FEASIBILITY OF MULTIDISCIPLINARY ACCIDENT INVESTIGATION IN TEXAS

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RESEARCH REPORT 56

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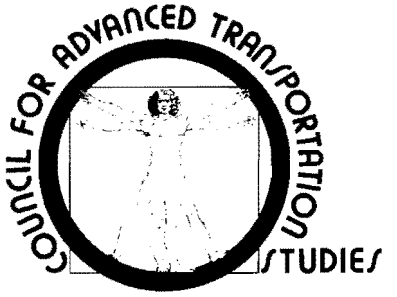

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Craig C. Smith
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September 1977

Research Report 56

Prepared by

Council for Advanced Transportation Studies
The University of Texas at Austin
Austin, Texas 78712

for

Texas Office of Traffic Safety
State Department of Highways and Public Transportation
Austin, Texas

The conclusions and opinions expressed in this document are those of the author and do not necessarily represent those of the State of Texas, the Texas Office of Traffic Safety, State Department of Highways and Public Transportation or any political subdivision of the State or Federal Government.

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16. Abstract

A study was conducted to determine whether or not the State of Texas should establish Multidisciplinary Accident Investigation (MDAI) teams to investigate vehicle accidents in the State. Procedures and benefits of Federal MDAI teams and teams in other states were examined. What accident data were presently available within Texas was determined, together with present and possible uses for such data. It was concluded that no valid requirement exists for State MDAI teams and that they would not contribute materially to improving traffic safety in Texas. It is recommended that MDAI teams not be established but that the State organize and establish an accident data review board to analyze traffic accident data published each year by the Department of Public Safety Statistical Services Bureau and to recommend actions that should be taken as a result of the analysis.

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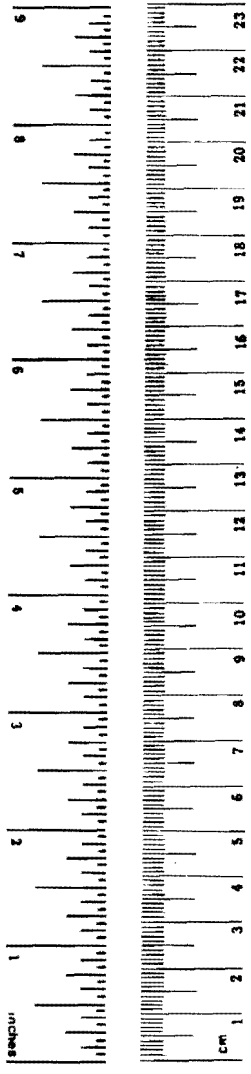
METRIC CONVERSION FACTORS

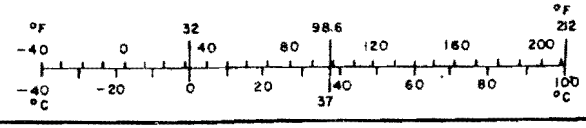
Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
	LENGTH			
in	inches	*2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
	AREA			
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	square miles	2.6	square kilometers	km^2
	acres	0.4	hectares	ha
	MASS (weight)			
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
	VOLUME			
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft^3	cubic feet	0.03	cubic meters	m^3
yd^3	cubic yards	0.76	cubic meters	m^3
	TEMPERATURE (exact)			
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C



Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
	LENGTH			
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
	AREA			
cm^2	square centimeters	0.16	square inches	in^2
m^2	square meters	1.2	square yards	yd^2
km^2	square kilometers	0.4	square miles	mi^2
ha	hectares (10,000 m^2)	2.5	acres	
	MASS (weight)			
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
	VOLUME			
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m^3	cubic meters	35	cubic feet	ft^3
m^3	cubic meters	1.3	cubic yards	yd^3
	TEMPERATURE (exact)			
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



EXECUTIVE SUMMARY

Introduction

The gathering of data on motor vehicle accidents is an essential part of the continuing effort to increase traffic safety in the United States. This study considers one way of improving the gathering of such data: the use of Multidisciplinary Accident Investigating (MDAI) teams. An MDAI team is defined as a group of people representing a number of different skills or areas of specialization, all working together to gather and analyze data on specific accidents.

Problem Studied

The purpose of this study is to answer the question: "Should the State of Texas organize and operate MDAI teams to gather data on traffic accidents?"

Factors Bearing on the Problem

The study recognizes and analyzes two possible reasons for establishing MDAI teams in Texas:

1. It appears that the National Highway Traffic Safety Administration of the U. S. Department of Transportation, in Highway Safety Program Standard 18, requires that each state establish and operate MDAI teams, and

2. Data on traffic accidents in the State of Texas may be inadequate.

Analysis

On close examination, it is concluded that Highway Safety Program Standard 18 does not, and cannot, require the states to establish MDAI teams, primarily because the Congress has specifically prohibited the Secretary of Transportation from requiring compliance by the states with Highway Safety Program Standards.

The question of the adequacy of current traffic accident data in Texas is more complicated. Certainly the data are adequate in quantity, but there

are questions about their accuracy, completeness, and statistical validity. In general, the data are adequate for the purposes for which they are presently used and they are being properly filed and distributed. The data would be inadequate, however, for a thorough analysis of the root causes of traffic accidents in Texas or for supporting conclusive decisions concerning what actions by the state might be taken to reduce the toll of traffic accidents.

Examination of the operation of MDAI teams as now carried out by the Federal Government and by other states indicates that such an activity by the State of Texas would not be likely to improve substantially either the quality or quantity of traffic accident data in Texas. The principal shortcoming of MDAI teams is their cost, which prevents their being used to investigate enough accidents to provide a representative sample of the total population of traffic accidents.

Recommendations

The study team recommends that:

1. The State of Texas not establish MDAI teams, and

2. The State of Texas organize and establish an accident data review board to analyze the traffic accident data published each year by the DPS Statistical Services Bureau and to recommend actions that should be taken to improve the data and to reduce the total cost of traffic accidents in Texas, in dollars, lives, and human suffering.

ACKNOWLEDGMENTS

Many people have contributed background information, data, and sound advice that was used in the preparation of this report. A number of them are listed in Appendix C. Special thanks, however, must go to Mr. Bob Williams of the Texas Office of Traffic Safety for his suggestions and his assistance in finding sources of information and to Captain Swinney and the officers of the Austin Police Department for their cooperation, their advice, and their patience in allowing members of the research team to observe the investigation of a number of traffic accidents.

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CHAPTER 1. INTRODUCTION

Origin of the Requirement

Losses suffered by the American public in traffic accidents have been a serious problem for more than fifty years. To take effective action to reduce such losses, traffic safety officials need good information about those accidents and their causes. For that reason, every serious accident in Texas is investigated by a police officer or team of police officers. These investigations provide extensive data about accidents in the state but there are some respects in which those data appear to be inadequate.

One of the deficiencies in the traffic accident investigations performed by police officers is that the investigations are relatively superficial in a number of ways. There are probably many cases in which a more thorough, in-depth investigation might produce data which could be used to identify the basic causes of the accident and possibly to develop some action which might be taken to prevent similar accidents. Therefore, the Texas Department of Highways and Public Transportation is interested in the possibility of performing more detailed and searching accident investigations than are now performed by police officers at the scene.

