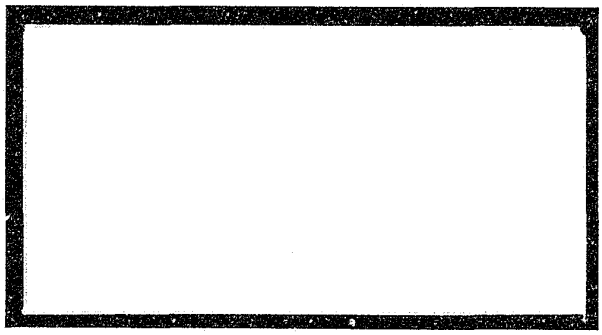
SAC Statistical Analysis Center



Missouri State Highway Patrol

A division of the

Department of Public Safety

152399

1993

MISSOURI

EMERGENCY SERVICE VEHICLE

ACCIDENTS

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Terry L. Knowles, Department Director
Dan A. Needham, Division Director

FOREWORD

This publication was produced by the Missouri State Highway Patrol at the request of the Missouri Division of Highway Safety.

It is the mission of the Missouri Division of Highway Safety to reduce accidents throughout the State of Missouri and provide technical assistance and funding when and where necessary to achieve this overall goal. Traffic safety officials and managers of emergency vehicles should carefully review this document and analyze their own operation and accident experience to insure that proper precautions and training measures have been implemented at their level.

If you require more information on traffic safety programs or need additional statistical information services, please forward your requests to my office.

Sincerely,

Dan A. Needham
Director

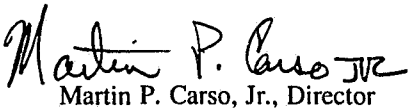
ACKNOWLEDGEMENTS

This publication was developed by the Missouri State Highway Patrol at the request of the Missouri Division of Highway Safety to assess the State's emergency service vehicle traffic accident problem.

Data used in this report were obtained from the Statewide Traffic Accident Records System (STARS). The Missouri State Highway Patrol, Traffic Division, is responsible for coordinating the STARS program. Special recognition is given to all Missouri law enforcement agencies and officers who provide traffic accident investigation services and conscientiously report their findings to STARS. Because of their efforts, traffic authorities and other public officials can implement policies and programs based on a systematic analysis of the traffic safety problems they are to address.

Improvements were made to this publication as a result of an upgrade to STARS which became effective January 1, 1993. This revision was based on recommendations of the Missouri Traffic Records Committee. This Committee acts as an advisory body to the Missouri State Highway Patrol for upgrading and maintaining the STARS system.

Finally, the U.S. Department of Transportation, National Highway Traffic Safety Administration has supported the Missouri Statistical Analysis Center's efforts in providing information services and publications to Missouri traffic safety authorities. Their financial support and technical assistance is appreciated.



Martin P. Carso, Jr., Director
Statistical Analysis Center
Missouri State Highway Patrol

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EXECUTIVE SUMMARY

The purpose of this report is to provide the Missouri State Highway Patrol, the Missouri Division of Highway Safety, and other State and local authorities with information on the problem of emergency service vehicle traffic accidents in the State of Missouri. Over the past three years, Missouri has experienced 3,658 emergency service vehicle traffic accidents (1,200 in 1991, 1,256 in 1992, and 1,212 in 1993). Accidents of this nature are of special concern to traffic safety authorities because emergency service vehicles and, more importantly, their staff are critical public safety resources whose loss due to traffic accidents adversely affects the public welfare.

The primary source of data used in this study was the Missouri Statewide Traffic Accident Records System (STARS). This report contains historical data encompassing the last three years of Missouri's emergency service vehicle traffic accident experience with emphasis on the latest year (1993).

In 1993, there was a total of 1,212 traffic accidents involving 1,249 emergency service vehicles in Missouri. One person was killed and 543 persons were injured in these traffic accidents. Of the 1,249 emergency service vehicles involved, 304 (24.3%) were on an emergency run at the time of the accident. The seriousness of these traffic accidents is compounded by the fact that the incident no doubt delayed or prevented the unit from responding to the original emergency situation.

