 1980), it would be desirable to use activity measures in this project from among those already required.

TABLE 7

DATA BASES FOR BUS TRANSIT SAFETY

Data Bases	Coverage	Limits for Reporting	Major Deficiencies
BMCS	All passenger carriers in interstate operations (urban bus transit generally excluded) with revenues over $1,000,000.	Any fatality or an injury requiring medical treatment away from accident scene or property damage exceeding $2,000.	Contains very limited information for transit type bus accidents.
NHTSA Fatal Accident Reporting System	Any fatal accident on a traffic way. Estimated to be 98% complete.	Any fatality occurring within 30 days of the accident.	Skewed to fatal accidents. Virginia's fatal accident experience too small for statistical analysis.
NHTSA Multi-disciplinary Accident Investigation System	Cases selected by investigation teams.	Variable but generally involving vehicles of last three model years of fatal, injury producing or property damage requiring a vehicle tow.	Very limited in number and clinical in nature.
APTA Accident Data Exchange	Some APTA member properties.	Variable.	Variable basis for reporting.
UMTA Section 5 Reports	Recipients of UMTA Section 5 grants. Estimated to be one-third of the transit properties.	Variable.	Summary data only.
Virginia State Police Accident File	All properties.	Any accident resulting in fatality, injury or property damage exceeding $350 threshold (lower in some cities).	Contains no passenger accidents and less than half of traffic accidents.
Virginia Public Transportation Division Files	All properties.	All accidents. (Some variation in reporting.)	Summary data only.

SOURCES: Jones et al. 1977; PTD 1979b.

States

Virginia. Virginia maintains no safety records system specific to bus transit accidents and other safety problems that is capable of effective problem identification. The accident file maintained by the Virginia State Police (VSP) does contain an element, make of vehicle, that identifies traffic accidents involving urban buses, however (Sommerville 1980). The traffic accident cases so coded can be retrieved from the VSP accident file for analysis but the cases are limited to those involving death, injury, or property damage in excess of $350. This file is intended to cover traffic accidents involving any motor vehicle operating on the highways and, therefore, does not include all data needed for bus transit safety analysis. In addition, passenger accidents and crime occurring on transit vehicles are unavailable from this or any other state files.

The Code of Virginia requires all transit systems licensed for operation in Virginia to report certain statistical data to the state (§33.1-223.1) as required by the Public Transportation Division (PTD) of the VDH&T (§33.1-391). These data are summary in nature and are, therefore, not useable for in-depth problem identification; however, the measures of transit system activity required are pertinent to this project (e.g. annual vehicle miles and number of unlinked passenger trips). The forms used to submit these data are contained in Appendix C.

Bus transit accidents reported to the PTD, when compared to all bus accidents (including non-transit) contained on the VSP accident file, reveal that many injury and property damage accidents involving intracity buses are not recorded on the VSP file (see Table 8). It is apparent why there is a discrepancy in property damage only accidents if the reporting threshold used by the transit companies is less than the $350 threshold used for VSP investigations. It is not quite so apparent why there is such a large discrepancy in injury accidents, however. One likely explanation is that many accidents involving property damage of less than $350 in which a passenger is injured are not investigated by the VSP. Also, if an officer does come to the scene, he often does not file a report and instructs the transit agency to handle the accident internally (Bell 1980). Another explanation is that some transit agencies may include blind cases in their reports to the PTD. Use of the VSP file alone for problem identification would have ignored over a thousand injuries for fiscal year 1979 and would, therefore, be unacceptable.

TABLE 8

COMPARISON OF ALL BUS ACCIDENTS REPORTED
TO DMV WITH INTRACITY BUS ACCIDENTS REPORTED TO PTD

ANNUAL NUMBER OF ACCIDENTS CLASSIFIED AS:	ALL BUS ACCIDENTS REPORTED TO DMV (VSP file) CY-1979	INTRACITY BUS ACCIDENTS REPORTED TO PTD (FY-1979)		
		COLLISION	NON-COLLISION	TOTAL
FATAL	2 (6)[a]	2	0	2
INJURY	199 (249)	592	841	1,433
PROPERTY DAMAGE ONLY	441 (602)	1,358	76	1,434
TOTAL	642 (859)	1,952	917	2,869

Note: Counts are not exactly comparable since reporting periods do not precisely coincide.

[a]Figures in parentheses indicate highest annual number of accidents in the last five years.

Other States. The VHTRC requested information from all the other 49 states on their methods of collecting and recording intracity bus accident data. The states responding to this request for information were:

California	New Hampshire
Connecticut	New Jersey
Delaware	New York
Florida	Pennsylvania
Hawaii	Rhode Island
Illinois	Tennessee
Kentucky	Wisconsin
Maryland	

All of the responding states include bus transit accidents in their multimodal statewide accident file as does Virginia. Maryland, Kentucky, and Florida conduct extensive analyses of bus accidents but do not stratify their study groups into intracity and intercity, the operational environments and operational characteristics of which are quite different. None of the responding states analyze incidents other than traffic accidents, and many of the casualties associated with bus transit operations may, therefore, be missed in any analysis that is performed.

Florida described the most progressive bus transit safety data system of any of the responding states. The Florida Department of Transportation (FDOT) has developed a standardized data element list (Appendix D) to be used by individual transit agencies in recording traffic accident data. The data that are recorded are not fully utilized on a statewide basis for problem identification or countermeasure evaluation, however. The FDOT requires transit agencies to report only the totals for each data element, and as a result circumstances surrounding specific types of traffic accidents cannot be obtained except from individual transit agency files.

Local Governments

A questionnaire was administered to the bus transit agencies operating in Virginia to determine the jurisdictions in which special reporting of bus accidents is required (a copy of the questionnaire is included in Appendix G). Table 9 lists the jurisdictions requiring transit accident reporting, the transit companies affected, the reporting threshold above which property damage only accidents must be reported, and the type of forms used.

TABLE 9

SUMMARY OF LOCAL GOVERNMENT REPORTING
REQUIREMENTS FOR VIRGINIA TRANSIT AGENCIES

JURISDICTION	TRANSIT COMPANY AFFECTED	REPORTING THRESHOLD	REPORT FORMS REQUIRED
Arlington County	WMATA	$250	Special Form containing driver and insurance information
City of Richmond	Richmond	$350	FR-300C FR-300P
City of Hampton City of Newport News	PENTRAN	$250	FR-300C Transit Casualty Company Form
City of Bristol	Bristol	$000	FR-300C FR-300P Narrative
City of Petersburg	Petersburg	$000	Special Form containing some circumstances surrounding the accident and collision diagram
City of Danville	Danville	$000	Transit Casualty Company Form
James City County	J. C. Co.	$350	Special Form containing collision diagram, narrative description and cost

Note: Transit agencies not required to submit data to localities are not included in this table.

The report forms are contained in Appendix C and are discussed further in the next section. The responses from the transit companies suggested that some local goverments are basing their $250 reporting threshold on out-of-date FR-300C report forms which specify that $250 in property damage be reported when the current threshold for Virginia is $350.

Local Transit Agencies

Virginia. All Virginia bus transit agencies maintain their own accident files for reporting to the UMTA or to the PTD of the VDH&T, or for their own purposes. None of them maintain automated data processing systems for safety data, however. Therefore, problem identification is extremely cumbersome and limited in depth.

Table 10 summarizes the methods used by Virginia bus transit companies to collect their own data on traffic accidents, passenger accidents, and crime. This information was obtained by personal interviews with transit agency representatives conducted by VHTRC personnel by a questionnaire administered during this project and by supplemental telephone calls to some transit officials. (The questionnaire is presented in Appendix E and the report forms listed in Table 10 are contained in Appendix C.)

It is interesting to note that the "TRANSPORTATION LOSS REPORT" used by the Transit Casualty (Insurance) Company is used by six of the fifteen transit agencies for reporting all incidents. Other insurance report forms contain little or no data concerning circumstances surrounding transit incidents. It follows that other transit companies could improve their coverage of transit losses if they would adopt report forms similar to the one used by the Transit Casualty Company.

It should also be noted that almost all the transit agencies report all accidents, regardless of the amount of property damage incurred. Reporting accidents involving no injury or property damage results in higher accident rates than if the transit agencies do not report them as ANSI D15.1 stipulates. Likewise, the single agency reporting no property damage only accidents involving damage less than $350 would most likely have a lower accident rate than if they comply with ANSI D15.1 and report all traffic accidents involving any property damage. As can be easily seen, standardization in reporting would vastly improve the comparability of the data compiled by the transit agencies, VDH&T, and UMTA.

TABLE 10

CURRENT INTERNAL INCIDENT REPORTING BY VIRGINIA BUS TRANSIT AGENCIES

TRANSIT AGENCY	REPORT FORMS USED*	REPORTING THRESHOLD (In dollars)	INCIDENTS REPORTED		
			TRAFFIC ACCIDENTS	PASSENGER ACCIDENTS	CRIME
WMATA	"REPORT OF ACCIDENTS & OCCURRENCES" "SUPPLEMENTAL PERSONAL INJURY REPORT"	0	Yes	Yes	Yes
Richmond	"OPERATORS ACCIDENT REPORT" "SUPERVISOR'S REPORT" "SUPERVISOR'S REPORT ON ACCIDENT PREVENTABILITY" TCC**(≥$50,000 Damage)	0	Yes	Yes	Yes
TRT	TCC**	0	Yes	Yes	Yes
PENTRAN	TCC**	0	Yew	Yes	Yes
Roanoke	TCC**	0	Yes	Yes	Yes
Lynchburg	TCC**	0	Yes	Yes	Yes
Bristol	TCC**	0	Yes	Yes	Yes
Staunton	None	350	Yes	Yes	No
Petersburg	City "ACCIDENT OR DAMAGE REPORT"	0	Yes	Yes	No
Charlottesville	City "VEHICULAR ACCIDENT REPORT"	0	Yes	Yes	Yes
Danville	TCC**	0	Yes	Yes	Yes
Winchester	Narrative	0	Yes	Yes	No
J. C. Co.	County "ACCIDENT REPORT"	0	Yes	Yes	Yes
Radford	Narrative	0	Yes	Yes	No
Harrisonburg	Narrative	0	Yes	Yes	Yes

* Forms FR-300C, FR-300P, and forms containing only narrative descriptions, collision diagrams or personal information used for insurance claims purposes are not included in this list.

** Transit Casualty Company's "TRANSPORTATION LOSS REPORT".

Other States. Requests for information similar to those made to state transportation agencies other than Virginia were made to some of the nation's largest bus transit agencies. The agencies that responded to the request were:

Bi-State Development Agency (St. Louis)

Chicago Transit Authority

New York City Transit Authority

Southeastern Pennsylvania Transportation Authority

Southern California Rapid Transit District

All of these large transit agencies maintain automated data processing systems for their own accident records. Three of the five use either the "TRANSPORTATION LOSS REPORT" and corresponding data elements prescribed by the Transit Casualty Company (Appendices C and D) or similar forms. The St. Louis system has expanded the Transit Casualty Company data element list to include wheelchair- and lift-related accidents (Appendix D). The New York City and Chicago Transit Authorities data element lists are quite lengthy and are not presented in this report.

Conclusion

From the previous discussion it is apparent that a new safety records system for intracity bus transit must be developed to adequately monitor intracity bus safety on a statewide basis in Virginia. The statewide data maintained in the VSP accident file consist of only one-third of the intracity bus traffic accidents and there presently are no statewide records maintained on intracity bus passenger accidents. Finally, crimes are variably reported by the transit agencies and crime definitions vary from one jurisdiction to another.

Development of an Intercity Bus Safety Records System

This section describes the development of a comprehensive intracity bus safety records system to be used as a data base for statistical analysis of bus transit safety problems. Specific data elements were selected to be reported by the transit agencies and collected from secondary sources; a report form for data collection was designed; data storage, coding, editing, and processing were outlined; and the mechanism for communication to and feedback from the transit agencies were decided upon. Much of the development of this system can be more appropriately performed by the agency selected to implement a development program, but guidelines for system development are provided here.

Data Element Selection

Data are to be collected for intracity bus traffic accidents, passenger accidents, and crimes, as defined under Intracity Bus Safety Records Management above, for use in performing statistical analyses of these three major safety problem areas. A three-phase process was used to select the data elements. First, a tentative list of safety data elements was composed. Second, the tentative list was organized and presented to the safety directors of all the affected transit agencies for their evaluation. Third, a final list of data elements was selected based upon the transit agencies' evaluation of the original list.

Tentative List

The criteria to be used in the selection of tentative data elements are the appropriate data system performance criteria from the General Traffic Records Management section of this report, completeness of coverage, and comparability of the data. The quality, flexibility, timeliness, and economy are addressed under the later tasks to which they apply.

A five-stage process was used to generate a tentative list of data elements required for this project as follows:

1. Obtain traffic accident data elements from the VSP accident file and the ANSI D20 accident data element list, correlate corresponding elements, and combine into a single list. Also obtain additional traffic accident data elements from transit agency report forms.

2. Obtain additional data elements for bus transit passenger accidents from transit agency report forms and data element lists.

3. Obtain additional data elements for bus transit crimes from the literature.

4. Obtain additional data elements possibly needed by transit agencies for their own use from transit agency report forms.

5. Obtain measures of bus system activity from the literature.

The first stage in tentatively selecting data elements for use in this project involved identifying the areas for which adequate safety data must be maintained (Table 11) and then selecting data elements from existing data element lists (Appendix D) to cover each area. Each traffic accident data element from the VSP accident file (VSP 1979) and the ANSI D20 accident data element list were assigned a number corresponding to one of the six data groups listed in Table 11 (see Appendix D, pages D6-D9). Corresponding traffic accident data elements from each of the three records of the VSP accident file and the ANSI D20 accident data element list were then matched and examined to ensure that they add to completeness of coverage (Appendix E). Data elements considered not to add to completeness of coverage of intracity bus safety were denoted as "not significant" in Appendix E and were eliminated from further consideration.* Finally, the categories under each of the corresponding data elements were compared and merged into a single list under an appropriate data element name (Appendix F, pages F2-F20).

To further ensure completeness of traffic accident data element selection, the transit agency report forms (Appendix C, pages C11-C26) were surveyed, and additional data elements were added to the list (Appendix F, pages F21-F22).

In the second stage of tentative data element selection, additional data elements required for passenger accidents were obtained from a survey of the transit agency report forms (Appendix C, pages C11-C26) and the bus transit safety data element lists (Appendix D). These elements are listed in Appendix F, page F23.

The third stage of selecting tentative data elements consisted of borrowing transit crime classifications from the literature (Jacobson et al. 1979) and adding some additional elements considered to add to the completeness of coverage. These elements are listed in Appendix F, page F24.

The fourth stage in tentative data element selection consisted of again reviewing the transit agency report forms (Appendix C, pages C11-C26) and selecting all additional data elements which are not necessarily needed for a statewide intracity bus safety records system, but which may be desired by some of the transit companies for their own files. These data elements are listed in Appendix F, page F25.

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*As an example, whether an accident or crime occurs in a rural or urban setting does not significantly add to completeness of coverage, since all Virginia bus transit operations are conducted in urban or suburban settings.

Table 11

AREAS FOR WHICH ADEQUATE SAFETY DATA MUST BE COLLECTED

DATA GROUP	SCOPE
1	Accident Environment — covers all environmental factors except those considered to be directly contributing circumstances.
2	Contributing Factors — covers all causal and contributing factors including triggering events and component failures.
3	Accident Event — covers all data (not covered above) that are descriptive of the accident event and which occur in the time period from loss of control to the time when control is regained or all vehicles and victims are at rest.
4	Post-Accident Activities — covers police investigations and emergency medical services.
5	File Maintenance and Data Control — covers data required for file cross-referencing and data quality control.
6	Activity Measures — covers data needed to convert number of incidents to incident rates.

SOURCES: ANSI D20 1979; Jones et al., 1977; NHTSA 1980.

The final stage in selecting tentative data elements consisted of taking appropriate transit agency activity measures from the literature (Greiner et al. 1977; Jones et al. 1977). These are listed in Appendix F, page F26. These activity measures are necessary to ensure completeness of coverage of all data groups identified in Table 11, and will be used to enhance comparability of the data with those of other modes and among the various transit agencies themselves.

Transit Agency Response

The next phase in selecting data elements for use in this project involved organizing the data elements and presenting them to the transit agencies for evaluation. The data elements were organized under eleven groups: general, roadway, vehicle, driver, pedalcyclist/pedestrian/passenger, accident event, injuries, passenger accidents, crimes, possible additional data elements, and activity measures. A questionnaire format was used to present the suggested data elements and each transit agency was asked to rate the importance of each element in reporting each area of safety concern: traffic accidents, passenger accidents, and crime (see Appendix G, pages G4-G17). To ensure the transit agencies could economically supply the data, they were also asked to rate their ability to supply the data for each element.

The questionnaires were sent to all fifteen bus transit agencies affected by this safety records system. These agencies can be stratified into two groups based upon size. The six largest operate 96% of the intracity buses in Virginia (as reported in a questionnaire contained in a report by Hajec 1979) and report 96% of all intracity bus accidents (PTD 1979b). These six, in descending order of size, are:

Washington Metropolitan Area Transit Authority

Greater Richmond Transit Company

Tidewater Regional Transit

Peninsula Transportation District Commission

Greater Roanoke Transit Company

Greater Lynchburg Transit Company

Responses to the questionnaire were received from five of the six largest transit agencies and seven of the nine others. The responses from both groups are contained in Appendix H, pages H2-H7.

A t-test was performed on the overall mean responses to the importance of all the elements for traffic accidents, passenger accidents, and crimes, and for the transit agencies' ability to supply the data. A 95% level of confidence was selected as constituting a significant difference between the responses of the two transit agency groups. A significant difference was found between the two groups on the mean assessed importance of all the data elements for traffic accidents, passenger accidents, and crime, but there was no significant difference between the mean responses of the two groups on ability to supply the data.

Since the responses of the two transit agency groups were significantly different in three of four cases, and since 96% of the accidents reported by intracity bus agencies were reported by the six largest companies, the selection of the final data element list was appropriately based upon the responses of the largest transit agencies.

Final List

The final data element list was determined by ranking the elements in descending order of the mean values of the importance of and the ability to supply the data as assessed by the six largest transit agencies. The rank ordered elements are contained in Appendix H, pages H8-H14.

Priority groups of the elements were established by examining the difference in the means between successive rank ordered elements; i.e., by looking for gaps between means. The boundary between priority groups was determined by summing the differences between the means of four pairs of elements. Proceeding from the bottom of the lists, the largest such sum that was highest on the list and did not split elements with the same mean was denoted as the upper boundary of priority group three. The next largest sum of the differences in the means of four pairs of elements that was highest on the list and did not split elements with the same mean was denoted as the upper boundary of priority group two (see Appendix H, pages H8-H14). The priority group numbers were then placed in the appropriate boxes in the data element questionnaire (Appendix G).

In the first nine groups of data elements presented in the data element questionnaire, only those elements designated as first priority in importance were selected as final elements to be reported and entered into the statewide files. In the tenth data element group in the questionnaire, those elements ranked as first priority in ability to supply were considered as additional elements to be reported for the transit agencies' own use

only if the importance of the data was greater than third priority for traffic accidents, passenger accidents, and crime. All data elements that were eliminated are indicated by an "X" in the appropriate boxes in the data element questionnaire (Appendix G).

Data Collection

This section describes the mechanism for collecting the data needed to maintain comprehensive files for intracity bus traffic accidents, passenger accidents, and crimes. Data are to be collected from both primary and secondary sources, and the collection mechanism for the two types of sources will differ.

Primary Data

The primary data required for an intracity bus safety records system are to be obtained directly from the transit agencies and are divided into two categories: accident/incident data and system activity measure data. The reporting schedules for those types of data differ, since accident/incident data must be reported often to ensure timely file updating and since the system activity measure data do not fluctuate as much and therefore do not need to be reported as often.

Accident/Incident Data. The data selected to be reported by the transit agencies for each bus transit traffic accident, passenger accident, or crime must be collected by the bus driver since he is most aware of accident/incident circumstances. This is the common practice for current accident data reporting. An accident/incident report form (Appendix I, page I2) was designed so that the most difficult data to remember are listed on the form. It is imperative that these data be noted at the scene of occurrence. Additional numbered blocks are arranged to the left, bottom, and right-hand sides of the form and require the use of a field coding manual (Appendix I, pages I3-I10). The codes used are identical to those selected for use in the data files required for this project (see Appendix F). These data could be filled in after the end of the regular working day to minimize disruption of bus schedules, since this is common practice in bus transit accident reporting and the circumstances surrounding the accident or crime are more easily remembered than names, addresses, etc.

The driver should be able to complete the entire accident/incident report in about thirty minutes for traffic accidents (which is appropriate according to the responses from the large transit agencies) and less time should be required for passenger accidents and incidents of crime.

If approximately 3,000 accidents are reported annually by the transit agencies, as reported to the PTD (see Table 8), then approximately 250 accidents should be reported monthly if the accidents are evenly distributed among all months of the year. If fifteen minutes are required to code, enter, and edit each accident into the appropriate file, about one and one-half person-weeks should be required to enter one month's accidents. It is, therefore, appropriate for the transit agencies to forward copies of the accident/incident reports to the implementing agency on a monthly basis, since a proper trade-off is then made between handling and mailing costs and the need for timely data.

System Activity Measure Data. Data needed to measure system activity are required to compute accident rates and thereby enhance comparability of the data. Since the transit agencies indicate all three proposed activity measures are of high quality and are easy to supply (see Appendix H), all three should be reported to the implementing agency. Annual reporting of system activity measure data is appropriate, since the transit agencies already follow such a schedule for submitting activity measures to the UMTA and PTD and since these data fluctuate very little.

Secondary Data

Additional data needed for this project can be obtained from secondary sources. Again, the data are divided into two types for discussion — accident/incident data and system activity measure data — since collection schedules differ for the two types.

Accident/Incident Data. Data required for complete coverage of bus transit accidents and crimes and which are available from secondary sources were not included in the reporting mechanism for transit agencies. The data elements listed as available from secondary sources in Appendix F are:

1. emergency notification date and time (page F17);
2. emergency response arrival time (page F17);
3. blood-alcohol concentration test, date and time, test results, and test type (page F5); and
4. primary cause factor/police opinion (page F7).

The first two data elements are available from the Health Department (NHTSA 1980), the third is available from the VSP (NHTSA 1980),

and the fourth is available from the FR-300P police accident report for intracity bus traffic accidents (see Appendix C, pages C7-C8). The details of developing a reporting mechanism for these data are left to the agency that implements the system, although it is suggested that the data be collected monthly to be consistent with primary accident/incident data collection.

System Activity Measure Data. An additional data element associated with pedestrian and pedalcyclist activity is population. Population data are needed for the city or Metropolitan Planning Organization (MPO) in which each transit agency operates and are available from the Census Bureau on an annual basis.

Data Processing

This section describes the procedure for constructing data files, entering and editing the data, and analyzing the data on file for intracity bus traffic accidents, passenger accidents, and crime. Guidelines are presented to guide the development of a data processing mechanism, although specific details are more appropriately handled during the implementation of the system.

File Structure

Three files should be constructed to store the data for each type of incident since the data for each and the size of the files required differ considerably. Also, it is desirable to maintain three files from the standpoint of maximizing the functioning of the system according to the three data system operational criteria: flexibility, timeliness, and economy. It is desirable to maintain separate files in the interest of flexibility since a change in crime reporting, for example, would require a change in the smallest file of shortest record length and fewest records, and would leave the other two files undisrupted. Timeliness and economy of data acquisition are also enhanced by separation of files, since an aggregate file would have to be searched for relevant elements that would have to be written on a separate file to be processed.

The traffic accident file should be organized in a three-tiered structure as is the current VSP accident file (Appendix A, page A10). The three-tiered structure is necessary since variable numbers of vehicles and drivers and passengers and pedestrians may be involved.

The passenger accident file should be organized in a two-tiered structure with the master and vehicle/driver records combined. A two-tiered structure for passenger accidents is called for since only one vehicle (the transit bus) is involved, although many passengers may be involved.

The bus transit crime file should be a single record since a crime committed against two or more persons should be counted as two or more crimes.

The specific data elements to be collected from primary sources for each file are listed in Appendix G and the secondary data elements were previously enumerated.

All files that will be read by computer should contain some empty variable locations to allow for the storage of data elements that may be added in the future. It is also desirable that file record lengths be fixed since most statistical software packages available require fixed length file format. On the other hand, a fixed record length results in considerable empty storage space in the files and therefore increases the expense of file maintenance. It will be left to the implementing agency to determine which file format to use.

Separate manual files can be most economically and efficiently maintained for the primary and secondary activity measure data elements previously described and should be coordinated with the PTD of the VDH&T, which already collects some such data.

Data Coding, Entry, and Editing

Codes suggested for use in this system were developed for all data elements and are included in Appendix F. Codes were selected to correspond to both the VSP accident file codes and ANSI D20 codes where possible. Where conformity to both standards was not possible, the VSP codes were selected. Where unique ANSI D20 categories were included, ANSI D20 codes were selected.

It is suggested that coded data be entered directly through on-line terminals or punched on data cards and entered through a card-reading input device.

The data entered in each file should first be edited by a special computer program that examines the data elements individually and rejects those entries that fall outside the range of defined values (see Appendix F for the defined values for each data element). A second step in editing the data should be to examine different elements to ensure that the data entries are

consistent. For example, a code eight (weather conditions) entered as the cause for maneuver (Appendix F, page F5) is inconsistent with a code one (clear) under the data element weather (Appendix F, page F2) and should be called to the attention of data entry personnel.

Analysis Techniques

The basic analysis techniques to be used to identify the safety problem areas in intracity bus transportation were outlined in the section on "General Traffic Records Management" under the title "Problem Identification." Again, the particular elements for which univariate or bivariate frequency distributions are computed will be left to the agency chosen to implement the development program. It follows that the agency developing the system should have safety experts involved in the selection of the elements to be analyzed.

More sophisticated analysis techniques such as hypothesis testing to determine the significance of differences in accident experience between individual transit agencies and the intracity bus transit industry as a whole may also be conducted. Other special analysis techniques that may be employed are multiple or linear regression analysis to determine the reliability of using specific activity measures to estimate accident/incident experience; and discriminant analysis and factor analysis to determine the factors associated with the largest differences between the accident/incident experience of various groups of transit agencies, locations, vehicle types, etc. It is apparent that the agency that implements this system should have sophisticated statistical software packages for performing these techniques.

Data Output

This section describes the data that should be generated on a routine basis at the start of the development program and describes the methodology used in selecting those data. In addition, the guidelines for selecting other data that should be generated as the system is developed are established.

The following three criteria were used in selecting data to be output for intracity bus traffic accidents, passenger accidents, and crime.

1. Injuries should be fully described.

2. Contributing factors should be summarized.

3. The most descriptive elements for the accident/ incident event should be included.

By applying these three criteria to the data elements collected, the lists contained in Table 12 were generated for traffic accidents, passenger accidents, and crimes and are considered essential as first run output.

TABLE 12

INITIAL OUTPUT DATA FOR INTRACITY BUS ACCIDENTS/INCIDENTS

Traffic Accident Output Elements
Accident severity Injury severity, type, location and portion of vehicle causing injury for: Total injured Pedestrians Bus occupant Other vehicle occupant Vehicle maneuver and cause for vehicle maneuver First harmful event Location of first harmful event Injury severity by first harmful event
Passenger Accident Output Elements
Accident severity Injury severity, type, location and portion of vehicle causing injury Vehicle maneuver and cause for vehicle maneuver Passenger action Injury
Crime Output Elements
Injury severity, type and location Type of crime committed

All of the statewide data should be converted to rates using the appropriate activity measures (annual vehicle miles and urban area population for traffic accidents; annual vehicle miles, annual passenger miles, and annual passenger trips for passenger accidents; and annual passenger trips for crimes) and should be returned to the transit agencies along with the same data for the individual agency. Thus each agency can compare its accident/incident experience with the statewide rates.

As more safety problem identification analysis is performed the output list should be expanded to include the major safety problem areas. Particular emphasis should be placed on developing an accident taxonomy containing the three elements of the causal chain of accidents as described above under "General Traffic Records Management."

Feedback

Ample opportunity should be given the transit agencies to provide input on the data generated by this project. It is suggested that the transit agencies be asked to provide suggestions on what types of data should be output by the system when they submit their annual reports on system activity measures. The lines of communication should also remain open for transit agency input throughout the year, and special generations of accident experience (by location of accident, for example) should be generated for transit agencies that fund such studies.

Implementation of an Intracity Bus Safety Records System

This section describes the procedure by which a statewide intracity bus safety records system can be put into effect. The implementation procedure is defined as consisting of three phases: convening a review committee, implementing a development program, and establishing a continuing program.

Review Committee

It is suggested that a review committee be convened to determine the extent and nature of changes that need to be made in the system as proposed in this report. Meetings of this committee should be conducted before the commencement of the second and third phases of system implementation and thereafter as determined by the implementing agency or a majority of the primary members.

Primary members should consist of one representative of the agency chosen to implement the system and one representative of the six largest bus transit agencies this system is primarily designed to serve. Advisory review committee members should represent the remaining bus transit agencies and the affected state agencies. These advisory members should serve to make sure the primary members are aware of the needs of other users. The affected state agencies that should advise the voting members are:

The Division of Motor Vehicles

The Public Transportation Division of the Virginia Department of Highways and Transportation

The Virginia Department of Transportation Safety

The Virginia Highway and Transportation Research Council

The Virginia Department of State Police

Any other state agencies that feel they would be affected by this system should have an advisory role.

If, after reviewing this report, the members of the committee perceive problems in the criteria used in system development or other problems that diminish the effectiveness of the system according to the performance criteria used, changes should be made to alleviate those problems. Again, it should be noted that to improve the system's performance according to one criterion, e.g., economy, often reduces the system's performance according to one or more of the others, e.g., completeness. Recommendations for such changes should be made at a meeting convened for that purpose. Those committee members unable to attend should send written suggestions to the agency chosen to implement the system, who should coordinate the meetings. It is desirable that the system receive the unanimous support of the six largest bus transit agencies to be fully effective, although a consensus as defined by the primary committee members should be considered sufficient to mandate changes and/or proceed with the second step in implementation.

Development Program

A second step in the implementation of a statewide transit safety records system is the implementation of a system development program. A development program is required to develop the files, data entry mechanism, and editing and data processing

programs, and to further refine the system output to be generated on a regular basis (all of which are discussed above in the "Development of an Intracity Bus Safety Records System" section. To perform these functions, the selected organization should have the capability for performing all developmental functions.

Seven criteria were used in selecting an organization to implement a development program. These criteria are listed and briefly described as follows:

1. Adequate hardware — computer hardware capable of executing sophisticated statistical programs should be available.

2. Adequate software — computer software statistical packages should be readily accessible.

3. Knowledgeable systems analysts — analysts capable of efficiently operating the hardware and software facilities should be available.

4. Knowledgeable safety researchers — personnel who understand the needs of safety research should be available.

5. Data entry capability — data entry hardware and staff should be at hand.

6. Facilities and staff availability — all facilities and staff should be available to perform their functions expeditiously.

7. Need for data — data generated by the system should be needed by the implementing organization for program decision making.

These criteria were assumed to have equal weight.

State agencies are appropriate organizations to implement the system since the project is statewide in scope and since it involves assessing and improving the public safety. The six state agencies identified as potential sites for system development are:

Division of Motor Vehicles

Public Transportation Division of the Virginia Department of Highways and Transportation

Department of Management Analysis and System Development

Virginia Department of Transportation Safety

Virginia Highway and Transportation Research Council

Virginia Department of State Police

An assessment of the feasibility of using each of the six state agencies is summarized in Table 13.

The DMV has the required facilities for implementing a development program in the form of computer hardware and software, knowledgeable systems analysts, and data entry personnel and hardware. Currently, the DMV processes and records only a few elements from the current accident reports and is primarily involved with maintaining safety records as they apply to individual drivers and vehicles. Therefore, the staff at the DMV is assessed as moderately knowledgeable in the area of safety research. The facilities and staff at the DMV are usually occupied with other functions and therefore could devote little time to implementing a development program. Finally, the DMV has little need for the data produced by this system, because its primary function is to administer the Commonwealth's driver licensing and vehicle registration program, only a small part of which requires the collection of accident data.

The PTD has access to the fully adequate facilities of the Data Processing Division of the VDH&T. The VDH&T has computer hardware and software and data entry facilities that are quite adequate and a highly competent systems analyst staff. Because the primary safety focus of the VDH&T Data Processing Division is in identifying hazardous locations, their knowledge of comprehensive safety research is also considered to be moderate. VDH&T facilities and staff are primarily concerned with safety on state maintained roadways and are available very little for safety analysis of city streets. The PTD, however, has a great need for the data produced by the system to assess the impact of transit safety on ridership.

The Department of Management Analysis and Systems Development also has the required computer hardware, software, and data entry capabilities, along with a highly competent staff. This Department has not performed comprehensive safety research, however, and is assessed as having no knowledge on the subject. It has moderate availability to perform the work but has no need for the data produced by this system.