The need for in-depth investigation of at least some accidents has been widely recognized by almost everyone involved with traffic safety and accident prevention. In 1968, the United States Department of Transportation's National Highway Traffic Safety Administration (NHTSA) established a system of Multidisciplinary Accident Investigation (MDAI) teams to perform very detailed and penetrating investigations of a few selected accidents. The program has produced a large amount of useful data but it is to be phased out in 1978 and the Department of Transportation is interested in having the various states carry on with similar programs. In 1974, the National Highway Traffic Safety Administration, in fact, published Highway Safety Program Standard 18 - Accident Investigation and Reporting (see Appendix B), which appears to direct that each state set up and operate such a program.

These two requirements--to acquire better data on traffic accidents and to satisfy the apparent direction of Highway Safety Program Standard 18--raise the question of whether or not the State of Texas should set up one or

more MDAI teams. To answer that question, the Office of Traffic Safety of the Texas Department of Highways and Public Transportation directed this study.

Way of Satisfying the Requirement

The investigating requirement that seems to be established by NHTSA by Highway Safety Program Standard 18 is discussed in some detail in the next chapter. In essence, however, the apparent directive could be satisfied by an investigating team composed of people representing different scientific, engineering, and investigative disciplines, performing in-depth investigations of an unspecified sample of traffic accidents.

The basic requirement to acquire better data on traffic accidents in the state could be met in many different ways, of which the operation of MDAI teams or MDAI-like teams is one. The question to be addressed is whether or not an MDAI-team program is the best of the alternatives available.

Method of Analysis

The general question to be addressed is the following: "Should the State of Texas set up MDAI teams?" This question, however, divides into two subsidiary questions: "What are the extent and validity of the MDAI requirement imposed on the state by Program Standard 18?" and "Should the state create MDAI teams in order to improve the data available on traffic accidents in Texas?"

Criteria to be Applied

Two criteria are to be applied to the acquisition of traffic accident data:

1. Gather additional data only if it appears that they might be useful in reducing the number or severity of traffic accidents in Texas.

2. If additional data are to be gathered, gather them as efficiently and economically as possible.

CHAPTER 2. MULTIDISCIPLINARY ACCIDENT INVESTIGATION TEAMS

History

During the seventy-odd years that motor vehicle accidents have been investigated in the United States, almost every conceivable scheme of investigation and almost every conceivable investigating organization has been used. The most common system today, however, is for the investigation to be performed by one or more police officers. In general, the investigating procedure is defined by a printed form which the officers fill out.

The form used varies from organization to organization but the general contents of the forms are similar. Most forms include:

- Descriptions of the vehicles involved
- Names and addresses of people involved, including witnesses
- Descriptions of environment, including weather, road condition, traffic signals, obstructions, limitations to vision, and amount of light available
- Sequence of events as observed or deduced by the officer
- Law violations, if any
- Description of injuries received
- Description of damage to property
- Diagram of the scene, sometimes with dimensions
- Actions taken by the officers

A copy of the particular accident investigation forms used by most police organizations in Texas is included as Appendix A. The only differences in use of these forms in Texas are in some large metropolitan areas where certain additions to the forms are made for local purposes.

The data acquired from these investigations have three great virtues. The first arises from the use of a standardized form. This assures that the same elements of information are gathered on almost every accident investigated in the entire state, and this uniformity is essential to any statistical use of the data gathered. The second virtue of police accident investigations is that the investigations are performed on all accidents reported to any police organization. By law, any accident occurring on a public highway and involving personal injury or property damage in excess of $250 must be reported

and all reported accidents must be investigated. Finally, these investigations are particularly effective because they are usually performed immediately after the accident, at the scene of the accident. This means that most physical evidence is still available and circumstances of the accident are still fresh in the memory of drivers, passengers, and witnesses.

The data developed by police investigations also have some shortcomings, however. In the first place, many police officers are not highly trained or experienced in vehicle accident investigation. Such investigations form only a small part of their duties and they are not specialists in that field. Secondly, determination of the basic cause of an accident is low on the priority list of an officer at the scene of an accident. Before he/she can devote much attention to determining the cause of an accident, the officer must see that any casualties are cared for, prevent additional accidents by removing any traffic hazards created by the accident, provide for continued movement of traffic, determine whether there is any indication of law violations, and take appropriate action on such indications. Only then can he/she begin seriously to look into the probable causes of the accident. In addition, there is a tendency among some police officers to consider that the determination that a law has been violated also determines the cause of the accident. In many cases, that is not true. A third shortcoming of data obtained by police investigations is the wide variability in skill and interest by the investigating officers. This produces a wide variation in the amount of detail and the accuracy of the data obtained and such variation sharply limits the validity of conclusions drawn from statistical analysis of such data.

In summary, police investigations of vehicle accidents are valuable because they cover all major accidents and they include a uniform list of elements of information. Their usefulness is limited, however, by the fact that they are relatively superficial and are of undetermined and variable accuracy.

A number of different ways of overcoming these deficiencies have been tried. In 1968, the National Highway Traffic Safety Administration (NHTSA) of the Department of Transportation (DOT) created the first five Multidisciplinary Accident Investigation (MDAI) teams. The concept was that each team would be composed of a number of highly qualified specialists and that they would work together to perform in-depth investigations of selected accidents. Additional teams were added in later years on a contractual basis with a

number of engineering and research organizations nationwide. The MDAI teams became a principal tool in meeting the stated objectives of the NHTSA Accident Investigation Program:

> 1) Identify and explain the important causes and mechanisms of motor vehicle accidents and the injuries in these accidents so that effective accident avoidance and injury reduction countermeasures can be developed.
>
> 2) Evaluate in the actual highway environment the true effectiveness of Motor Vehicle and Highway Safety Standards now in force and predict the potential effectiveness of new Motor Vehicle and Highway Safety Standards under consideration.
>
> 3) Identify possible defects in motor vehicle or highway design and performance so that thorough defect investigations can be carried out.
>
> 4) Develop and validate in the field advanced accident investigation techniques designed to improve the precision, accuracy, and efficiency of the collection of accident data.[1]

Current Status

MDAI at the Federal Level. Since 1968, about 9,000 MDAI investigations have been performed under the auspices of the NHTSA and investigations are still continuing, though at a reduced rate. The principal benefits of the data gathered under the MDAI program seem to have been in the fields of identifying vehicle defects, locating deficiencies in safety devices such as energy-absorbing steering columns, and defining injury-causing mechanisms in accidents. All the analyzed data obtained from the MDAI program are contained in a data bank maintained at the University of Michigan in Ann Arbor, Michigan, and are available for public or private use. Current indications are that automobile manufacturers are using the data as information for the design of new automobiles.

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[1] U. S. Department of Transportation DOT HS 820-255, Annual Report to the Secretary on Accident Investigation and Reporting Activities (Prepared by the Office of Accident Investigation and Data Analysis Research, 1971), pp. 2-3.

Principal areas of emphasis for the continuing MDAI effort are school-bus accidents and accidents involving airbag equipped vehicles.