Police vehicles account for the majority of emergency service vehicles involved in Missouri traffic accidents. Of the 1,249 emergency vehicles involved in 1993 traffic accidents, 981 (78.5%) were law enforcement vehicles. This finding is not surprising when considering the fact that there are a significantly greater number of police vehicles in operation as compared to either ambulances or fire vehicles. In addition, many law enforcement units patrol Missouri roadways throughout their shift of operation as compared to ambulances and fire vehicles which are normally stationed at fixed locations until called to respond to a situation.

Of the 1,249 emergency vehicles involved in 1993 Missouri traffic accidents 130 (10.4%) were fire vehicles. Although no accurate count is available, it is estimated that the number of fire vehicles in the State is larger than the ambulance vehicle population but much less than the police vehicle population. As with ambulances, fire vehicles made up a higher proportion of those vehicles involved in traffic accidents while on emergency runs. Of the 304 vehicles making an emergency run when involved in a traffic accident in 1993, 65 (21.4%) were vehicles of this type. There has been a sizeable increase in fire vehicle involved 1993 traffic accidents compared to 1992. In 1993 there were 129 such incidents compared to 93 in 1992 which is a 38.7% increase.

Of the 1,249 emergency service vehicles involved in 1993 Missouri traffic accidents, 123 (9.9%) were ambulances. However, ambulances do not make up a large proportion of the State's emergency service vehicle population. According to the Missouri Department of Health, Emergency Services Bureau, there were only 810 licensed ambulances in the State as of June 18, 1993. Ambulances also made up a higher proportion of emergency service vehicles involved in traffic accidents while making emergency runs. Of the 304 emergency service vehicles involved in 1993 Missouri traffic accidents while on emergency runs, 42 (13.8%) were ambulances. There has been a sizeable increase in ambulance involved 1993 traffic accidents compared to 1992. In 1993 there were 123 such incidents compared to 87 in 1992 which is a 41.4% increase.

INTRODUCTION

This report is one in a series which identifies the magnitude, severity, and characteristics of emergency service vehicle involved traffic accidents occurring in the State of Missouri. It describes Missouri's emergency service vehicle traffic accident experience from 1991 through 1993 with special emphasis on the last year (1993).

Missouri traffic safety authorities have expressed an interest in studying these types of incidents for a number of reasons. First, in a sizable portion of these incidents, the emergency service vehicles are responding to other emergency situations. In most instances, their involvement in traffic accidents either delays or totally prevents them from providing the emergency care services being requested. The timeliness of providing their services can be a critical factor in preventing further death, serious injury, and/or property damage in emergency situations.

Second, emergency service vehicles and, more importantly, the staff who operate them are critical public safety resources which the community can ill afford to lose as a result of their involvement in traffic accidents. Costs associated with vehicle replacement or repair are high because these types of vehicles are configured for emergency response (i.e., heavy suspension systems, larger engines, improved braking systems, emergency lights, siren, etc.). Even more significant are losses resulting from qualified emergency service staff being killed or injured in these traffic accidents. The loss of technically trained emergency service manpower reduces the community's capabilities to adequately respond to future emergency situations.

Finally, emergency vehicle involved traffic accidents can result in death and injury to not only emergency vehicle staff but to other parties involved in the traffic accident.

Data used in this study were obtained from the Missouri Statewide Traffic Accident Records System (STARS). This system is maintained by the Missouri State Highway Patrol (MSHP). In accordance with State statute, law enforcement agencies are required to investigate traffic accidents occurring on public roadways if they involve a death or personal injury or property damage over $500.00. They suomit their findings on a standard traffic accident report form to the STARS system. This standard traffic accident report form contains two fields designed to identify whether the vehicles involved were emergency service vehicles, the type of emergency service vehicle (police, fire, ambulance, or other), and whether or not it was on an emergency run.

Data from the traffic accident report forms are encoded by MSHP staff in computerized files. These files were made available to the MSHP Statistical Analysis Center (SAC) who conducted the analysis.

It should be noted that not all motor vehicle incidents involving damage to emergency service vehicles or injury to its staff were analyzed in this study due to data non-availability. Data on traffic accidents occurring on private property, such as a private driveway, were not attainable for this analysis. In addition, certain incidents are not classified as traffic accidents. For instance, in cases where the police establish a roadblock and the person being pursued intentionally rams the blocking police vehicle, the incident would not be classified as a traffic accident and would not be included in this analysis.

The findings from this study are described in the following four sections. The first section provides an overview of Missouri's emergency services traffic accident problem. The second section describes the findings from an analysis which focused on police vehicle involvement. The third section describes fire vehicle involvement and the last section covers ambulance involvement.