TABLE 13

SELECTION OF A STATE AGENCY TO IMPLEMENT A DEVELOPMENT PROGRAM FOR AN INTRACITY BUS SAFETY RECORDS SYSTEM

CRITERIA \ AGENCY	DMV	PTD	MASD	VDTS	VHTRC	VSP
1. adequate hardware	5	5	5	5	5	5
2. adequate software	5	5	5	5	5	5
3. knowledgeable systems analysts	5	5	5	5	5	5
4. knowledgeable safety researchers	3	3	1	3	5	4
5. data entry capability	5	5	5	5	5	5
6. facilities and staff availability	2	2	3	3	3	2
7. need for data	2	4	1	3	3	2
Total	27	29	25	29	31	28

Rating scale: 1 = none
2 = little
3 = moderate
4 = great
5 = superior

The VDTS has access to the facilities of MASD and is, therefore, rated the same as MASD on criteria 1, 2, 3, and 5. Although the VDTS has performed little statistical analysis of safety data, it does have considerable expertise in transportation safety and is assessed as moderate in knowledge of safety research. The facilities and staff are moderately available and their need for bus transit safety data is also considered to be moderate.

The VHTRC also has the necessary computer hardware, software, systems analysts, and data entry capabilities required to implement a development program. The safety research staff is quite knowledgeable in the area of safety research, since that is their primary focus. The facilities and staff are moderately available, as is the need for intracity bus transit safety data.

Finally, the DSP also has the requisite computer hardware, software, systems analysts, and data entry facilities. It has a great amount of knowledge in highway safety research, having generated statewide accident statistics for years. However, it has little time for system development or need for safety data for intracity bus transit in addition to the data it presently collects on traffic crashes.

From Table 12, it is apparent that, according to the established criteria, the agency that should implement a program for the development of an intracity bus safety records system is the VHTRC.*

Continuing Program

Once a development program is successfully implemented, the project should proceed to its third and final phase: the continuing program. Since the development program should have developed files, data entry and editing procedures, data processing techniques and refined data output, there is no need for safety researchers to be on hand at the facility chosen to implement the continuing system. The other criteria used in selecting an agency to implement the development program are still valid for the selection of an agency to maintain the continuing system.

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*It should be noted that a private consulting firm could conceivably implement the pilot program but should be assessed as to its ability to do so on the same criteria as used in selecting the most appropriate state agency.

Removing criterion number 4 from Table 13 results in equal high scores for the PTD, VDTS, and VHTRC. As a result, these three agencies should meet prior to the start of the continuing program to decide which organization should implement and maintain the system on an ongoing basis. The VDTS should take the leadership role in such a meeting, because its function is to coordinate transportation safety activities in Virginia.

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APPENDIX A

VIRGINIA TRAFFIC RECORDS FILES

DMV VEHICLE MASTER RECORD

Standard Label	Loc.	Leng.	Field Description
RECLEN	0	4	Record Length
TITLE	4	4	Title Number
PREVTAG	8	6	Previous License Number
CURTAG	14	6	Current License Number
DEALER	20	2	Va. Dealer Number or State or Origin
DATEEST	22	2	Title Establishment Date
DATEREC	24	2	Most Recent Activity Date
DATEORG	26	2	Original Issue Date - Metal Tag
DATEPREV	28	2	Previous Date (validation)
DATECUR	30	2	Current Date (validation)
DATEXPR	32	2	Expiration Date - Current Tag
OVERFLOW	34	2	Overflow Indicators
SOURCE	36	5	1 1/2 bytes Source Code 3 1/2 bytes Control No.
PSOURCE	41	5	1 1/2 bytes Prev. Source Code 3 1/2 bytes Prev. Control No.
FYFEE	46	3	Annualized Current Fee (Old TOTFEE)
PREFEE	49	3	Previous Registration Fee
CURFEE	52	3	Current Registration Fee
DELETE	55	1	Vehicle Disposition Code
BITS1	56	1	1 Bit - UMF 1 Bit - Professional Fire-fighter 1 Bit - Duplicate Title 1 Bit - Water Damaged 1 Bit - Diesel 1 Bit - Propane
BITS2	57	1	1 Bit - Glider Kit 1 Bit - Reconstructed VIN 1 Bit - New/Used Car 1 Bit - Deactivate Current Tag 1 Bit - Repossessed Vehicle 1 Bit - Supplemental Lien 2 Bits - Title Held
BITS3	58	1	2 Bits - Count of Tags Issued 1 Bit - Taxi 1 Bit - X-Taxi 1 Bit - Confidential Tag 1 Bit - Bicentennial Tag 1 Bit - Transferred Tag 1 Bit - Renewal Stripped 1 Bit - Embassy Tag 1 Bit - Temp. Disabled Veteran
BITS4	59	1	1 Bit - Electric 1 Bit - Solar 2 Bits - Not Used 1 Bit - Quarterly Tag 3 Bits - Axle Count
BITS5	60	1	1 Bit - Private Bus 1 Bit - Bus for Recreational Use 1 Bit - Bus for Divine Worship 1 Bit - Not Used 1 Bit - QuasiControl 3 Bits - Not Used

DMV VEHICLE MASTER RECORD (continued)

Standard Label	Loc.	Leng.	Field Description
PTITLE	61	4	Prior Va. Title No.
ODOMETER	65	3	Odometer at Sale
ZIPCODE	68	3	2 1/2 bytes Zip Code 1/2 byte Coded City
SITUS	71	1	City/County Where Garaged
COUNTY	72	1	County or City of Residence
YEAR	73	1	Vehicle Model Year
MAKE	74	1	Coded Vehicle Make and Series
BODY	75	1	Coded Vehicle Body Style
VARAB	76	724	Variable Section of Master Record Name(s) Address Vehicle Weight(s) Vehicle Identification Number Overflow Fields

THE OVERFLOW FIELDS WILL BE:

Stops
Make & Series
Body Style
Lien(s)
Social Security or INS No.
Selling Price & Tax
Previous Tag Audit Trailer
Current Tag Audit Trailer
Title Audit Trailer

Secondary Identification Number

DMV DRIVER HISTORY PRIMARY RECORD
(Data Elements Only)

Number of Bytes Entire Record

DP Number Alpha Character

DP Number First 12 Digits

DP Number Last 7 Digits

Full Name

Race Code

Eye Code

Hair Code

OL Restriction

CL Restriction

Birth Year

Weight

Height

OL Condition Code

OL Type/Class

OL Expiration Year

OL Condition Code

Statistics Indicator

CL Type/Class

CL Expiration Year

Vehicle Status

Driver Education

Cross Reference Indicator

Tie Indicator

History Indicator

Julian Date of Last Update

Year of Last CL Ren. Ex. Type 2 or 3

Fee Waiver Indicator

Type of Current License

Number of Trailers

Document Number

Issue Date

Reissue Reason

Jurisdiction if Minor

Social Security Number

Photo Indicator

OL/CL Indicator

Major Habitual Offender Counter

Minor Habitual Offender Counter

Trailer Number Counter

DMV DRIVER HISTORY TRAILER FILE NAMES

Cross Reference

Accident (includes accident case number)

Address

Citations

Court Order

Stay Order

Correspondence

Conviction

Point

Habitual Offender

Hearing

Judgement

Notice of Motion

Rehabilitation

Security Deposit

Driver Improvement

Exam

Vehicle

Vehicle License

Driver License

Insurance

Self-Insured

Hospital

VDH&T ACCIDENT FILE

	COLUMN
REPORT NUMBER	1-4
MONTH	5-6
DATE	7-8
YEAR	9
HOUR	10-11
DISTRICT	12
COUNTY	13-14
CITIES & TOWNS OVER 3,500	15-17
TOWNS UNDER 3,500	15-17
ROUTE	18-21
SECTION NUMBER	22-25
MILEPOST	26-29
SURFACE TYPE	30
SURFACE WIDTH	31-32
KIND OF HIGHWAY	33-34
SPEED LIMITS	35
INTERSECTION TYPE	36
INTERSECTION ROUTE NUMBER	37-40
ACCIDENT LOCATION	41
ALIGNMENT	42
SURFACE CONDITION	43
DEFECTIVE ROAD CONDITIONS	44
TRAFFIC CONTROL	45

VDH&T ACCIDENT FILE (continued)

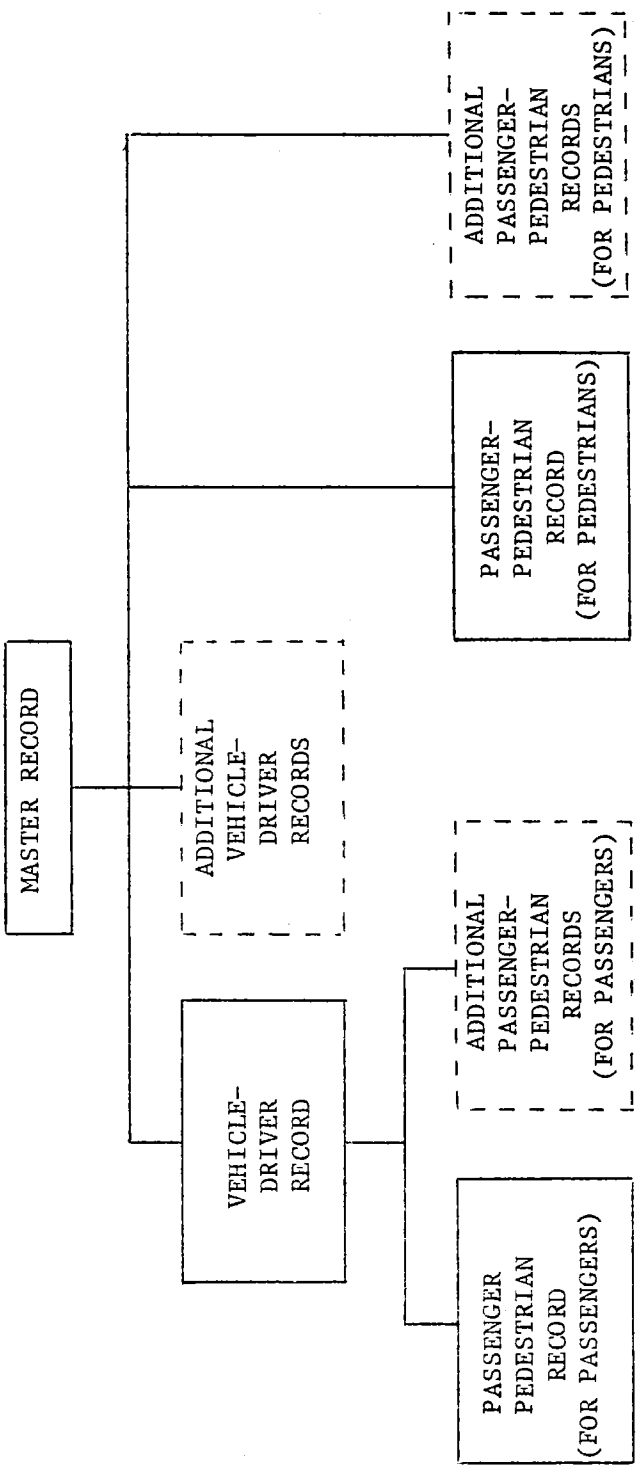
LIGHT	46
WEATHER	47
TYPE OF COLLISION	48-49
FIXED OBJECT	50
SKIDDING	51
ZONE OF IMPACT	52
MAJOR FACTOR	53
SEVERITY	54
NUMBER KILLED	55
NUMBER INJURED	56
NUMBER VEHICLES INVOLVED	57
AMOUNT OF PROPERTY DAMAGE	58-59
CARD CONTROL	60
TYPE OF VEHICLE	61/71
SPEED	62/72
RESIDENCE OF DRIVER	63/73
VEHICLE MANEUVER	64/74
DIRECTION OF TRAVEL	65/75
DRIVER AND PEDESTRIAN ACTIONS	66-67/76-77
CONDITION OF INDIVIDUAL	68/78
VEHICLE CONDITION	69/79
VISIBILITY CONDITIONS	70/80

VDH&T ROAD INVENTORY FILE

District No.	1
County No.	2-3
City No.	4-6
System No.	7-10
Fed. Aid Route No.	11-14
State Rte. No.	15-18
Section No.	19-22
From Termini	23-34
To Termini	35-46
Sequence No.	47-49
Section Length - From Card A	50-53
Surface Width	54-55
Shoulder Width	56-57
Surface Depth	58-59
Surface Type	60
Base Type	61
Secondary Class	62
Functional Class	63
Type of Terrain	64
Kind of Highway	65-66
Traffic Group	67-68
Former Width	69-70
Former Type	71-72
Former Length	73-76
Month	77-78
Year	79-80
Federal County	81-83
Federal Place	84-88
Class Description	89
Section Length - From Card B	90-95
Indicator	96
Mile point	97-102
Route Categord	103
Travel Rte. I.D.	104-108
Domain	109-110
Gov. Level of Control	111-112

VDH&T ROAD INVENTORY FILE (continued)

Admin. Class	113
Fed.Aid System (Traveled-Way)	114
Fed.Aid System (Designated-Way)	115
Toll - Free/Toll	116
Fed. Aid Urban Area	117
Functional Class	118-119
Special System	120-121
Municipality	122
Census Category	123
Population Size Group	124
Parkway, Trucks	125
Access Control, Public Road	126
Avg. Daily Traffic	127-132
R/W Width	133-136
Primary Direction	
Shoulder	137
Pavement Type	138-139
Pavement Width	140-141
No. of Lanes	142
Median Type	143
Other Direction	
Shoulder	144
Pavement Type	145-146
Pavement Width	147-148
No. of Lanes	149
Record Type I.D.	150
Urbanized Area	151
Standard Metropolitan Statistical Area	152
Card Type - From Original Card B	
Type of Update - for update record only (1=Adds; 2=Changes; 3=Deletions)	153



VIRGINIA STATE POLICE ACCIDENT FILE STRUCTURE

SOURCE: Harris 1980

VSP ACCIDENT FILE

MASTER RECORD

FIELD NUMBER	DESCRIPTION	LENGTH	FROM/TO
1	Report Number	9	1 - 9
2	Record Control	4	10-13
3	Month Coded	2	14-15
4	Rural-Urban	1	16
5	Date Month	2	17-18
6	Day	2	19-20
7	Year	2	21-22
8	Day of Week	1	23
9	Time	2	24-25
10	City-County of Accident	3	26-28
11	Traffic Control	2	29-30
12	Number of Vehicles	2	31-32
13	Route Number	4	33-36
14	Traffic Control Device Working	1	37
15	Alignment	1	38
16	County Population	1	39
17	City-Town Population	1	40
18	Weather	1	41
19	Type of Collision-First Event	2	42-43
20	Surface Condition	1	44
21	Roadway Defects	1	45
22	Cost of Repair-Other Property	6	46-51
23	Light	1	52
24	Kind of Locality	1	53
25	Speed Accident Info.	1	54
26	Speed Limit	2	55-56
27	Type of Accident I, K, PD	1	57
28	Number Killed	2	58-59
29	Number Injured	2	60-61
30	Pedestrians Killed	2	62-63
31	Pedestrians Injured	2	64-65
32	Driver Violation	1	66
33	Defective Driver	1	67
34	Drinking Driver	1	68
35	Defective Vehicle	1	69
36	Filer of Report	1	70
37	Section Number	4	71-74
38	Mile Post	4	75-78
39	Railroad Crossing	7	79-85
40	Surface Type	1	86
41	Surface Width	2	87-88
42	King of Highway	2	89-90
43	Intersection Type	1	91
44	Intersection Route Number	4	92-95
45	Accident Location	1	96
46	Zone of Impact	1	97
47	Major Factor	1	98
48	Placement North	2	99-100
49	East	2	101-102
50	South	2	103-104
51	West	2	105-106
52	Filler	10	107-116

VSP ACCIDENT FILE

VEHICLE-DRIVER RECORD

FIELD NUMBER	DESCRIPTION	LENGTH	FROM/TO
1	Report Number	9	1-9
2	Record Control	4	10-13
3	Month Coded	2	14-15
4	Rural - Urban	1	16
5	Drivers Action	2	17-18
6	Occupation	2	19-20
7	Driving Experience - Years	2	21-22
8	Vehicle Maneuver	2	23-24
9	Residence	1	25
10	Age	2	26-27
11	Sex	1	28
12	Drivers License State	2	29-30
13	Type of Collision - Second Event	2	31-32
14	Make of Vehicle	4	33-36
15	Type of Vehicle	4	37-40
16	Age of Vehicle	2	41-42
17	Repair Cost	5	43-47
18	Collision With Fixed Object	2	48-49
19	Vehicle License State	2	50-51
20	Vehicle Insured	1	52
21	Driver Vision Obscurred	2	53-54
22	Vehicle Point of Impact	1	55
23	Condition of Driver	1	56
24	Drinking Driver	1	57
25	Speed	3	58-60
26	Vehicle Damage	1	61
27	Vehicle Condition	1	62
28	Skidding	1	63
29	Which Vehicle Occupied	1	64
30	Position In/On Vehicle	1	65
31	Safety Equipment Used	1	66
32	Ejection From Vehicle	1	67
33	Injury Type	1	68
34	Injured, Killed, Property Damage	1	69
35	Placement	1	70
36	Filler	10	71-80

PASSENGER-PEDESTRIAN RECORD

1	Report Number	9	1 - 9
2	Record Control	4	10-13
3	Month Coded	2	14-15
4	Condition	1	16
5	Drinking	1	17
6	Which Vehicle Occupied	2	18-19
7	Position in/on Vehicle	1	20
8	Safety Equipment Used	1	21
9	Ejection from Vehicle	1	22
10	Age	2	23-24
11	Sex	1	25
12	Injury Type	1	26
13	Pedestrian Actions	2	27-28
14	Filler	10	29-38

APPENDIX B

TRANSIT ACCIDENT DEFINITIONS STANDARD
(ANSI D15.1 1976)

APPENDIX B

TRANSIT ACCIDENT DEFINITIONS STANDARD
(ANSI D15.1 1976)

2.4 **Motor Vehicle Fleet Accident.** Any occurrence involving a fleet motor vehicle that results in death, injury, or property damage, unless such fleet vehicle is properly parked. Who was injured, what property was damaged or to what extent, where the accident occurred, or who was responsible is not a factor.

A2.4 **Motor Vehicle Fleet Accident.** It is the intent that those occurrences resulting because of errors in judgment or technique of drivers, or of maintenance, are to be considered motor vehicle fleet accidents, and that those incidents that merely coincidentally involve vehicles are not to be considered motor vehicle fleet accidents.

Whether accidents occur because of any one driver's fault, mechanical failure, or another "blame placing" factor is not to be considered in determining whether an incident *is* a motor vehicle fleet accident. Likewise, the rules of any driver award program that may be based on "preventability" or other such factors have no bearing in determining whether any particular incident is to be considered a motor vehicle fleet accident.

The amount of damage or the cost of repair is not to be a factor. The definition includes *any property damage.* This does not mean, however, that ordinary contact of bumpers while parking vehicles, or any other such contacts that over a long period of time cause an accumulation of small scratches of the normal "wear and tear" type, are to be reported. A bending, crushing, or breaking of a bumper is not a "wear and tear" incident.

Accidents involving the use of incidental equipment such as cranes, shovels, and related equipment mounted on a motor vehicle are not to be considered motor vehicle fleet accidents unless the motor vehicle is being operated as a motor vehicle at the time of the accident.

A2.4.1 **Noncollision Accidents.** Noncollision accidents of the upset, rollover, jackknife, or run-off-the-road type that cause death, injury, or damage are motor vehicle fleet accidents.

A2.4.2 **Two Vehicles – Same Operating Agency.** If two vehicles of the same operating agency collide, the occurrence is to be considered as two motor vehicle fleet accidents unless one of the vehicles was properly parked.

A2.4.3 **No Damage or Injury.** An incident that may be the result of a driver's error, but does not result in a contact involving death, injury, or property damage, is *not* a motor vehicle fleet accident.

A2.4.4 **Standing in Traffic.** A vehicle standing in a line of traffic in response to an officer, signal, stop sign, or to traffic conditions is not properly parked. Therefore, if the vehicle is involved in an accident – for example, if it is struck in the rear – the occurence is a motor vehicle fleet accident.

A2.4.5 **Driven by Nonagency Personnel.** Motor vehicle fleet accidents that occur when a vehicle is being driven by persons not in the employ of the operating agency are not accidents of the operating agency.

A2.4.6 **Driverless Motor Vehicle (Runaways, Etc).** Death, injury, or property damage resulting from an accident caused by a driverless motor vehicle in motion are motor vehicle fleet accidents.

A2.4.7 **Shifting Cargo (Abrupt Stops, Starts, Turns).** When abnormal driving (fast starts, stops, or excessive speed on turns or over rough roads, detours, etc) causes the shifting of cargo, which results in death, injury, or property damage, the occurrence is a motor vehicle fleet accident. (Injuries to a passenger, as for example, his hitting his head on a stanchion as a result of a fast stop, which in no other way involves a motor vehicle fleet accident as defined in this standard, are considered to be "passenger accidents.")

A2.4.8 **Injury to Pedestrians or Bystanders.** Occurrences that result in death or injury to pedestrians or bystanders caused by contact with a moving vehicle, or an object carried on the vehicle or set in motion by the vehicle, are motor vehicle fleet accidents.

A2.4.9 **Pedestrian Evasive Action.** Occurrences that result in death or injury to a pedestrian attempting to avoid a motor vehicle but involve no contact with the vehicle are *not* motor vehicle fleet accidents.

A2.4.10 **Hitching Rides.** Occurrences that result in death, injury, or property damage caused by persons attempting to hitch rides (hanging on, riding pulled bicycles) on moving vehicles are motor vehicle fleet accidents.

A2.4.11 **Persons Falling from Motor Vehicle.** Death, injury, or property damage that results from persons falling from moving motor vehicles are motor vehicle fleet accidents. However, if the vehicle is properly parked, such occurrences are *not* motor vehicle fleet accidents.

A2.4.12 **Vehicle Evasive Action.** If death, injury, or property damage occurs from an accident caused by an effort of the driver to evade some person or object, the occurrence is a motor vehicle fleet accident.

A2.4.13 **Carbon Monoxide, Etc.** Occurrences that result in death or injury (sickness) solely because of inhalation of carbon monoxide, exhaust gases, etc, are *not* motor vehicle fleet accidents. However, if, for example, a driver becomes drowsy from breathing carbon monoxide and the vehicle then runs off the road and turns over, the occurrence would be a motor vehicle fleet accident.

A2.4.14 **Firearms.** Occurrences that result in death, injury, or property damage *solely as the result of the discharge of firearms* are *not* motor vehicle fleet accidents. However, if, for example, a bullet strikes a driver and he then loses control of the vehicle and hits an object, the occurrence would be a motor vehicle fleet accident.

A2.4.15 **Established Intent to Commit Suicide or to Kill, Injure, or Cause Property Damage.** Occurrences that are established as planned by the driver for the purpose of committing suicide, or of killing, injuring, or causing property damage, are not motor vehicle fleet accidents.

A2.4.16 **Accidents on Private Property.** Whether an accident happens on the public highways or on private property is *not* a factor.

A2.4.17 **Roadway or Driveway Damage.** Damage to a roadway or driveway, on private property, driven over with the owner's consent, caused solely by the weight of the vehicle is *not* a motor vehicle fleet accident. If death, injury, or property damage occurs because, for example, the vehicle accidentally skids or is driven off the driveway, the occurrence is a motor vehicle fleet accident.

A2.4.18 **Mechanical Failures.** Mechanical failures that result in damage to the parts of the vehicle only (clutch burnouts, gear stripping, tire failures, etc) are *not* motor vehicle fleet accidents. Failures (such as tire or brake failures) that result in accidents that cause death, injury, or property damage are motor vehicle fleet accidents.

A2.4.19 **Towing or Pushing.** Damage resulting from towing or pushing operations *alone* is *not* a motor vehicle fleet accident. If death, injury, or property damage occurs because, for example, a vehicle gets away, the occurrence is a motor vehicle fleet accident.

A2.4.20 **Repair and Servicing.** Death, injury, or property damage occurring from repair or service work alone (examples: vehicle falling off jack or hoist, tire explosion while inflating, finger cut off by fan belt, etc) is *not* a motor vehicle fleet accident. If death, injury, or property damage occurs because of, for example, an accident while the vehicle is being driven to test brakes, etc, the occurrence is a motor vehicle fleet accident.

A2.4.21 **Fires or Explosions.** Fires or explosions, or both, causing death, injury, or property damage, *that are not the result of a motor vehicle fleet accident* or do not cause such an accident, as elsewhere defined, are not motor vehicle fleet accidents.

A2.4.22 **Animals.** Occurrences that result in death, injury, or property damage caused by collisions with animals are considered to be motor vehicle fleet accidents, unless the death or injury is confined to the animal.

A2.4.23 **Flying Birds, Rocks, Gravel, Tar.** Damage caused solely by striking birds, or by rocks or gravel thrown by vehicles, or by getting road tar on the vehicle is *not* a motor vehicle fleet accident. If death, injury, or property damage results, for example, from hitting a large rock, or striking a bird and losing control of the vehicle, the occurrence is a motor vehicle fleet accident.

A2.4.24 **Objects Falling on a Motor Vehicle.** Damage resulting solely from objects falling on a vehicle – for example, a tree falling over a vehicle in a wind storm, objects dropped from an overpass or a building construction job – is *not* a motor vehicle fleet accident. If death, injury, or property damage occurs because, for example, the driver attempts to dodge a falling object and the vehicle runs off the road and turns over, the occurrence is a motor vehicle fleet accident.

A2.4.25 **Objects or Liquids Falling from a Motor Vehicle.** When objects or liquids fall from a motor vehicle (or are subsequently identified with the vehicle that lost its load), and directly and immediately cause death, injury, or property damage, the occurrence is a motor vehicle fleet accident.

A2.4.26 **Flood, Earthquake, Lightning, Etc.** Occurrences that result in death, injury, or property damage solely as the result of floods, earthquakes, lightning, etc, are *not* motor vehicle fleet accidents. However, if, for example, a bridge washes out in a flood and a driver fails to stop before going off the end and into the river, the occurrence is a motor vehicle fleet accident.

A2.4.27 **Deliberate Emergency Exposure.** When death, injury, or property damage result from deliberate exposure through extraordinary emergency use as required by police or other legal authority (such as a vehicle being used as an emergency road barricade by the police), the incident shall not be considered a motor vehicle fleet accident. Hot pursuit by a police car shall *not* be considered deliberate emergency exposure.

2.6 Motor Vehicle Fleet Passenger Accident. An incident involving a fleet motor vehicle that results in the death or injury of any passenger as herein defined.

A2.6 Motor Vehicle Fleet Passenger Accident

A2.6.1 Motor Vehicle Fleet Accident as First Event. An accident resulting in death or injury of a passenger, occurring as a result in the first event of a "motor vehicle fleet accident," as herein defined, is not also to be considered a "motor vehicle fleet passenger accident."

A2.6.2 Acts of Other Passengers. A passenger killed or injured is involved in a motor vehicle fleet passenger accident if the death or injury is the result of the conduct of other passengers or occupants of the motor vehicle.

A2.6.3 Motor Vehicle Traffic Accident Injury. A motor vehicle traffic accident injury is any bodily harm received in a motor vehicle traffic accident. This may be a fatal injury, serious visible injury, minor visible injury, or nonvisible injury.

A2.6.4 Fatal Injury. A fatal injury is an injury that results in death within 12 months of the motor vehicle traffic accident.

A2.6.5 Serious Visible Injury. A serious visible injury is a bleeding wound, distorted member, or any condition that requires the victim to be carried from the scene of the accident. The injury shall be considered to be visible if the symptoms are present even though the injury itself is not visible.

A2.6.6 Minor Visible Injury. A minor visible injury may be an abrasion, bruise, swelling, limping, or obviously painful movement.

A2.6.7 Nonvisible Injury. A complaint of pain without visible signs of injury.

A2.6.8 Medical Examination. Neither medical examination after a motor vehicle traffic accident nor transportation from the scene of the medical attention signifies existence of an injury.

A2.6.9 Time of Classification. Injuries shall be classified on the basis of conditions observed at the time the accident occurred or known at the time when the accident report is completed. However if information is received establishing that an injury produced death within 12 months, the necessary correction in classification shall be made to reflect this change.

A2.6.10 Passenger Injury or Death Due to Other Conditions. A passenger killed or injured is involved in a motor vehicle fleet passenger accident if the death or injury results from such acts or conditions as:

(1) Tripping or falling within the vehicle

(2) Falling or shifting baggage or other cargo

(3) Objects such as stones thrown or hurled from outside

(4) Vehicle defects

(5) Contact with an outside object by a portion of the victim's body that protrudes from the vehicle

(6) Fire, explosion, or the presence of noxious fumes

A2.6.11 Liability for Passenger. Determination of whether an incident does or does not constitute a motor vehicle fleet passenger accident is not to be based on the presence or absence of liability therefor, or upon consideration of whether or not there was involved a motor vehicle accident as defined in this standard.

A2.6.12 Nonrevenue Service Included. Motor vehicle fleet passenger accidents shall be reported as such, irrespective of whether the vehicle is being operated in revenue service or dead-headed to a point at which revenue service is to begin or from a point at which such service has been terminated.

2.7 Passenger. A person, other than the operator of the vehicle, who is in or on a motor bus, trolley coach, or taxicab for the purpose of being transported. Such persons are classified as passengers, irrespective of whether compensation for transportation has been or will be paid. Employees of the carrier are not classified as passengers unless they are in the vehicle solely for the purpose of being transported and have no duties or responsibilities with respect to the operation of the vehicle.

A2.7 Passenger. A person is so classified from the time he initiates the act of boarding such vehicle until he completes the actual act of alighting therefrom. Thus a person alighting from a vehicle who slips or falls and is injured or killed in the actual process of boarding or alighting, even though not in contact with the vehicle, is involved in a motor vehicle fleet passenger accident. However, a person who is so injured or killed at a point too far from the vehicle to permit the actual boarding thereof is not involved in a motor vehicle fleet passenger accident. A passenger injured or killed by action of the door of such a vehicle is involved in a motor vehicle passenger accident.