MDAI at the State Level. MDAI teams and MDAI-like teams are either in operation or are in the process of being created in a number of states. One very active program is in the State of Pennsylvania, which began an ambitious effort in 1968 with eleven accident investigation teams. A typical team was composed of four people: a state trooper, a civil engineer or traffic control specialist, a social psychologist or professional investigator, and a mechanical or automotive engineer. This team operated in an alert status or cruising the roads in a state trooper vehicle and they reported as quickly as possible to the scene of an accident. By operating at random hours, they were expected to investigate a random sample of the accidents occurring in Pennsylvania. They used a very detailed and specific Accident Analysis Manual to perform an in-depth investigation and analysis of each accident that they reached.[2]

The Pennsylvania program turned out to be quite expensive. Presently (1977) the number of teams has been reduced to five and the membership of each team has been reduced to two, a state trooper and a civil engineer or traffic specialist. The same Accident Analysis Manual is still used but with only two members of the team the investigations are necessarily conducted in considerably less depth, certainly much less depth than the investigations conducted by the Federal MDAI teams. There is still some effort to randomize the selection of accidents through changing the alert hours of the teams but there is a natural bias toward investigating the more serious accidents. Pennsylvania authorities are satisfied that their MDAI effort is continuing to produce useful information, primarily in the areas of highway design, changes in their Motor Vehicle Code, and changes in their vehicle inspection standards. The degree to which these benefits have actually contributed to traffic safety in Pennsylvania is not measurable.

The Future

Federal MDAI Program. The MDAI effort now being directed and funded by the NHTSA is being phased out and there are no plans to request funds for the

[2]Commonwealth of Pennsylvania Department of Transportation, Accident Analysis Manual (PDT Pub. 96), pp. 1-5 to 2-11.

program beyond 1978.

National Accident Sampling System (NASS). To replace their MDAI effort the NHTSA is introducing the NASS, a system intended to gather traffic accident data in less depth than was obtained by the MDAI teams, but to gather the data on the basis of a sampling system that would make them more useful statistically. As stated in a NASS proposal of 1976,

> "The primary mission of the National Highway Traffic Safety Administration (NHTSA) is to reduce the numbers of fatalities, injuries, and economic losses resulting from motor vehicle accidents which occur on the Nation's roads and highways. The basic approach to accomplishing the mission is to develop, implement, and evaluate safety programs, standards, and/or countermeasures which have, as their objective, a reduction in the frequency or severity of motor vehicle crashes. Successful accomplishment of the mission is possible only if there is sufficient knowledge concerning accidents so that intelligent decisions can be made. Thus, it is critical that detailed, reliable, accurate data on crash events be available for identifying national problem areas, evaluating highway safety standards, designing and evaluating countermeasures, comparing alternative designs of vehicles, and in general, improving the accident situation in the nation.
>
> .....
>
> "It has been evident for many years that the data needed to support highway safety research and rulemaking can no more be extracted solely from traffic records than from professional teams investigating accidents which were selected without a clearly defined sampling plan . . . .
>
> "The objective of a National Accident Sampling System is to accomplish the primary mission of NHTSA. The system would select, process, and analyze data which:
>
> a. Assist in producing accurate estimates of national totals and trends in accidents, their causes and consequences at a level of detail greater than presently available.
>
> b. Are a basis for valid national assessments of the effectiveness of existing safety countermeasures and standards.
>
> c. Provide an accurate, detailed description of all phases of accidents so that new safety countermeasures may be advanced, their potential effectiveness evaluated, and their design optimized.

d. Through in-depth investigations, provide clinical information on accident causation, injury mechanisms, and new investigation techniques."[3]

The NASS teams, as now conceived, would replace the MDAI teams at the Federal level and would supplement the relatively superficial investigations performed on all reported accidents at the state level.

The first contracts for NASS teams were expected to be awarded by early November, 1977, and when in full operation the NASS will constitute the NHTSA's principal effort in the accident investigation field. One of the first teams to be established will be in Texas and all NASS data will be available to the states, both directly from the NASS teams based in the various states and on an integrated basis from NHTSA.

Requirement for State MDAI Teams

Requirement as Stated in U. S. Highway Safety Program Standard 18. In September of 1974, the NHTSA of the Department of Transportation published Highway Safety Program Manual No. 18, Accident Investigation and Reporting, which is intended as a guide for states and their political subdivisions to use in developing highway safety program policies and procedures. Appendix A to the Manual is Highway Safety Program Standard 18, Accident Investigation and Reporting, which is intended to establish minimum requirements for a state highway safety program for accident investigation and reporting. The purpose of Standard 18 is stated as follows:

> "The purpose of this standard is to establish a uniform, comprehensive motor vehicle traffic accident investigation program for gathering information--who, what, when, where, why, and how--on motor vehicle traffic accidents and associated deaths, injuries, and property damage, and entering the information into the traffic records system for use in planning, evaluating, and furthering highway safety program goals."

The portion of Standard 18 which is interpreted as requiring the establishment of MDAI teams is in the Requirements section.

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[3]National Highway Traffic Safety Administration Proposal, Office of Statistics and Analysis Plans for a National Accident Sampling System (undated), pp. 118-120.

Requirements

> "Each state, in cooperation with its political subdivisions, shall have an accident investigation program meeting the requirements established herein.
>
> .....
>
> D.2. Accident investigation teams shall be established, representing different interest areas, such as police, traffic highway and automotive engineering, medical, behavioral, and social sciences. Data gathered by each member of the investigation team should be consistent with the mission of the member's agency, and should be for the purpose of determining probable causes of accidents, injuries, and deaths. These teams shall conduct investigations of an appropriate sampling of accidents in which there were one or more of the following conditions . . ."

A copy of Standard 18 is included as Appendix B to this report.

The words of Standard 18 seem to leave the states little choice about establishing an MDAI program, even though the program is described only in general and most of the details are left to the individual states. It is important to note, however, that the Standard was published two years before the formal proposal to replace the Federal MDAI program with NASS was issued and at least three years before the decision was made to proceed with NASS. In addition, the whole system of Highway Safety Program Standards is now under review in NHTSA and the Department of Transportation. All the Standards may be subject to extensive amendment or even cancellation in the course of the review.

Any legal force which the requirements of Standard 18 might have had was removed by Public Law 94-280, approved by the Congress on 5 May 1976. Section 208.(a) of that act concludes with the sentence, "Implementation of a highway safety program under this section shall not be construed to require compliance with every uniform standard or with every element of every uniform standard in every state." Section 208.(b) concludes with the sentence, "Until such report is submitted, the Secretary shall not, pursuant to subsection (c) of Section 402 of Title 23, United States Code, withhold any apportionment or any funds apportioned to any state because such state is failing to implement a highway

safety program approved by the Secretary in accordance with such Section 402."[4] This language makes it clear that none of the Highway Safety Program Standards of the Department of Transportation are legally directive on individual states.

Requirement to Supplement Current Data Sources. No Texas state agency has identified any data requirement that is not met by data now available from the Department of Public Safety Statistical Services Bureau. This does not necessarily mean that the various departments could not use additional data; it simply means that if they do need additional data, they have not recognized the need. Under those circumstances it would be difficult to specify what additional data should be gathered.

There still remains a question about the accuracy and statistical value of the data now available. Many people question the accuracy of the accident data gathered; others believe that variations in the way the material is gathered render it of doubtful value in statistical analysis. These questions are not resolved.

Probable Cost of MDAI Teams

"MDAI Team" is now a generic term describing any accident investigation team composed of several people representing different scientific or investigative disciplines. MDAI Teams have used--and are using--varying methods to conduct investigations of varying depth for many different purposes. Therefore, any estimate of the cost of operating such teams would be pure guesswork without a good definition of the composition of the teams, their objectives, and their methods of operation. Also, since many teams are tailored to the particular type of accident being investigated any overall cost estimate might be inaccurate.