1.0 EMERGENCY SERVICE VEHICLE INVOLVEMENT OVERVIEW

This section presents a series of data displays which describe Missouri's emergency service vehicle traffic accident activity. Emergency service vehicle involved traffic accidents are defined as any accident in which one or more emergency service vehicles were directly involved in the incident. Emergency service vehicles include those vehicles assigned to law enforcement agencies, fire departments, and ambulance service agencies. In addition, vehicles operated by other agencies, such as public utilities and public service corporations, are considered emergency vehicles but only when they are actually performing emergency services.

SUMMARY OF ANALYSIS

- In 1993 there was a total of 1,212 traffic accidents involving 1,249 emergency service vehicles in the State of Missouri. One person was killed and 543 persons were injured in these traffic accidents. One person was killed or injured every 16.1 hours in these types of accidents in 1993.

- In 1991, Missouri had 1,200 emergency service vehicle traffic accidents. In 1992, there was a 4.7% increase compared to 1991 (1,256) and in 1993 there was a 3.5% decrease compared to 1992 (1,212).

- Police vehicles are the largest number of emergency service vehicles involved in Missouri's traffic accidents. Of the 1,249 emergency service vehicles involved, 981 (78.5%) were police vehicles. They were involved in a total of 958 traffic accidents. A total of 304 emergency service vehicles were on emergency runs when the traffic accident occurred. Of these, 182 (59.9%) were police vehicles. Law enforcement officers on-duty annual miles of travel are, no doubt, much greater than other types of emergency service providers. A large proportion of law enforcement officers are assigned to patrol Missouri's roadways throughout their normal shift of operations for crime prevention purposes as well as to provide quick response to calls for services. Normally, fire and ambulance service personnel are stationed at fixed locations from which they respond to emergency situations. In addition, there are larger numbers of police vehicles working Missouri's roadways than either ambulances or fire vehicles. The fact that law enforcement officer's on-duty miles of travel are substantially greater increases their risk of being involved in traffic accidents.

- Fire vehicles were the second largest type of emergency vehicle involved in Missouri's traffic accidents in 1993. Of the 1,249 emergency vehicles involved in 1993 Missouri traffic accidents, 130 (10.4%) were fire vehicles. They were involved in a total of 129 traffic accidents. Of the 304 emergency vehicles on emergency run at the time of the traffic accident, 65 (21.4%) were fire vehicles.

- Ambulances were the third most common type of emergency vehicle involved in Missouri's 1993 traffic accidents. Of the 1,249 emergency vehicles involved, 123 (9.9%) were ambulances. They were involved in a total of 123 traffic accidents. Like fire vehicles, ambulance involvement in traffic accidents when on emergency run was higher. Of the 304 emergency vehicles on emergency run when the traffic accident occurred, 13.8% were ambulances.

- Emergency vehicles classified as 'Other' make up a small proportion of those involved in Missouri's 1993 traffic accidents. Of the 1,249 emergency vehicles involved, only 15 (1.2%) were emergency vehicles classified as 'Other'.

1993 MISSOURI TRAFFIC ACCIDENTS

EMERGENCY SERVICE (ES) VEHICLE INVOLVEMENT

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ES VEHICLE INVOLVED	1	0.1	325	0.7	886	0.7	1,212	0.7
NO ES VEHICLE INVOLVED	842	99.9	48,713	99.3	127,029	99.3	176,584	99.3
TOTAL	843	100.0	49,038	100.0	127,915	100.0	177,796	100.0