APPENDIX C

TRANSIT SAFETY REPORT FORMS

2926

C2

URBAN MASS TRANSPORTATION ADMINISTRATION

Form No. 405

TRANSIT SYSTEM ACCIDENTS SCHEDULE

Transit System ID [ ][ ][ ] Level [R]

Fiscal Year Ended [ ][ ] Month [ ][ ] Day [ ][ ] Year Mode _____ Code [ ]

LINE NO.	ITEM	COLLISION (b)	NON-COLLISION (c)	STATION (d)
	NUMBER OF ACCIDENTS CLASSIFIED AS:			
01	Fatality, Personal Injury & Property Damage			
02	Fatality & Personal Injury			
03	Fatality & Property Damage			
04	Fatality Only			
05	Personal Injury & Property Damage			
06	Personal Injury Only			
07	Property Damage Only			
08	TOTAL ACCIDENTS			
	NUMBER OF FATALITIES CLASSIFIED AS:			
	Revenue Vehicle Occupants			
09	On-Duty Occupants			
10	Others			
	Other Vehicle Occupants			
11	On-Duty Employees			
12	Others			
	Pedestrians			
13	On-Duty Employees			
14	Others			
	NUMBER OF PERSONS INJURED CLASSIFIED AS:			
	Revenue Vehicle Occupants			
15	On-Duty Employees			
16	Others			
	Other Vehicle Occupants			
17	On-Duty Employees			
18	Others			
	Pedestrians			
19	On-Duty Employees			
20	Others			

URBAN MASS TRANSPORTATION ADMINISTRATION

Form No. 406

TRANSIT SYSTEM SERVICE SUPPLIED, SERVICE CONSUMED AND SERVICE PERSONNEL SCHEDULE

Non Rail Modes

Mode _____ Code [ ]

Transit System ID [ ][ ][ ]

Fiscal Year Ended [ ][ ] Month [ ][ ] Day [ ][ ] Year

Level [R]

a		b	c	d	e	f	g	h
LINE NO.	ITEM	AM PEAK*	MIDDAY*	PM PEAK*	NIGHT*	AVERAGE WEEKDAY	SATURDAY**	SUNDAY**
	SERVICE SUPPLIED							
01	Number of vehicles in operation							
02	Total vehicle miles (000)							
03	Total vehicle hours (000)							
04	Total vehicle revenue miles (000)							
05	Total vehicle revenue hours (000)							
06	Revenue capacity miles (000)							
07	Charter Service Hours (000)							
08	Charter Service Miles (000)							
09	School Bus Hours (000)							
10	School Bus Miles (000)							
	SERVICE CONSUMED							
11	Unlinked passenger trips (000)							
12	Unlinked passenger miles (000)							
13	Average time per unlinked trip (min)							
	SERVICE PERSONNEL (No.)							
	Scheduled vehicle operators							
14	Full time							
15	Part time							
16	Revenue vehicle movement control personnel							
17	Ticket/Token sales agent, fare collectors, gate keepers							
18	Route/schedule information operators							
19	Security agents							
20	TOTAL SERVICE PERSONNEL							

*For average weekday **Average Saturday or Sunday

Form UMTA 2710 68 (7 78)

C3

VDH&T PUBLIC TRANSPORTATION DIVISION REPORT FORM

V. Transit Service Supplied

A. Average Weekday, Weekend Service

	AVERAGE WEEKDAY					WEEKEND	
	A.M. Peak	Off-Peak Daytime	P.M. Peak	Off-Peak Evening	Total	Saturday	Sunday
Number of Vehicles In Operation (In-line service)							
Number of Vehicle Miles Operated (In-line Service)							
Number of Vehicle Hours Scheduled (In-line Service)							

B. Annual Service

	HOURS	MILES
Total Annual Vehicle		
Annual Revenue Vehicle (In-line Service)		
Annual Charter Vehicle		
Annual School Bus		

VDH&T PUBLIC TRANSPORTATION DIVISION REPORT FORM (continued)

VI. Transit Service Consumed

	AVERAGE WEEKDAY					WEEKEND		ANNUAL TOTAL
	A.M. Peak	Off-Peak Daytime	P.M. Peak	Off-Peak Evening	Total	Saturday	Sunday	
Number of Unlinked Passenger Trips (In-line Service)								

Average Peak Load Factor _____
Average Off-Peak Load Factor _____ (see definition before computing average load factor)

VII. Weekday Time Period Schedule

	WEEKDAY	SATURDAY	SUNDAY
Total Hours of Service During Day			
Beginning Hour of Daily Service			
Ending Hour of Daily Service			
Total Hours of A.M. Peak Service			
Beginning Hour of A.M. Peak Service			
Total Hours of P.M. Peak Service			
Beginning Hour of P.M. Peak Service			

VIII. Transit Way Descriptors

A. Total Miles of Transit Route (miles of direct roadway) _____ Miles

B. Total Miles of Express Bus Route _____ Miles

C. Please attach to this form a system-wide transit route map or equivalent

VDH&T PUBLIC TRANSPORTATION DIVISION REPORT FORM (continued)

XII. Annual Accident Record

A. Annual Number of Accidents Classified as:	Collision	Non-Collision	On-the-Job	TOTAL
1. Fatality				
2. Personal Injury				
3. Property Damage				
ANNUAL TOTAL ACCIDENTS				

COMMONWEALTH OF VIRGINIA - DIVISION OF MOTOR VEHICLES

DMV COPY

POLICE ACCIDENT REPORT

FR-300P 1/78

PAGE ____ OF ____ PAGES

ACCIDENT DATE Month Day Year	DAY OF WEEK	TIME AM PM	COUNTY OF ACCIDENT	MILE POST NUMBER	RAILROAD CROSSING ID. NO. IF WITHIN 150 FEET

CITY OR TOWN	LANDMARKS AT SCENE	NUMBER OF VEHICLES	OFFICIAL USE ONLY
OF			

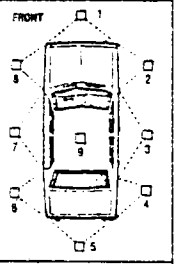
ROUTE NO. OR STREET NAME AT SCENE

AT INTERSECTION WITH OR ____ MILES FEET N S E W OF ROUTE NUMBER OR STREET NAME

VEHICLE NO. 1		VEHICLE NO. 2 (OR PEDESTRIAN)	
DRIVER'S NAME (LAST, FIRST, MIDDLE)	OCCUPATION	DRIVER'S NAME (LAST, FIRST, MIDDLE)	OCCUPATION
ADDRESS (STREET & NO.)	YEARS OF DRIVING EXPERIENCE	ADDRESS (STREET & NO.)	YEARS OF DRIVING EXPERIENCE
CITY / STATE / ZIP CODE		CITY / STATE / ZIP CODE	
DATE OF BIRTH Month Day Year / SEX / DRIVER'S LICENSE NUMBER / STATE		DATE OF BIRTH Month Day Year / SEX / DRIVER'S LICENSE NUMBER / STATE	
VEHICLE OWNER'S NAME (LAST, FIRST, MIDDLE)		VEHICLE OWNER'S NAME (LAST, FIRST, MIDDLE)	
ADDRESS (STREET & NO.)		ADDRESS (STREET & NO.)	
CITY / STATE / ZIP CODE		CITY / STATE / ZIP CODE	
MAKE & TYPE OF VEHICLE (SHOW MOPED, MOTORCYCLE, AMBULANCE, ETC.) / YEAR / REPAIR COST		MAKE & TYPE OF VEHICLE (SHOW MOPED, MOTORCYCLE, AMBULANCE, ETC.) / YEAR / REPAIR COST	
LICENSE PLATE NUMBER / STATE / NAME OF INSURANCE CO. (NOT AGENT)		LICENSE PLATE NUMBER / STATE / NAME OF INSURANCE CO. (NOT AGENT)	

DAMAGE TO PROPERTY OTHER THAN VEHICLES — OBJECT STRUCK (TREE, FENCE, ETC.) — OWNER'S NAME (LAST, FIRST, MIDDLE) — ADDRESS — REPAIR COST

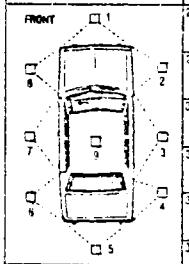
VEHICLE NO. 1 DAMAGE
CHECK POINTS OF IMPACT



ACCIDENT DIAGRAM

INDICATE NORTH BY ARROW

VEHICLE NO. 2 DAMAGE
CHECK POINTS OF IMPACT



SPEED				SPEED		
BEFORE ACCIDENT	LIMIT	MAXIMUM SAFE		BEFORE ACCIDENT	LIMIT	MAXIMUM SAFE

VEHICLE NO. 1 DAMAGES:					VEHICLE NO. 2 DAMAGES:				
UNKNOWN	NO DAMAGE	OVERTURNED	UNDERCARRIAGE	BY FIRE	UNKNOWN	NO DAMAGE	OVERTURNED	UNDERCARRIAGE	BY FIRE
		MOTOR	TOTALED	OTHER			MOTOR	TOTALED	OTHER

ACCIDENT DESCRIPTION

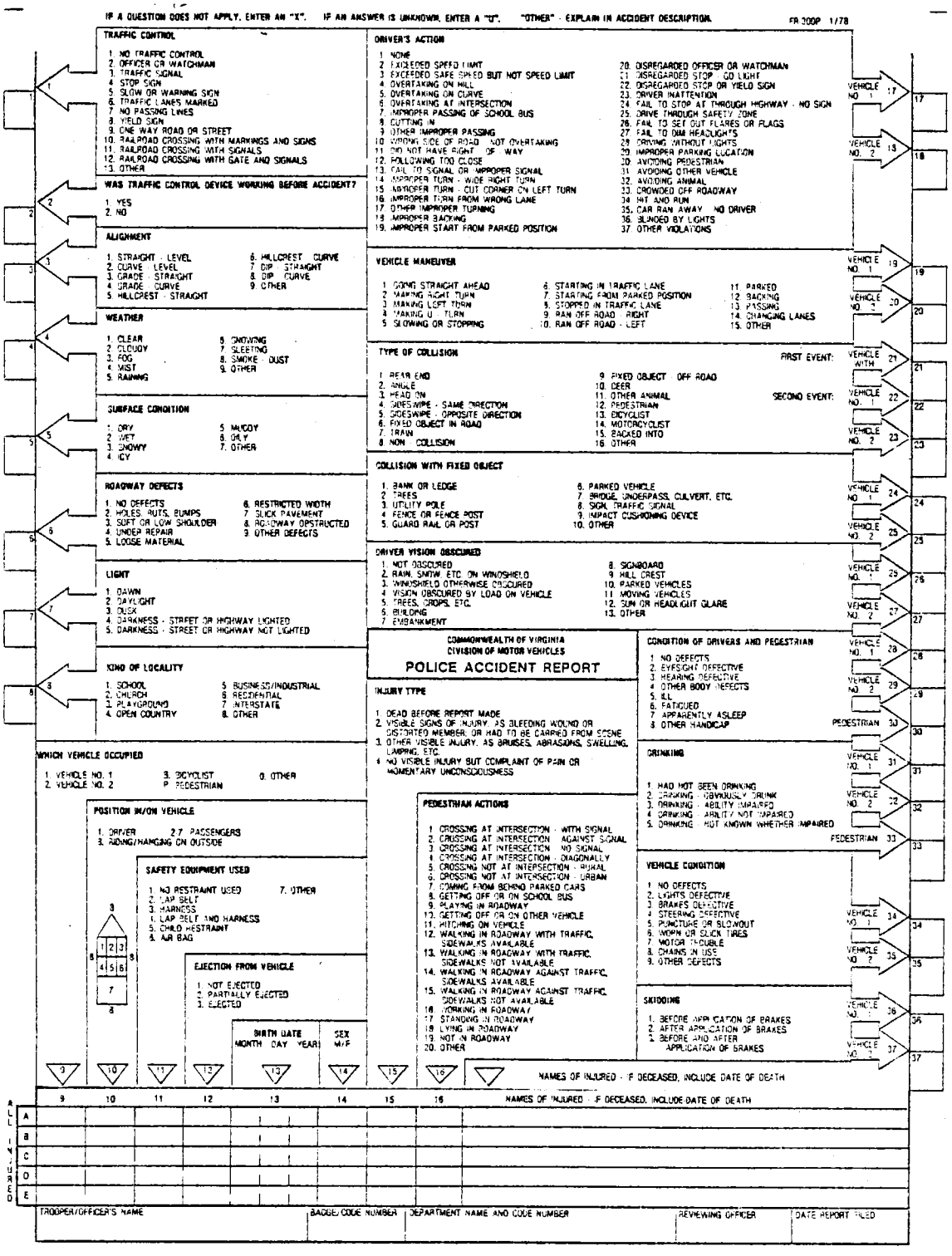
OFFENSES CHARGED
DRIVER

	9	10	11	12	13	14	15	16	NAMES OF INJURED - IF DECEASED, INCLUDE DATE OF DEATH
A									
B									
C									
D									
E									

ACT. INJURED

TROOPER/OFFICER'S NAME	BADGE/CODE NUMBER	DEPARTMENT NAME AND CODE NUMBER	REVIEWING OFFICER	DATE REPORT FILED

DIVISION OF MOTOR VEHICLES
POLICE ACCIDENT REPORT OVERLAY



DIVISION OF MOTOR VEHICLES
CITIZEN ACCIDENT REPORT

FR 300 C (3/78)

COMMONWEALTH OF VIRGINIA
DIVISION OF MOTOR VEHICLES
CITIZEN ACCIDENT REPORT

DMV COPY

(SEE INSTRUCTIONS ON REVERSE SIDE)

ACCIDENT INFORMATION

ACCIDENT DATE MONTH DAY YEAR	DAY OF WEEK	TIME AM PM	INVESTIGATED AT SCENE BY POLICE?	NUMBER OF VEHICLES	WAS THERE AN INJURY?	WAS THERE A DEATH?	CITY OR COUNTY OF ACCIDENT

ROUTE NO. OR STREET NAME AT SCENE

☐ AT INTERSECTION WITH OR_____ MILES FEET N S E W OF ROUTE NO. OR STREET NAME

VEHICLE INFORMATION

YOUR VEHICLE	OTHER VEHICLE OR PEDESTRIAN INVOLVED
DRIVER'S NAME (LAST, FIRST, MIDDLE)	DRIVER'S NAME (LAST, FIRST, MIDDLE)
ADDRESS (NO. & STREET)	ADDRESS (NO. & STREET)
CITY / STATE / ZIP CODE	CITY / STATE / ZIP CODE
DATE OF BIRTH MONTH DAY YEAR / SEX / DRIVER'S LICENSE NUMBER / STATE	DATE OF BIRTH MONTH DAY YEAR / SEX / DRIVER'S LICENSE NUMBER / STATE
VEHICLE OWNER'S NAME (LAST, FIRST, MIDDLE)	VEHICLE OWNER'S NAME (LAST, FIRST, MIDDLE)
ADDRESS (NO. & STREET)	ADDRESS (NO. & STREET)
CITY / STATE / ZIP CODE	CITY / STATE / ZIP CODE
DATE OF BIRTH MONTH DAY YEAR / SEX / OWNER'S DRIVER LICENSE NUMBER / STATE	DATE OF BIRTH MONTH DAY YEAR / SEX / OWNER'S DRIVER LICENSE NUMBER / STATE
MAKE & TYPE OF VEHICLE / YEAR / VEHICLE PARKED?	MAKE & TYPE OF VEHICLE / YEAR / VEHICLE PARKED?
LICENSE PLATE NUMBER / STATE / COST TO REPAIR $	LICENSE PLATE NUMBER / STATE / COST TO REPAIR $

DAMAGE TO PROPERTY OTHER THAN VEHICLES — EST. AMOUNT OF DAMAGES $

WAS VEHICLE INSURED?	NAME OF YOUR LIABILITY INSURANCE COMPANY (NOT AGENT)	POLICY NUMBER

INSURED'S NAME (LAST, FIRST, MIDDLE) — POLICY PERIOD MONTH DAY YEAR TO MONTH DAY YEAR

SIGNATURE OF DRIVER	DATE FILED	IF SIGNED BY PERSON OTHER THAN DRIVER, GIVE REASON

DIVISION OF MOTOR VEHICLES
CITIZEN ACCIDENT REPORT (continued)

CITIZEN ACCIDENT REPORT INSTRUCTIONS

THE DRIVER OF ANY VEHICLE INVOLVED IN AN ACCIDENT THAT RESULTS IN ANY PERSONAL INJURY OR IN $250 OR MORE TOTAL DAMAGES TO ALL VEHICLES AND OTHER PROPERTY MUST FILE AN ACCIDENT REPORT WITH DMV WITHIN FIVE DAYS.

THE ONLY EXCEPTIONS TO THIS ARE THAT IF YOUR VEHICLE WAS LEGALLY PARKED OR THE ACCIDENT OCCURRED ON PRIVATE PROPERTY, NO REPORT IS REQUIRED. IF THE DRIVER IS PHYSICALLY INCAPABLE OF FILING A REPORT, AN OCCUPANT ABLE TO MAKE A REPORT MUST DO SO.

WHEN FILLING OUT THIS REPORT PLEASE:

1. USE A TYPEWRITER OR PRINT PLAINLY IN INK.
2. FILL IN ALL INFORMATION TO THE BEST OF YOUR KNOWLEDGE. IF INFORMATION IS UNKNOWN, WRITE "UNKNOWN".
3. PLACE A CIRCLE AROUND THE PROPER ANSWERS IN THE ACCIDENT INFORMATION AREA.
4. WHEN COMPLETING INFORMATION CONCERNING YOU AS THE DRIVER, USE SECTION MARKED "YOUR VEHICLE"
5. USE INFORMATION EXACTLY AS IT APPEARS ON YOUR DRIVER'S LICENSE, REGISTRATION CARD, AND INSURANCE POLICY.
6. FOR "TYPE OF VEHICLE" WRITE THE EXACT TYPE OF VEHICLE SUCH AS: SEDAN, STATION WAGON, TRUCK, MOTORCYCLE, MOTOR HOME, CAR AND TRAVEL TRAILER, MINI-BIKE, BICYCLE, ETC.
7. USE A SECOND REPORT FORM OR A PLAIN SHEET OF PAPER TO REPORT ADDITIONAL VEHICLES.
8. PLEASE SIGN AND DATE THE REPORT AND MAIL THE FIRST AND SECOND COPIES TO: FINANCIAL RESPONSIBILITY DEPARTMENT, DIVISION OF MOTOR VEHICLES, P.O. BOX 27412, RICHMOND, VIRGINIA 23269.

YOU MAY KEEP THE LAST COPY OF THE REPORT FOR YOUR RECORDS.

THE PERSONAL INFORMATION REQUIRED ON THIS REPORT IS USED TO IDENTIFY PERSONS AND VEHICLES INVOLVED IN ACCIDENTS. ALL INSURANCE INFORMATION WILL BE VERIFIED WITH YOUR INSURANCE COMPANY. THIS INFORMATION IS REQUIRED BY VIRGINIA LAW AND FAILURE TO FURNISH IT MAY RESULT IN THE SUSPENSION OF THE VEHICLE OWNER'S DRIVER'S LICENSE AND LICENSE PLATES.

TO BE COMPLETED BY INSURANCE COMPANY WHEN COVERAGE IS DENIED.

TO: DIVISION OF MOTOR VEHICLES
FINANCIAL RESPONSIBILITY DEPARTMENT
P. O. BOX 27412
RICHMOND, VIRGINIA 23269

THE RECORDS OF THE UNDERSIGNED COMPANY SHOW THERE WAS NO AUTOMOBILE LIABILITY INSURANCE POLICY IN FORCE PROVIDING VIRGINIA MINIMUM LIMITS OF LIABILITY REQUIRED UNDER SECTION 46.1-504 CODE OF VIRGINIA FOR THE VEHICLE INVOLVED IN THE ACCIDENT SHOWN ON THE REVERSE SIDE OF THIS FORM.

NAME OF INSURANCE COMPANY	SIGNATURE OF AUTHORIZED REPRESENTATIVE	DATE

WASHINGTON METROPOLITAN AREA
TRANSIT AUTHORITY

INSTRUCTIONS
a. Promptly complete this form using the reverse side
b. Obtain witnesses and enclose in accident envelope #88715R-2

REPORT OF ACCIDENTS & OCCURENCES

Clerk Time Stamp Here when form is given to operator	Clerk Time Stamp here when employee turns in completed form verifying that both sides have been properly filled out

THIS SECTION TO BE COMPLETED BY CLAIM DEPARTMENT

Classification No.	Date Assigned	Assigned By	Assigned To

Date of Accident/Occurrence _____ 19 ____ Time _____ M. Length of delay _____ min.
Place of accident _____ City _____ State _____
Accident happened on trip from _____ to _____
Bus No. _____ Run No _____ Block No. _____
Number of witnesses obtained _____ Number of Passengers _____
Direction of WMATA vehicle _____ WMATA Car or Truck No. _____
Direction of other vehicle or person _____
Speed of WMATA vehicle _____ Speed of other vehicle _____
Weather conditions _____ Pavement conditions _____
WMATA employee's name _____
Address of employee _____
Division _____ Home Phone _____ Work Bus. No. _____
Employee's Payroll No. _____ Department _____

TYPE OF ACCIDENT (check one)

a. Passenger injury: ☐ Boarding ☐ Alighting (front door) ☐ Alighting (center door) ☐ Standing (front) ☐ Standing (center) ☐ Standing (rear) ☐ Seated ☐ Others _____
b. Collision with: ☐ Auto ☐ Truck ☐ Motorcycle or Bike ☐ Fixed Object ☐ Others _____
c. Collision with pedestrian: ☐ At crosswalk ☐ Between intersections ☐ Others _____
Where was injured person when you first saw her or him? _____
How far was injured person from your vehicle when you first saw him/her? _____ ft.
In what direction was injured person looking just before the accident? _____
Did injured person stumble or fall just before the collision? _____
What part of WMATA vehicle came in contact with the person? _____

OTHER DRIVER INFORMATION

Name of Auto Driver _____ Number of occupants in auto _____
Address _____ City _____ State _____
Home Phone No. _____ Work No. _____ Zip Code _____
Name of Owner _____ Address _____
Home Phone No. _____ Work No. _____ Zip Code _____
Description of Auto: Make _____ Model _____ Color _____
License Number of Auto _____ State _____ Year _____
Name of Insurance Company _____ Policy No. _____
Name of Insurance Agent _____

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY (continued)

POINT OF IMPACT

In what lane was WMATA vehicle and other vehicle/object before accident?

WMATA vehicle _____ Other vehicle/object _____

State position of bus and auto/object after collision had occurred

_____

What part of WMATA vehicle collided with auto/object? _____

Describe fully nature or extent of damage to auto _____

_____

_____

Distance traveled after accident by WMATA _____ ft. Other vehicle _____ ft.

INJURED PERSON(S) (check one)

Injured party was: ☐ In WMATA vehicle ☐ In other vehicle ☐ On street ☐ Other **Explain in Employee Statement**

Name of Injured Person(s)

_____ Phone No. Home _____ Work _____

Address _____ City _____ Zip Code _____

_____ Phone No. Home _____ Work _____

Address _____ City _____ Zip Code _____

How many persons claimed injury or appeared to be injured? _____

Injured person was treated: ☐ On scene ☐ Taken to hospital ☐ Refused aid

(If more than two injured, use blue personal injury form #68724)

Was anyone with injured person? If so, give name and address

Name _____ Address _____

Home Phone _____ Work Phone _____

DESCRIBE ACCIDENT ON REVERSE SIDE AND DIAGRAM THE ACCIDENT

15.49 (7/79) Distribution: Original to Claims / Unit Supv. / SUSV

REPORT OF OCCURRENCES (check one)

☐ Robbery ☐ Collision Observed ☐ Company equipment or vehicle damaged ☐ Other incident observed
☐ Fare dispute ☐ Others _____

Name of person(s) involved _____

Address _____ City _____ State _____

Home Phone _____ Work Phone _____

(FOR WMATA VEHICLE)

TRAFFIC CONTROLS (Check one)

☐ Red light ☐ Yellow light ☐ Green light ☐ Uncontrolled intersection ☐ Yield ☐ Flashing yellow light
☐ Flashing red light ☐ Police officer ☐ Stop sign ☐ Others **Explain in Employee Statement**

Name of police present _____ Badge No. _____ Precinct _____

Name of street supervisor present _____ Employee No. _____

STATEMENT OF EMPLOYEE

How did the accident happen?

Describe in your own words, giving full details and stating what, if anything, was said by the parties involved.

_____

_____

_____

_____

_____

_____

_____

_____

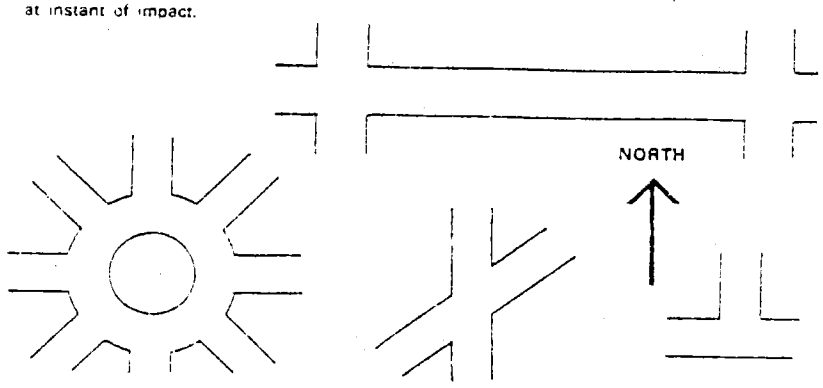
_____

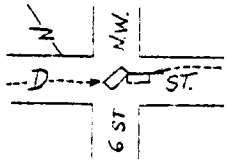
WASHINGTON METROPOLITAN AREA
TRANSIT AUTHORITY (continued)

DIAGRAM OF LOCATION OF ACCIDENT

INSTRUCTIONS

Diagram should be made for each accident involving collision with vehicle or person.
Use one of the diagrams below to show position of bus and other vehicle or person at instant of impact.





SAMPLE SKETCH ABOVE

KEY
- X Pedestrian
- Motor Vehicle
- Motor Cycle or Bicycle
- Bus

Who, in your opinion, was to blame for the accident? _____

If no witnesses were obtained, explain why. _____

_____

_____

Employee Signature _____ Seniority _____ Date _____

(Rev. 6/1/79) 68718 R2

WASHINGTON METROPOLITAN AREA
TRANSIT AUTHORITY (continued)

SUPPLEMENTAL PERSONAL INJURY REPORT

68724 R1

DEPOT CLERK TIME STAMP HERE WHEN FORM IS GIVEN TO OPERATOR	DEPOT CLERK TIME STAMP HERE WHEN OPERATOR TURNS IN COMPLETED FORM, VERIFYING THAT BOTH SIDES HAVE BEEN PROPERLY FILLED OUT

THIS SECTION TO BE COMPLETED BY CLAIM DEPT.

CLASSIFICATION NO.	DATE ASSIGNED	ASSIGNED BY	ASSIGNED TO

Date of accident _____, 19__ Time accident occurred _____ M.

Place of accident _____

(I) Name in Full _____

Address _____ City _____

Color _____ Sex _____ Age _____ Phone _____

Where was injured party when injury occurred? On street car or bus? ☐ In other vehicle? ☐ On loading platform? ☐ On street? ☐

If on street, state exactly where _____

Describe apparent nature of injuries _____

Where was injured party taken after accident? _____

Taken by whom? _____ Address or license No. of auto _____

(II) Name in full _____

Address _____ City _____

Color _____ Sex _____ Age _____ Phone _____

Where was injured party when injury occurred? On street car or bus? ☐ In other vehicle? ☐ On loading platform? ☐ On street? ☐

If on street, state exactly where _____

Describe apparent nature of injuries _____

Where was injured party taken after accident? _____

Taken by whom? _____ Address or license No. of auto _____

(III) Name in full _____

Signed _____ Employee No. _____ Seniority Date _____

This form is to be used in connection with accident report blanks when persons have been injured. It should be attached to the report.

GREATER RICHMOND TRANSIT COMPANY

File #
Pass _____ Cards _____

Office Use

OPERATORS ACCIDENT REPORT

Date_____ Time _____ Direction _____

Location_____

Route _____ Bus No._____ Blk No. _____ Bus License_____

Make _____ Model _____

OPERATOR_____ SSN_____ AGE_____

Home Address_____ HOME PHONE_____

Point of Impact_____ Damage_____

INJURIES:

1. _____ (name) _____ (address) _____ (injury)

2. _____ _____ _____

3. _____ _____ _____

Police Officer's Name _____ Unit #_____

Action Taken _____

OTHER VEHICLE

Make _____ TYPE _____ MODEL _____

License No. _____ SSN _____

OWNER_____ Home Tel _____ Bus. Tel _____

Address _____

DRIVER _____ AGE_____ SEX _____

Address _____

Employers Name and Address _____

Insurance Company _____ Policy #:_____

Direction _____ Point of Impact_____

Damage_____ Weather _____Traffic Control_____

View Obstructed _____

(Complete both sides of report)

GREATER RICHMOND TRANSIT COMPANY (continued)

Check operators failures that contributed to this accident.

Improper Curbing
Improper Turn
Improper Start
Improper Stop
Improper Speed
Leaving Corner Improperly
Failure to See Door Clear
Improper Following Distance
Improper Speed on Viaduct
Improper Speed on Bridge
Improper Speed on Hill

Failure to Properly Use Manual Switch on Center Door
Failure to See Way Clear
Failure to Use Mirror
Failure to Look Over Shoulder
Improper Adherence To Traffic Light
Improper Adherence To Traffic Sign
Improper Adherence To Intersection Control
Improper Signals
Improper Check of Equipment
OTHER _____

Non-Preventable

Describe Accident _____

_____

_____

_____

_____

_____

_____

_____

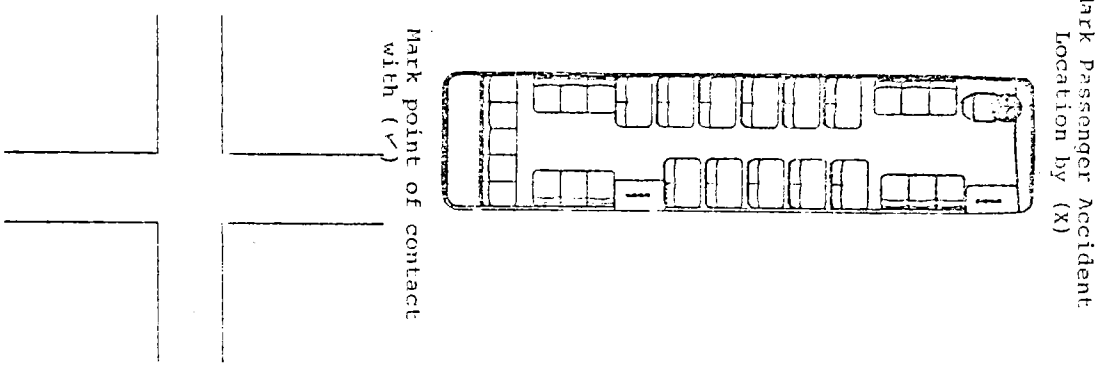
_____

_____

_____

_____

OPERATOR'S SIGNATURE



C17

GREATER RICHMOND TRANSIT COMPANY
SUPERVISOR'S REPORT

ACCIDENT NUMBER:_____ NOTE: USE INK ONLY
(Number) - (Month & Year)
PHOTOS TAKEN: YES___ NO___
PASSENGERS ONBOARD:_____ COURTESY CARDS COLLECTED:_____

SUPERVISOR'S INVESTIGATION REPORT

Date:_____ Time:_____ Direction:_____

Actual Location where Accident Occurred:_____

Bus No.:_____ Blk No.:_____ Route No.:_____ Bus License:_____

Make Of Bus:_____ Model of Bus:_____

Operator:_____ SSN:_____ Age:_____

Operator's Home Address:_____ Operator's Home Phone:_____

Point of Impact on Bus:_____ Approx. $ Amount of Damage to Bus:_____

Were any injuries reported as a result of this Accident:_____ If YES, How Many:_____
(Yes / No)

(If INJURIES were reported, SUPERVISOR must complete INJURY DATA SHEET & attach to this report)

Investigating Police Officer:_____ Police Unit No.:_____

Show Action Taken by the Investigating Police Officer:_____

(Indicate whether FULL INVESTIGATION CONDUCTED (State DMV Report required), or Exchanged Info.)

INFORMATION ON OTHER VEHICLE

Make of Vehicle:_____ Type of Vehicle:_____ Year Model:_____

License No. of Vehicle:_____ Driver's SSN:_____ Business Phone No.:_____

Name of the Registered OWNER:_____ Owner's Home Phone Number:_____

Home Address of Registered OWNER:_____

Name of the DRIVER:_____ Age:_____ Sex:_____

Home Address of the DRIVER:_____ Driver's Home Phone Number:_____

DRIVER'S current Employer:_____

Name of the Company Actually Insuring the Vehicle:_____ If possible list Policy No:_____

Name, Address, & Phone of Agent/Agency thru whom Insurance Policy was obtained:_____

Point of Impact on Vehicle:_____ Approx. $ Amount of Damage to Vehicle:_____

Direction:_____ Weather:_____ Traffic Control:_____

(CONTINUE ON REVERSE)

2942

C18

GREATER RICHMOND TRANSIT COMPANY
SUPERVISOR'S REPORT (continued)

Description of the ACCIDENT, based on SUPERVISOR'S on-scene Investigation:

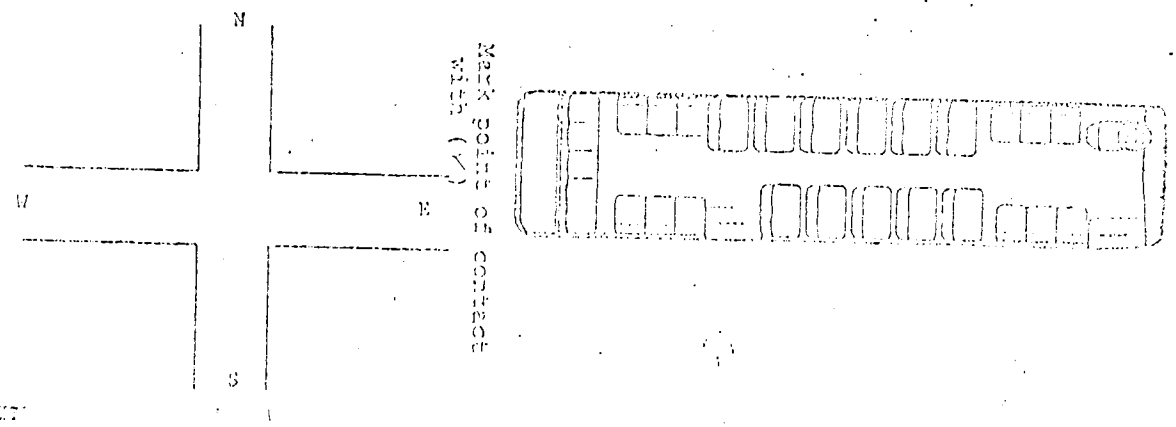
Statement made by other DRIVER:

Statements of WITNESSES (if any):

Citations issued by the Police:

Appointment given for Bus Operator to make ACCIDENT REPORT: _____ (Date) / _____ (Time)

_____
(Signature of Investigating Supervisor)



GREATER RICHMOND TRANSIT COMPANY
SUPERVISOR'S REPORT (continued)

SUPERVISOR'S REPORT
ON
ACCIDENT PREVENTABILITY

DATA PROCESSING

(Type) (Level)

ENTERED BY:

OPERATOR'S NAME: _____

DATE OF ACCIDENT: _____

ACCIDENT LOCATION: _____

ACCIDENT NUMBER: _____
(NUMBER) - MONTH & YEAR

ACCIDENT WAS: PREVENTABLE / NON-PREVENTABLE
(If ACCIDENT was NON-PREVENTABLE, leave remainder of form blank, and sign report)

Check Defensive Driving Failures that contributed to the ACCIDENT:

_____ Improper Curbing
_____ Improper Start
_____ Improper Braking
_____ Improper Right Turn
_____ Improper Left Turn
_____ Improper Change of Lanes
_____ Improper Speed for Conditions
_____ Improper Precautions Approaching Intersection
_____ Improper Following Distance
_____ Failure to See Door Clear
_____ Failure to maintain 3 to 5 foot Clearance from Parked Vehicles
_____ Failure to see way clear
_____ Failure to use Left OS Mirror
_____ Failure to look over Left Shoulder
_____ Failure to use Right OS Mirror
_____ Improper Adherence to Traffic Control
_____ Improper use of Turn Signals
_____ Failure to use Turn Signals
_____ Failure to keep check on Air Pressure
_____ Improper Check of Equipment
_____ OTHER: _____

Give brief description of the Defensive Driving Failures which contributed to this Accident:

_____

_____

_____

_____

_____

_____

_____

Operator's Statement: _____

_____

_____

_____

Action Taken by Investigating Supervisor: _____

_____

_____

2944

C20

Transit Casualty Company

TRANSPORTATION LOSS REPORT

Company	Date of Accident	Time A.M. P.M.	Division No.	Report No.