The best currently available information on the cost of operating MDAI Teams is from the NHTSA, which has funded over 9,000 investigations over the past nine years and has found that the average investigation costs about $2,500. This is probably a valid estimate of the average cost of such investigations in the future. It must be noted, however, that over the years the teams have

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[4]Public Law 94-280, 94th Congress, H.R. 8235, "An Act to Authorize for the Construction of Certain Highways in Accordance with Title 23 of the United States Code, and for other Purposes." (May 5, 1976), pp. 30-31.

varied widely in composition and in the scope and methods of investigation, so the cost is merely a numerical average and cannot be used to estimate the cost of any specific future investigation.

CHAPTER 3. AVAILABLE VEHICLE ACCIDENT DATA

Sources

Police Organizations. In general, information about traffic accidents in the State of Texas is generated by standardized reports from police officers of the various organizations having responsibility for traffic management and control. Since there are extensive geographic overlaps between the various police organizations there are many cases when the decision as to which organization shall investigate a particular accident is made on the basis of which officer arrives on the scene first. In other cases, there are informal arrangements between organizations to allow the investigation to be performed by the organization having the greater accident investigation capability.

Data collected by police organizations have the following general characteristics:

- Data are collected on all accidents involving personal injury or property damage exceeding $250.
- Data are standardized between different police organizations by use of identical or nearly identical accident reporting forms.
- Analysis of accidents is generally superficial with the primary purpose of identifying law violations rather than root causes of accidents.
- Investigation and analysis of accidents necessarily has lower priority than safeguarding life and property and controlling traffic.
- Wide variations exist in the skill, training, and interest of officers performing investigations.

National Accident Sampling System (NASS). When the NASS, described in Chapter 2, goes into full operation it will develop extensive and accurate data of great benefit to any safety analysis. The Texas Department of Public Safety and other state organizations will have full access to all data gathered in Texas as well as in other parts of the U. S. Some part of the NASS effort will be devoted to relatively detailed and in-depth studies of selected accidents

for special purposes. A larger part of the effort, however, is to be directed toward less detailed investigation of a statistically representative sample of all accidents occurring in the United States above an established threshold.[5]

The great deficiency of the investigations performed by police organizations is that they are not performed in enough depth to arrive at the root causes of accidents. On the other hand, the deficiency found in in-depth investigations such as those performed by MDAI teams is that they are so expensive that economic considerations prevent their being performed on enough accidents to provide a statistically representative sample. The question always arises, therefore, of whether or not the findings are applicable to the whole accident population.

The NASS is to be a carefully organized effort to investigate a large and rationally selected sample of accidents in considerably more detail than is done in police investigations. The data selected are to be suitable for thorough statistical analysis.[6] To this end, the NHTSA is proposing to go to great lengths to ensure that the selected sample is truly representative of the total accident population. If their effort is successful, the data produced will be invaluable, not only to the NHTSA and the Federal Government but to the individual states, Texas included.

Compilation, Analysis, and Distribution of Data

All vehicle accident data collected by police organizations in the State of Texas are forwarded to the Statistical Services Bureau of the Texas Department of Public Safety. The Bureau, composed of about 170 people, is responsible for recording the data in usable form, organizing them, and publishing them in a variety of formats. For these purposes, the Bureau has an extensive automatic data processing capability.

All the data for each month and each year are recorded on magnetic tapes, and the tapes are furnished to other state agencies with established requirements for the data. The tapes are also available for purchase by outside agencies.

[5]National Highway Traffic Safety Administration Proposal, Office of Statistics and Analysis Plans for a National Accident Sampling System (undated), pp. 121-123.

[6]Ibid, p. 123.

The Bureau also publishes the data in printed form after necessary analysis and classification. The publications, including two general annual reports, about twenty special annual reports, and about ten annual functional reports, present the accident data in many different ways to satisfy the needs of different users. Two of the publications of the Bureau are listed in the Bibliography of this report.

It is important to recognize that although the Statistical Services Bureau analyzes the data to organize them and put them into the proper form for publication, it does not perform the kind of analysis necessary to identify long-term trends, causes of changes in accident patterns, or actions necessary to reduce accidents or accident impacts. Its functions are simply to record the data, organize them, put them in usable form, and publish them for use by other organizations.

CHAPTER 4. REQUIREMENTS FOR DATA AND DATA ANALYSIS

On the face of it, there is no shortage of data about traffic accidents in the State of Texas. The tapes compiled monthly and annually by the Statistical Services Bureau of the Texas Department of Public Safety describe almost every significant accident in the State of Texas--the only exceptions are those accidents which occur off public highways and streets and those which for one reason or another are concealed or not reported to the police. The various publications of the Bureau describe the data from many different viewpoints, using a variety of statistical approaches. This mountain of data, covering almost a half-million accidents a year, is certainly comprehensive, but questions arise as to its validity, accuracy, and suitability for statistical analysis.

Validity of the Data

In considering the validity of the data for the purpose of determining accident causes, it is necessary to recognize that this is not the primary purpose for which the data are obtained. The data are gathered by law enforcement officers primarily for the purpose of enforcing the law. The principal focus of an accident investigation is to determine whether or not any violation of law has occurred and, if so, the circumstances of that violation. Therefore, the investigation tends to come to an end once all law violations have been identified and described, whether or not those violations were actually the root causes of the accident.

Accuracy of the Data

Some of the data gathered are distorted by the legalities involved. Accident victims are not always checked for the alcoholic content of their blood. Even in those cases in which tests indicate some degree of intoxication on the part of a driver or pedestrian involved in an accident, those findings do not always find their way into the accident report. Also, a driver involved in an accident may, if he/she chooses, refuse to submit to any test to measure her/his degree of intoxication. Under those circumstances, the driver might lose her/his driver's license under the provisions of the "Implied Consent" provisions of Texas law but the accident would not be recorded as being caused by

drinking while driving even though the driver might have been grossly and obviously intoxicated. Obviously, such omissions could completely destroy the validity of statistics on the number of accidents in which driving while intoxicated (DWI) was a factor.[7]

Suitability of Data for Statistical Analysis

Another difficulty with the data now available is the lack of detailed exposure information. The Texas State Department of Highways and Public Transportation estimates that 91,279,000,000 vehicle miles were driven in Texas in 1976. Since there were 479,203 accidents in that same period, producing 3,230 fatalities, we can calculate that for every 100,000,000 vehicle miles driven in Texas, there were about 525 reportable accidents, producing about 3.5 fatalities. That is useful information on a general basis, but if we want to perform more detailed analysis, the necessary exposure data are not available.

If, for instance, we wish to calculate the relative risks involved in traveling by private automobile, motorcycle, and bus, we can find out from the publications of the Statistical Services Bureau that in 1976, 637,020 passenger cars were involved in non-fatal accidents, and 2,519 in fatal accidents. Similar figures for motorcycles are 9,682/185 and for busses 2,080/4[8]. Without some information on the number of passenger miles traveled in 1976 in each type of vehicle, however, we cannot calculate the risks to passengers in each type of vehicle even on a relative basis, and that information is not available.

Similarly, it may be interesting to know that in 25,472 of the 479,203 accidents in 1976 (5.3%), the driver was found to have been driving under the influence of alcohol but the figure does not have any real significance without some information about what percentage of the total population of drivers is under the influence of alcohol. When we add to this difficulty the fact that large numbers of drivers involved in serious accidents are never tested for intoxication, it is apparent that available information on DWI accidents in the State of Texas cannot provide a basis for any significant conclusion about the

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[7]Texas Department of Public Safety, Motor Vehicle Traffic Accidents (1976), p. 34.