TABLE 1.0.1

MISSOURI EMERGENCY SERVICE VEHICLE INVOLVED ACCIDENTS 1991 - 1993

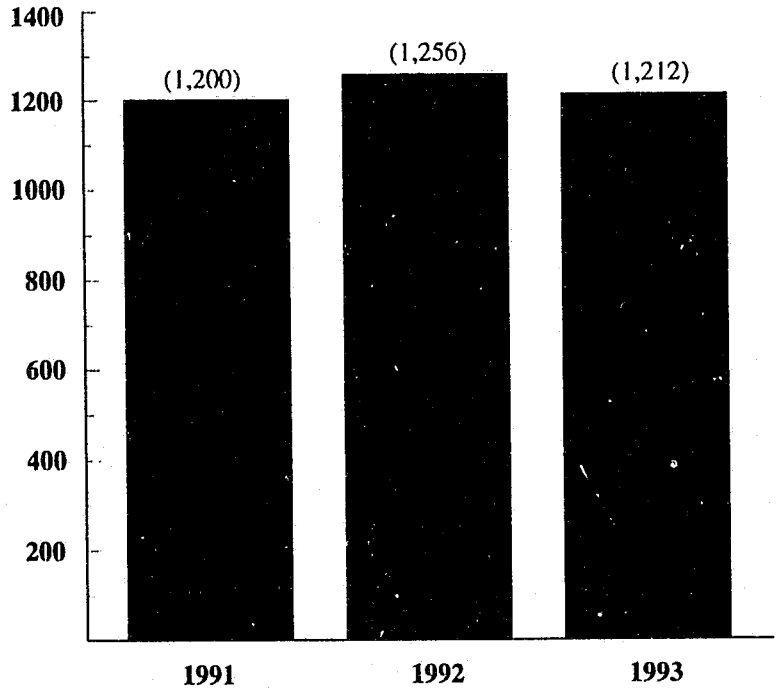


FIGURE 1.0.1

MISSOURI EMERGENCY SERVICE VEHICLE PERSONAL INJURY PROBLEM ANALYSIS CLOCK

1993

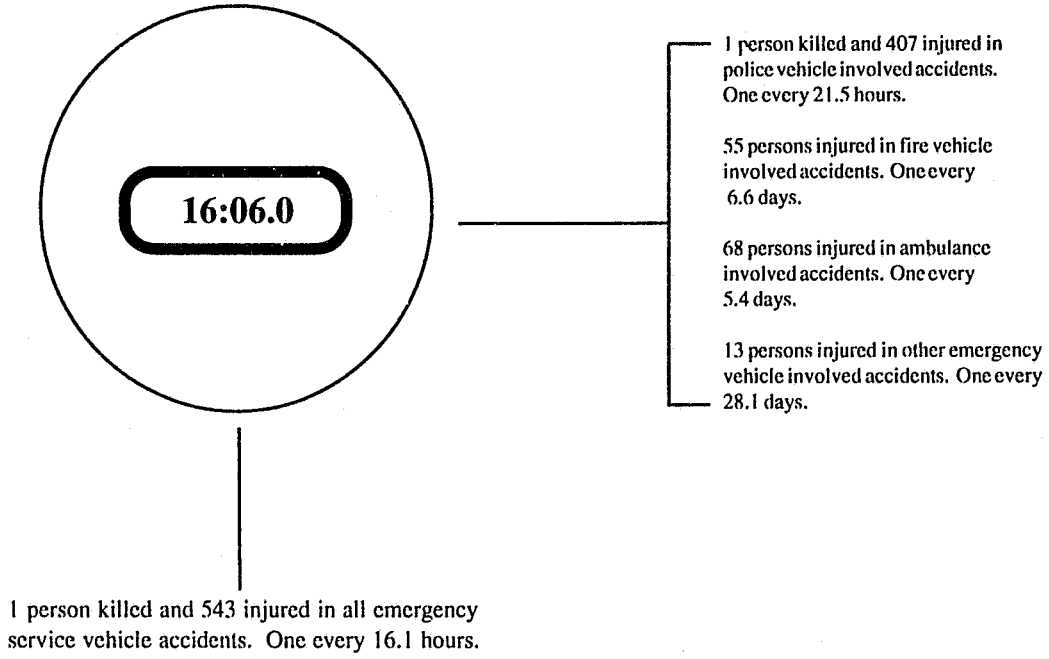


FIGURE 1.0.2

1993 MISSOURI EMERGENCY SERVICE (ES) VEHICLE ACCIDENTS

TYPE OF EMERGENCY SERVICE VEHICLE INVOLVED

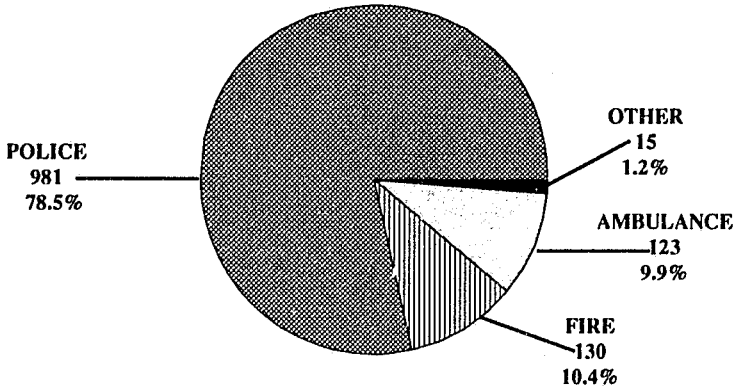
	FATAL	PERSONAL INJURY	PROPERTY DAMAGE	TOTAL	NUMBER OF ES VEHICLES INVOLVED
TOTAL NUMBER OF ES VEHICLE ACCIDENTS	1	325	886	1,212	1,249
INVOLVING					
POLICE VEHICLE	1	263	694	958	981
FIRE VEHICLE	0	25	104	129	130
AMBULANCE	0	33	90	123	123
OTHER ES VEHICLE	0	6	7	13	15

[1]The number of emergency service vehicles involved does not equal the number of emergency service traffic accidents since there are cases where more than one emergency service vehicle was involved in the same traffic accident. There was a total of 1,212 traffic accidents involving 1,249 emergency service vehicles