Accident On _____ Street(at) (between) _____

City _____ State _____

Name of Employee _____ Badge No. _____ Length of Service _____ Age _____

Co. Veh. No. _____ Type _____ (Bus; etc.) Line _____ (Indicate if Charter) Route No. _____ Run No. _____

Gen. Direction (Eastbound Etc.) _____ Bound. Weather _____ (Fog, etc.) Condition of Roadway _____

Bus/St. Car/T.C./On Time ____ /____ Min. Late _____ No. of Passengers _____ No of Courtesy Cards Obtained _____

Description of Accident: For additional information use extra report form.

Brief summary: _____

Describe in Detail:

_____

_____

_____

_____

_____

_____

_____

DATE OF REPORT

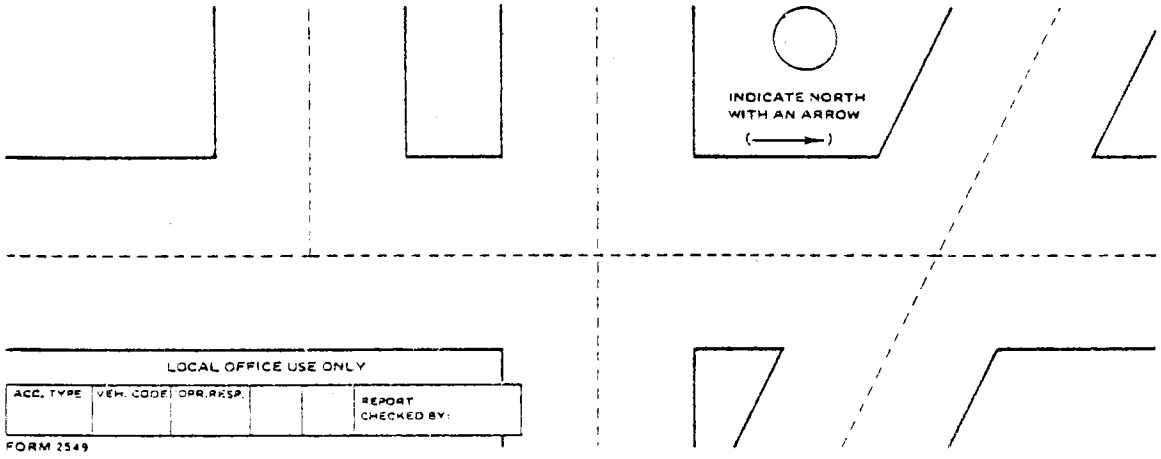
EMPLOYEE'S SIGNATURE (INDICATE CLASSIFICATION)

OPERATOR ☐ : STUDENT ☐ : OTHER ☐

TRAFFIC DIAGRAM: IMPORTANT (DRAW COMPLETE DIAGRAM OF WHERE, AND HOW, ACCIDENT HAPPENED USING SYMBOLS BELOW, SHOWING STREET NAMES AND INDICATING DIRECTION OF TRAVEL BY LINE OF ARROWS OF VEHICLES INVOLVED).

POINTS OF CONTACT (SHOW BY (✓) MARK) ON SYMBOLS

(ILLUSTRATION) ✓ CO. VEH. OTHER VEHICLE PEDESTRIAN



LOCAL OFFICE USE ONLY

ACC. TYPE	VEH. CODE	OPR.#KSP.			REPORT CHECKED BY:

FORM 2549

C21

TRANSIT CASUALTY COMPANY
TRANSPORTATION LOSS REPORT (continued)

PERSONS INVOLVED OR INJURED

Were police at scene of accident? Yes___No___Officers' Badges _____

Officer's Names _____

Names	Addresses	Apparent Injuries	Passenger	Pedestrian	Other Veh.	Approx. Age
1						
2						
3						
4						
5						
6						

Ambulance? Yes___No___Hospitalized? Yes___No___Name of Hospital _____

TRAFFIC ACCIDENT (Vehicle, Pedestrian, Etc.)

Other Vehicle or Property: (For additional information, use extra report form)

Owner _____ (Name) (Address)

Driver _____ (Name) (Address)

Veh. License No. _____ Type of Vehicle _____ No. of persons in Vehicle _____

Damage to Veh. or Prop. _____ Est. Cost $ _____

Direction of Other Vehicle _____

Was other Vehicle Insured? Yes____No_____Name of Company _____

Est. speed when first noticed _____M.P.H.; at time of collision____M.P.H.; Dist. traveled after collision?_____Ft.

COMPANY VEHICLE: How far were you from point of accident when other veh. or ped. was first seen?_____Ft.

Est. speed when you first noticed danger____M.P.H.; How far from collision when you applied brakes?_____Ft.

Est. speed of your vehicle at time of collision____M.P.H.; How far did your vehicle move after collision?_____Ft.

Damage to Co. Veh. _____ Est. Cost $ _____

PEDESTRIAN: (At time of coll.) At crosswalk_____Loading zone_____Near curb_____Jay walking_____

Other _____

PASSENGER ACCIDENT

AT TIME OF ACCIDENT: (Check proper items) WAS PERSON: Boarding_____Alighting_____On board_____At front door_____

At rear door_____Struck by doors_____TYPE OF DOOR CONTROL: Manual_____Treadle_____Push Out_____Other_____

MOTION OF CO. VEHICLE: Standing_____Starting_____Stopping_____Running (Straight_____Curve_____) Going_____M.P.H.

IF A FALL, GIVE LOCATION: Front steps_____Front platform_____Aisle_____Rear of center platform_____Rear or center steps___

_____ Did person contact Co. veh. in falling? Yes____No____; If outside, distance from vehicle_____feet _____

BUSES OR TROLLEY COACH ONLY: Distance of door involved from curb_____ft.

MISC. INCIDENT

(Disturbances, arrests, ejectments, fits, sickness, falls not on company vehicle, other collisions, etc.)

Did incident occur on co. vehicle? Yes____No____: If not, give distance from company vehicle_____feet.

Was person a passenger prior to incident? Yes____No____: Was company vehicle involved? Yes____No____.

CONDITION EQUIPMENT

Did you notice any equipment defects (steps, floors, doors, seats, brakes, etc.?) Yes____No_____.

Describe defects _____

Whom did you notify of defects?_____When _____

2946

C22

CITY OF PETERSBURG, VIRGINIA

ACCIDENT OR DAMAGE REPORT

(To be completed only when City Employees are involved)

DATE AND LOCATION DATA

Date of Accident or Loss _____ (MONTH) _____ (DATE) _____ / _____ (YEAR) _____, Time _____ A.M. P.M.

Where did it occur? _____ (OPPOSITE, NEAR, AT JUNCTION OF) _____ STREET(S) AND NO(S) _____ / _____ CITY OR TOWN AND STATE

YOUR VEHICLE — No. 1:

FULL NAME OF INSURED					POLICY NUMBER
ADDRESS—STREET, CITY AND STATE				TELEPHONE—HOME	TELEPHONE—BUSINESS
NAME OF CAR	YEAR	BODY STYLE	MOTOR OR SERIAL NO.	FOR WHAT PURPOSE WAS CAR BEING USED AT TIME OF ACCIDENT?	
HAVE YOU PAID A FINE FOR ANY MOVING TRAFFIC LAW OR TRAFFIC ORDINANCE VIOLATION WITHIN THE PAST THREE YEARS? ☐ YES ☐ NO	IF YES, HOW MANY?	HAVE YOU HAD ANY ACCIDENTS WITHIN THE PAST THREE YEARS? ☐ YES ☐ NO			IF YES, HOW MANY?
ARE YOU INSURED FOR THIS LOSS IN ANY OTHER COMPANY? ☐ YES ☐ NO	IF YES, GIVE NAME OF COMPANY		WAS A TRAILER ATTACHED TO CAR? ☐ YES ☐ NO	MAKE AND SERIAL NO. OF TRAILER	
NAME OF OWNER OF CAR		ADDRESS			TELEPHONE
NAME OF DRIVER OF INSURED'S CAR		ADDRESS			TELEPHONE
DATE OF BIRTH MO. DAY YEAR	RELATIONSHIP TO INSURED (RELATIVE, EMPLOYEE, ETC.)	DRIVING EXPERIENCE YEARS	DRIVER'S LICENSE NO.		LICENSE PLATE NO.

OTHER VEHICLE — No. 2:

FULL NAME OF INSURED					POLICY NUMBER
ADDRESS—STREET, CITY AND STATE				TELEPHONE—HOME	TELEPHONE—BUSINESS
NAME OF COMPANY INSURING THEIR CAR			ADDRESS		TELEPHONE
NAME OF CAR	YEAR	BODY STYLE	MOTOR OR SERIAL NO.	FOR WHAT PURPOSE WAS CAR BEING USED AT TIME OF ACCIDENT?	
HAVE YOU PAID A FINE FOR ANY MOVING TRAFFIC LAW OR TRAFFIC ORDINANCE VIOLATION WITHIN THE PAST THREE YEARS? ☐ YES ☐ NO	IF YES, HOW MANY?	HAVE YOU HAD ANY ACCIDENTS WITHIN THE PAST THREE YEARS? ☐ YES ☐ NO			IF YES, HOW MANY?
ARE YOU INSURED FOR THIS LOSS IN ANY OTHER COMPANY? ☐ YES ☐ NO	IF YES, GIVE NAME OF COMPANY		WAS A TRAILER ATTACHED TO CAR? ☐ YES ☐ NO	MAKE AND SERIAL NO. OF TRAILER	
NAME OF OWNER OF CAR		ADDRESS			TELEPHONE
NAME OF DRIVER OF INSURED'S CAR		ADDRESS			TELEPHONE
DATE OF BIRTH MO. DAY YEAR	RELATIONSHIP TO INSURED (RELATIVE, EMPLOYEE, ETC.)	DRIVING EXPERIENCE YEARS	DRIVER'S LICENSE NO.		LICENSE PLATE NO.

IMPORTANT! NAMES AND ADDRESSES of WITNESSES (in immediate vicinity, who may have seen accident, or heard any statements by persons injured or damaged)

_____ (NAME) _____ (AGE) _____ (ADDRESS) _____ (TELEPHONE NO.)

_____ (NAME) _____ (AGE) _____ (ADDRESS) _____ (TELEPHONE NO.)

_____ (NAME) _____ (AGE) _____ (ADDRESS) _____ (TELEPHONE NO.)

NAMES AND ADDRESSES OF PASSENGERS:

			Passenger of: Insured's Car	Other Car
_____ (NAME)	_____ (AGE)	_____ (ADDRESS)	☐	☐
_____ (NAME)	_____ (AGE)	_____ (ADDRESS)	☐	☐
_____ (NAME)	_____ (AGE)	_____ (ADDRESS)	☐	☐
_____ (NAME)	_____ (AGE)	_____ (ADDRESS)	☐	☐
_____ (NAME)	_____ (AGE)	_____ (ADDRESS)	☐	☐

CITY OF PETERSBURG, VIRGINIA
ACCIDENT OR DAMAGE REPORT (continued)

INJURED PERSONS

1. _____ (NAME) _____ (AGE) _____ (ADDRESS) _____ ☐ Passenger of: ☐ Ins'd Car or ☐ Other Car ☐ Pedestrian

Nature of Injuries _____

Name of Doctor or Hospital to which taken _____

2. _____ (NAME) _____ (AGE) _____ (ADDRESS) _____ ☐ Passenger of: ☐ Ins'd Car or ☐ Other Car ☐ Pedestrian

Nature of Injuries _____

Name of Doctor or Hospital to which taken _____

NOTE: If additional Injured Persons are involved, list on separate sheet, answering same questions as above.

DAMAGE TO PROPERTY OF OTHERS

Name of registered owner _____

Address _____ (STREET AND NO.) _____ (CITY OR TOWN AND STATE) Telephone No. _____

Name of registered owner _____

Address _____ (STREET AND NO.) _____ (CITY OR TOWN AND STATE) Telephone No. _____

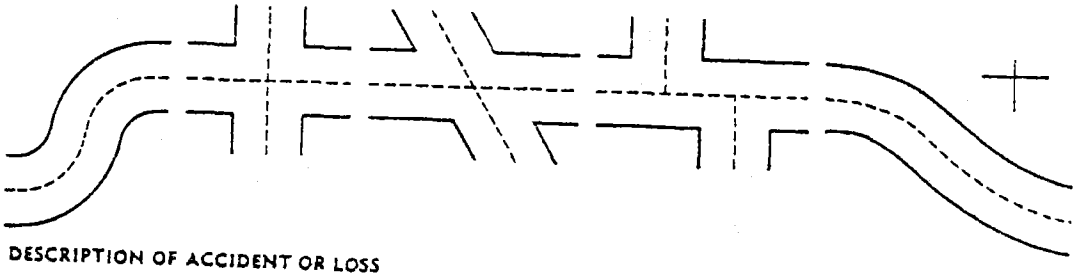
Kind of property and extent of damage? _____

Where can property be seen? _____ Estimated Cost of Repair $ _____

Is it insured? _____ If so, name of Insurance Carrier? _____

CHARACTER (Check two)	SURFACE CONDITION (Check one)	TRAFFIC CONTROL (Check one or more)	KIND OF LOCALITY Check one to show that the area adjacent to the street or highway within 300 feet was primarily	WEATHER (Check one)	SURFACE (Check one)
☐ Straight-Level	☐ Dry	☐ Officer or Watchman	☐ Business or Industrial	☐ Clear	☐ Concrete
☐ Curve-Level	☐ Wet	☐ Stop and Go Flashing Light	☐ Residential District	☐ Cloudy	☐ Blacktop
☐ Grade-Straight	☐ Snowy	☐ Stop Sign or Signal	☐ School, Church or Playground Zone	☐ Fog	☐ Brick
☐ Grade-Curve	☐ Icy	☐ Slow or Warning Sign	☐ Open Country	☐ Mist	☐ Gravel
☐ Hillcrest Straight	☐ Muddy	☐ Railroad Gates or Signals	LIGHT (Check one)	☐ Raining	☐ Dirt
☐ Hillcrest-Curve	☐ Oily	☐ Traffic Lanes Marked	☐ Daylight	☐ Snowing	☐ _____ Specify other
☐ Dip-Straight	DEFECTS (Check one or more)	☐ No Passing Lines	☐ Dusk	☐ Sleeting	
☐ Dip-Curve	☐ Under Repair	☐ Yield Sign	☐ Dawn	☐ Smoke-Dust	
	☐ Loose Material	☐ One Way Road or Street	☐ Darkness — street lighted		
	☐ Holes, Ruts, Bumps	☐ Railroad Watchman	☐ Darkness — street not lighted		
	☐ Soft or Low Shoulder	☐ No Traffic Control			
	☐ No Defects				

SHOW HOW IT OCCURRED BY USING ONE OF THESE DIAGRAMS



DESCRIPTION OF ACCIDENT OR LOSS

Direction Insured automobile was going _____ What side of road? _____ If moving, state direction object collided with was going? _____

Rate of speed _____ (INSURED AUTOMOBILE) ; _____ (OTHER AUTOMOBILE) What warning given before accident or loss? _____

If traffic signals, which way were they set? _____

Were local police notified? _____ Name? _____

DRIVER'S STATEMENT OF HOW ACCIDENT OR LOSS OCCURRED: _____

Date of this report _____ 19 _____ Signature of Driver _____

(SECURE THREE ESTIMATES OF DAMAGE TO AGENCY CAR - THESE TO BE SECURED IN DUPLICATE FROM THREE DIFFERENT COMPANIES.)

(to be completed by city driver) FORM AV-1

CITY OF CHARLOTTESVILLE

Vehicular Accident Report

NAME _____ DATE OF BIRTH _____

JOB TITLE _____ DEPT. _____

DATE OF ACCIDENT	TIME	TYPE OF SURFACE AND CONDITION	DETAILED DESCRIPTION OF ACCIDENT (tell what part of venicle was damaged)	SAFETY & ACCIDENT REVIEW BOARD RULING

Names of Witnesses:

SUPERVISOR'S REPORT

What caused the accident? (unsafe act, unsafe condition, etc.)

Recommended preventive measures:

What did you do to prevent future accidents like this one?

Signature of Supervisor _____ Date _____

JAMES CITY COUNTY

ACCIDENT REPORT

VEHICLE , PROPERTY , PERSONAL INJURY

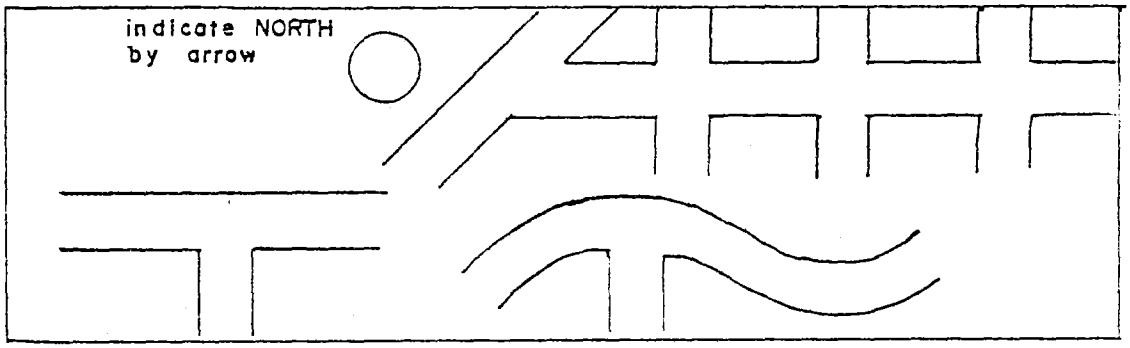
(Items 1 thru 8 to be completed by driver/employee involved)

1. Name _____ Dept. _____
2. Date of accident _____ Time ___ am ___ pm Weather _____
3. Vehicle/Equip. No. _____ No. Injured _____ No. Years Driving Exper. _____
4. Date Last Accident _____ Location This Accident _____

5. Describe What Happened _____

6. Accident Diagram show city vehicle: (No.-1)

show path of travel: before accident ——→
after impact - - - - - →



Signature _____ Date _____
(person submitting report)

driver
passenger
witness

form AF-1

2950

C26

JAMES CITY COUNTY

ACCIDENT REPORT FORM (continuation)

form AF-2
Not for use in litigation For statistical purposes ONLY

7. Why Did Accident Occur _____

8. How Could Accident Have Been Prevented _____

9. DEPARTMENTAL REVIEW OF ACCIDENT

(a.) Immediate Supervisor: Investigative Findings / Recommends toward CORRECTIVE ACTION _____

SIGNATURE _____ DATE _____

COSTS OF THIS ACCIDENT

OUR PROPERTY _____ OUR PERSONAL INJURY _____
THEIR PROPERTY _____ THEIR PERSONAL INJURY _____
WORKMEN'S COMP. _____

(b.) REVIEWING OFFICIAL:

This accident should be recorded PREVENTABLE ___ NON-PREVENTABLE ___

THE FOLLOWING CORRECTIVE ACTION HAS BEEN TAKEN _____

SIGNATURE _____ DATE _____

APPENDIX D

CURRENT BUS TRANSIT SAFETY DATA ELEMENT LISTS

TRANSIT CASUALTY COMPANY

ACCIDENT CLASSIFICATIONS

TRAFFIC ACCIDENTS

COLLISIONS WITH OTHER VEHICLES

TYPE

INTERSECTIONS

1 Straight across - other vehicle from left.
2 Straight across - other vehicle from right.
3 Turning right - other vehicle from ahead.
4 Turning right - other vehicle from left.
5 Turning right - other vehicle from right.
6 Turning right - other vehicle from rear.
7 Turning left - other vehicle from ahead.
8 Turning left - other vehicle from left.
9 turning left - other vehicle from right.
10 Turning left - other vehicle from rear.
11 Vehicle turns right in front of bus. (Includes bus leaving/standing in nearside zone).
12 All other intersection collisions.

BETWEEN INTERSECTIONS

13 Head on.
14 Sideswipe-bus passing other vehicle. (Includes vehicle standing in traffic/double parked).
15 Sideswipe-bus and other vehicle from opposite direction. (Includes standing in traffic/double parked).
16 Sideswipe-other vehicle passing bus. (Includes bus moving or standing in traffic).
17 Collisions-other vehicle cutting into bus. (Except #11).
18 Collisions-with vehicle pulling to/from curb or driveway. (Parallel or diagonal parking).
19 Collisions-with vehicles parked at curb. (Includes opened doors).
22 All other accidents between intersections.

REAR END

23 Bus hits vehicle. (Includes bus/car backing or rolling back).
24 Vehicle hits bus. (Except #28). (Includes vehicle backing or rolling back).

LOADING ZONES

25 Bus pulling into zone hits standing vehicle.
26 Bus pulling away from zone hits standing vehicle.
27 Bus pulling away from zone hits or is hit by moving vehicle. (Except #11).

28 Other vehicle hits bus standing in zone. (Except #11).

MISCELLANEOUS

29 Collisions with other vehicles not otherwise classified above.

COLLISIONS BETWEEN COMPANY PASSENGER VEHICLES

31 Scrapes at corners, non-clearance curves, intersection sideswipes.
32 Sideswipes between intersections.
33 End to end - in loading zone.
34 End to end - except in loading zones and loops.
35 At wyes, turnouts and loops.
36 At switches.
37 On company property. (Except loops).
38 All other collisions between company passenger vehicles. (See #80 for accidents involving non-operating company vehicles).

COLLISIONS WITH PEDESTRIANS

39 At crosswalk - (Intersection) (Except #41).
40 At loading zone. (Except #41).
41 Hit by overhang. (Bus turning).
42 Between intersections. (Jay walking).
43 All other pedestrians accidents.

MISCELLANEOUS COLLISIONS

45 With fixed objects.
46 At switches - open, split, derailment, etc. (Except #47).
47 Due to mechanical failure.
48 Derailment or leaving road. (Except #47).
49 Collisions not otherwise classified.

PASSENGER ACCIDENTS

BOARDING

50 Falls boarding.
52 Struck by doors - boarding.

ALIGHTING

53 Falls alighting - front door.
55 Falls alighting - rear/center door. (Push-out or treadle).
56 Falls alighting - rear/center door. (Manual).
57 Falls alighting not otherwise classified.
58 Struck by front door - alighting.
59 Struck by rear/center door. (Push-out or treadle).
60 Struck by rear/center door. (Manual control).
61 Struck by doors not otherwsie classified. (Except $66).

ON BOARD

62 Falls, bumps, etc. - bus starting.
63 Falls, bumps, etc. - bus stopping.
64 Falls, bumps, etc. - bus turning at curves or corners.
65 Falls, bumps, etc. - bus running straight.
66 Caught/struck by doors. (Not boarding or alighting).
67 Injuries from arms, heads, etc. out of window.
69 On board accidents not otherwise classified.

MISCELLANEOUS INCIDENTS

70 Property damage (clothing, etc.) caused by defective equipment. (Nails, screws, glass, grease, etc.)
71 Injuries caused by defective equipment. (Nails, screws, glass, seats, etc.)
72 Disturbances, ejectments, fainting, sickness, fits, deaths on vehicle, etc.
73 Injuries or property damage cuased by other passengers. (Packages, etc. in aisle) other person (thrown missiles, etc.) Except injuries caused by motion of bus. (See 62, 63, 64. 65).
74 Falls - approaching to board/after alighting.
75 Clothing soiled off bus. (Splashed water, etc.)
77 Incidents not otherwise classified.

OTHER REPORTS

79 Observation or witness reports. (Operator's vehicle not involved).
80 Non-operating vehicle accidents. (Includes accidents of supervisory cars, company trucks, and buses operated by mechanics).
90 Employee accidents.
99 Public accidents on company property.

BI-STATE TRANSIT SYSTEM

ACCIDENT CLASSIFICATIONS
(Abreviated)

TYPE	WHEELCHAIR AND LIFT RELATED ACCIDENTS
81	Wheelchair passenger falls off lift while ascending.
82	Wheelchair passenger falls off lift while descending.
83	Wheelchair passenger injured by lift mechanism.
84	Wheelchair passenger is injured by securement device.
85	Wheelchair passenger injured (bus stopping).
86	Wheelchair passenger, riding in regular seat, injured.
87	Able-bodied passenger injured by wheelchair.
88	Operator pushes stow button while lift in operation.
89	Accidents not otherwise classified.

VIRGINIA STATE POLICE ACCIDENT FILE

ACCIDENT MASTER

FIELD NUMBER	DATA GROUP NUMBER	DESCRIPTION	LENGTH	FROM/TO
1	5	Report Number	9	1 - 9
2	5	Record Control	4	10-13
3	5	Month Coded	2	14-15
4	1	Rural-Urban	1	16
5	1	Date Month	2	17-18
6	1	Day	2	19-20
7	1	Year	2	21-22
8	1	Day of Week	1	23
9	1	Time	2	24-25
10	1	City-County of Accident	3	26-28
11	2	Traffic Control	2	29-30
12	3	Number of Vehicles	2	31-32
13	3	Route Number	4	33-36
14	2	Traffic Control Device Working	1	37
15	1	Alignment	1	38
16	1	County Population	1	39
17	1	City-Town Population	1	40
18	1	Weather	1	41
19	3	Type of Collision-First Event	2	42-43
20	1	Surface Condition	1	44
21	2	Roadway Defects	1	45
22	3	Cost of Repair-Other Property	6	46-51
23	1	Light	1	52
24	1	Kind of Locality	1	53
25	2	Speed Accident Info.	1	54
26	1	Speed Limit	2	55-56
27	3	Type of Accident I, K, PD	1	57
28	3	Number Killed	2	58-59
29	3	Number Injured	2	60-61
30	3	Pedestrians Killed	2	62-63
31	3	Pedestrians Injured	2	64-65
32	2	Driver Violation	1	65
33	2	Defective Driver	1	67
34	2	Drinking Driver	1	68
35	2	Defective Vehicle	1	69
36	5	Filer of Report	1	70
37	No Edit - Optional Coding	Section Number	4	71-74
38		Mile Post	4	75-78
39		Railroad Crossing	7	79-85
40		Surface Type	1	86
41		Surface Width	2	87-88
42		King of Highway	2	89-90
43		Intersection Type	1	91
44		Intersection Route Number	4	92-95
45		Accident Location	1	96
46		Zone of Impact	1	97
47		Major Factor	1	98
48		Placement North	2	99-100
49		East	2	101-102
50		South	2	103-104
51		West	2	105-106
52		Filler	10	107-116

VIRGINIA STATE POLICE ACCIDENT FILE (continued)

ACCIDENT VEHICLE - DRIVER

FIELD NUMBER	DATA GROUP NUMBER	DESCRIPTION	LENGTH	FROM/TO
1	5	Report Number	9	1-9
2	5	Record Control	4	10-13
3	5	Month Coded	2	14-15
4	1	Rural - Urban	1	16
5	2	Drivers Action	2	17-18
6	3	Occupation	2	19-20
7	3	Driving Experience - Years	2	21-22
8	2	Vehicle Maneuver	2	23-24
9	5	Residence	1	25
10	3	Age	2	26-27
11	3	Sex	1	28
12	3	Drivers License State	2	29-30
13	3	Type of Collision - Second Event	2	31-32
14	3	Make of Vehicle	4	33-36
15	3	Type of Vehicle	4	37-40
16	3	Age of Vehicle	2	41-42
17	3	Repair Cost	5	43-47
18	3	Collision With Fixed Object	2	48-49
19	5	Vehicle License State	2	50-51
20	5	Vehicle Insured	1	52
21	2	Driver Vision Obscurred	2	53-54
22	3	Vehicle Point of Impact	1	55
23	2	Condition of Driver	1	56
24	2	Drinking Driver	1	57
25	2	Speed	3	58-60
26	3	Vehicle Damage	1	61
27	2	Vehicle Condition	1	62
28	3	Skidding	1	63
29	5	Which Vehicle Occupied	1	64
30	3	Position In/On Vehicle	1	65
31	3	Safety Equipment Used	1	66
32	3	Ejection From Vehicle	1	67
33	3	Injury Type	1	68
34	3	Injured, Killed, Property Damage	1	69
35	3	Placement	1	70
36		Filler	10	71-80

ACCIDENT PASSENGER-PEDESTRIAN

FIELD NUMBER	DATA GROUP NUMBER	DESCRIPTION	LENGTH	FROM/TO
1	5	Report Number	9	1 - 9
2	5	Record Control	4	10-13
3	5	Month Coded	2	14-15
4	2	Condition	1	16
5	2	Drinking	1	17
6	5	Which Vehicle Occupied	2	18-19
7	3	Position in/on Vehicle	1	20
8	3	Safety Equipment Used	1	21
9	3	Ejection from Vehicle	1	22
10	3	Age	2	23-24
11	3	Sex	1	25
12	3	Injury Type	1	26
13	2	Pedestrian Actions	2	27-28
14		Filler	10	29-38

D-20 ACCIDENT DATA ELEMENTS

ELEMENT NUMBER	DATA GROUP NUMBER	Data Element Name
1	5	ACCIDENT CASE NUMBER
2	1	ACCIDENT COUNTY
3	1	ACCIDENT DATE AND TIME
4	1	ACCIDENT DAY OF WEEK
5	5	ACCIDENT LOCATION INVESTIGATION
6	1	ACCIDENT MUNICIPALITY
7	5	ACCIDENT RECORD SOURCE
8	3	ACCIDENT SEVERITY
9	3	ACCIDENT VEHICLES
10	2	BLOOD ALCOHOL CONCENTRATION TEST DATE AND TIME
11	2	BLOOD ALCOHOL CONCENTRATION TEST RESULTS
12	2	BLOOD ALCOHOL CONCENTRATION TEST TYPE
13	2	CAUSE FOR DRIVER/OPERATOR MANEUVER
14	2	CONTRIBUTING CIRCUMSTANCES, DRIVER
15	2	CONTRIBUTING CIRCUMSTANCES, ENVIRONMENT
16	2	CONTRIBUTING CIRCUMSTANCES, OTHER
17	2	CONTRIBUTING CIRCUMSTANCES, PASSENGER
18	2	CONTRIBUTING CIRCUMSTANCES, ROAD
19	2	CONTRIBUTING CIRCUMSTANCES, VEHICLE
20	3	DIRECTION OF EXTERNAL FORCE
21	3	DIRECTION OF TRAVEL BEFORE ACCIDENT
22	3	DRIVER DATE OF BIRTH
23	3	DRIVER LICENSE JURISDICTION
24	3	DRIVER LICENSE RESTRICTION COMPLIANCE
25	5	DRIVER LICENSE NUMBER
26	3	DRIVER LICENSE TYPE COMPLIANCE
27	5	DRIVER NAME
28	5	DRIVER SOCIAL SECURITY NUMBER
29	4	EMERGENCY NOTIFICATION
30	4	EMERGENCY RESPONSE ARRIVAL TIME
31	3	ESTIMATED COLLISION SPEED
32	2	ESTIMATED TRAVEL SPEED
33	3	FIRST HARMFUL EVENT
34	4	INJURED TRANSPORTATION
35	3	INJURY CLASSIFICATION
36	3	INJURY DESCRIPTION
37	5	INSPECTION STICKER NUMBER, CURRENT
38	5	INVESTIGATING AGENCY TYPE
39	2	LIGHTING SYSTEM CONDITION
40	3	LOCATION OF FIRST HARMFUL EVENT OR OBJECT
41	3	LOCATION OF SUBSEQUENT HARMFUL EVENT(S) OR OBJECT(S)
42	3	MILEPOINT
43	5	OCCUPANT IDENTIFICATION NUMBER
44	3	OCCUPANT LOCATION AFTER IMPACT
45	3	OCCUPANT LOCATION PRIOR TO IMPACT
46	3	OCCUPANTS INJURED
47	3	OCCUPANTS PER VEHICLE
48	3	ODOMETER READING AT ACCIDENT
49	3	PASSENGER AGE
50	3	PASSENGER RACE AND ETHNICITY
51	3	PASSENGER SEX
52	2	PEDALCYCLE ACTION

D-20 ACCIDENT DATA ELEMENTS (continued)

ELEMENT NUMBER	DATA GROUP NUMBER	DATA ELEMENT NAME
53	2	PEDALCYCLE LOCATION PRIOR TO IMPACT
54	2	PEDALCYCLE VISIBILITY
55	2	PEDESTRIAN ACTION
56	3	PEDESTRIAN AGE
57	3	PEDESTRIAN FATALITIES
58	5	PEDESTRIAN IDENTIFICATION NUMBER
59	2	PEDESTRIAN LOCATION PRIOR TO IMPACT
60	3	PEDESTRIAN RACE AND ETHNICITY
61	3	PEDESTRIAN SEX
62	2	PEDESTRIAN VISIBILITY
63	3	PEDESTRIANS
64	3	POINT OF IMPACT
65	4	POLICE ARRIVAL DATE AND TIME
66	4	POLICE CLEARANCE DATE AND TIME
67	4	POLICE NOTIFICATION DATE AND TIME
68	3	PORTION OF VEHICLE CAUSING INJURY
69	2	PRIMARY CAUSE FACTOR/DRIVER OPINION
70	2	PRIMARY CAUSE FACTOR/POLICE OPINION
71	3	PROPERTY DAMAGE AMOUNT
72	3	PROTECTIVE/RESTRAINT EQUIPMENT USE
73	5	REGISTRATION PLATE JURISDICTION
74	5	REGISTRATION PLATE NUMBER
75	5	REGISTRATION PLATE YEAR
76	1	ROAD SURFACE CONDITION
77	2	ROAD SURFACE DEFECTS
78	3	ROAD VEHICLE/PEDESTRIAN TYPE
79	1	ROADWAYS
80	3	SUBSEQUENT HARMFUL EVENT(S)
81	2	TRAFFIC CONTROL DEVICE CONDITION
82	2	TRAFFIC CONTROL DEVICE TYPE
83	5	TRAFFICWAY IDENTIFICATION NUMBER
84	5	TRAFFICWAY IDENTIFIER
85	3	VEHICLE DAMAGE AREA/DEFORMITY
86	3	VEHICLE DAMAGE SEVERITY
87	2	VEHICLE DEFECTS OBSERVED
88	5	VEHICLE IDENTIFICATION NUMBER
89	3	VEHICLE MAKE
90	2	VEHICLE MANEUVER
91	3	VEHICLE MODEL
92	3	VEHICLE MODEL YEAR
93	4	VEHICLE REMOVAL
94	5	VEHICLE TRAFFIC UNIT NUMBER
95	3	VEHICLE USAGE
96	2	VISIBILITY OBSTRUCTION
97	1	WEATHER CONDITION

FLORIDA DEPARTMENT OF TRANSPORTATION

BUS TRANSIT SUMMARY DATA

General Information	Situation When Unit Was Involved	Causation
Accident Report Number	Moving Forward	Bus Equipment Failure
Transit Unit Number	Backing	Turning Radius
Transit Unit Size	Right Turn	Braking Distance
Date	Left Turn	Side Clearance
Time	Traveling Straight	Backing w/o Caution
	Light (Day)	Roadway Conditions
Unit Involved	Dark (Night)	Operator Inattention
Transit Bus	Wet (Rain)	Operator Judgement
Transit Van	Fog	Error
Response E&H	At Intersection	Hitting Fixed Object
Other	Loading/Unload Passengers	Other Vehicle
	Accelerating	
Quantity Injury/Fatality	Decelerating (Braking)	
	Vehicle Stopped	
Passenger	Rearend Collision	
Pedestrian	Train/Rail Crossing	
Driver/Employee		
Other Vehicle		

APPENDIX E

CORRELATION OF DATA ELEMENTS FROM VIRGINIA STATE POLICE ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

CORRELATION OF DATA ELEMENTS
FROM VIRGINIA STATE POLICE ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 1: ACCIDENT ENVIRONMENT

VIRGINIA STATE POLICE ACCIDENT FILE FIELD NUMBER[a]			ANSI D20 ACCIDENT DATA ELEMENT NUMBER[b]	ELEMENT ELIMINATED	REASON FOR DATA ELEMENT ELIMINATION
MASTER RECORD	VEHICLE-DRIVER RECORD	PASSENGER-PEDESTRIAN RECORD			
4	4			X	Operations are almost entirely urban.
5			3		
6			3		
7			3		
8			4		
9			3		
			3 (minute)		
10			2,6		
15					
16				X	City or MPO populations would be more appropriately used. A separate file should contain this data since the number of urban areas is small.
17				X	
18			97		
20			76		
23					
24					
26					
37-52				X	Not judged important enough for mandatory coding & editing by VSP.
			79		

[a]Field numbers assigned by VSP (see pages D6-D7 for data element names).