[8]Texas Department of Public Safety Accident Summaries for CY 1976, All Reported Accidents, pp. 1-2.

total effect that driving while intoxicated may have on the accident rate or accident risk in Texas.

These are only examples of the inadequacies of traffic accident information now available in Texas. That information, though extensive and comprehensive, does not include all the categories of data, or the quality of data, necessary to determine the basic causes of traffic accidents in Texas.

CHAPTER 5. ANALYSIS

Data Available vs. Data Needed

The Statistical Services Bureau of the Texas Department of Public Safety recognizes most of the qualitative deficiencies in the data, as described in the previous chapter, but the data appear to be adequate for the purposes of the various data users, and there have been few, if any, complaints about the data.

Some serious deficiencies in the traffic accident data now being gathered and disseminated were discussed in the previous chapter. In view of those deficiencies, the apparent adequacy of the data, as far as the users are concerned, is surprising. The data appear to answer satisfactorily the questions being asked by the user agencies but there may be some doubt as to whether or not all the right questions are being asked.

The DPS Statistical Services Bureau compiles all the data and does enough analysis to organize the data in the various formats in which they are distributed to the users. The recipients of the data published by the Statistical Services Bureau then make whatever use of the data fits their specific requirements. There does not appear to be any group or agency which looks at the data as a whole, to determine how good they are, how they might be improved, what they really mean, or, most important of all, how the data might be used to improve traffic safety in the State of Texas. Many people are using parts of the data to look at parts of the problem: nobody seems to be investigating the whole problem. Therefore, there are important questions about the data, about how the data are used, and about how the data should be used. These questions are not being asked, and therefore no answers to these questions are being obtained.

In summary, the traffic accident data now available are adequate in quantity--and probably in quality--for the purposes for which the data are being used. If, on the other hand, the state wishes to learn more about the basic causes of traffic accidents, and to try to identify what might be done to eliminate or reduce causes of accidents, the data would appear to be inadequate in quality and would need to be improved or augmented.

Requirements Imposed by Federal Government

As described in Chapter 2, the Federal Highway Safety Program Standard 18 appears to require that all states develop Multidisciplinary Accident Investigation teams. All the Highway Safety Program Standards are now in the course of extensive revision, however, and it is likely that the MDAI requirement will be either deleted or extensively modified in the revision process. In any case, the Congress has made it clear that the Department of Transportation does not have authority to direct the states through the Highway Safety Program Standards. Therefore, there is no Federal requirement that the State of Texas establish MDAI teams.

Possible Actions by the State of Texas

Establish MDAI Teams. Although the U. S. Department of Transportation does not and cannot direct that the state establish MDAI teams, the existence of Federal Highway Safety Program Standard 18 clearly justifies serious consideration of such action. Other states have established MDAI programs of various types and with varying amounts of success.

The chief value of MDAI-type investigations would be to supplement data obtained in police investigations by allowing investigation in much greater depth and detail. Since the investigations would be performed by professional scientists, engineers, and investigators, and since they would devote much more time and effort to a single investigation than police officers can, the MDAI investigations could provide much more reliable information and much more insight into the true cause of a specific accident than can be obtained from the usual police investigation.

The question that remains is whether or not the additional data obtained from MDAI teams would be worth the cost. It is always interesting to know the exact cause of a serious accident, but the criterion that should be applied is whether or not the information could be used to increase traffic safety in the State of Texas. It is important to avoid gathering data just for the sake of gathering data.

Almost any action that would reduce the statewide accident toll would be expensive, and many such actions would require legislative action. The possibility is remote that such actions could be taken, or would be taken, on the basis of a single accident or even on the basis of a small group of accidents.

To sell an expensive safety program to the Governor of Texas, to the State Legislature, or to the people of Texas, rigorous statistical estimates would be required of the number of lives or dollars or both that could be saved by the programs proposed. MDAI teams could not provide such statistics and estimates.

In-depth investigations by MDAI teams are necessarily expensive and time-consuming. Therefore, such investigations can be performed on only a very limited sample of the total number of accidents in the state. Also, the selection of the accidents to be investigated is almost inevitably biased, notably in favor of more serious accidents. Therefore, the sample cannot be expected to be representative of the total accident population, and analysis of such a nonrepresentative sample simply cannot provide statistically reliable estimates of the probable results of proposed corrective actions.

Establish Intermediate-Level Teams. Another possible solution might be to investigate a fairly large number of accidents in more detail than is obtained in a police investigation but in less detail--and at less expense--than is determined by a classic MDAI team effort. If the sample of accidents investigated were large enough, and if the accidents to be investigated were carefully selected to be statistically representative of the total accident population, some very useful results might be obtained. That is exactly the program now being initiated by the Federal Government in the National Accident Sampling System (NASS). There is every reason for the State of Texas to support that program and to make maximum use of the data obtained from it. There would seem to be little point, however, in the State's trying to duplicate the Federal effort.

Establish Accident Data Review Board. Even though the accident data now available appear to be adequate for stated requirements, the quality of those data is inadequate for statistical analysis of the underlying causes of traffic accidents or for determining what actions need to be taken to reduce the cost of traffic accidents in the state. One step in approaching these objections might be to establish an annual review board for accident data. The board could be a small group, not more than seven members, including experts in the fields of traffic law enforcement, statistics, automotive engineering, forensic medicine, and highway design.

It could be the responsibility of the board members, individually and collectively, to review the data published each year by the DPS Statistical Services Bureau to determine:

1. What do the data indicate is happening in the traffic accident field in the State of Texas?
2. What actions could be taken and need to be taken to reduce the traffic accident toll in the State?
3. What deficiencies exist in traffic accident data as now gathered, collected, and published?
4. How should these deficiencies be corrected?

The board could be composed of state employees, outside consultants, or both. It could meet once a year after publication of the annual report of the DPS Statistical Services Bureau and could report to the Office of Traffic Safety, which is responsible for the State Traffic Safety Plan. The output of the annual meetings could include requests for additional analysis by the DPS Statistical Services Bureau to illuminate specific problems, or specific recommendations to improve traffic safety. Those recommendations could include:

- Changes in highway design standards,
- Changes in vehicle inspection methods or standards,
- Changes in traffic laws and regulations,
- Changes in accident investigation forms or methods,
- Changes in methods by which accident data are analyzed,
- Proposals to perform special studies or investigations, and
- Any other actions that might be taken by the state government to reduce the number of severity of traffic accidents in Texas.

Other Possible Actions. Since establishment of MDAI teams is not actually required by Federal directive nor by established deficiencies in the accident data now available, the State need not take any action to establish MDAI teams. The State could, on the other hand, establish such teams and at the same time create an accident data review board. Finally, the State could

postpone a final decision on MDAI teams pending completion of the current review by the Federal Government of Highway Safety Standards and pending review of results achieved by the Federal NASS program and MDAI teams in the other states.

CHAPTER 6. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The preceding analysis leads to the following conclusions:

1. The Federal Government does not require that the State of Texas establish Multidisciplinary Accident Investigation teams.

2. State agencies using the accident data collected by police organizations and compiled by the DPS Statistical Services Bureau do not complain about inadequacy of the data available.

3. The accident data available are not, however, adequate in quality to permit rigorous statistical analysis of the accident situation in the State, or for identification of actions that could be taken to reduce the cost of traffic accidents in the State.