TABLE 1.0.2

TYPE OF EMERGENCY SERVICE VEHICLES INVOLVED IN

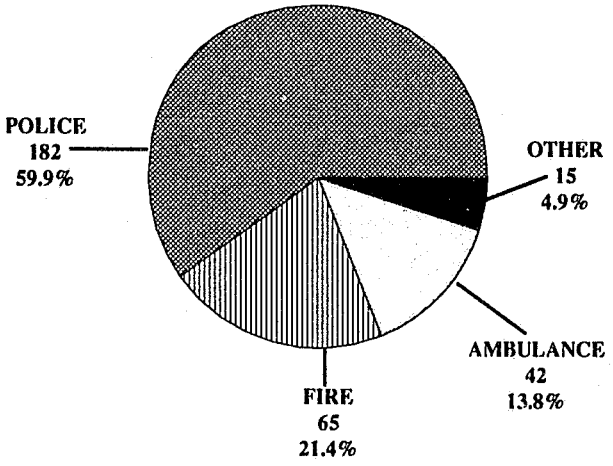
1993 MISSOURI TRAFFIC ACCIDENTS



TOTAL = 1,249

FIGURE 1.0.3

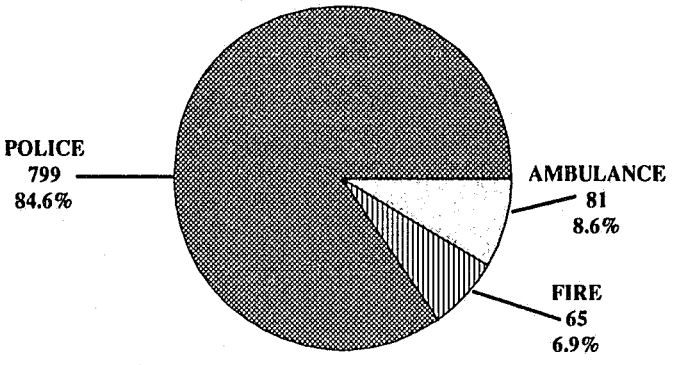
TYPE OF EMERGENCY SERVICE VEHICLES INVOLVED IN 1993 MISSOURI TRAFFIC ACCIDENTS WHILE ON EMERGENCY RUN



TOTAL = 304

FIGURE 1.0.4

TYPE OF EMERGENCY SERVICE VEHICLES INVOLVED IN 1993 MISSOURI TRAFFIC ACCIDENTS NOT ON EMERGENCY RUN



TOTAL = 945

FIGURE 1.0.5

2.0 POLICE VEHICLE INVOLVEMENT

This section presents a series of data displays which identify police vehicle involvement in Missouri's traffic accident activity. Police vehicle traffic accidents are defined as any accident in which one or more police vehicles were directly involved in the incident. Data displays also are provided which describe characteristics of the drivers of the police vehicles involved in these traffic accidents.