[b]Data element numbers assigned by this researcher (see pages D8-D9 for data element names).

CORRELATION OF DATA ELEMENTS
FROM VIRGINIA STATE POLICE ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 2: CONTRIBUTING FACTORS

VIRGINIA STATE POLICE ACCIDENT FILE FIELD NUMBER[a]			ANSI D20 ACCIDENT DATA ELEMENT NUMBER[b]	ELEMENT ELIMINATED	REASON FOR DATA ELEMENT ELIMINATION
MASTER RECORD	VEHICLE-DRIVER RECORD	PASSENGER-PEDESTRIAN RECORD			
11			82		
14			81		
21			18,77		
25	25		32		
	8		90		
32	5		14		
33,34	23,24	4,5	14,16,17		
			10		
			11		
			12		
	21		13-18,96		
			13,69		
35	27		19,39,87		
		13	52,53,55, 59		
			54,62		
			70		

[a]Field numbers assigned by VSP (see pages D6-D7 for data element names).

[b]Data element numbers assigned by this researcher (see pages D8-D9 for data element names).

CORRELATION OF DATA ELEMENTS
FROM VIRGINIA STATE POLICE ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 3: ACCIDENT EVENT

VIRGINIA STATE POLICE ACCIDENT FILE FIELD NUMBER[a]			ANSI D20 ACCIDENT DATA ELEMENT NUMBER[b]	ELEMENT ELIMINATED	REASON FOR DATA ELEMENT ELIMINATION
MASTER RECORD	VEHICLE-DRIVER RECORD	PASSENGER-PEDESTRIAN RECORD			
12			9		
13			42,84		
19	13,18		33,78,80		
22			20		
27			8		
28					
29					
30					
31					
	6			X	Not significant since "bus operator" is the major occupation of interest.
	7				
	10	10	22,49,56		
	11	11	51,61		
	12		23		
	14		89		
	15		91		
	16		92		
	17				
	22		64,71,85		
	26		86		

[a]Field numbers assigned by VSP (see pages D6-D7 for data element names).

[b]Data element numbers assigned by this researcher (see pages D8-D9 for data element names).

CORRELATION OF DATA ELEMENTS
FROM VIRGINIA STATE POLICE ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 3: ACCIDENT EVENT (CONTINUED)

VIRGINIA STATE POLICE ACCIDENT FILE FIELD NUMBER[a]			ANSI D20 ACCIDENT DATA ELEMENT NUMBER[b]	ELEMENT ELIMINATED	REASON FOR DATA ELEMENT ELIMINATION
MASTER RECORD	VEHICLE-DRIVER RECORD	PASSENGER-PEDESTRIAN RECORD			
	28			X	Covered adequately under VSP vehicle-driver record element number 5.
	30	7	45		
	31	8	72		
	32	9	44		
	33	12	35		
	34				
	35		21		
			24		
			31		
			36		
			40,41		
			46		
			47		
			48		
			50,60	X	Not significant.
			57	X	Available by summing ANSI-D20 element number 35 for pedestrian fatalities.
			63		
			68		
			71		
			95	X	Covered under ANSI D20 element number 91.

[a]Field numbers assigned by VSP (see pages D6-D7 for data element names).

[b]Data element numbers assigned by this researcher (see pages D8-D9 for data element names).

CORRELATION OF DATA ELEMENTS
FROM VIRGINIA STATE POLICE ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 4: POST-ACCIDENT ACTIVITIES

VIRGINIA STATE POLICE ACCIDENT FILE FIELD NUMBER[a]			ANSI D20 ACCIDENT DATA ELEMENT NUMBER[b]	ELEMENT ELIMINATED	REASON FOR DATA ELEMENT ELIMINATION
MASTER RECORD	VEHICLE-DRIVER RECORD	PASSENGER-PEDESTRIAN RECORD			
			29		
			30		
			34		
			65	X	Not significant.
			66	X	
			67	X	
			93	X	Adequately covered under ANSI D20 element number 86.

[a]Field numbers assigned by VSP (see pages D6-D7 for data element names).

[b]Data element numbers assigned by this researcher (see pages D8-D9 for data element names).

CORRELATION OF DATA ELEMENTS
FROM VIRGINIA STATE POLICE ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 5: FILE MAINTENANCE AND DATA CONTROL

VIRGINIA STATE POLICE ACCIDENT FILE FIELD NUMBER[a]			ANSI D20 ACCIDENT DATA ELEMENT NUMBER[b]	ELEMENT ELIMINATED	REASON FOR DATA ELEMENT ELIMINATION
MASTER RECORD	VEHICLE-DRIVER RECORD	PASSENGER-PEDESTRIAN RECORD			
1	1	1	1		
2	2	2	43,58,94		
3	3	3		X	Not significant.
36			7,38		
	9			X	Not significant.
	19		73		
	20				
	29	6		X	Covered by VSP master record element number 2.
			5		
			27		
			25,28		
			37		
			74		
			75		
			83		
			88		

[a]Field numbers assigned by VSP (see pages D6-D7 for data element names).

[b]Data element numbers assigned by this researcher (see pages D8-D9 for data element names).

APPENDIX F

TENTATIVE DATA ELEMENT LIST

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 1: ACCIDENT ENVIRONMENT

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Date - Month	January - December	01-12	***	***
	Unknown	99	*	*
- Day	Day of the Month	01-31	***	***
	Unknown	99	*	*
- Year	Last two digits	00-99	***	***
Day-of-Week	Monday - Sunday	1-7	***	***
	Unknown	9	*	*
Time - Hour	24-Hour clock	00-23	***	***
	Unknown	99	***	*
- Minute	Actual minute	00-59	*	*
	Unknown	99	*	*
City - County of Accident	(Use VSP Coding Manual Codes)		**	**
Alignment	Straight - level	1	**	**
	Curve - Level	2	**	**
	Grade-Straight	3	**	**
	Grade-Curve	4	**	**
	Hillcrest-Straight	5	**	**
	Hillcrest-Curve	6	**	**
	Dip-Straight	7	**	**
	Dip-Curve	8	**	**
	Other	9	**	**
Weather	Unknown	0	*	
	Clear	1	***	**
	Cloudy	2	***	**
	Fog	3	***	**
	Severe Crosswinds	4	*	*
	Raining	5	***	**
	Snowing	6	***	**
	Sleeting	7	***	**
	Smoke-Dust	8	***	**
	Other	9	***	**
Road Surface Condition	Unknown	0	**	
	Dry	1	***	***
	Wet	2	***	***
	Snowy	3	***	**
	Icy	4	***	**
	Muddy	5	***	**
	Oily	6	**	**
	Slushy	7	*	
	Debris	8	*	
	Other	9	***	

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 1: ACCIDENT ENVIRONMENT (CONTINUED)

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Light	Unknown	0	**	
	Dawn	1	**	**
	Daylight	2	**	**
	Dusk	3	**	**
	Darkness-Street Lights	4	**	**
	Darkness-Street Not lighted	5	**	**
Kind of Locality	Unknown	0	**	
	School	1	**	**
	Church	2	**	**
	Playground	3	**	**
	Open Country	4	**	**
	Business/Industrial	5	**	**
	Residential	6	**	**
	Interstate	7	**	**
	Loading Zone	8		
	Other	9	**	
Speed Limit	Numeric	01-99	**	**
	Unknown	00	**	**
Kind of Roadway	Unknown	0		
	One-Way; One-Lane	1		
	One-Way; Two-Lane	2		
	Undivided; Two-Lanes	3		
	Undivided; Three-Lanes	4		
	Undivided; Four-Lanes	5		
	Divided; Four-Lanes	6		
	Divided; Six-Lanes	7		
	Exclusive Bus Lane	8		
	Other	9		

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 2: CONTRIBUTING FACTORS

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Traffic Control Device	Unknown	00	*	
	No Traffic Control	01	***	**
	Officer/Watchman/Flagman	02	***	**
	Traffic Signal	03	***	**
	Stop Sign	04	***	**
	Slow or Warning Sign	05	**	**
	Traffic Lanes Marked	06	***	**
	No Passing Lines	07	**	**
	Yield Sign	08	***	**
	Pedestrian - Signal	09	*	
	RR Crossing-Markings/Signs	10	***	**
	RR Crossing - Signals	11	***	**
	RR Crossing - Gates	12	***	**
	Other	13	***	**
Traffic Control Device Condition	Unknown	0	***	
	Functioning Properly	1	**	**
	Defective	2	**	**
Roadway Defects	Unknown	0	*	
	No Defects	1	***	**
	Holes, Ruts, Bumps	2	***	**
	Soft or Low Shoulders	3	***	**
	Under Repair	4	***	**
	Loose Material	5	**	**
	Restricted Width	6	**	**
	Slick Pavement	7	**	**
	Roadway Obstructed	8	***	**
	Other Defects	9	***	**
Travel Speed	Numeric	01-99	***	*
	Unknown	00	*	*
Vehicle Maneuver	Unknown	00	*	
	Straight Ahead	01	***	***
	Right Turn	02	**	**
	Left Turn	03	**	**
	U-Turn	04	**	**
	Slowing or Stopping	05	**	**
	Starting in Traffic	06	**	**
	Starting From Parked Position (Not in Loading Zone)	07	**	**
	Stopped in Traffic Lane	08	**	**
	Ran Off Road-Right	09	**	**
	Ran Off Road-Left	10	**	**
	Parked (Not In Loading Zone)	11	**	**
(Continued)	Backing	12	***	**

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 2: CONTRIBUTING FACTORS (CONTINUED)

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Vehicle Maneuver (Continued)	Passing	13	***	**
	Changing Lanes	14	***	**
	Loading Zone			
	Pulling Into Zone	15		
	Bus Standing in Zone	16		
	Pulling Away From Zone	17		
	Other	99	***	
Driver Action	Unknown	00		
	None	01	***	**
	Exceeded Speed Limit	02	***	**
	Too Fast For Conditions	03	***	**
	Disregarded Traffic Control	04	*	*
	Improper Parking (Loading Zone)	05	***	
	Improper Start From Loading Zone	06	**	
	Improper Turn	07	***	*
	Improper Backing	08	***	
	Improper Lane Change	09	*	
	Wrong Side of Road	10	***	**
	Failed to Yield Right of Way	11	***	**
	Following Too Closely	12	***	**
	Improper Signal	13	***	***
	Improper Passing	14	***	
	Hit and Run	15	**	
	Other Violations	99	**	
Driver Condition	Unknown	0	***	**
	No Defects	1	***	**
	Eyesight Defective	2	**	**
	Hearing Defective	3	**	**
	Under Influence of Alcohol	4	***	
	Ill	5	**	**
	Fatigued	6	**	**
	Apparently Asleep	7	***	**
	Other Handicap	8	**	**
	Under Infleunce of Drugs	9	*	
Pedalcyclist/ Passenger/ Pedestrian Condition	(Same as Driver Conditions)			

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 2: CONTRIBUTING FACTORS (CONTINUED)

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Blood Alcohol Concentration				
— Test Date And Time [a]	(Same as Date and Time)		*	*
— Test Results [a]	Hundredths of a Percent	01-99	*	*
	Unknown	00		
— Test Type [a]	Unknown	0	*	
	Blood Test	1	*	*
	Breath Test	2	*	*
	Urine Test	3	*	*
	Saliva Tests	4	*	*
	Tissue	5	*	*
	Unable to Administer	7	*	*
	Refused Test	8	*	*
	No Test	9	*	
Visibility Obstruction	Unknown	0	*	
	None	1	***	**
	Rain, Snow, etc. on Windshield	2	**	**
	Windshield Otherwise Obscured	3	**	**
	Load on Vehicle	4	**	**
	Vegetation	5	***	**
	Building	6	***	**
	Embankment	7	*	**
	Sign	8	***	**
	Hillcrest	9	***	**
	Parked Vehicle	10	**	**
	Moving Vehicle	11	**	**
	Sun or Headlight Glare	12	**	**
	Other	99	***	
Cause For Maneuver	Unknown	0		
	Traffic Control Device	1		
	Pedestrian	2	*	
	Pedalcycle	3	*	
	Other Motor Vehicle	4	*	
	Animal	5	*	
	Other Object in Roadway	6		
	Roadway Defects	7		
	Weather Conditions	8		
	Road Surface Conditions	9		
	Light Conditions	10		
	Visibility Obstruction	11		
	Vehicle Defects	12		
	Other	99		

a Available from Health Department (NHTSA 1980).

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 2: CONTRIBUTING FACTORS (CONTINUED)

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Vehicle Condition	Unknown	00	*	
	No Defects	01	***	**
	Lights Defective	02	***	**
	Brakes Defective	03	***	**
	Steering Defective	04	***	**
	Puncture or Blowout	05	**	**
	Worn on Slick Tires	06	**	**
	Motor Trouble	07	***	**
	Chains in Use	08	**	**
	Suspension Defective	09	*	
	Exhaust Defective	10	*	
	Signals Defective	11	*	
	Windows/Windshield Defective	12	*	
	Wheels Defective	13	*	
	Other Defects	99		
Pedalcycle/ Pedestrian Action	Unknown	00	*	
	Crossing at Intersection With Signal	01	**	**
	Crossing at Intersection Against Signal	02	**	**
	Crossing at Intersection No Signal	03	**	**
	Crossing at Intersection Diagonally	04	**	**
	Crossing Not at Intersection Rural	05	**	**
	Corssing Not at Intersection Urban	06	**	**
	Coming From Behind Parked Cars	07	***	**
	Getting Off or On School Bus	08	**	**
	Playing in Roadway	09	***	**
	Getting Off or On Other Vehicle	10	***	**
	In Parked Vehicle	11	*	
	Riding/Walking in Roadway With Traffic, Sidewalks Available	12	**	**
	Riding/Walking in Roadway With Traffic, Sidewalks Not Available	13	**	**
	Riding/Walking in Roadway Against Traffic, Sidewalks AVailable	14	**	**
(Continued)	Riding/Walking in Roadway Against Traffic, Sidewalks Not Available	15	**	**

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 2: CONTRIBUTING FACTORS (CONTINUED)

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20; ** = VSP file; *** = VSP file & ANSI D20)	
			CATEGORY	CODE
Pedalcycle/ Pedestrian Action (Continued)	Working in Roadway	16	***	**
	Standing in Roadway	17	***	**
	Lying in Roadway	18	***	**
	Not in Roadway (no Additional details)	19	***	**
	Median	20	*	
	Island	21	*	
	Shoulder	22	*	
	Sidewalk	23	*	
	Within 10 Feet of Roadway (other than above)	24	*	
	Beyond 10 Feet of Roadway (within Trafficway)	25	*	
	Outside Trafficway	26	*	
	Other	99	***	
Pedalcycle/ Pedestrian Visibility	Unknown	0	*	
	Clothing Contrasts With Background	1	*	*
	Reflective Material	2	*	*
	Other Light Source Used	3	*	*
	Clothing Not in Contrast With Background	4	*	*
	Other	9		
Primary Cause Factor/ Police Opinion [b]	Driver		All Categories Conform to ANSI D20 Only →	All Codes Conform to ANSI D20 Only →
	None	00		
	Under the Influence of Drugs	01		
	Under the Influence of Alcohol	02		
	Failed to Yield Right of Way	03		
	Disregarded Traffic Signs, Signals, Roadway Markings	04		
	Exceeded Stated Speed Limit	05		
	Too Fast For Conditions	06		
	Made an Improper Turn	07		
	Wrong Side or Wrong Way	08		
	Followed Too Closely	09		
	Improper Lane Change	10		
	Improper Backing Operation	11		
	Improper Passing	12		
	Improper Signal	13		
	Improper Parking	14		
	Fell Asleep, Fainted, etc.	15		

(Continued)

[b] Available from Police Accident Report, FR-300P.

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 2: CONTRIBUTING FACTORS (CONTINUED)

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Primary Cause Factor/Police Opinion[b]	Did not Comply With License Restrictions	16	All Categories Conform to ANSI D20 Only	All Codes Conform to ANSI D20 Only
	Other	19		
	Environment			
	None	20		
	Fog, Smog, Smoke	21		
	Sleet, Hail	22		
	Blowing Sand, Soil, Dirt	23		
	Severe Crosswinds	24		
	Rain, Snow	25		
	Sign Obstruction	26		
	Vegetation Obstruction	27		
	Snow Bank Obstruction	28		
	Hill Obstruction	29		
	Building Obstruction	30		
	Curve in Roadway	31		
	Other	39		
	Other Person (not a driver or passenger)			
	None	40		
	Under the Influence of Drugs	41		
	Under the Influence of Alcohol	42		
	Failed to Yield Right of Way	43		
	Disregarded Traffic Control Device	44		
	Illegally in Roadway	45		
	Bicycle Violation	46		
	Clothing Not Visible	47		
	Other	49		
	Passenger			
	None	50		
	Passenger Under the Influence of Drugs	51		
	Passenger Under the Influence of Alcohol	52		
	Passenger Obstructed Driver's View	53		
	Other	59		

(Continued)

b Available from Police Accident Report, FR-300P.

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 2: CONTRIBUTING FACTORS (CONTINUED)

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Primary Cause Factor/Police Opinion [b] (Continued)	Road		All Categories Conform to ANSI D20 Only	All Codes Conform to ANSI D20 Only
	None	60		
	Wet	61		
	Icy	62		
	Slushy	63		
	Debris	64		
	Ruts, Holes, Bumps	65		
	Worn, Travel-Polished Surface	67		
	Road Under Construction/ Maintenance	66		
	Obstruction	68		
	Traffic Control Device Inoperative	69		
	Shoulders Low, Soft or High	70		
	Other	79		
	Vehicle			
	None	80		
	Brakes	81		
	Steering	82		
	Power Plant	83		
	Suspension	84		
	Tires	85		
	Exhaust	86		
	Lights	87		
	Signals	88		
	Windows/Windshield	89		
	Restraint Systems	90		
	Wheels	91		
	Other	99		

b Available from Police Accident Report, FR-300P.

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 3: ACCIDENT EVENT

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Number of Vehicles	Numeric	01-98	***	***
Location of Accident				
- Street or Route	Alpha/Numeric	15 Char.		
- Distance From	(Feet)	0000-9999		
- Direction From	(N,E,S,W.)	1,2,3,4		
- Intersecting Street or Route	Alpha/Numeric	15 Char.		
First Harmful Event	Unknown	00		
	Collision			
	Motor Vehicle in Transport (not a transit bus)	01		
	Head On	02		
	Rear End	03		
	Angle	04		
	Sideswipe	05		
	Another Transit Bus	06		
	Head On	07		
	Rear End	08		
	Angle	09		
	Sideswipe	10		
	Railway Train	11	**	
	Pedestrian	16	***	
	Pedalcyclist	17	***	
	Motorcyclist	18	**	
	Animal	19	*	
	Fixed Object	20	*	
	Bank or Ledge	21	***	
	Trees	22	***	
	Utility Pole	23	***	
	Fence	24	***	
	Guard Rail or Post	25	***	
	Parked Vehicle	26	**	
	Bridge, Underpass, Culvert, etc.	27	***	
	Sign, Traffic Signal	28	***	
	Impact Cushioning Device	29	***	
	Other Fixed Object	30	***	

(Continued)

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

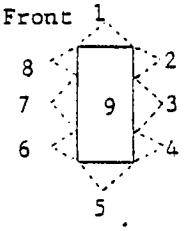
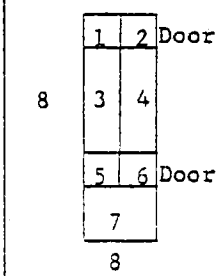
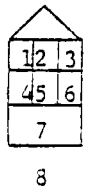
DATA GROUP 3: ACCIDENT EVENT (CONTINUED)

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
First Harmful Event (Continued)	Other Collision	31		
	Non-Collision	40	***	
	Overturn	41	*	
	Fire/Explosion	42	*	
	Immersion	43	*	
	Gas Inhalation	44	*	
	Thrown or Falling Object	45	*	
	Spill	46	*	
	Other Non-Collision	47		
Non-Vehicle Property Damage	Dollar Amount	000000-999999	**	**
Accident Severity	Property Damage Only	1	***	*
	Injury:			
	Possible (Not Evident)	2	*	*
	Non-Incapacitating	3	*	*
	Incapacitating	4	*	*
	Fatal	5	***	*
Number Killed	Numeric	00-99	**	**
Number Injured	Numeric	00-99	**	**
Number Pedestrians Killed	Numeric	00-99	**	**
Number Pedestrians Insured	Numeric	00-99	**	**
Driving Experience-Years	Numeric	00-99	**	**
Age-Years	Numeric	00-99	**	
Sex	Unknown	0	***	*
	Male	1	***	***
	Female	2	***	***
Driver License State	(See VSP Coding Manual Codes)		***	**
Vehicle Make	(See VSP Coding Manual Codes)	0000-9999	***	**
Vehicle Model	(See VSP Coding Manual Codes)	0000-9999	***	**

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 3: ACCIDENT EVENT (CONTINUED)

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Vehicle Model Year	Last Two Digits	00-99	*	*
Vehicle Repair Cost	Numeric	00000-99999	**	**
Vehicle Point of Impact	Front 1  	0-9	***	***
Vehicle Damage Severity	Unknown or None Vehicle Not Driveable Functional Damage - Driveable Non-Functional Damage	0 1 2 3	* * * *	* * *
Position In/On Vehicle	Bus  Unknown Driver Other Locations Back Outside	0 1 2-6 7 8	** ** ** **	** ** ** **
	Car  Unknown Location	0 1-8	** **	** **

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 3: ACCIDENT EVENT (CONTINUED)

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Safety Equipment Used	Unknown	0	*	
	None	1	***	**
	Lap Belt	2	***	**
	Passive Belt and Harness	3	*	
	Lap Belt and Harness	4	***	**
	Child Portable Restraint	5	***	**
	Air Bag	6	***	**
	Light Colored Clothing Worn	7	*	
	Motorcycle Helmet	8	*	
	Other	9	*	
Occupant Location After Impact	Unknown	0	***	
	Not Ejected	1	***	**
	Partially Ejected	2	***	**
	Totally Ejected	3	***	**
	Trapped	4	*	*
Injury Severity	Unknown	0	**	
	No Injury	1	***	
	Injury:			
	Possible (Not Evident)	2	*	
	Not-Incapacitating	3	*	
	Incapacitating	4	*	
	Fatal	5	***	
Injury Severity Per Vehicle	(Same as Injury Severity)			
Direction of Travel Before Accident	Unknown	0	***	
	North	1	***	***
	East	2	***	**
	South	3	***	**
	West	4	***	***
	Not on Roadway	5	*	
Driver License Status	Unknown	0	*	
	No License	1	*	
	Expired License	2		
	Legal License (Not Learners)	3	*	
	Legal Learner's Permit	4	*	
	Inappropriate License	5		
	Other	9	*	

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 3: ACCIDENT EVENT (CONTINUED)

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Driver License Restriction Compliance	Unknown	0	All Categories Conform to ANSI D20 Only	All Codes Conform to ANSI D20 Only
	No Restrictions	1		
	Restrictions:			
	Compiled With	2		
	Not Compiled With	3		
Estimated Collision Speed	Miles Per Hour	00-99		
Injury Location	Unknown	00		
	Head	01		
	Face	02		
	Eye	03		
	Neck	04		
	Chest	05		
	Back	06		
	Shoulder-Upper Arm	07		
	Elbow-Lower Arm-Hand	08		
	Abdomen-Pelvis	09		
	Hip-Upper Leg	10		
	Knee Lower Leg-Foot	11		
	Entire Body	12		
Injury Type	Unknown	00		
	Amputation	01		
	Concussion	02		
	Internal	03		
	Bleeding, Minor	04		
	Bleeding, Severe	05		
	Minor Burn	06		
	Moderate Burn	07		
	Severe Burn	08		
	Fracture-Dislocation	09		
	Bruise	10		
	Abrasion	11		
	Complaint of Pain	12		
	None Visible	13		
Location of First Harmful Event or Object	Not Stated	00		
	On Roadway	10		
	At Intersection	11		
	Driveway Access	12		
	Intersection Related	13		
	Nonjunction	14		

(Continued)

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 3: ACCIDENT EVENT (CONTINUED)

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Location of First Harmful Event or Object (Continued)	Off Roadway	20	All Categories Conform to ANSI D20 Only	All Codes Conform to ANSI D20 Only
	Shoulder	21		
	Shoulder, Left	22		
	Shoulder, Right	23		
	Roadside, Left	24		
	Roadside, Right	25		
	Outside Trafficway	26		
	Outside Trafficway, Left	27		
	Outside Trafficway, Right	28		
	Median	30		
	Driveway	40		
	Private Road	50		
	Unknown	99		
Location of Subsequent Harmful Event or Object	(Same as Location of First Harmful Event or Object) (Up tp Three Subsequent Events)			
Occupants Injured	Numeric (Including Fatalities)	00-99		
Occupants In Vehicle	Numeric	00-99		
Odometer Reading at Accident	Miles or Kilometers	0000000-9,999,999		
Pedestrians Involved	Numeric	00-99		
Portion of Vehicle Causing Injury	None/Not Applicable	00		
	Steering Wheel	01		
	Dashboard Instruments	02		
	Roof	03		
	Windshield	04		
	Glass Other Than Windshield or Lights	05		
	Glove Compartment Area	06		
	Mirrors	07		
	Pillar	08		
	Back of Seat Head Restraint	09		
	Lose Objects Inside Vehicle, or Other Occupants	10		
	Engine	11		
	Hood	12		
	Fenders/Door	13		
	Wheels	14		
	Bumper	15		
(Continued)	Grill	16		

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 3: ACCIDENT EVENT (CONTINUED)

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Portion of Vehicle Causing Injury (Continued)	Headlight/Taillight/Signal Light	17	All Categories Conform to ANSI D20 Only	All Codes Conform to ANSI D20 Only
	Motorcycle Handle Bars	20		
	Motorcycle Engine Guards	21		
	Motorcycle Foot Pegs	22		
	Motorcycle Muffler	23		
	General (Not Confined to Any of the Above as in Fire or Explosion)	30		
	Front Door	31		
	Rear Door	32		
	External Object	40		
	Unknown	99		
Total Property Damage Amount	Loss to $9,999,997	Actual Value		
	9,999,998 or More	9999998		
	Unknown	9999999		

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 4: POST-ACCIDENT ACTIVITIES

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Emergency Notification			All Categories Conform to ANSI D20 Only	All Codes Conform to ANSI D20 Only
- Month [a]	January - December	01-12		
	Unknown	99		
- Day[a]	Day of the Month	01-31		
	Unknown	99		
- Year[a]	Last Two Digits	00-99		
- Hour[a]	24 Hour Clock	00-23		
	Unknown	99		
- Minute[a]	Actual Minute	00-59		
	Unknown	99		
Emergency Response Arrival Time[a]	(Same as for Emergency Notification)			
Transportation of Injured	Not Transported	0		
	Transported by Ambulance Service	1		
	Transported by Police Car (Not Ambulance)	2		
	Transported by Helicopter	3		
	Transported by Private Vehicle or Conveyance	4		
	Unspecified Transportation	5		
	Unknown	9		

[a] Available from Health Department (NHTSA 1980)

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 5: FILE MAINTENANCE AND DATA CONTROL

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Report Number	Numeric	000 000 000-999,999,999	***	**
Record Control				
- Vehicle Number	Numeric	01-98	***	**
- Passenger Pedestrian Number	Numeric	01-99	***	***
Filer of Report	Unknown State Police (FR-300P) Bus Operator Supervisor	0 1 2 3	**	**
Vehicle License State	(See VSP Coding Manual Code)			
Vehicle Insured	Unknown Yes No	0 1 2	** ** **	 ** **
Location Report Was Filled Out	Unknown On Scene Off Scene	0 1 2	* * *	 * *
Driver Name	Last, First, Middle	20 Alpha	*	
Driver License Number	Numeric	000 00 0000-999 99 9999	*	*
Inspection Sticker Number	Numeric	000 000 001-999 999 999	*	*
Vehicle License Number	Alpha/Numeric	(Nine Char.)	*	*
Vehicle License Plate Year	Last Two Digits	00-99	*	*
Trafficway Identification Number	Interstate U. S. Route State Route County Road	1 2 3 4	* * * *	* * * *

(Continued)

TRAFFIC ACCIDENT DATA ELEMENTS

ADAPTED FROM VSP ACCIDENT FILE AND ANSI D20 ACCIDENT DATA ELEMENT LIST

DATA GROUP 5: FILE MAINTENANCE AND DATA CONTROL (CONTINUED)

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE	CONFORMITY (* = ANSI D20) (** = VSP file) (*** = VSP file & ANSI D20)	
			CATEGORY	CODE
Trafficway Identification Number c (Continued)	Local Street Other	5 7	* *	* *
Vehicle Identification Number	Alpha/Numeric	(16 Char.)	*	*

c Available from VDH&T Road Inventory File (Appendix A, pp. A8-A9).