4. If MDAI teams were established by the State of Texas, they would be able to identify the causes of most of the accidents which they investigated. Because of the limited number of accidents that could be investigated, however, this information would not correct the deficiency described in Conclusion 3.

Recommendations

It is recommended that:

1. The State of Texas not establish MDAI teams in the State.

2. The State of Texas organize and establish an accident data review board, as described in Chapter 5, to review the traffic accident data published each year by the DPS Statistical Services Bureau. The board would then recommend additional analyses to be performed and actions that should be taken to improve the data and to reduce the total cost of traffic accidents in Texas, in dollars, lives, and human suffering.

SOURCES OF USEFUL INFORMATION

A number of people and organizations provided information used in this report. Some of them are listed below:

Austin Police Department, Austin, Texas
Captain Swinney - (512) 476-3541
Sgt. John Ross - (512) 477-1380

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Col. Young - (512) 385-4100

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Council for Advanced Transportation Studies, University of Texas, Austin, Texas
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Department of Transportation, National Highway Traffic Safety Administration, Washington, D.C.
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Department of Transportation, National Highway Traffic Safety Administration, Ft. Worth Regional Office, Ft. Worth, Texas
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North Carolina Office of Highway Safety
Col. Ed Guy - (919) 733-3083

Office of Highway Safety Engineering, Texas Department of Highways and Public Transportation, Austin, Texas
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Mr. Robert Mason

Texas State Insurance Board, Austin, Texas
Mr. Thomas Jackson - (512) 475-2444

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A P P E N D I C E S

TEXAS PEACE OFFICER'S ACCIDENT REPORT ST-3 (Rev. 10/74) MAIL TO: Texas Department of Public Safety, Box 4087, Austin 78773

PLACE WHERE ACCIDENT OCCURRED County..... City or town..... Show only if inside city limits

If accident was outside city limits, indicate distance from nearest town.....miles ☐ North ☐ S ☐ E ☐ W of..... City or town

ROAD ON WHICH ACCIDENT OCCURRED..... Block Number Street or Road Name Route Number Under Const. ☐ Yes ☐ No Speed Limit.....

Complete one: INTERSECTING STREET..... Block Number Street or Road Name Route Number Under Const. ☐ Yes ☐ No Speed Limit.....

NOT AT INTERSECTION ..... feet ☐ North ☐ S ☐ E ☐ W of.....

Show milepost or nearest intersecting numbered highway If urban, show nearest intersecting street or reference point

DO NOT WRITE IN THIS SPACE

Local No. .....

DPS No. .....

Loc. .....

Fat. Rec. ..... Dr. Rec. .....

Code ..... Severity .....

Type .....

DATE OF ACCIDENT..... 19..... Day of Week..... Hour..... ☐ A.M. ☐ P.M. If exactly noon or midnight, so state

UNIT NO. 1 - MOTOR VEHICLE

VEH. IDENT. NUMBER.....

YEAR MODEL..... MAKE..... MODEL NAME..... BODY STYLE..... LICENSE PLATE..... Year State Number

OPERATOR'S NAME..... Last First Middle Address City State OCCUPATION.....

OPERATOR'S LICENSE..... State Number DATE OF BIRTH..... SEX..... RACE..... Was driver or passenger in this vehicle injured? ☐ Yes ☐ No If answer is yes complete data on back side

OWNER'S NAME..... Last First Middle Address City State DAMAGE RATING..... If damage rating 4 or more, complete back side.

UNIT NO. 2 - MOTOR VEHICLE, TRAIN, PEDALCYCLIST, PEDESTRIAN, TOWED OR OTHER INDICATE WHICH _____ (If pedestrian or cyclist injured, show data on back).

VEH. IDENT. NUMBER.....

YEAR MODEL..... MAKE..... MODEL NAME..... BODY STYLE..... LICENSE PLATE..... Year State Number

OPERATOR'S NAME..... Last First Middle Address City State OCCUPATION.....

OPERATOR'S LICENSE..... State Number DATE OF BIRTH..... SEX..... RACE..... Was driver or passenger in this vehicle injured? ☐ Yes ☐ No If answer is yes, complete data on back side

OWNER'S NAME..... Last First Middle Address City State DAMAGE RATING..... If damage rating 4 or more, complete back side.

DAMAGE TO PROPERTY OTHER THAN VEHICLES

DOLLAR DAMAGE $ ESTIMATE.....

Name property and show how damaged — Always show fixed and other objects struck and distance from curb or pavement edge

Name and address of owner of damaged property

DESCRIBE WHAT HAPPENED

Describe Weather.....

Describe Road and Surface Condition.....

Light Condition.....

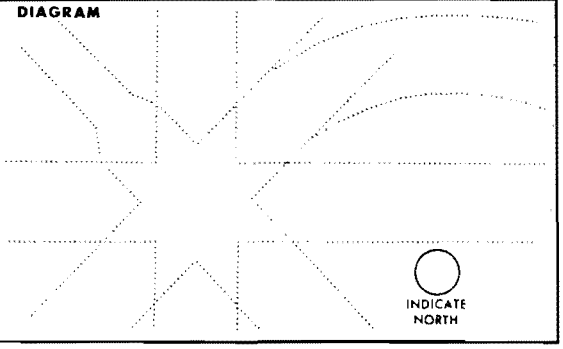
Type of Traffic Control.....

If Not Operative Explain.....

FACTORS CONTRIBUTING TO ACCIDENT (OFFICER'S OPINION)
(Check for each driver above)

	Driver 1	Driver 2
1. Speeding-over limit	☐	☐
2. Speed-under limit-unsafe	☐	☐
3. Fail to Yield ROW to Vehicle	☐	☐
4. Disregard Stop Sign or Light	☐	☐
5. Disregard Stop and Go Signal	☐	☐
6. Disregard Flashing Yellow Signal	☐	☐
7. Improper turn-wide right	☐	☐
8. Improper turn-cut corner on left	☐	☐
9. Improper turn-wrong lane	☐	☐
10. Wrong side-not passing	☐	☐
11. Wrong way 1 way road	☐	☐
12. Following too closely	☐	☐
13. Overtake and pass-insufficient clear	☐	☐
14. Pass in no Passing Zone	☐	☐
15. All other improper passing	☐	☐
16. No signal or wrong signal of intent	☐	☐
17. Improper start from parked position	☐	☐
18. Fail to yield ROW to pedestrian	☐	☐
19. Improper parking	☐	☐
20. Under influence ☐ alcohol ☐ drugs	☐	☐
21. Defective brakes	☐	☐
22. Defective lights	☐	☐
23. Other Defective equipment	☐	☐
24. Other factors	☐	☐

DIAGRAM



POLICE ACTIVITY

SHOW ARRESTS AND CHARGES

Name..... Last First Middle Charge..... Ticket Number..... Type Alcohol Test.....

Name..... Last First Middle Charge..... Ticket Number..... Type Alcohol Test.....

Time notified of accident..... Date Hour M How..... Time arrived at scene of accident..... Date Hour M

SIGNATURE..... Investigator's name and Ident. No. Department Date report made..... Is report complete? ☐ Yes ☐ No

UNIT NO. 1

DAMAGE RATING _____

VEHICLE REMOVED TO _____

BY _____

CODE FOR INJURY SEVERITY

(Use only the most serious one in each space for injury.)

K Killed

A Incapacitating Injury – Severe injury which prevents continuation of normal activities. Includes broken or distorted limbs, internal injuries, crushed chest, etc.