1993 SUMMARY ANALYSIS

- In 1993, there was a total of 958 traffic accidents involving one or more police vehicles in the State of Missouri. One person was killed and 407 were injured in these accidents.
- There was a decrease of 10.9% when comparing 1993 police vehicle related traffic accidents with those occurring in 1992.
- In 18.5% of the police vehicle involved traffic accidents, the police vehicle was on an emergency run at the time of the incident.
- In 1993, one person was injured in a police vehicle related accident every 21.5 hours in the State of Missouri.
- Of all 1993 police vehicle involved accidents, the first harmful event in 57.5% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 17.5% of the cases, it involved a motor vehicle striking a fixed object and in 14.3% of the cases, the vehicle struck a parked vehicle.
- Of all 1993 police vehicle involved accidents, 68.4% occurred in an urban area of the State and 31.6% occurred in a rural area.
- Of all drivers of police vehicles involved in 1993 traffic accidents, 93.1% were male and 6.9% were female. The average age of the driver of the police vehicle was 34.5 years.

1993 POLICE VEHICLE INVOLVED ACCIDENTS

EMERGENCY RUN STATUS

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	TOTAL NUMBER[1] KILLED	TOTAL NUMBER[1] INJURED	POLICE VEHICLE DRIVERS/PASSENGERS[2] KILLED	POLICE VEHICLE DRIVERS/PASSENGERS[2] INJURED
POLICE VEHICLE ON RUN	0	0.0	66	25.1	111	16.0	177	18.5	0	114	0	61
POLICE VEHICLE NOT ON RUN	1	100.0	197	74.9	583	84.0	781	81.5	1	293	0	159
TOTAL	1	100.0	263	100.0	694	100.0	958	100.0	1	407	0	220

[1]This statistic indicates the total number of persons killed and injured in an accident where one or more police vehicles were involved.

[2]This statistic indicates the number of police vehicle drivers and passengers killed and injured.

TABLE 2.0.1

1992 and 1993 POLICE VEHICLE INVOLVED ACCIDENT ANALYSIS

	1992	1993	RATE OF CHANGE
FATAL	2	1	- 50.0
PERSONAL INJURY	274	263	- 4.0
PROPERTY DAMAGE	799	694	- 13.1
TOTAL	1,075	958	- 10.9

TABLE 2.0.2

1993 POLICE VEHICLE INVOLVED ACCIDENTS

ACCIDENT TYPE BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	4	1.5	45	6.5	49	5.1
BICYCLIST	0	0.0	3	1.1	1	0.1	4	0.4
FIXED OBJECT	0	0.0	26	9.9	142	20.5	168	17.5
OTHER OBJECT	0	0.0	1	0.4	22	3.2	23	2.4
PEDESTRIAN	0	0.0	5	1.9	1	0.1	6	0.6
TRAIN	0	0.0	0	0.0	0	0.0	0	0.0
VEHICLE IN TRANSPORT	0	0.0	195	74.1	356	51.3	551	57.5
VEHICLE ON OTHER ROADWAY	0	0.0	0	0.0	0	0.0	0	0.0
PARKED VEHICLE	1	100.0	19	7.2	117	16.9	137	14.3
NON-COLLISION OVERTURN	0	0.0	1	0.4	1	0.1	2	0.2
NON-COLLISION OTHER	0	0.0	9	3.4	9	1.3	18	1.9
TOTAL	1	100.0	263	100.0	694	100.0	958	100.0

TABLE 2.0.3

1993 POLICE VEHICLE INVOLVED ACCIDENTS

AREA CLASSIFICATION BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	1	100.0	185	70.3	469	67.6	655	68.4
RURAL	0	0.0	78	29.7	225	32.4	303	31.6
TOTAL	1	100.0	263	100.0	694	100.0	958	100.0

TABLE 2.0.4

1993 POLICE VEHICLE INVOLVED ACCIDENTS

ROAD CURVATURE BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	1	100.0	226	87.3	607	88.0	834	87.8
CURVE	0	0.0	33	12.7	83	12.0	116	12.2
UNKNOWN	0	-	4	-	4	-	8	-
TOTAL	1	100.0	263	100.0	694	100.0	958	100.0

TABLE 2.0.5

1993 POLICE VEHICLE INVOLVED ACCIDENTS

ROAD INCLINE BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	0	0.0	147	57.0	421	61.4	568	60.1
HILL	1	100.0	100	38.8	254	37.0	355	37.6
CREST	0	0.0	11	4.3	11	1.6	22	2.3
UNKNOWN	0	-	5	-	8	-	13	-
TOTAL	1	100.0	263	100.0	694	100.0	958	100.0