ADDITIONAL TRAFFIC ACCIDENT DATA ELEMENTS
SUGGESTED BY TRANSIT AGENCY REPORT FORMS

DATA ELEMENTS NAME	CATEGORY DESCRIPTION	CODE
Distance Traveled After Impact	Feet	000-999
Transportation* of Insured	Not Transported	0
	Transported By Ambulance Service	1
	Transported By Police Car (Not Ambulance)	2
	Transported Bu Helicopter	3
	Transported By Private Vehicle Or Conveyance	4
	Unspecified Transportation	5
	Unknown	9
Road Surface Type	Unknown	0
	Concrete	1
	Blacktop	2
	Brick	3
	Gravel	4
	Dirt	5
	Other	9

*Data elements and codes conform to ANSI D20

ADDITIONAL TRAFFIC ACCIDENT DATA ELEMENTS
SPECIFICALLY NEEDED FOR BUS TRANSIT ACCIDENTS IN VIRGINIA

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE
TRANSIT AGENCY NAME	Unknown	00
	Bristol City Bus Company	01
	Charlottesville Transit Service	02
	City of Danville Transit System	03
	City of Radford Transit	04
	Greater Lynchburg Transit Co.	05
	Greater Richmond Transit Co.	06
	Greater Roanoke Transit Co.	07
	Harrisonburg City Bus Service	08
	James City County Transit	09
	Peninsula Transp. District Commission	10
	Petersburg Area Transit	11
	Staunton Transit Service	12
	Tidewater Transportation District Commission	13
	Washington Metropolitan Area Transit Authority	14
	Winchester City Transit	15
MINUTES BUS WAS LATE	Numeric	00-99
LOCATION REPORT WAS FILLED OUT		
- Police	Unknown or N.A	0
	On Scene	1
	Off Scene	2
- Bus	Unknown or N/A	0
	On Scene	1
	Off Scene	2
- Supervisor	Unknown or N/A	0
	On Scene	1
	Off Scene	2

ADDITIONAL DATA ELEMENTS
NEEDED FOR BUS TRANSIT PASSENGER ACCIDENTS

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE
Passenger Action	Unknown	0
	Boarding	1
	On Board	2
	Alighting	3
Type Of Door Control	Unknown	0
	Manual	1
	Treadle	2
	Automatic	3
	Push Out	4
	Other	5
Wheelchair Passenger Accidents	None or Unknown	0
	Falling From Lift Device	1
	Injured By Lift Mechanism	2
	Injured By Securement Device	3
	Wheelchair Passenger, Riding In Regular Seat Injured	4
	Other Injury To Wheelchair Passenger	5
	Other Passenger Injured By Wheelchair	6
	Other	7

ADDITIONAL DATA ELEMENTS
NEEDED FOR BUS TRANSIT CRIMES

DATA ELEMENT NAME	CATEGORY DESCRIPTION	CODE
Type of Crime Committed	Crimes Against Persons	
	Assult	11
	Battery	12
	Rape	13
	Homicide	14
	Abduction	15
	Other	16
	Crimes Against Person's Property	
	Robbery	21
	Pocket Picking	22
	Purse-Snatching	23
	Other	24
	Crimes Against System Property	
	Robbery	31
	Burglary	32
	Fare Evasion	33
	Vandalism	34
	Petty Theft	35
	Trespassing	36
	Arson	37
	Missiling (rock throwing)	38
	Theft of System Property	39
	Other	40
	Crimes Against the Public	
	Drug Law Violations	51
	Sex Offenses	52
	Drunkenness	53
	Disorderly Conduct	54
	Carrying Concealed Weapons	55
	Suicide	56
	Terrorism	57
	Other	58
Victim Condition Before Crime	(Same as Driver Condition)	
Victim Age	Years	00-99
Victim Sex	Unknown	0
	Male	1
	Female	2
Perpetrator Condition	(Same as Driver Condition)	
Perpetrator Age	Years	00-99
Perpetrator Sex	Unknown	0
	Male	1
	Female	2

ADDITIONAL INFORMATION POSSIBLY NEEDED BY BUS TRANSIT AGENCIES FOR THEIR OWN USE

- Bus Number
- Run Number
- Block Number
- Bus Driver
  - Badge Number
  - Length of Service
  - Address
  - Phone
    - Home
    - Work
- Other Vehicle
  - Driver
    - Address
    - Phone
      - Home
      - Work
- Owner
  - Name
  - Address
  - Phone
    - Home
    - Work
- Insurance Company
  - Name
  - Agent Name
  - Policy Number
- Injured
  - Name
  - Address
  - Phone
    - Home
    - Work
  - Where Taken After Accident
- Police Officer
  - Name
  - Badge Number
  - Unit Number
  - Charges Made
- Preventive Measures Taken
- Was Accident Preventable?

DATA ELEMENTS NEEDED TO MEASURE SYSTEM ACTIVITY

DATA ELEMENT NAME	CODE
Annual Vehicle Miles	00 000 000- 99,999,999
Annual Passenger Miles	000,000,000- 999,999,999
Annual Passenger Trips	00 000 000- 99,999,999

APPENDIX G

QUESTIONNAIRES

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*Data element numbers were reassigned to the data elements for analysis purposes and are shown to the left of the response boxes. Numbers in the response boxes indicate the priority group assigned during the analysis of the questionnaire responses. "X"'s in the boxes indicate elements that were eliminated from the final data element list. (None of these conventions were included on the questionnaires that were sent to the transit agencies.)

Person Responding _____

Transit Agency _____

Phone _____

State law requires that the police be notified of any motor vehicle accident involving death, injury or damage to another person's property.

If death, injury or apparent property damage of $350 or more results from an accident, the driver must file a Citizen Accident Report (FR-300C) and the investigating police office must file a Police Accident Report (FR-300P) with the Division of Motor Vehicles.

1. Do the laws of any local jurisdiction in which your agency operates require less severe accidents to be reported to them:

	Yes	No
by a police officer?		
by the bus driver?		

IF BOTH ANSWERS ARE NO, PROCEED TO QUESTION NUMBER 2.

1A. What is the name of the jurisdiction and above what dollar value are such reports required?

Jurisdiction	Dollar Value	
	Police Report	Driver Report
	$	$
	$	$
	$	$

1B. Are forms other than the FR-300C and the FR-300P used for reporting to the local jurisdiction?

Yes	No

1C. If answer to 1B is yes, please send a copy of such forms.

Comments: _____

_____

_____

2. Does your agency require bus drivers to file any report on traffic accidents involving no injury and property damage of less than $350 value?

Yes	No

IF ANSWER IS NO, PROCEED TO QUESTION 3.

2A. Above what dollar value are such reports required

Dollar Value
$

2B. Are forms other than the FR-300C and FR-300P used?

Yes	No

2C. If answer to 2B is yes, please send a copy of such forms.

Comments: _____

_____

_____

3. Does your agency require drivers to file a report on passenger injuries when the bus is not involved in a traffic accident?

Yes	No

3A. If yes, please send a copy of the report form used.

Comments: _____

_____

4. Does your agency require bus drivers to file a report on crimes committed against passengers, drivers or transit property?

Yes	No

4A. If yes, please send a copy of the report form used.

Comments: _____

_____

_____

5. Please return this questionnaire and the requested report forms (including insurance forms) using the enclosed pre-addressed envelope.

Thank you for your time and effort!!

QUESTIONNAIRE

ON DATA ELEMENTS FOR A UNIFORM STATEWIDE TRANSIT SAFETY RECORDS SYSTEM

Person Responding _____

Transit Agency _____

Phone _____

To make the uniform transit safety records system as comprehensive as possible, data elements have been tentatively selected for three primary safety problem areas: traffic accidents, passenger accidents, and crime.

Please indicate the importance of each element in the box provided by assigning a value of from 1 to 5:

1 = not important
2 = of little importance
3 = average importance
4 = fairly important
5 = extremely important

Also indicate on a scale of from 1 to 5 your ability to supply the data (if an appropriate standard reporting form is designed):

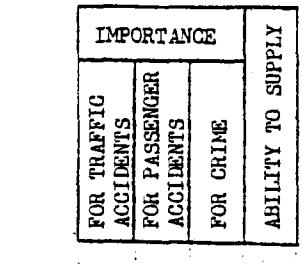
1 = unable to supply data
2 = very difficult to supply data
3 = moderate difficulty in supplying data
4 = little problem in supplying data
5 = easily can supply data

Feel free to suggest additional categories under any element, additional elements, or make any other comments in the right-hand margin.

	IMPORTANCE			ABILITY TO SUPPLY	
	FOR TRAFFIC ACCIDENTS	FOR PASSENGER ACCIDENTS	FOR CRIME		
					GENERAL
1	1	1	1	1	Date Month Day Year
					Time
2	1	1	1	1	Hour
3	1	1	1	1	Minute
4	1	1	1	1	Day of Week
5	1	1	1	1	City/County of Accident
6	1	1	X2	1	Minutes Bus Was Late
7	1	1	1	1	Location Of Accident Street or Route Distance From (Feet) Direction From (N,E,S,W,) Intersecting Street or Route

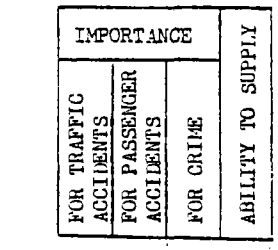
Note: Data element numbers were reassigned to the data elements for analysis purposes and are shown to the left of the response boxes. Numbers in the response boxes indicate the priority group assigned during the analysis of the questionnaire responses. "X"'s in the boxes indicate elements that were eliminated from the final data element list. (None of these conventions were included on the questionnaires that were sent to the transit agencies.)

Over



GENERAL (continued)

8	X2	X2	X2	1	Location Report Was Filled Out Police On Scene Off Scene
9	X2	X2	X2	1	Bus Operator On Scene Off Scene
10	X2	X2	X2	1	Supervisor On Scene Off Scene
11	1	1	1	1	Non-Vehicle Property Damage
12	1	1		1	Accident Severity Property Damage Only Injury Possible (Not Evident) Non-Incapacitating Incapacitating Fatal
13	1	1	1	1	Number Killed
14	1	1	1	1	Number Injured
15	1			1	Number Pedestrians Killed
16	1			1	Number Pedestrians Injured
17	1			1	Number of Vehicles
18	1	1		1	Weather Clear Cloudy Fog Severe Crosswinds Raining Snowing Sleeting Smoke-Dust Other
19	1	1	1	1	Light Dawn Daylight Dusk Darkness Street Lighted Street Not Lighted
20	1	1	1	1	Kind of Locality School Church Playground Open Country Business/Industrial Residential Interstate Loading Zone Other



GENERAL (continued)

21 [1] [1] [1] Traffic Control Device
- No Traffic Control
- Officer/Watchman/Flagman
- Traffic Signal
- Stop Sign
- Slow or Warning Sign
- Traffic Lanes Marked
- No Passing Lines
- Yield Sign
- Pedestrian Signal
- Railroad Crossing
  - Markings/Signs
  - Signals
  - Gates
- Other

22 [1] [1] [1] Traffic Control Device Condition
- Functioning Properly
- Defective

23 [1] [1] [1] Speed Limit

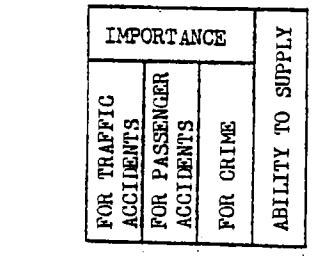
ROADWAY

24 [1] [1] [1] Kind of Roadway
- One-Way
  - One Lane
  - Two Lanes
- Two-Way
  - Undivided
    - Two Lanes
    - Three Lanes
    - Four Lanes
  - Divided
    - Four Lanes
    - Six Lanes
- Exclusive Bus Lane
- Other

25 [1] [1] [1] Road Surface Type
- Concrete
- Blacktop
- Brick
- Gravel
- Dirt
- Other

26 [1] [1] [1] Alignment
- Level
  - Straight
  - Curve
- Grade
  - Straight
  - Curve
- Hillcrest
  - Straight
  - Curve
- Dip
  - Straight
  - Curve
- Other

Over



ROADWAY (continued)

27 | 1 | 1 | | 1 | Road Surface Condition
- Dry
- Wet
- Snowy
- Icy
- Muddy
- Oily
- Slushy
- Debris
- Other

28 | 1 | 1 | | 1 | Roadway Defects
- No Defects
- Holes, Ruts, Bumps
- Soft or Low Shoulders
- Under Repair
- Loose Material
- Restricted Width
- Slick Pavement
- Roadway Obstructed
- Other

VEHICLE

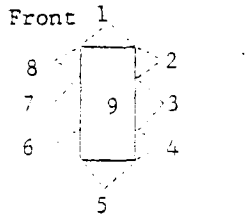
29	1	1	1	1	Vehicle Make
30	1	1	1	1	Vehicle Model
31	1	1	1	1	Vehicle Model Year
32	X3	X3	X3	3	Vehicle Identification Number
33	X3	X3		3	Inspection Sticker Number
34	1			1	Vehicle License Number
35	1			1	Vehicle License State
36	1			1	Vehicle License Plate Year
37	1	1		1	Vehicle Condition

- No Defects
- Lights Defective
- Brake Defective
- Steering Defective
- Puncture or Blowout
- Worn or Slick Tires
- Motor Trouble
- Chains In Use
- Suspension Defective
- Exhaust Defective
- Signals Defective
- Windows/Windshield Defective
- Wheels Defective
- Doors Defective
- Other Defects

38	1	1		1	Travel Speed
39	1	1		1	Direction of Travel Before Accident

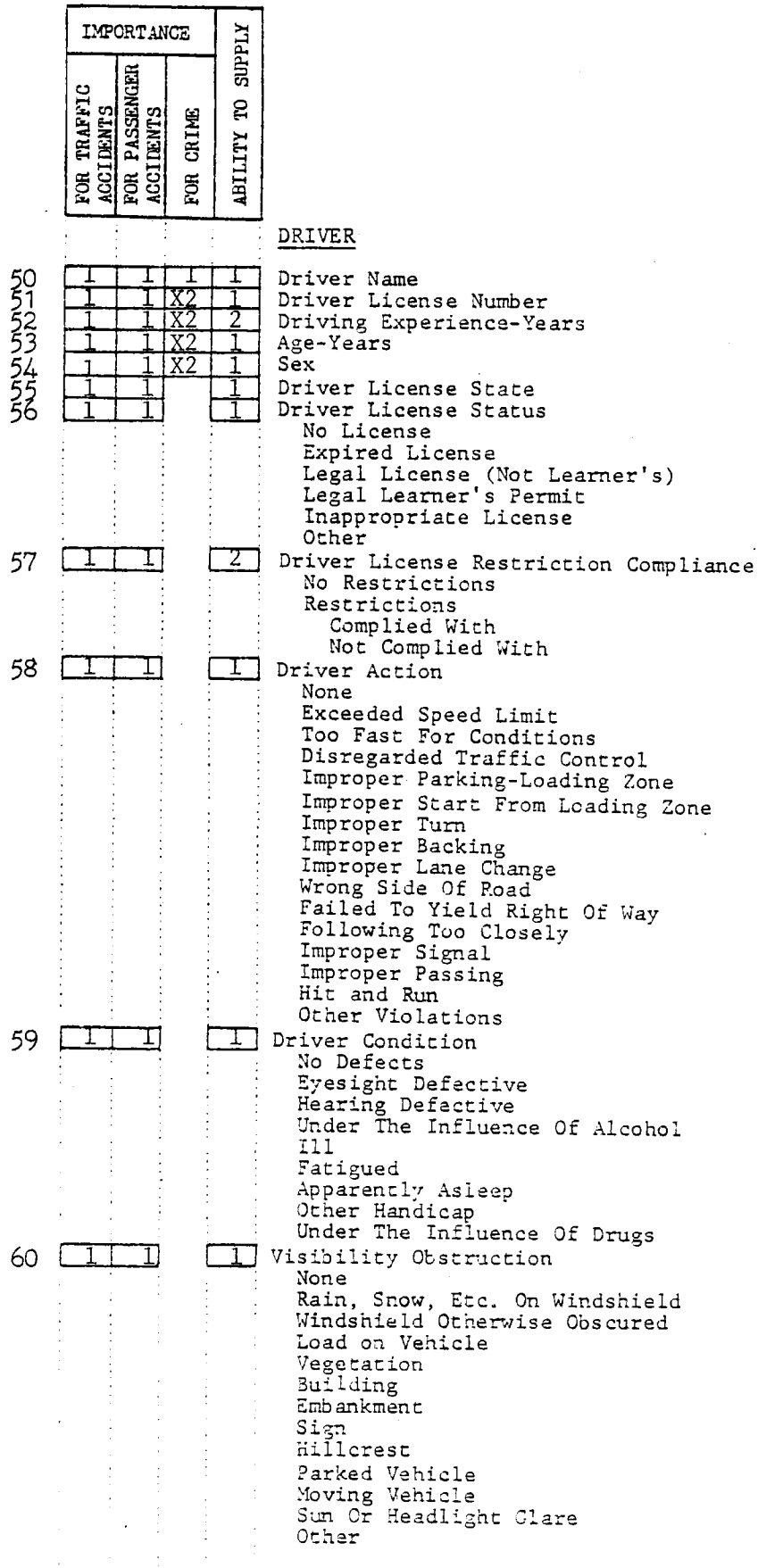
- North
- East
- South
- West
- Not On Roadway

	IMPORTANCE			ABILITY TO SUPPLY	
	FOR TRAFFIC ACCIDENTS	FOR PASSENGER ACCIDENTS	FOR CRIME		
					VEHICLE (continued)
40	1	1	X2	1	Vehicle Maneuver Straight Ahead Right Turn Left Turn U-Turn Slowing Or Stopping Starting In Traffic Starting From Parked Position (Not In Loading Zone) Stopped In Traffic Lane Ran Off Road Right Side Left Side Parked (Not In Loading Zone) Backing Passing Changing Lanes Loading Zone Pulling Into Zone Bus Standing In Zone Pulling Away From Zone Other
41	1	1		1	Cause For Vehicle Maneuver Traffic Control Device Pedestrian in Roadway Pedalcyclist in Roadway Other Motor Vehicle Animal Other Object in Roadway Roadway Defects Weather Conditions Road Surface Conditions Light Conditions Visibility Obstruction Vehicle Defects Other
42	1			1	Vehicle Point of Impact

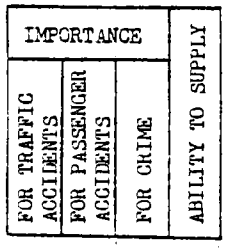


43	1			1	Distance Traveled After Impact (Feet)
44	1			1	Vehicle Damage Severity Unknown Or None Vehicle Not Driveable Functional Damage-Driveable Non-Functional Damage
45	1			2	Vehicle Repair Cost
46	1			1	Vehicle Insured?
47	1	1		1	Occupants Injured
48	1	1	1	2	Occupants In Vehicle
49	X2	X2		3	Odometer Reading At Accident

Over



	IMPORTANCE			ABILITY TO SUPPLY	
	FOR TRAFFIC ACCIDENTS	FOR PASSENGER ACCIDENTS	FOR CRIME		
					DRIVER
50	1	1	1	1	Driver Name
51	1	1	X2	1	Driver License Number
52	1	1	X2	2	Driving Experience-Years
53	1	1	X2	1	Age-Years
54	1	1	X2	1	Sex
55	1	1		1	Driver License State
56	1	1		1	Driver License Status No License Expired License Legal License (Not Learner's) Legal Learner's Permit Inappropriate License Other
57	1	1		2	Driver License Restriction Compliance No Restrictions Restrictions Complied With Not Complied With
58	1	1		1	Driver Action None Exceeded Speed Limit Too Fast For Conditions Disregarded Traffic Control Improper Parking-Loading Zone Improper Start From Loading Zone Improper Turn Improper Backing Improper Lane Change Wrong Side Of Road Failed To Yield Right Of Way Following Too Closely Improper Signal Improper Passing Hit and Run Other Violations
59	1	1		1	Driver Condition No Defects Eyesight Defective Hearing Defective Under The Influence Of Alcohol Ill Fatigued Apparently Asleep Other Handicap Under The Influence Of Drugs
60	1	1		1	Visibility Obstruction None Rain, Snow, Etc. On Windshield Windshield Otherwise Obscured Load on Vehicle Vegetation Building Embankment Sign Hillcrest Parked Vehicle Moving Vehicle Sun Or Headlight Glare Other



PEDALCYCLIST/PEDESTRIAN/PASSENGER

61 [1] [1] Pedalcycle/Pedestrian Action
- Crossing At Intersection
  - With Signal
  - Against Signal
  - No Signal
  - Diagonally
- Crossing Not At Intersection
  - Rural
  - Urban
- Coming From Behind Parked Cars
- Getting Off Or On School Bus
- Playing In Roadway
- Getting Off Or On Other Vehicle
- In Parked Vehicle
- Riding/Walking in Roadway
  - With Traffic
    - Sidewalks Available
    - Sidewalks Not Available
  - Against Traffic
    - Sidewalks Available
    - Sidewalks Not Available
- Working In Roadway
- Standing In Roadway
- Lying In Roadway
- Not In Roadway (No Details)
  - Median
  - Island
  - Shoulder
  - Sidewalk
  - Within 10 Feet Of Roadway (Other Than Above)
  - Beyond 10 Feet Of Roadway (Within Trafficway)
  - Outside Trafficway
  - Other

62 [1] [1] Pedalcycle/Pedestrian Visibility
- Clothing Contrasts With Background
- Reflective Material
- Other Light Source Used
- Clothing Not In Contrast With Background
- Other

63 [1] [1] [2] Pedalcyclist/Pedestrian/Passenger Condition (Same Categories As Driver Condition)

64 [1] [1] [1] Age-Years

65 [1] [1] [1] Sex

	IMPORTANCE			ABILITY TO SUPPLY	
	FOR TRAFFIC ACCIDENTS	FOR PASSENGER ACCIDENTS	FOR CRIME		
					ACCIDENT EVENT
66	1			1	First Harmful Event
					Collision With:
					Motor Vehicle In Transport (Not A Transit Bus)
					Head On
					Rear End
					Angle
					Sideswipe
					Another Transit Bus
					Head On
					Rear End
					Angle
					Sideswipe
					Pedestrian
					Pedalcyclist
					Motorcyclist
					Animal
					Fixed Object
					Bank Or Ledge
					Trees
					Utility Pole
					Fence
					Guard Rail Or Post
					Parked Vehicle
					Bridge, Underpass, Culvert, Etc.
					Sign, Traffic Signal
					Impact Cushioning Device
					Other Fixed Object
					Other Collision
					Non Collision
					Overturn
					Fire/Explosion
					Immersion
					Gas Inhalation
					Thrown Or Falling Object
					Spill
					Other Noncollision
67	1			1	Subsequent Harmful Event (Same Categories As First Harmful Event) (Up To Three Subsequent Events)
68	1			1	Location of First Harmful Event Or Object
					On Roadway
					At Intersection
					Driveway Access
					Intersection Related
					Nonjunction
					Off Roadway
					Shoulder
					Left
					Right
					Roadside
					Left
					Right
					Outside Trafficway
					Left
					Right
					Median
					Driveway
					Private Road
					Unknown

	IMPORTANCE			ABILITY TO SUPPLY	
	FOR TRAFFIC ACCIDENTS	FOR PASSENGER ACCIDENTS	FOR CRIME		

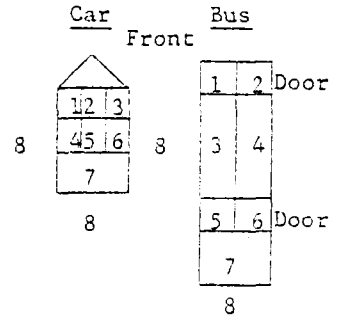
ACCIDENT EVENT (continued)

69 [1] [1] Location of Subsequent Harmful Event Or Object
(Same As Location Of First Harmful Event Or Object)
(Up To Three Subsequent Events)

70 [1] [1] Estimated Collision Speed

71 [1] [1] Injury Severity
- No Injury
- Injury
  - Possible (Not Evident)
  - Non-Incapacitating
  - Incapacitating
- Fatal

72 [1] [1] [1] [1] Position In/On Vehicle

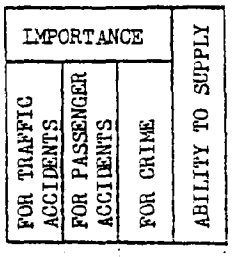


INJURIES

73 [1] [1] [1] [1] Injury Severity
- No Injury
- Injury
  - Possible (Not Evident)
  - Non-Incapacitating
  - Incapacitating
- Fatal

74 [1] [1] [1] [1] Injury Type
- Amputation
- Concussion
- Internal
- Bleeding
  - Minor
  - Severe
- Burn
  - Minor
  - Moderate
  - Severe
- Fracture-Dislocation
- Bruise
- Abrasion
- Complaint of Pain
- None Visible

Over

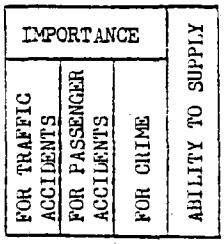


INJURIES (continued)

75 [1] [1] [1] [1] Injury Location
- Head
- Face
- Eye
- Neck
- Chest
- Back
- Shoulder-Upper Arm
- Elbow-Lower Arm-Hand
- Abdomen-Pelvis
- Hip-Upper Leg
- Knee-Lower Leg-Foot
- Entire Body

76 [1] [1] [1] Portion of Vehicle Causing Injury
- None/Not Applicable
- Steering Wheel
- Dashboard Instruments
- Roof
- Windshield
- Glass Other Than Windshield Or Lights
- Glove Compartment Area
- Mirrors
- Pillar
- Back Of Seat Head Restraint
- Loose Objects Inside Vehicle, Or Other Occupants
- Engine
- Hood
- Fenders/Door
- Wheels
- Bumper
- Grill
- Headlight/Taillight/Signal Light
- Motorcycle
  - Handle Bars
  - Engine Guards
  - Foot Pegs
  - Muffler
- General (Not Confined To Any Of The Above As In Fire Or Explosion)
- External Object
- Door
  - Front
  - Rear
- Unknown

77 [1] [1] [2] Safety Equipment Used
- None
- Lap Belt
- Lap And Shoulder Harness
- Motorcycle Helmet
- Light Colored Clothing Worn
- Air Bag
- Safety Blanket
- Passive Belt/Harness
- Child Portable Restraint



INJURIES (continued)

78 [X2] [1] Occupant Location After Impact
- Not Ejected
- Partially Ejected
- Totally Ejected
- Trapped

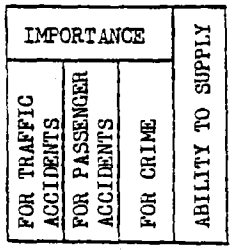
79 [1] [1] [1] [1] Transportation of Injured
- Not Transported
- Transported By Ambulance Service
- Transported By Police Car (Not Ambulance)
- Transported By Helicopter
- Transported By Private Vehicle or Conveyance
- Unspecified Transportation
- Unknown

PASSENGER ACCIDENTS

80 [1] [1] [1] Passenger Action
- Boarding
- On Board
- Alighting

81 [1] [1] Type Of Door Control
- Manual
- Treadle
- Automatic
- Push Out
- Other

82 [1] [1] Wheelchair Passenger Accidents
- None
- Falling From Lift Device
- Injured By Lift Mechanism
- Injured By Securement Device
- Wheelchair Passenger Injured Riding In Regular Bus Seat
- Other Injury To Wheelchair Passenger
- Other Passenger Injured By Wheelchair
- Other



CRIMES

83 [1][1] Type of Crime Committed
- Crimes Against Persons
  - Assult
  - Battery
  - Rape
  - Homicide
  - Abduction
  - Other
- Crimes Against Persons' Property
  - Robbery
  - Pocket Picking
  - Purse-Snatching
  - Other
- Crimes Against System Property
  - Robbery
  - Burglary
  - Fare Evasion
  - Vandalism
  - Petty Theft
  - Trespassing
  - Arson
  - Missiling (Rock Throwing)
  - Theft Of System Property
  - Other
- Crimes Against The Public
  - Drug Law Violations
  - Sex Offenses
  - Drunkenness
  - Disorderly Conduct
  - Carrying Concealed Weapons
  - Suicide
  - Terrorism
  - Other

84 [1][2] Victim Condition Before Crime (Same Categories As Driver Condition)

85 [1][1] Victim Age

86 [1][1] Victim Sex

87 [1][3] Perpetrator Condition (Same Categories as Driver Condition)

88 [1][2] Perpetrator Age

89 [1][1] Perpetrator Sex

Additional elements that will not be included in the automated data records system, but which you may be interested in reporting for your own purposes are listed below. Please indicate your need for such information similarly to the first part of the questionnaire.

	IMPORTANCE				
	FOR TRAFFIC ACCIDENTS	FOR PASSENGER ACCIDENTS	FOR CRIME	ABILITY TO SUPPLY	POSSIBLE ADDITIONAL DATA ELEMENTS
90	2	2	2	1	Bus Number
91	2	2	2	1	Run Number
92	3	3	2	1	Block Number
					Bus Driver
93	3	3	2	1	Badge Number
94	2	2	2	1	Length Of Service
95	X3	X3	X3	1	Address
					Phone
96	X3	X3	X3	1	Home
97	X3	X3	X3	1	Work
					Other Vehicle
					Driver
98	1			1	Address
					Phone
99	X2			2	Home
100	X2			2	Work
					Owner
101	1			1	Name
102	1			1	Address
					Phone
103	X1			3	Home
104	X1			3	Work
					Insurance Company
105	1			1	Name
106	X2			2	Agent Name
107	X1			2	Policy Number
					Injured
108	1	1	1	1	Name
109	1	1	1	1	Address
					Phone
110	X2	X2	X2	2	Home
111	X2	X2	X2	2	Work
112	X1	X1	X1	2	Where Taken After Accident
					Police Officer At Scene
113	1	1	1	1	Name
114	1	1	1	1	Badge Number
115	X2	X2	X2	2	Unit Number
116	X1	X1	X1	2	Charges Made
117	1	1	1	1	Preventive Measures Taken
118	1	1	1	1	Was Accident Preventable?

IMPORTANT

How much time do you consider appropriate for filling out an average accident or crime report?

_____Minutes

The transit system activity measures most useful for this project are presented below. Please evaluate these measures according to the criteria specified, again on a scale of from 1 to 5 (for ACCURACY, use 1 = extremely inaccurate through 5 = extremely accurate).

	ACTIVITY MEASURE	ACCURACY	ABILITY TO SUPPLY
119	Annual Vehicle Miles		
120	Annual Passenger Miles		
121	Annual Passenger Trips		

THANK YOU FOR YOUR TIME AND EFFORT !!!

APPENDIX H

DATA ELEMENT QUESTIONNAIRE RESPONSES

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*Data element numbers correspond to numbers assigned to the elements of the data element questionnaire (Appendix G, pages G3-G16). Data element number 122 denotes global statistics from all transit agency responses to all elements.