B Non-incapacitating Injury – Evident injury such as bruises, abrasions, minor lacerations which do not incapacitate.

C Possible Injury – Injury which is claimed, reported or indicated by behavior but without visible wounds. Includes limping, momentary unconsciousness or complaint of pain.

U Uninjured

ITEM NO	SEAT POSITION	OCCUPANTS NAMES (Show Last Name First)	ADDRESS	State Yes or No: HEAD REST	STRAP USED	BELT USED	AGE	SEX	INJURY CODE
1	Front Left	Driver, See Front							
2	Front Center								
3	Front Right								
4	Rear Left								
5	Rear Center								
6	Rear Right								

UNIT NO. 2 (Complete only if Unit No. 2 was a motor vehicle.)

DAMAGE RATING _____

VEHICLE REMOVED TO _____

BY _____

	SEAT POSITION	OCCUPANTS NAMES (Show Last Name First)	ADDRESS	State Yes or No: HEAD REST	STRAP USED	BELT USED	AGE	SEX	INJURY CODE
7	Front Left	Driver, See Front							
8	Front Center								
9	Front Right								
10	Rear Left								
11	Rear Center								
12	Rear Right								

COMPLETE IF CASUALTIES NOT IN MOTOR VEHICLE

	PEDESTRIAN, PEDALCYCLIST, ETC.	CASUALTY NAME (Show Last Name First)	CASUALTY ADDRESS	AGE	SEX	INJURY CODE
13						
14						

DISPOSITION OF KILLED AND INJURED

ITEM NUMBERS	TAKEN TO	BY

IF AMBULANCE USED SHOW Time Ambulance Driver Notified _____ M Time arrived at Scene _____ M Number of Ambulance Attendants Incl. Driver _____

ST-3x (Rev. 10-74) **TEXAS PEACE OFFICERS ACCIDENT CASUALTY SUPPLEMENT**

ACCIDENT IDENTIFICATION (Copy information in this section exactly as shown on Basic Report)

COUNTY ..... CITY OR TOWN .....

Road on which Accident Occurred ..... Date of Accident ..... 19 ..... Hour ..... ☐ AM ☐ PM

Unit No. 1 Operator ..... License Plate .....
Last First Middle

SECTION I - MOTOR VEHICLE ACCIDENT DEATH (Driver or Passenger in Passenger or Truck Type Vehicle)

Name of Person Killed ..... In Unit No. .....
Last First Middle

Date of Death ..... 19 ..... Hour ..... ☐ AM ☐ PM Ejected from vehicle .....

Describe injuries .....

Part of vehicle causing injury .....

Blood sample taken? ☐ Yes ☐ No Blood sample sent to .....

SECTION II - MOTORCYCLE OR MOTORSCOOTER CASUALTIES (Deaths or injuries)

Name of Casualty ..... ☐ Operator ☐ Passenger
Last First Middle

If killed, date of death ..... Describe injuries .....

Color shirt or coat ..... Color trousers or skirt ..... Was Helmet worn? ☐ Yes ☐ No Was Helmet damaged? ☐ Yes ☐ No

Type of eye protective device ..... Color of lens or shield ..... Equipped with: Crash bars? ☐ Yes ☐ No Windshield? ☐ Yes ☐ No Footrest for this casualty? ☐ Yes ☐ No

Blood sample taken? ☐ Yes ☐ No Blood sample sent to .....

SECTION III - PEDESTRIAN CASUALTIES (Deaths or injuries)

Name of Casualty ..... If killed, date of death .....
Last First Middle

WHAT PEDESTRIAN WAS DOING

Pedestrian was going ☐ N ☐ S ☐ E ☐ W ☐ Along ☐ Across or into ..... From ..... To ..... If not in roadway explain
(Street name, highway No.) (N.E corner to S.E corner, or west to east side, etc.)

1. ☐ Crossing or entering at intersection or crosswalk
2. ☐ Crossing or entering not at intersection or crosswalk
3. ☐ Getting on or off vehicle
4. ☐ Walking in roadway with traffic
5. ☐ Walking in roadway against traffic
6. ☐ Standing in roadway (includes hitch hiking)
7. ☐ Pushing or working on vehicle
8. ☐ Other working in roadway
9. ☐ Playing in roadway
10. ☐ Other in roadway
11. ☐ Not in roadway

Describe injuries .....

Color shirt or coat ..... Color trousers or skirt .....

Pedestrian condition ..... Pedestrian drinking? ☐ Yes ☐ No

Blood sample taken? ☐ Yes ☐ No Blood sample sent to .....

SECTION IV - OTHER CATEGORY DEATH (Road machinery, pedalcyclist, standing on porch, go-cart, etc.)

Name of Person Killed ..... Category ..... Date of Death .....
Last First Middle

SIGNATURE ..... Date This Supplement Mode .....
Person Completing Supplement Department

TEXAS DEPARTMENT OF PUBLIC SAFETY

HIT AND RUN REPORT

FORM ST-3A

LOCATION

PLACE WHERE ACCIDENT OCCURRED County ..... City or town .....

If accident was outside city limits, indicate distance from nearest town ..... miles ☐ North ☐ S ☐ E ☐ W of .....

ROAD ON WHICH ACCIDENT OCCURRED .....
Give name of street or highway number (U S or State). If no highway number, identify by name

TIME

Date of Accident ..... 19 ..... Day of Week ..... Hour ..... ☐ A.M. ☐ P.M. If exactly noon or midnight, so state

TYPE

☐ **FELONY FSRA**
☐ Fatal (No. Killed .....) ☐ Injury (Severity .....)

☐ **MISD. FSRA**
☐ Veh. being driven ☐ Parked & Att or Occ

VICTIMS

DRIVER .....
Name Address City and State

OWNER .....
Name Address City and State

Pedestrian ☐

Passenger ☐ .....
Name Address City and State

DESCRIBE WHAT HAPPENED

.....

DESCRIBE WANTED VEHICLE

.....

SIGNATURE ..... Date of report .....
Investigator's name and rank or number Department

INVESTIGATION AND CLEARANCE REPORT

HIT AND RUN VEHICLE Year Model ..... Make and Type of Vehicle ..... Vehicle Registration .....
Sedan, tractor semi-trailer, taxi, etc. Year State Number

DRIVER ..... ☐ Yes Drinking? * ☐ No
Name Address City and State Sex .....

Race of Driver ..... Driver's Occupation ..... Date of Birth ..... Driver's License .....
Carpenter, doctor, sales clerk, etc Month, Day, Year State Number

☐ Chauffeur ☐ Operator ☐ Com. Op.

Speed Before Accident * ..... m.p.h. Legal Speed Limit ..... m.p.h. Maximum Safe Speed * ..... m.p.h. Physical Condition * ..... Approximate cost to repair vehicle * $ .....

OWNER ..... Vehicle Removed To .....
Name Address Name of garage, home by owner, driven away, etc

SHOW ARRESTS AND CHARGES Name ..... Charge ..... Ticket No .....

* THESE ITEMS REFLECT THE INVESTIGATOR'S OPINIONS.

(over)

REPORT OF HIT AND RUN INVESTIGATION

Summary of Original Investigation:

Describe investigation: .....

.....

.....

.....

.....

Unit Days .....; Man Hrs. .....; Car Mi. .....; No. Written Statements .....; No. Items for Lab .....

Follow-Up Investigation:

1. Activities: .....

.....

.....

.....