DATA ELEMENT QUESTIONNAIRE RESPONSES FROM LARGE TRANSIT AGENCIES

DATA ELEM. NO.	TRAFFIC ACCIDENTS NO. RES-PONSES	MEAN	STD. DEVIA-TION	PASSENGER ACCIDENTS NO. RES-PONSES	MEAN	STD. DEVIA-TION	C R I M E S NO. RES-PONSES	MEAN	STD. DEVIA-TION	ABILITY TO SUPPLY NO. RES-PONSES	MEAN	STD. DEVIA-TION
1	5.000	5.000	0.000	5.000	5.000	0.000	5.000	5.000	0.000	5.000	5.000	0.000
2	5.000	5.000	0.000	5.000	5.000	0.000	5.000	5.000	0.000	5.000	5.000	0.000
3	5.000	4.800	.400	5.000	4.800	.400	5.000	4.800	.400	5.000	4.800	.400
4	5.000	4.600	.800	5.000	4.600	.800	5.000	4.600	.800	5.000	4.800	.400
5	5.000	4.600	.800	5.000	4.600	.800	5.000	4.600	.800	5.000	4.800	.400
6	5.000	4.200	.980	5.000	4.000	.894	5.000	3.600	1.200	5.000	3.600	.800
7	5.000	4.800	.400	5.000	4.600	.800	5.000	4.600	.800	5.000	4.600	.800
8	5.000	3.600	1.200	5.000	3.400	1.020	5.000	3.400	1.497	5.000	4.200	1.166
9	5.000	3.600	1.200	5.000	3.600	1.200	5.000	3.400	1.497	5.000	4.800	.400
10	5.000	3.800	1.166	5.000	3.800	1.166	5.000	3.600	1.497	5.000	4.800	.400
11	5.000	4.600	.800	5.000	4.600	.800	5.000	4.200	1.600	5.000	4.800	.400
12	5.000	4.800	.400	5.000	4.800	.400	0.000	0.000	0.000	5.000	4.800	.400
13	5.000	5.000	0.000	5.000	5.000	0.000	5.000	4.800	.400	5.000	5.000	0.000
14	5.000	4.800	.400	5.000	4.800	.400	4.000	4.250	1.299	5.000	4.800	.400
15	5.000	5.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.000	5.000	0.000
16	5.000	5.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.000	5.000	0.000
17	5.000	4.600	.800	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.800	.400
18	5.000	4.800	.400	4.000	4.750	.433	0.000	0.000	0.000	5.000	4.800	.400
19	5.000	4.600	.490	5.000	4.600	.490	5.000	4.200	1.166	5.000	4.200	.980
20	5.000	4.200	1.166	5.000	4.200	1.166	5.000	4.000	1.549	5.000	4.200	.980
21	5.000	4.800	.400	5.000	4.800	.400	0.000	0.000	0.000	5.000	4.800	.400
22	5.000	4.600	.490	5.000	4.600	.490	0.000	0.000	0.000	5.000	3.800	1.470
23	5.000	4.800	.400	5.000	4.800	.400	0.000	0.000	0.000	5.000	4.800	.400
24	5.000	4.800	.400	5.000	4.800	.400	0.000	0.000	0.000	5.000	4.600	.490
25	5.000	4.600	.800	5.000	4.600	.800	0.000	0.000	0.000	5.000	4.000	.894
26	5.000	4.400	1.200	5.000	4.400	1.200	0.000	0.000	0.000	5.000	4.000	1.549
27	5.000	5.000	0.000	5.000	5.000	0.000	0.000	0.000	0.000	5.000	5.000	0.000
28	5.000	4.800	.400	5.000	4.800	.400	0.000	0.000	0.000	5.000	4.000	.894
29	5.000	4.800	.400	5.000	4.800	.400	4.000	4.500	.500	5.000	4.800	.400
30	5.000	4.400	1.200	5.000	4.200	1.166	4.000	4.000	1.225	5.000	3.600	1.356
31	5.000	4.600	.800	5.000	4.600	.800	4.000	4.000	1.000	5.000	4.000	1.265
32	5.000	2.600	1.356	5.000	2.600	1.356	4.000	2.500	1.500	5.000	2.400	1.020
33	5.000	2.200	1.470	5.000	2.200	1.470	0.000	0.000	0.000	5.000	1.800	1.166
34	5.000	4.200	.980	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.600	.800
35	5.000	4.400	.800	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.400	.800
36	5.000	4.400	.800	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.400	.800
37	5.000	4.800	.400	4.000	4.750	.433	0.000	0.000	0.000	5.000	3.800	1.470
38	5.000	5.000	0.000	5.000	5.000	0.000	0.000	0.000	0.000	5.000	4.600	.800
39	4.000	5.000	0.000	4.000	5.000	0.000	0.000	0.000	0.000	4.000	5.000	0.000
40	5.000	4.800	.400	5.000	4.800	.400	5.000	3.200	1.600	5.000	4.000	1.549
41	5.000	4.800	.400	5.000	4.800	.400	0.000	0.000	0.000	5.000	3.800	1.470

DATA ELEMENT QUESTIONNAIRE RESPONSES FROM LARGE TRANSIT AGENCIES

DATA ELEM. NO.	TRAFFIC ACCIDENTS NO. RES-PONSES	MEAN	STD. DEVIA-TION	PASSENGER ACCIDENTS NO. RES-PONSES	MEAN	STD. DEVIA-TION	C R I M E S NO. RES-PONSES	MEAN	STD. DEVIA-TION	ABILITY TO SUPPLY NO. RES-PONSES	MEAN	STD. DEVIA-TION
42	5.000	5.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.400	1.200
43	5.000	4.800	.400	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.200	1.166
44	5.000	5.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.200	1.166
45	5.000	4.400	.800	0.000	0.000	0.000	0.000	0.000	0.000	5.000	3.400	1.356
46	5.000	4.600	.800	0.000	0.000	0.000	0.000	0.000	0.000	5.000	3.800	1.600
47	5.000	5.000	0.000	4.000	5.000	0.000	0.000	0.000	0.000	5.000	4.800	.400
48	4.000	5.000	0.000	4.000	5.000	0.000	1.000	5.000	0.000	4.000	3.500	.866
49	4.000	3.750	1.299	4.000	3.750	1.299	0.000	0.000	0.000	4.000	1.250	.433
50	5.000	4.600	.800	5.000	4.600	.800	5.000	4.600	.800	5.000	5.000	0.000
51	5.000	4.600	.800	5.000	4.600	.800	5.000	3.600	1.744	5.000	3.800	1.600
52	5.000	4.200	.980	5.000	4.200	.980	5.000	3.200	1.327	5.000	3.200	1.327
53	5.000	4.600	.800	5.000	4.600	.800	5.000	3.600	1.497	5.000	3.800	1.600
54	5.000	4.200	1.166	5.000	4.200	1.166	4.000	3.750	1.090	5.000	3.600	1.744
55	5.000	4.400	.800	5.000	4.400	.800	0.000	0.000	0.000	5.000	3.600	1.497
56	5.000	4.800	.400	5.000	4.800	.400	0.000	0.000	0.000	5.000	4.000	1.549
57	5.000	4.800	.400	5.000	4.400	.800	0.000	0.000	0.000	5.000	3.000	1.414
58	5.000	5.000	0.000	5.000	5.000	0.000	0.000	0.000	0.000	5.000	4.400	.800
59	5.000	4.800	.400	5.000	4.800	.400	0.000	0.000	0.000	5.000	3.800	1.600
60	5.000	4.800	.400	5.000	4.800	.400	0.000	0.000	0.000	5.000	4.200	1.166
61	5.000	4.800	.400	0.000	0.000	0.000	0.000	0.000	0.000	5.000	3.600	1.744
62	5.000	4.600	.800	0.000	0.000	0.000	0.000	0.000	0.000	5.000	3.600	1.744
63	5.000	4.600	.800	5.000	4.400	.800	0.000	0.000	0.000	5.000	3.200	1.600
64	5.000	4.800	.400	5.000	4.400	.800	0.000	0.000	0.000	5.000	3.800	1.470
65	5.000	4.400	.800	5.000	4.000	.894	0.000	0.000	0.000	5.000	3.600	1.497
66	5.000	4.600	.490	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.200	1.166
67	5.000	4.400	.800	0.000	0.000	0.000	0.000	0.000	0.000	5.000	3.800	1.166
68	5.000	4.800	.400	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.200	1.166
69	5.000	4.400	.490	0.000	0.000	0.000	0.000	0.000	0.000	5.000	3.800	1.166
70	5.000	4.400	.800	0.000	0.000	0.000	0.000	0.000	0.000	5.000	3.800	1.600
71	5.000	4.400	.800	4.000	4.750	.433	0.000	0.000	0.000	5.000	3.800	1.600
72	5.000	4.800	.400	5.000	4.800	.400	5.000	4.800	.400	5.000	4.000	1.095
73	5.000	4.800	.400	5.000	4.800	.400	5.000	4.800	.400	5.000	3.800	1.470
74	5.000	4.800	.400	5.000	4.800	.400	5.000	4.800	.400	5.000	4.000	1.549
75	5.000	4.800	.400	5.000	4.800	.400	5.000	4.800	.400	5.000	4.200	1.166
76	5.000	4.400	1.200	5.000	4.400	1.200	0.000	0.000	0.000	5.000	4.000	1.549
77	5.000	4.200	1.166	5.000	4.200	1.166	0.000	0.000	0.000	5.000	3.200	1.600
78	5.000	3.800	1.166	0.000	0.000	0.000	0.000	0.000	0.000	5.000	3.600	1.497
79	5.000	4.400	.800	5.000	4.400	.800	5.000	4.400	.800	5.000	4.000	1.549
80	0.000	0.000	0.000	5.000	5.000	0.000	5.000	5.000	0.000	5.000	4.400	1.200
81	0.000	0.000	0.000	5.000	4.800	.400	0.000	0.000	0.000	5.000	4.400	.490
82	0.000	0.000	0.000	5.000	4.800	.400	0.000	0.000	0.000	5.000	4.000	1.549

DATA ELEMENT QUESTIONNAIRE RESPONSES FROM LARGE TRANSIT AGENCIES

DATA ELEM. NO.	TRAFFIC ACCIDENTS NO. RES-PONSES	MEAN	STD. DEVIA-TION	PASSENGER ACCIDENTS NO. RES-PONSES	MEAN	STD. DEVIA-TION	C R I M E S NO. RES-PONSES	MEAN	STD. DEVIA-TION	ABILITY TO SUPPLY NO. RES-PONSES	MEAN	STD. DEVIA-TION
83	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.800	.400	5.000	4.200	1.166
84	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.400	.800	5.000	3.400	1.497
85	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.600	.800	5.000	4.000	1.549
86	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.200	.748	5.000	4.000	1.549
87	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.400	.800	5.000	2.800	1.600
88	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.400	.800	5.000	3.400	1.356
89	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.000	.894	5.000	3.600	1.497
90	5.000	3.600	1.497	5.000	3.600	1.497	5.000	3.600	1.497	5.000	4.800	.400
91	5.000	3.600	1.497	5.000	3.600	1.497	5.000	3.600	1.497	5.000	4.800	.400
92	5.000	3.200	1.600	5.000	3.200	1.600	5.000	3.200	1.600	5.000	4.400	1.200
93	5.000	2.800	1.600	5.000	2.800	1.600	5.000	2.800	1.600	5.000	4.000	1.549
94	5.000	3.400	1.960	5.000	3.400	1.960	5.000	3.400	1.960	5.000	5.000	0.000
95	5.000	2.200	1.470	5.000	2.200	1.470	5.000	2.200	1.470	5.000	3.600	1.744
96	5.000	2.400	1.497	5.000	2.400	1.497	5.000	2.400	1.497	5.000	3.600	1.744
97	5.000	2.400	1.497	5.000	2.400	1.497	5.000	2.400	1.497	5.000	4.400	1.200
98	5.000	4.400	1.200	0.000	0.000	0.000	0.000	0.000	0.000	5.000	3.800	1.600
99	5.000	3.400	1.625	0.000	0.000	0.000	0.000	0.000	0.000	5.000	3.000	1.673
100	5.000	3.400	1.625	0.000	0.000	0.000	0.000	0.000	0.000	5.000	3.000	1.673
101	5.000	4.400	1.200	0.000	0.000	0.000	0.000	0.000	0.000	5.000	3.800	1.600
102	5.000	4.400	1.200	0.000	0.000	0.000	0.000	0.000	0.000	5.000	3.800	1.600
103	5.000	4.200	1.166	0.000	0.000	0.000	0.000	0.000	0.000	5.000	2.800	1.833
104	5.000	4.200	1.166	0.000	0.000	0.000	0.000	0.000	0.000	5.000	2.800	1.833
105	5.000	4.600	.800	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.000	1.265
106	5.000	4.000	1.265	0.000	0.000	0.000	0.000	0.000	0.000	5.000	3.400	1.960
107	5.000	4.400	.800	0.000	0.000	0.000	0.000	0.000	0.000	5.000	3.200	1.600
108	5.000	4.200	1.166	5.000	4.200	1.166	5.000	4.200	1.166	5.000	4.400	.800
109	5.000	4.200	1.166	5.000	4.200	1.166	5.000	4.200	1.166	5.000	4.400	.800
110	5.000	3.400	1.625	5.000	3.400	1.625	5.000	3.400	1.625	5.000	3.000	1.673
111	5.000	3.400	1.625	5.000	3.400	1.625	5.000	3.400	1.625	5.000	3.000	1.673
112	5.000	4.400	.800	5.000	4.400	.800	5.000	4.400	.800	5.000	3.000	1.673
113	5.000	4.400	1.200	5.000	4.400	1.200	5.000	4.400	1.200	5.000	4.000	1.549
114	5.000	4.200	1.600	5.000	4.200	1.600	5.000	4.200	1.600	5.000	4.600	.490
115	5.000	3.800	1.600	5.000	3.800	1.600	5.000	3.800	1.600	5.000	3.000	1.789
116	5.000	5.000	0.000	5.000	5.000	0.000	5.000	5.000	0.000	5.000	3.400	1.497
117	5.000	4.400	.800	5.000	4.400	.800	5.000	4.400	.800	5.000	3.800	1.470
118	5.000	4.800	.400	5.000	4.800	.400	5.000	4.800	.400	5.000	4.400	.800
119	5.000	4.800	.400	0.000	0.000	0.000	0.000	0.000	0.000	5.000	5.000	0.000
120	5.000	4.400	.800	0.000	0.000	0.000	0.000	0.000	0.000	5.000	5.000	0.000
121	5.000	4.400	.800	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.600	.800
122	552.000	4.364	1.116	403.000	4.323	1.162	280.000	4.046	1.361	602.000	4.022	1.400

DATA ELEMENT QUESTIONNAIRE RESPONSES FROM SMALL TRANSIT AGENCIES

DATA ELEM. NO.	TRAFFIC ACCIDENTS NO. RES-PONSES	MEAN	STD. DEVIA-TION	PASSENGER ACCIDENTS NO. RES-PONSES	MEAN	STD. DEVIA-TION	C R I M E S NO. RES-PONSES	MEAN	STD. DEVIA-TION	ABILITY TO SUPPLY NO. RES-PONSES	MEAN	STD. DEVIA-TION
1	7.000	4.571	.728	7.000	4.857	.350	7.000	3.429	1.841	7.000	4.571	.728
2	7.000	4.143	1.125	7.000	4.571	1.050	7.000	3.429	1.841	7.000	4.714	.452
3	6.000	3.333	1.491	6.000	3.500	1.607	6.000	3.667	1.491	6.000	3.500	1.258
4	7.000	3.857	1.457	7.000	4.143	1.457	7.000	3.571	1.761	7.000	4.857	.350
5	7.000	3.857	1.355	7.000	4.143	1.355	7.000	3.143	1.726	7.000	4.857	.350
6	7.000	2.714	1.578	7.000	2.857	1.552	7.000	3.143	1.641	7.000	2.571	1.178
7	7.000	4.429	.904	7.000	4.714	.700	7.000	3.429	1.841	7.000	4.857	.350
8	7.000	4.143	1.125	7.000	3.857	1.125	7.000	3.714	1.385	6.000	4.500	.764
9	7.000	3.857	1.355	7.000	4.286	1.385	7.000	3.857	1.552	6.000	4.833	.373
10	7.000	2.857	1.355	7.000	3.143	1.552	7.000	2.857	1.457	6.000	3.833	1.462
11	7.000	4.143	.833	7.000	4.286	.881	6.000	3.333	1.491	7.000	4.000	.926
12	6.000	4.500	.764	6.000	4.500	.764	0.000	0.000	0.000	6.000	4.000	1.000
13	7.000	4.857	.350	7.000	4.857	.350	7.000	4.000	1.604	7.000	5.000	0.000
14	7.000	4.857	.350	7.000	4.857	.350	7.000	4.000	1.604	7.000	5.000	0.000
15	6.000	4.833	.373	0.000	0.000	0.000	0.000	0.000	0.000	6.000	5.000	0.000
16	6.000	4.833	.373	0.000	0.000	0.000	0.000	0.000	0.000	6.000	5.000	0.000
17	6.000	4.833	.373	0.000	0.000	0.000	0.000	0.000	0.000	6.000	5.000	0.000
18	7.000	4.286	.881	7.000	4.286	.881	0.000	0.000	0.000	7.000	4.429	1.050
19	7.000	4.000	1.414	7.000	4.000	1.414	7.000	3.714	1.578	7.000	4.286	1.385
20	7.000	4.000	1.309	7.000	4.143	1.355	7.000	3.857	1.552	7.000	4.286	1.385
21	7.000	4.571	.495	7.000	4.429	.728	0.000	0.000	0.000	7.000	4.286	.700
22	7.000	3.571	1.678	7.000	3.571	1.678	0.000	0.000	0.000	7.000	3.286	1.666
23	7.000	4.429	1.050	7.000	4.429	1.050	0.000	0.000	0.000	7.000	4.429	1.400
24	7.000	4.571	.728	7.000	4.571	.728	0.000	0.000	0.000	7.000	4.429	1.050
25	7.000	3.571	1.678	7.000	3.429	1.678	0.000	0.000	0.000	7.000	4.286	1.385
26	7.000	3.571	1.678	7.000	3.429	1.678	0.000	0.000	0.000	7.000	4.000	1.414
27	7.000	4.286	1.385	7.000	4.000	1.309	0.000	0.000	0.000	7.000	4.143	1.355
28	7.000	3.714	1.578	7.000	3.571	1.498	0.000	0.000	0.000	7.000	4.000	1.414
29	6.000	4.333	.943	6.000	4.000	1.000	5.000	3.800	1.600	6.000	5.000	0.000
30	5.000	4.400	.800	5.000	4.000	.894	4.000	3.500	1.658	5.000	4.400	1.200
31	5.000	4.400	.800	5.000	3.800	.980	4.000	3.250	1.479	5.000	4.400	1.200
32	5.000	4.200	.980	5.000	4.000	.894	4.000	3.500	1.658	5.000	4.200	.980
33	6.000	2.667	1.247	6.000	2.833	1.344	0.000	0.000	0.000	6.000	3.333	1.491
34	6.000	4.333	1.106	0.000	0.000	0.000	0.000	0.000	0.000	6.000	4.500	1.118
35	6.000	4.833	.373	0.000	0.000	0.000	0.000	0.000	0.000	6.000	5.000	0.000
36	5.000	4.000	1.095	0.000	0.000	0.000	0.000	0.000	0.000	5.000	4.400	1.200
37	6.000	4.000	1.414	6.000	3.500	1.500	0.000	0.000	0.000	6.000	4.167	1.213
38	7.000	4.714	.452	7.000	4.571	.728	0.000	0.000	0.000	7.000	3.286	1.278
39	7.000	3.571	1.761	7.000	3.286	1.750	0.000	0.000	0.000	7.000	4.714	.452
40	7.000	4.000	1.414	7.000	3.857	1.355	7.000	2.714	1.578	7.000	3.571	1.498
41	7.000	4.143	1.355	7.000	4.143	1.355	0.000	0.000	0.000	7.000	3.714	1.578

DATA ELEMENT QUESTIONNAIRE RESPONSES FROM SMALL TRANSIT AGENCIES

DATA ELEM. NO.	TRAFFIC ACCIDENTS NO. RES-PONSES	MEAN	STD. DEVIA-TION	PASSENGER ACCIDENTS NO. RES-PONSES	MEAN	STD. DEVIA-TION	C R I M E S NO. RES-PONSES	MEAN	STD. DEVIA-TION	ABILITY TO SUPPLY NO. RES-PONSES	MEAN	STD. DEVIA-TION
42	7.000	4.571	.728	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.857	.350
43	7.000	4.286	1.385	0.000	0.000	0.000	0.000	0.000	0.000	7.000	3.857	1.457
44	7.000	3.714	1.278	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.286	.700
45	7.000	4.000	1.309	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.000	1.195
46	7.000	4.857	.350	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.429	.904
47	7.000	4.857	.350	7.000	4.857	.350	0.000	0.000	0.000	7.000	4.857	.350
48	7.000	4.000	1.309	7.000	3.857	1.245	2.000	2.000	1.000	7.000	3.571	1.678
49	7.000	3.429	1.591	7.000	3.429	1.591	0.000	0.000	0.000	7.000	3.571	1.678
50	7.000	4.286	1.385	7.000	4.286	1.385	5.000	4.200	1.600	7.000	5.000	0.000
51	7.000	4.143	1.457	7.000	4.000	1.414	5.000	4.200	1.600	7.000	4.429	1.400
52	7.000	4.000	1.309	7.000	3.857	1.355	5.000	2.800	1.600	7.000	3.429	1.678
53	7.000	3.000	1.414	7.000	2.857	1.355	5.000	3.200	1.833	7.000	3.571	1.761
54	7.000	2.714	1.750	7.000	2.286	1.485	4.000	3.250	1.785	7.000	4.286	1.385
55	7.000	4.571	.495	7.000	4.143	.990	0.000	0.000	0.000	7.000	4.000	1.414
56	7.000	4.571	.728	7.000	4.714	.452	0.000	0.000	0.000	6.000	4.333	.943
57	7.000	4.143	1.355	7.000	4.000	1.309	0.000	0.000	0.000	7.000	4.429	.904
58	7.000	4.857	.350	7.000	4.857	.350	0.000	0.000	0.000	7.000	4.286	.700
59	7.000	4.143	1.457	7.000	4.286	1.385	0.000	0.000	0.000	7.000	4.286	.881
60	7.000	4.286	1.385	7.000	3.857	1.552	0.000	0.000	0.000	7.000	4.429	.904
61	7.000	4.714	.452	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.286	.700
62	7.000	3.857	1.552	0.000	0.000	0.000	0.000	0.000	0.000	7.000	3.714	1.385
63	7.000	4.286	1.385	7.000	4.286	1.385	0.000	0.000	0.000	7.000	4.429	.904
64	7.000	3.143	1.726	7.000	3.143	1.726	0.000	0.000	0.000	7.000	4.143	1.457
65	7.000	2.571	1.591	7.000	2.857	1.641	0.000	0.000	0.000	7.000	4.286	1.161
66	7.000	4.143	1.355	0.000	0.000	0.000	0.000	0.000	0.000	7.000	3.714	1.485
67	7.000	4.000	1.414	0.000	0.000	0.000	0.000	0.000	0.000	7.000	3.714	1.578
68	7.000	4.143	1.457	0.000	0.000	0.000	0.000	0.000	0.000	7.000	3.714	1.578
69	7.000	4.143	1.355	0.000	0.000	0.000	0.000	0.000	0.000	7.000	3.714	1.385
70	7.000	4.000	1.309	0.000	0.000	0.000	0.000	0.000	0.000	7.000	3.000	1.512
71	7.000	4.000	1.414	7.000	4.286	1.385	0.000	0.000	0.000	7.000	3.571	1.498
72	7.000	3.857	1.457	7.000	4.000	1.414	7.000	3.429	1.294	7.000	3.286	1.385
73	7.000	4.000	1.309	7.000	4.143	1.355	7.000	4.143	1.355	7.000	3.429	1.678
74	7.000	3.857	1.552	7.000	3.714	1.485	7.000	3.857	1.552	7.000	3.714	1.385
75	7.000	3.714	1.750	7.000	3.571	1.678	7.000	3.429	1.591	7.000	3.714	1.278
76	7.000	4.000	1.309	7.000	4.000	1.309	0.000	0.000	0.000	7.000	3.286	1.278
77	7.000	4.143	1.355	7.000	4.286	1.385	0.000	0.000	0.000	7.000	3.571	1.400
78	7.000	4.000	1.309	0.000	0.000	0.000	0.000	0.000	0.000	7.000	2.857	1.884
79	7.000	3.714	1.750	7.000	3.714	1.750	7.000	3.571	1.678	7.000	3.286	1.979
80	0.000	0.000	0.000	7.000	4.714	.452	7.000	3.714	1.278	7.000	3.714	1.578
81	0.000	0.000	0.000	7.000	3.857	1.355	0.000	0.000	0.000	7.000	3.857	1.807
82	0.000	0.000	0.000	7.000	4.143	1.355	0.000	0.000	0.000	7.000	3.714	1.750

DATA ELEMENT QUESTIONNAIRE RESPONSES FROM SMALL TRANSIT AGENCIES

DATA ELEM. NO.	TRAFFIC ACCIDENTS NO. RES-PONSES	MEAN	STD. DEVIA-TION	PASSENGER ACCIDENTS NO. RES-PONSES	MEAN	STD. DEVIA-TION	C R I M E S NO. RES-PONSES	MEAN	STD. DEVIA-TION	ABILITY TO SUPPLY NO. RES-PONSES	MEAN	STD. DEVIA-TION
83	0.000	0.000	0.000	0.000	0.000	0.000	7.000	3.857	1.552	7.000	2.857	1.641
84	0.000	0.000	0.000	0.000	0.000	0.000	7.000	3.714	1.578	7.000	3.000	1.852
85	0.000	0.000	0.000	0.000	0.000	0.000	7.000	3.714	1.485	7.000	2.714	1.666
86	0.000	0.000	0.000	0.000	0.000	0.000	7.000	3.571	1.498	7.000	3.143	1.884
87	0.000	0.000	0.000	0.000	0.000	0.000	7.000	3.714	1.485	7.000	2.429	1.400
88	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.000	1.604	7.000	2.714	1.666
89	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.000	1.604	7.000	3.000	1.852
90	7.000	4.286	.881	7.000	4.143	1.125	7.000	3.286	1.385	7.000	5.000	0.000
91	6.000	3.833	.898	6.000	4.000	1.000	6.000	3.167	1.213	6.000	4.667	.745
92	6.000	2.833	1.462	6.000	3.167	1.675	6.000	2.667	1.491	6.000	4.333	1.491
93	7.000	3.429	1.400	7.000	3.286	1.385	7.000	2.714	1.385	7.000	4.714	.700
94	7.000	4.000	.926	7.000	4.000	1.195	7.000	2.714	1.385	7.000	4.714	.700
95	7.000	4.143	.990	7.000	3.857	1.125	7.000	3.143	1.355	7.000	4.857	.350
96	7.000	4.429	.728	7.000	3.857	1.125	7.000	3.286	1.385	7.000	4.571	.728
97	6.000	4.500	.764	6.000	4.333	.745	6.000	3.667	1.374	6.000	4.667	.745
98	7.000	4.857	.350	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.714	.700
99	7.000	4.571	.728	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.429	.904
100	7.000	4.571	.728	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.429	.904
101	7.000	4.714	.452	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.714	.452
102	7.000	4.714	.452	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.857	.350
103	7.000	4.429	.728	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.286	.881
104	7.000	4.429	.728	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.286	.881
105	7.000	4.857	.350	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.571	.728
106	7.000	4.571	.728	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.286	.881
107	7.000	4.571	.728	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.286	.881
108	7.000	4.571	1.050	7.000	4.857	.350	7.000	3.714	1.578	7.000	4.571	.728
109	7.000	4.571	.728	7.000	4.714	.452	7.000	3.429	1.591	7.000	4.571	.728
110	7.000	4.286	1.161	7.000	4.143	1.125	7.000	3.429	1.498	7.000	4.571	.728
111	7.000	4.429	.904	7.000	4.143	1.125	7.000	3.429	1.498	7.000	4.571	.728
112	7.000	4.429	1.050	7.000	4.286	1.030	7.000	3.571	1.498	7.000	4.571	.728
113	7.000	4.000	1.604	7.000	4.000	1.604	7.000	3.429	1.841	7.000	4.429	1.050
114	7.000	2.714	1.578	7.000	2.714	1.578	7.000	2.571	1.678	7.000	3.857	1.552
115	7.000	3.000	1.195	7.000	2.857	1.245	7.000	2.714	1.385	7.000	3.714	1.278
116	7.000	4.000	1.414	7.000	3.571	1.678	7.000	3.143	1.726	7.000	4.143	1.125
117	7.000	4.000	1.414	7.000	4.143	1.355	7.000	3.571	1.498	7.000	3.857	1.552
118	7.000	4.143	1.355	7.000	4.286	1.385	7.000	3.571	1.498	7.000	3.714	1.485
119	7.000	3.857	.833	0.000	0.000	0.000	0.000	0.000	0.000	7.000	4.143	.833
120	7.000	3.857	.833	0.000	0.000	0.000	0.000	0.000	0.000	7.000	3.857	.833
121	7.000	4.000	.756	0.000	0.000	0.000	0.000	0.000	0.000	7.000	3.857	.833
122	756.000	4.098	1.295	560.000	3.964	1.387	374.000	3.457	1.609	822.000	4.106	1.327

TRAFFIC ACCIDENT DATA ELEMENTS
RANKED IN DECENDING ORDER OF MEAN RESPONSE
BY LARGE TRANSIT AGENCIES

DATA ELEMENT NUMBER	NUMBER OF RESPONSES	MEAN	DIFFERENCE IN MEANS	STD. DEVIATION	PRIORITY GROUP
1.000	5.000	5.000	0.000	0.000	
2.000	5.000	5.000	0.000	0.000	
13.000	5.000	5.000	0.000	0.000	
15.000	5.000	5.000	0.000	0.000	
16.000	5.000	5.000	0.000	0.000	
27.000	5.000	5.000	0.000	0.000	
38.000	5.000	5.000	0.000	0.000	
39.000	4.000	5.000	0.000	0.000	
42.000	5.000	5.000	0.000	0.000	
44.000	5.000	5.000	0.000	0.000	
47.000	5.000	5.000	0.000	0.000	
48.000	4.000	5.000	0.000	0.000	
58.000	5.000	5.000	0.000	0.000	
116.000	5.000	5.000	0.000	0.000	
3.000	5.000	4.800	.200	.400	
7.000	5.000	4.800	0.000	.400	
12.000	5.000	4.800	0.000	.400	
14.000	5.000	4.800	0.000	.400	
18.000	5.000	4.800	0.000	.400	
21.000	5.000	4.800	0.000	.400	
23.000	5.000	4.800	0.000	.400	
24.000	5.000	4.800	0.000	.400	
28.000	5.000	4.800	0.000	.400	
29.000	5.000	4.800	0.000	.400	
37.000	5.000	4.800	0.000	.400	
40.000	5.000	4.800	0.000	.400	
41.000	5.000	4.800	0.000	.400	
43.000	5.000	4.800	0.000	.400	
56.000	5.000	4.800	0.000	.400	
57.000	5.000	4.800	0.000	.400	
59.000	5.000	4.800	0.000	.400	GROUP 1
60.000	5.000	4.800	0.000	.400	
61.000	5.000	4.800	0.000	.400	
64.000	5.000	4.800	0.000	.400	
68.000	5.000	4.800	0.000	.400	
72.000	5.000	4.800	0.000	.400	
73.000	5.000	4.800	0.000	.400	
74.000	5.000	4.800	0.000	.400	
75.000	5.000	4.800	0.000	.400	
118.000	5.000	4.800	0.000	.400	
4.000	5.000	4.600	.200	.800	
5.000	5.000	4.600	0.000	.800	
11.000	5.000	4.600	0.000	.800	
17.000	5.000	4.600	0.000	.800	
25.000	5.000	4.600	0.000	.800	
31.000	5.000	4.600	0.000	.800	
46.000	5.000	4.600	0.000	.800	
50.000	5.000	4.600	0.000	.800	
51.000	5.000	4.600	0.000	.800	
53.000	5.000	4.600	0.000	.800	
62.000	5.000	4.600	0.000	.800	
63.000	5.000	4.600	0.000	.800	
105.000	5.000	4.600	0.000	.800	
19.000	5.000	4.600	0.000	.490	
22.000	5.000	4.600	0.000	.490	
66.000	5.000	4.600	0.000	.490	
26.000	5.000	4.400	.200	1.200	
30.000	5.000	4.400	0.000	1.200	

TRAFFIC ACCIDENT DATA ELEMENTS
RANKED IN DECENDING ORDER OF MEAN RESPONSE
BY LARGE TRANSIT AGENCIES

DATA ELEMENT NUMBER	NUMBER OF RES-PONSES	MEAN	DIFFER-ENCE IN MEANS	STD. DEVIA-TION	PRIORITY GROUP
76.000	5.000	4.400	0.000	1.200	
98.000	5.000	4.400	0.000	1.200	
101.000	5.000	4.400	0.000	1.200	
102.000	5.000	4.400	0.000	1.200	
113.000	5.000	4.400	0.000	1.200	
35.000	5.000	4.400	0.000	.800	
36.000	5.000	4.400	0.000	.800	
45.000	5.000	4.400	0.000	.800	
55.000	5.000	4.400	0.000	.800	
65.000	5.000	4.400	0.000	.800	
67.000	5.000	4.400	0.000	.800	
70.000	5.000	4.400	0.000	.800	
71.000	5.000	4.400	0.000	.800	
79.000	5.000	4.400	0.000	.800	
107.000	5.000	4.400	0.000	.800	
112.000	5.000	4.400	0.000	.800	
117.000	5.000	4.400	0.000	.800	GROUP 1
69.000	5.000	4.400	0.000	.490	
114.000	5.000	4.200	.200	1.600	
20.000	5.000	4.200	0.000	1.166	
54.000	5.000	4.200	0.000	1.166	
77.000	5.000	4.200	0.000	1.166	
103.000	5.000	4.200	0.000	1.166	
104.000	5.000	4.200	0.000	1.166	
108.000	5.000	4.200	0.000	1.166	
109.000	5.000	4.200	0.000	1.166	
6.000	5.000	4.200	0.000	.980	
34.000	5.000	4.200	0.000	.980	
52.000	5.000	4.200	0.000	.980	
106.000	5.000	4.000	.200	1.265	
115.000	5.000	3.800	.200	1.600	
10.000	5.000	3.800	0.000	1.166	
78.000	5.000	3.800	0.000	1.166	
49.000	4.000	3.750	.050	1.299	
90.000	5.000	3.600	.150	1.497	
91.000	5.000	3.600	0.000	1.497	
8.000	5.000	3.600	0.000	1.200	
9.000	5.000	3.600	0.000	1.200	GROUP 2
94.000	5.000	3.400	.200	1.960	
99.000	5.000	3.400	0.000	1.625	
100.000	5.000	3.400	0.000	1.625	
110.000	5.000	3.400	0.000	1.625	
111.000	5.000	3.400	0.000	1.625	
92.000	5.000	3.200	.200	1.600	
93.000	5.000	2.800	.400	1.600	
32.000	5.000	2.600	.200	1.356	
96.000	5.000	2.400	.200	1.497	
97.000	5.000	2.400	0.000	1.497	GROUP 3
33.000	5.000	2.200	.200	1.470	
95.000	5.000	2.200	0.000	1.470	