2. Findings: .....

.....

.....

.....

Officer(s) _____; Unit Days .....; Man Hrs. .....; Car Mi. .....

Conclusion of Case:

Case Closed ....., 19 ..... for the following reason:

1. ☐ Arrest of subject.

2. ☐ Subject identified – No arrest
   (a) .....Deceased (b) .....Out of jurisdiction (c) ..... Prosecution refused.

3. ☐ Administrative Decision: by ..... Title .....

Summary of Activities:

Written statements taken - Number .....; Photographs made ☐ Yes ☐ No

Scale diagram ☐ Yes ☐ No; Items for Lab. examination - Number .....

Totals: Unit Days ..... Man Hours ..... Car Miles .....

Sergeant's Signature: .... Sergeant Area .....

APPENDIX B

HIGHWAY SAFETY PROGRAM STANDARD 18

ACCIDENT INVESTIGATION AND REPORTING

SCOPE

This standard establishes minimum requirements for a State highway safety program for accident investigation and reporting.

PURPOSE

The purpose of this standard is to establish a uniform, comprehensive motor vehicle traffic accident investigation program for gathering information—who, what, when, where, why, and how—on motor vehicle traffic accidents and associated deaths, injuries, and property damage, and entering the information into the traffic records system for use in planning, evaluating, and furthering highway safety program goals.

DEFINITIONS

For the purpose of this standard the following definitions apply:

A. Accident—an unintended event resulting in injury or damage, involving one or more motor vehicles on a highway that is publicly maintained and open to the public for vehicular travel.

B. Highway—the entire width between the boundary lines of every way publicly maintained when any part thereof is open to the use of the public for purposes of vehicular travel.

C. Motor vehicle—any vehicle driven or drawn by mechanical power manufactured primarily for use on the public streets, roads, and highways, except any vehilce operated exclusively on a rail or rails.

REQUIREMENTS

Each State, in cooperation with its political subdivisions, shall have an accident investigation program meeting the requirements established herein.

A. Administration

1. There shall be a State agency having primary responsibility for administration and supervision of storing and processing accident information, and providing information needed by user agencies.

2. There shall be employed at all levels of government adequate numbers of personnel, properly trained and qualified, to conduct accident investigations and process the resulting information.

3. Nothing in this standard shall preclude the use of personnel other than police officers in carrying out the requirements of this standard in accordance with laws and policies established by State and/or local governments.

4. Procedures shall be established to assure coordination, cooperation, and exchange of information among local, State, and Federal agencies having responsibility for the investigation of accidents and subsequent processing of resulting data.

5. Each State shall establish procedures for entering accident information into the statewide traffic records system established pursuant to Highway Safety Program Standard No. 10, Traffic Records, and for assuring uniformity and compatibility of this data with the requirements of the system, including as a minimum

   a. Use of uniform definitions and classifications acceptable to the National Highway Traffic Safety Administration and identified in the Highway Safety Program Manual.

   b. A standard format for input of data into the statewide traffic records system.

   c. Entry into the statewide traffic records system of information gathered and submitted to the responsible State agency.

B. Accident Reporting

Each State shall establish procedures which require the reporting of accidents to the responsible State agency within a reasonable time after occurrence.

C. Owner and Driver Reports

1. In accidents involving only property damage, where the vehicle can be normally and safely driven away from the scene, the drivers or owners of vehicles involved shall be required to submit a written report consistent with State reporting requirements, to the responsible State agency. A vehicle shall be considered capable of being normally and safely driven if it does not require towing and can be operated under its own power, in its customary manner, without further damage or hazard to itself, other traffic elements, or the roadway. Each report so submitted shall include, as a minimum, the following information relating to the accident:

   a. Location

   b. Time

   c. Identification of driver(s)

   d. Identification of pedestrian(s), passenger(s), or pedal-cyclist(s)

   e. Identification of vehicle(s)

   f. Direction of travel of each unit

   g. Other property involved

   h. Environmental conditions existing at the time of the accident

   i. A narrative description of the events and circumstances leading up to the time of impact, and immediately after impact

2. In all other accidents, the drivers or owners of motor vehicles involved shall be required to immediately notify the police of the jurisdiction in which the accident occurred. This includes, but is not limited to, accidents involving (1) fatal or nonfatal personal injury, or (2) damage to the extent that any motor vehicle involved cannot be driven under its own power, in its customary manner, without further damage or hazard to itself, other traffic elements, or the roadway, and therefore requires towing.

D. Accident Investigation

Each State shall establish a plan for accident investigation and reporting which shall meet the following criteria:

1. Police investigation shall be conducted of all accidents as identified in section IV. C. 2 above. Information gathered shall be consistent with the police mission of detecting and apprehending law violators, and shall include, as a minimum, the following:

   a. Violation(s), if any occurred, cited by section and subsection, numbers and titles of the State code, that (1) contributed to the accident where the investigating officer has reason to believe that violations were committed regardless of whether the officer has sufficient evidence to prove the violation(s); and (2) for which the driver was arrested or cited.

   b. Information necessary to prove each of the elements of the offense(s) for which the driver was arrested or cited.

   c. Information, collected in accordance with the program established under Highway Safety Program Standard No. 15, Police Traffic Services, section I-D, relating to human, vehicular, and highway factors causing individual accidents, injuries, and deaths, including failure to use safety belts.

2. Accident investigation teams shall be established, representing different interest areas, such as police, traffic, highway and automotive engineering, medical, behavioral, and social sciences. Data gathered by each member of

the investigation team should be consistent with the mission of the member's agency, and should be for the purpose of determining probable causes of accidents, injuries, and deaths. These teams shall conduct investigations of an appropriate sampling of accidents in which there were one or more of the following conditions:

a. Locations that have a similarity of design, traffic engineering characteristics, or environmental conditions, and that have a significantly large or disproportionate number of accidents.

b. Motor vehicles or motor vehicle parts that are involved in a significantly large or disproportionate number of accidents or injury-producing accidents.

c. Drivers, pedestrians, and vehicle occupants of a particular age, sex, or other grouping, who are involved in a significantly large or disproportionate number of motor vehicle traffic accidents or injuries.

d. Accidents in which causation or the resulting injuries and property damage are not readily explainable in terms of conditions or circumstances that prevailed.

e. Other factors that concern State and national emphasis programs.

EVALUATION

The program shall be evaluated at least annually by the State. Substance of the evaluation report shall be guided by Chapter V of the Highway Safety Program Manual. The National Highway Traffic Safety Administration shall be provided with a copy of the evaluation report.

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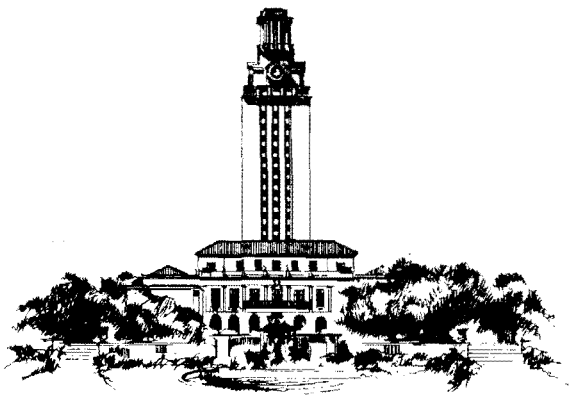
FEASIBILITY OF MULTIDISCIPLINARY ACCIDENT INVESTIGATION IN TEXAS



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