PASSENGER ACCIDENT DATA ELEMENTS
RANKED IN DECENDING ORDER OF MEAN RESPONSE
BY LARGE TRANSIT AGENCIES

DATA ELEMENT NUMBER	NUMBER OF RES-PONSES	MEAN	DIFFER-ENCE IN MEANS	STD. DEVIA-TION	PRIORITY GROUP
1.000	5.000	5.000	0.000	0.000	
2.000	5.000	5.000	0.000	0.000	
13.000	5.000	5.000	0.000	0.000	
27.000	5.000	5.000	0.000	0.000	
38.000	5.000	5.000	0.000	0.000	
39.000	4.000	5.000	0.000	0.000	
47.000	4.000	5.000	0.000	0.000	
48.000	4.000	5.000	0.000	0.000	
58.000	5.000	5.000	0.000	0.000	
80.000	5.000	5.000	0.000	0.000	
116.000	5.000	5.000	0.000	0.000	
3.000	5.000	4.800	.200	.400	
12.000	5.000	4.800	0.000	.400	
14.000	5.000	4.800	0.000	.400	
21.000	5.000	4.800	0.000	.400	
23.000	5.000	4.800	0.000	.400	
24.000	5.000	4.800	0.000	.400	
28.000	5.000	4.800	0.000	.400	
29.000	5.000	4.800	0.000	.400	
40.000	5.000	4.800	0.000	.400	
41.000	5.000	4.800	0.000	.400	
56.000	5.000	4.800	0.000	.400	
59.000	5.000	4.800	0.000	.400	
60.000	5.000	4.800	0.000	.400	
72.000	5.000	4.800	0.000	.400	
73.000	5.000	4.800	0.000	.400	
74.000	5.000	4.800	0.000	.400	
75.000	5.000	4.800	0.000	.400	
81.000	5.000	4.800	0.000	.400	
82.000	5.000	4.800	0.000	.400	
118.000	5.000	4.800	0.000	.400	GROUP 1
18.000	4.000	4.750	.050	.433	
37.000	4.000	4.750	0.000	.433	
71.000	4.000	4.750	0.000	.433	
4.000	5.000	4.600	.150	.800	
5.000	5.000	4.600	0.000	.800	
7.000	5.000	4.600	0.000	.800	
11.000	5.000	4.600	0.000	.800	
25.000	5.000	4.600	0.000	.800	
31.000	5.000	4.600	0.000	.800	
50.000	5.000	4.600	0.000	.800	
51.000	5.000	4.600	0.000	.800	
53.000	5.000	4.600	0.000	.800	
19.000	5.000	4.500	0.000	.490	
22.000	5.000	4.500	0.000	.490	
26.000	5.000	4.400	.200	1.200	
76.000	5.000	4.400	0.000	1.200	
113.000	5.000	4.400	0.000	1.200	
55.000	5.000	4.400	0.000	.800	
57.000	5.000	4.400	0.000	.800	
63.000	5.000	4.400	0.000	.800	
64.000	5.000	4.400	0.000	.800	
79.000	5.000	4.400	0.000	.800	
112.000	5.000	4.400	0.000	.800	
117.000	5.000	4.400	0.000	.800	
114.000	5.000	4.200	.200	1.600	
20.000	5.000	4.200	0.000	1.166	
30.000	5.000	4.200	0.000	1.166	
54.000	5.000	4.200	0.000	1.166	

PASSENGER ACCIDENT DATA ELEMENTS
RANKED IN DECENDING ORDER OF MEAN RESPONSE
BY LARGE TRANSIT AGENCIES

DATA ELEMENT NUMBER	NUMBER OF RES-PONSES	MEAN	DIFFER-ENCE IN MEANS	STD. DEVIA-TION	PRIORITY GROUP
77.000	5.000	4.200	0.000	1.166	
108.000	5.000	4.200	0.000	1.166	GROUP 1
109.000	5.000	4.200	0.000	1.166	
52.000	5.000	4.200	0.000	.980	
6.000	5.000	4.000	.200	.894	
65.000	5.000	4.000	0.000	.894	
115.000	5.000	3.800	.200	1.600	
10.000	5.000	3.800	0.000	1.166	
49.000	4.000	3.750	.050	1.299	
90.000	5.000	3.600	.150	1.497	
91.000	5.000	3.600	0.000	1.497	
9.000	5.000	3.600	0.000	1.200	GROUP 2
94.000	5.000	3.400	.200	1.960	
110.000	5.000	3.400	0.000	1.625	
111.000	5.000	3.400	0.000	1.625	
8.000	5.000	3.400	0.000	1.020	
92.000	5.000	3.200	.200	1.600	
93.000	5.000	2.800	.400	1.600	
32.000	5.000	2.600	.200	1.356	
96.000	5.000	2.400	.200	1.497	GROUP 3
97.000	5.000	2.400	0.000	1.497	
33.000	5.000	2.200	.200	1.470	
95.000	5.000	2.200	0.000	1.470	

CRIME DATA ELEMENTS
RANKED IN DECENDING ORDER OF MEAN RESPONSE
BY LARGE TRANSIT AGENCIES

DATA ELEMENT NUMBER	NUMBER OF RESPONSES	MEAN	DIFFERENCE IN MEANS	STD. DEVIATION	PRIORITY GROUP
1.000	5.000	5.000	0.000	0.000	
2.000	5.000	5.000	0.000	0.000	
48.000	1.000	5.000	0.000	0.000	
80.000	5.000	5.000	0.000	0.000	
116.000	5.000	5.000	0.000	0.000	
3.000	5.000	4.800	.200	.400	
13.000	5.000	4.800	0.000	.400	
72.000	5.000	4.800	0.000	.400	
73.000	5.000	4.800	0.000	.400	
74.000	5.000	4.800	0.000	.400	
75.000	5.000	4.800	0.000	.400	
83.000	5.000	4.800	0.000	.400	
118.000	5.000	4.800	0.000	.400	
4.000	5.000	4.600	.200	.800	
5.000	5.000	4.600	0.000	.800	
7.000	5.000	4.600	0.000	.800	
50.000	5.000	4.600	0.000	.800	
85.000	5.000	4.600	0.000	.800	
29.000	4.000	4.500	.100	.500	
113.000	5.000	4.400	.100	1.200	
79.000	5.000	4.400	0.000	.800	GROUP 1
84.000	5.000	4.400	0.000	.800	
87.000	5.000	4.400	0.000	.800	
88.000	5.000	4.400	0.000	.800	
112.000	5.000	4.400	0.000	.800	
117.000	5.000	4.400	0.000	.800	
14.000	4.000	4.250	.150	1.299	
11.000	5.000	4.200	.050	1.600	
114.000	5.000	4.200	0.000	1.600	
19.000	5.000	4.200	0.000	1.166	
108.000	5.000	4.200	0.000	1.166	
109.000	5.000	4.200	0.000	1.166	
86.000	5.000	4.200	0.000	.748	
20.000	5.000	4.000	.200	1.549	
30.000	4.000	4.000	0.000	1.225	
31.000	4.000	4.000	0.000	1.000	
89.000	5.000	4.000	0.000	.894	
115.000	5.000	3.800	.200	1.600	
54.000	4.000	3.750	.050	1.090	
51.000	5.000	3.600	.150	1.744	
10.000	5.000	3.600	0.000	1.497	
53.000	5.000	3.600	0.000	1.497	
90.000	5.000	3.600	0.000	1.497	
91.000	5.000	3.600	0.000	1.497	
6.000	5.000	3.600	0.000	1.200	GROUP 2
94.000	5.000	3.400	.200	1.960	
110.000	5.000	3.400	0.000	1.625	
111.000	5.000	3.400	0.000	1.625	
8.000	5.000	3.400	0.000	1.497	
9.000	5.000	3.400	0.000	1.497	
40.000	5.000	3.200	.200	1.600	
92.000	5.000	3.200	0.000	1.600	
52.000	5.000	3.200	0.000	1.327	
93.000	5.000	2.800	.400	1.600	
32.000	4.000	2.500	.300	1.500	
96.000	5.000	2.400	.100	1.497	GROUP 3
97.000	5.000	2.400	0.000	1.497	
95.000	5.000	2.200	.200	1.470	

ABILITY TO SUPPLY DATA
RANKED IN DECENDING ORDER OF MEAN RESPONSE
BY LARGE TRANSIT AGENCIES

DATA ELEMENT NUMBER	NUMBER OF RES-PONSES	MEAN	DIFFER-ENCE IN MEANS	STD. DEVIA-TION	PRIORITY GROUP
1.000	5.000	5.000	0.000	0.000	
2.000	5.000	5.000	0.000	0.000	
13.000	5.000	5.000	0.000	0.000	
15.000	5.000	5.000	0.000	0.000	
16.000	5.000	5.000	0.000	0.000	
27.000	5.000	5.000	0.000	0.000	
39.000	4.000	5.000	0.000	0.000	
50.000	5.000	5.000	0.000	0.000	
94.000	5.000	5.000	0.000	0.000	
3.000	5.000	4.800	.200	.400	
4.000	5.000	4.800	0.000	.400	
5.000	5.000	4.800	0.000	.400	
9.000	5.000	4.800	0.000	.400	
10.000	5.000	4.800	0.000	.400	
11.000	5.000	4.800	0.000	.400	
12.000	5.000	4.800	0.000	.400	
14.000	5.000	4.800	0.000	.400	
17.000	5.000	4.800	0.000	.400	
18.000	5.000	4.800	0.000	.400	
21.000	5.000	4.800	0.000	.400	
23.000	5.000	4.800	0.000	.400	
29.000	5.000	4.800	0.000	.400	
47.000	5.000	4.800	0.000	.400	
90.000	5.000	4.800	0.000	.400	
91.000	5.000	4.800	0.000	.400	
7.000	5.000	4.600	.200	.800	
34.000	5.000	4.600	0.000	.800	GROUP 1
38.000	5.000	4.600	0.000	.800	
24.000	5.000	4.600	0.000	.490	
114.000	5.000	4.600	0.000	.490	
42.000	5.000	4.400	.200	1.200	
80.000	5.000	4.400	0.000	1.200	
92.000	5.000	4.400	0.000	1.200	
97.000	5.000	4.400	0.000	1.200	
35.000	5.000	4.400	0.000	.800	
36.000	5.000	4.400	0.000	.800	
58.000	5.000	4.400	0.000	.800	
108.000	5.000	4.400	0.000	.800	
109.000	5.000	4.400	0.000	.800	
118.000	5.000	4.400	0.000	.800	
81.000	5.000	4.400	0.000	.490	
8.000	5.000	4.200	.200	1.166	
43.000	5.000	4.200	0.000	1.166	
44.000	5.000	4.200	0.000	1.166	
60.000	5.000	4.200	0.000	1.166	
66.000	5.000	4.200	0.000	1.166	
68.000	5.000	4.200	0.000	1.166	
75.000	5.000	4.200	0.000	1.166	
83.000	5.000	4.200	0.000	1.166	
19.000	5.000	4.200	0.000	.980	
20.000	5.000	4.200	0.000	.980	
26.000	5.000	4.000	.200	1.549	
40.000	5.000	4.000	0.000	1.549	
56.000	5.000	4.000	0.000	1.549	
74.000	5.000	4.000	0.000	1.549	
76.000	5.000	4.000	0.000	1.549	

ABILITY TO SUPPLY DATA
RANKED IN DECENDING ORDER OF MEAN RESPONSE
BY LARGE TRANSIT AGENCIES

DATA ELEMENT NUMBER	NUMBER OF RESPONSES	MEAN	DIFFERENCE IN MEANS	STD. DEVIATION	PRIORITY GROUP
79.000	5.000	4.000	0.000	1.549	
82.000	5.000	4.000	0.000	1.549	
85.000	5.000	4.000	0.000	1.549	
86.000	5.000	4.000	0.000	1.549	
93.000	5.000	4.000	0.000	1.549	
113.000	5.000	4.000	0.000	1.549	
31.000	5.000	4.000	0.000	1.265	
105.000	5.000	4.000	0.000	1.265	
72.000	5.000	4.000	0.000	1.095	
25.000	5.000	4.000	0.000	.894	
28.000	5.000	4.000	0.000	.894	
46.000	5.000	3.800	.200	1.600	
51.000	5.000	3.800	0.000	1.600	
53.000	5.000	3.800	0.000	1.600	
59.000	5.000	3.800	0.000	1.600	
70.000	5.000	3.800	0.000	1.600	
71.000	5.000	3.800	0.000	1.600	
98.000	5.000	3.800	0.000	1.600	
101.000	5.000	3.800	0.000	1.600	GROUP 1
102.000	5.000	3.800	0.000	1.600	
22.000	5.000	3.800	0.000	1.470	
37.000	5.000	3.800	0.000	1.470	
41.000	5.000	3.800	0.000	1.470	
64.000	5.000	3.800	0.000	1.470	
73.000	5.000	3.800	0.000	1.470	
117.000	5.000	3.800	0.000	1.470	
67.000	5.000	3.800	0.000	1.166	
69.000	5.000	3.800	0.000	1.166	
54.000	5.000	3.600	.200	1.744	
61.000	5.000	3.600	0.000	1.744	
62.000	5.000	3.600	0.000	1.744	
95.000	5.000	3.600	0.000	1.744	
96.000	5.000	3.600	0.000	1.744	
55.000	5.000	3.600	0.000	1.497	
65.000	5.000	3.600	0.000	1.497	
78.000	5.000	3.600	0.000	1.497	
89.000	5.000	3.600	0.000	1.497	
30.000	5.000	3.600	0.000	1.356	
6.000	5.000	3.600	0.000	.800	
48.000	4.000	3.500	.100	.866	
106.000	5.000	3.400	.100	1.960	
84.000	5.000	3.400	0.000	1.497	
116.000	5.000	3.400	0.000	1.497	
45.000	5.000	3.400	0.000	1.356	
88.000	5.000	3.400	0.000	1.356	
63.000	5.000	3.200	.200	1.600	
77.000	5.000	3.200	0.000	1.600	
107.000	5.000	3.200	0.000	1.600	GROUP 2
52.000	5.000	3.200	0.000	1.327	
115.000	5.000	3.000	.200	1.789	
99.000	5.000	3.000	0.000	1.673	
100.000	5.000	3.000	0.000	1.673	
110.000	5.000	3.000	0.000	1.673	
111.000	5.000	3.000	0.000	1.673	
112.000	5.000	3.000	0.000	1.673	
57.000	5.000	3.000	0.000	1.414	
103.000	5.000	2.800	.200	1.833	
104.000	5.000	2.800	0.000	1.833	
87.000	5.000	2.800	0.000	1.600	GROUP 3
32.000	5.000	2.400	.400	1.020	
33.000	5.000	1.800	.600	1.166	
49.000	4.000	1.250	.550	.433	

APPENDIX I

PROPOSED TRANSIT BUS ACCIDENT/INCIDENT REPORT

3028

I2

TRANSIT BUS ACCIDENT/INCIDENT REPORT

PAGE ____ OF ____ VEHICLE ACCIDENT ☐ PASSENGER ACCIDENT ☐ CRIME ☐

GENERAL INFORMATION

1 ACCIDENT DATE Month Day Year | DAY OF WEEK | TIME Hour Min. AM PM | MINUTES BUS WAS LATE | CITY OR COUNTY ☐ ☐ OF

2 ☐ AT INTERSECTING STREET NAME OR ROUTE NUMBER ☐ N ☐ E ☐ S ☐ W OF ____ OR ____ FEET

3 BUS DRIVER NAME (LAST, FIRST, MIDDLE) | OTHER VEHICLE DRIVER (OR PEDESTRIAN) NAME (LAST, FIRST, MIDDLE)

4 OPTIONAL: BUS NO. ____ RUN NO. ____ BLOCK NO. ____ | DRIVING EXPERIENCE (YEARS) DRIVER BADGE NO. ____ YEARS EMPLOYED ____ | ADDRESS

5 CITY | STATE | ZIP CODE

6 AGE | SEX | DRIVER LICENSE NUMBER | STATE | AGE | SEX | DRIVER LICENSE NUMBER | STATE

7 TRANSIT VEHICLE | OTHER VEHICLE

8 DIRECTION OF TRAVEL BEFORE ACCIDENT ☐ N ☐ E ☐ S ☐ W ☐ NOT IN ROADWAY | DISTANCE TRAVELED AFTER IMPACT (FT.) | DIRECTION OF TRAVEL BEFORE ACCIDENT ☐ N ☐ E ☐ S ☐ W ☐ NOT IN ROADWAY | DISTANCE TRAVELED AFTER IMPACT(FT.)

9 TRAVEL SPEED | COLLISION SPEED | SPEED LIMIT | TRAVEL SPEED | COLLISION SPEED | SPEED LIMIT

10 VEHICLE REPAIR COST | NUMBER OF OCCUPANTS | NUMBER KILLED | NUMBER INJURED | VEHICLE REPAIR COST | NUMBER OF OCCUPANTS | NUMBER KILLED | NUMBER INJURED

ACCIDENT EVENT

COLLISION DIAGRAM

11 VEHICLE MAKE | VEHICLE MODEL (TYPE) | YEAR

12 OWNER NAME (LAST, FIRST, MIDDLE)

13 ADDRESS

14 CITY | STATE | ZIP CODE

VEHICLE INSURED? Yes ☐ No ☐ | INSURANCE COMPANY NAME

Bus	Other	
29	30	VEHICLE
31	32	
33	34	
35	36	
37	38	
39	40	DRIVER
41	42	
43	44	
45	46	
47	48	
49	50	PASSENGER ACCIDENTS

NON-VEHICLE PROPERTY DAMAGE | OBJECT DAMAGED | OWNER'S NAME (LAST, FIRST, MIDDLE) | ADDRESS | REPAIR COST

INCIDENT DESCRIPTION

PREVENTIVE MEASURES TAKEN | WAS ACCIDENT PREVENTABLE? ____

15 16 17 18 19 20 21 22 23 24 25 26 27 28

ALL INJURED — NAMES AND ADDRESSES OF INJURED

51	CRIME
52	
53	
54	INJURED
55	
56	
57	

POLICE OFFICER AT SCENE NAME ____ BADGE NUMBER ____

TRANSIT BUS ACCIDENT/INCIDENT FIELD CODE MANUAL*

INSTRUCTIONS

TRAFFIC ACCIDENTS - Fill in all items

PASSENGER ACCIDENTS - Fill in all items except dark items

CRIMES - Fill in white items

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*This manual lists the codes to be entered in the numbered boxes on the "BUS TRANSIT ACCIDENT/INCIDENT REPORT" form.

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GENERAL INFORMATION

BOX NO.	CODE
1	Weather
	1 Clear
	2 Cloudy
	3 Fog
	4 Severe Crosswinds
	5 Raining
	6 Snowing
	7 Sleeting
	8 Smoke-Dust
	9 Other
2	Light
	1 Dawn
	2 Daylight
	3 Dusk
	Darkness
	4 Street Lighted
	5 Street Not Lighted
3	Kind of Locality
	1 School
	2 Church
	3 Playground
	4 Open Country
	5 Business/Industrial
	6 Residential
	7 Interstate
	8 Loading Zone
	9 Other
4	Traffic Control Device
	01 No Traffic Control
	02 Officer/Watchman/Flagman
	03 Traffic Signal
	04 Stop Sign
	05 Slow or Warning Sign
	06 Traffic Lanes Marked
	07 No Passing Lines
	08 Yield Sign
	09 Pedestrian Signal
	Railroad Crossing
	10 Markings/Signs
	11 Signals
	12 Gates
	13 Other
5	Traffic Control Device Condition
	1 Functioning Properly
	2 Defective

BOX NO.	CODE
6	Kind of Roadway
	One-Way
	1 One Lane
	2 Two Lanes
	Two-Way
	Undivided
	3 Two Lanes
	4 Three Lanes
	5 Four Lanes
	Divided
	6 Four Lanes
	7 Six Lanes
	8 Exclusive Bus Lane
	9 Other
7	Road Surface Type
	1 Concrete
	2 Blacktop
	3 Brick
	4 Gravel
	5 Dirt
	9 Other
8	Alignment
	Level
	1 Straight
	2 Curve
	Grade
	3 Straight
	4 Curve
	Hillcrest
	5 Straight
	6 Curve
	Dip
	7 Straight
	8 Curve
	9 Other
9	Road Surface Condition
	1 Dry
	2 Wet
	3 Snowy
	4 Icy
	5 Muddy
	6 Oily
	7 Slushy
	8 Debris
	9 Other
10	Roadway Defects
	1 No Defects
	2 Holes, Ruts, Bumps
	3 Soft or Low Shoulders
	4 Under Repair
	5 Loose Material
	6 Restricted Width
	7 Slick Pavement
	8 Roadway Obstructed
	9 Other

ACCIDENT EVENT

BOX NO. 11 — First Harmful Event

CODE	
	Collision With:
1	Motor Vehicle In Transport (Not A Transit Bus)
2	Head On
3	Rear End
4	Angle
5	Sideswipe
6	Another Transit Bus
7	Head On
8	Rear End
9	Angle
10	Sideswipe
11	Railway Train
16	Pedestrian
17	Pedalcyclist
18	Motorcyclist
19	Animal
20	Fixed Object
21	Bank Or Ledge
22	Trees
23	Utility Pole
24	Fence
25	Guard Rail Or Post
26	Parked Vehicle
27	Bridge, Underpass, Culvert, Etc.
28	Sign, Traffic Signal
29	Impact Cushioning Device
30	Other Fixed Object
31	Other Collision
40	Non Collision
41	Overturn
42	Fire/Explosion
43	Immersion
44	Gas Inhalation
45	Thrown Or Falling Object
46	Spill
47	Other Noncollision

BOX NO. 12 — Subsequent Harmful Event (Same codes as First Harmful Event)

BOX NO. 13 — Location of First Harmful Event

CODE	
10	On Roadway
11	At Intersection
12	Driveway Access
13	Intersection Related
14	Nonjunction
20	Off Roadway
21	Shoulder
22	Left
23	Right
	Roadside
24	Left
25	Right
26	Outside Trafficway
27	Left
28	Right
30	Median
40	Driveway
50	Private Road
99	Unknown

BOX NO. 14 — Location of Subsequent Harmful Event (Same codes as Location of First Harmful Event)

ALL INJURED

BOX NO. CODE

15 Which Vehicle Occupied
- 1 Transit Bus
- 2 Other Vehicle
- 3 Subsequent Other Vehicles (Use Additional Forms)

16 Pedalcycle/Pedestrian Action
- Crossing At Intersection
  - 1 With Signal
  - 2 Against Signal
  - 3 No Signal
  - 4 Diagonally
- Crossing Not At Intersection
  - 5 Rural
  - 6 Urban
- 7 Coming From Behind Parked Cars
- 8 Getting Off Or On School Bus
- 9 Playing In Roadway
- 10 Getting Off Or On Other Vehicle
- 11 In Parked Vehicle
- Riding/Walking in Roadway
  - With Traffic
    - 12 Sidewalks Available
    - 13 Sidewalks Not Available
  - Against Traffic
    - 14 Sidewalks Available
    - 15 Sidewalks Not Available
- 16 Working In Roadway
- 17 Standing In Roadway
- 18 Lying In Roadway
- 19 Not In Roadway (No Details)
  - 20 Median
  - 21 Island
  - 22 Shoulder
  - 23 Sidewalk
  - 24 Within 10 Feet Of Roadway (Other Than Above)
  - 25 Beyond 10 Feet Of Roadway (Within Trafficway)
  - 26 Outside Trafficway
  - 99 Other

17 Pedalcycle/Pedestrian Visibility
- 1 Clothing Contrasts With Background
- 2 Reflective Material
- 3 Other Light Source Used
- 4 Clothing Not In Contrast With Background
- 9 Other

18 Pedalcyclist/Pedestrian/Passenger Condition
- 1 No Defects
- 2 Eyesight Defective
- 3 Hearing Defective
- 4 Under The Influence Of Alcohol
- 5 Ill
- 6 Fatigued
- 7 Apparently Asleep
- 8 Other Handicap
- 9 Under The Influence Of Drugs

BOX NO. CODE

19 Safety Equipment Used
- 1 None
- 2 Lap Belt
- 3 Lap And Shoulder Harness
- 4 Motorcycle Helmet
- 5 Light Colored Clothing Worn
- 6 Air Bag
- 7 Safety Blanket
- 8 Passive Belt/Harness
- 9 Child Portable Restraint

20 Age-Years (Actual Age)

21 Sex
- 1 Male
- 2 Female

22 Injury Severity
- 1 No Injury
- Injury
  - 2 Possible (Not Evident)
  - 3 Non-Incapacitating
  - 4 Incapacitating
- 5 Fatal

23 Injury Type
- 1 Amputation
- 2 Concussion
- 3 Internal
- Bleeding
  - 4 Minor
  - 5 Severe
- Burn
  - 6 Minor
  - 7 Moderate
  - 8 Severe
- 9 Fracture-Dislocation
- 10 Bruise
- 11 Abrasion
- 12 Complaint of Pain
- 13 None Visible

24 Injury Location
- 1 Head
- 2 Face
- 3 Eye
- 4 Neck
- 5 Chest
- 6 Back
- 7 Shoulder-Upper Arm
- 8 Elbow-Lower Arm-Hand
- 9 Abdomen-Pelvis
- 10 Hip-Upper Leg
- 11 Knee-Lower Leg-Foot
- 12 Entire Body

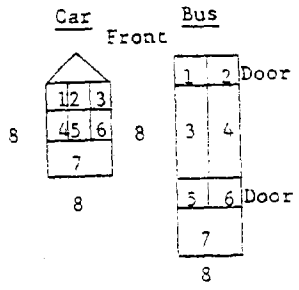
ALL INJURED (continued)

BOX NO — CODE

25 Portion of Vehicle Causing Injury

0	None/Not Applicable
1	Steering Wheel
2	Dashboard Instruments
3	Roof
4	Windshield
5	Glass Other Than Windshield Or Lights
6	Glove Compartment Area
7	Mirrors
8	Pillar
9	Back Of Seat Head Restraint
10	Loose Objects Inside Vehicle, Or Other Occupants
11	Engine
12	Hood
13	Fenders/Door
14	Wheels
15	Bumper
16	Grill
17	Headlight/Taillight/Signal Light
	Motorcycle
20	Handle Bars
21	Engine Guards
22	Foot Pegs
23	Muffler
30	General (Not Confined To Any Of The Above As In Fire Or Explosion)
40	External Object
	Door
31	Front
32	Rear
99	Unknown

26 Position In/On Vehicle



27 Transportation of Injured

0	Not Transported
1	Transported By Ambulance Service
2	Transported By Police Car (Not Ambulance)
3	Transported By Helicopter
4	Transported By Private Vehicle or Conveyance
5	Unspecified Transportation
9	Unknown

28 Passenger Action

1	Boarding
2	On Board
3	Alighting

VEHICLE

BOX NO. CODE

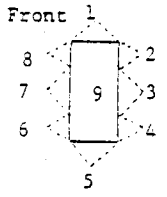
29 30 Vehicle Condition
- 1 No Defects
- 2 Lights Defective
- 3 Brake Defective
- 4 Steering Defective
- 5 Puncture or Blowout
- 6 Worn or Slick Tires
- 7 Motor Trouble
- 8 Chains In Use
- 9 Suspension Defective
- 10 Exhaust Defective
- 11 Signals Defective
- 12 Windows/Windshield Defective
- 13 Wheels Defective
- 14 Doors Defective
- 99 Other Defects

31 32 Vehicle Maneuver
- 1 Straight Ahead
- 2 Right Turn
- 3 Left Turn
- 4 U-Turn
- 5 Slowing Or Stopping
- 6 Starting In Traffic
- 7 Starting From Parked Position (Not In Loading Zone)
- 8 Stopped In Traffic Lane
- Ran Off Road
- 9 Right Side
- 10 Left Side
- 11 Parked (Not In Loading Zone)
- 12 Backing
- 13 Passing
- 14 Changing Lanes
- Loading Zone
- 15 Pulling Into Zone
- 16 Bus Standing In Zone
- 17 Pulling Away From Zone
- 99 Other

BOX NO. CODE

33 34 Cause For Vehicle Maneuver
- 1 Traffic Control Device
- 2 Pedestrian in Roadway
- 3 Pedalcyclist in Roadway
- 4 Other Motor Vehicle
- 5 Animal
- 6 Other Object in Roadway
- 7 Roadway Defects
- 8 Weather Conditions
- 9 Road Surface Conditions
- 10 Light Conditions
- 11 Visibility Obstruction
- 12 Vehicle Defects
- 99 Other

35 36 Vehicle Point of Impact



37 38 Vehicle Damage Severity
- 0 Unknown Or None
- 1 Vehicle Not Driveable
- 2 Functional Damage-Driveable
- 3 Non-Functional Damage

DRIVER

BOX NO. CODE

39 40 Driver License Status

1 No License
2 Expired License
3 Legal License (Not Learner's)
4 Legal Learner's Permit
5 Inappropriate License
9 Other

41 42 Driver License Restriction Compliance

1 No Restrictions
Restrictions
2 Complied With
3 Not Complied With

43 44 Driver Action

1 None
2 Exceeded Speed Limit
3 Too Fast For Conditions
4 Disregarded Traffic Control
5 Improper Parking-Loading Zone
6 Improper Start From Loading Zone
7 Improper Turn
8 Improper Backing
9 Improper Lane Change
10 Wrong Side Of Road
11 Failed To Yield Right Of Way
12 Following Too Closely
13 Improper Signal
14 Improper Passing
15 Hit and Run
99 Other Violations

45 46 Driver Condition

1 No Defects
2 Eyesight Defective
3 Hearing Defective
4 Under The Influence Of Alcohol
5 Ill
6 Fatigued
7 Apparently Asleep
8 Other Handicap
9 Under The Influence Of Drugs

47 48 Visibility Obstruction

1 None
2 Rain, Snow, Etc. On Windshield
3 Windshield Otherwise Obscured
4 Load on Vehicle
5 Vegetation
6 Building
7 Embankment
8 Sign
9 Hillcrest
10 Parked Vehicle
11 Moving Vehicle
12 Sun Or Headlight Glare
99 Other

PASSENGER ACCIDENTS

BOX NO. CODE

49 Type Of Door Control
- 1 Manual
- 2 Treadle
- 3 Automatic
- 4 Push Out
- 5 Other

50 Wheelchair Passenger Accidents
- 0 None
- 1 Falling From Lift Device
- 2 Injured By Lift Mechanism
- 3 Injured By Securement Device
- 4 Wheelchair Passenger Injured Riding In Regular Bus Seat
- 5 Other Injury To Wheelchair Passenger
- 6 Other Passenger Injured By Wheelchair
- 7 Other

CRIMES

BOX NO. CODE

51 Type of Crime Committed

Crimes Against Persons
- 11 Assult
- 12 Battery
- 13 Rape
- 14 Homicide
- 15 Abduction
- 16 Other

Crimes Against Persons' Property
- 21 Robbery
- 22 Pocket Picking
- 23 Purse-Snatching
- 24 Other

Crimes Against System Property
- 31 Robbery
- 32 Burglary
- 33 Fare Evasion
- 34 Vandalism
- 35 Petty Theft
- 36 Trespassing
- 37 Arson
- 38 Missiling (Rock Throwing)
- 39 Theft Of System Property
- 40 Other

Crimes Against The Public
- 51 Drug Law Violations
- 52 Sex Offenses
- 53 Drunkenness
- 54 Disorderly Conduct
- 55 Carrying Concealed Weapons
- 56 Suicide
- 57 Terrorism
- 58 Other

BOX NO. CODE

52 Victim Condition Before Crime
- 1 No Defects
- 2 Eyesight Defective
- 3 Hearing Defective
- 4 Under The Influence Of Alcohol
- 5 Ill
- 6 Fatigued
- 7 Apparently Asleep
- 8 Other Handicap
- 9 Under The Influence Of Drugs

53 Victim Age (Years)

54 Victim Sex
- 1 Male
- 2 Female

55 Perpetrator Condition
- 1 No Defects
- 2 Eyesight Defective
- 3 Hearing Defective
- 4 Under The Influence Of Alcohol
- 5 Ill
- 6 Fatigued
- 8 Other Handicap
- 9 Under The Influence Of Drugs

56 Perpetrator Age (Years)

57 Perpetrator Sex
- 1 Male
- 2 Female