TABLE 2.0.6

1993 POLICE VEHICLE INVOLVED ACCIDENTS

ROAD CONDITIONS BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	1	100.0	176	67.2	483	70.0	660	69.3
WET	0	0.0	68	26.0	146	21.2	214	22.5
SNOW	0	0.0	9	3.4	15	2.2	24	2.5
ICE	0	0.0	9	3.4	44	6.4	53	5.6
MUD	0	0.0	0	0.0	2	0.3	2	0.2
UNKNOWN	0	-	1	-	4	-	5	-
TOTAL	1	100.0	263	100.0	694	100.0	958	100.0

TABLE 2.0.7

1993 POLICE VEHICLE INVOLVED ACCIDENTS

HIGHWAY CLASSIFICATION BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	30	11.4	67	9.7	97	10.1
U.S. HIGHWAY	1	100.0	20	7.6	58	8.4	79	8.3
STATE NUMBERED	0	0.0	44	16.7	76	11.0	120	12.5
SINGLE STATE LETTERED	0	0.0	12	4.6	21	3.0	33	3.4
DOUBLE STATE LETTERED	0	0.0	4	1.5	14	2.0	18	1.9
OUTER ROAD	0	0.0	0	0.0	7	1.0	7	0.7
COUNTY ROAD	0	0.0	21	8.0	70	10.1	91	9.5
CITY STREET	0	0.0	124	47.2	344	49.6	468	48.9
INTERSTATE LOOP	0	0.0	4	1.5	1	0.1	5	0.5
OTHER[1]	0	0.0	4	1.5	36	5.2	40	4.2
TOTAL	1	100.0	263	100.0	694	100.0	958	100.0

[1] "Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 2.0.8

1993 POLICE VEHICLE INVOLVED ACCIDENTS

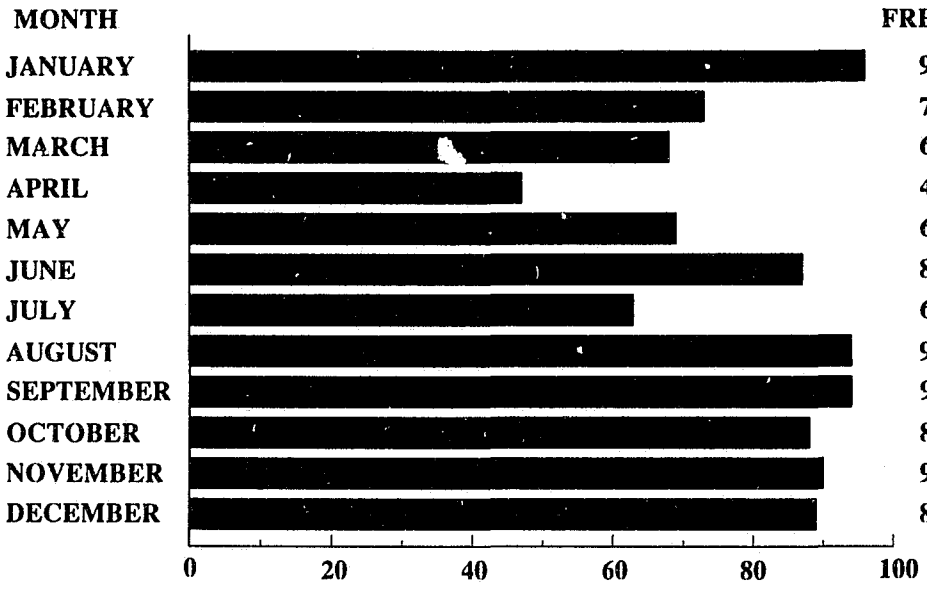
HIGHWAY CLASSIFICATION BY AREA CLASSIFICATION AND ACCIDENT SEVERITY

	URBAN								RURAL							
	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	17	9.2	41	8.7	58	8.9	0	0.0	13	16.7	26	11.6	39	12.9
U.S. HIGHWAY	1	100.0	14	7.6	26	5.5	41	6.3	0	0.0	6	7.7	32	14.2	38	12.5
STATE NUMBERED	0	0.0	20	10.8	28	6.0	48	7.3	0	0.0	24	30.8	48	21.3	72	23.8
SINGLE STATE LETTERED	0	0.0	3	1.6	4	0.9	7	1.1	0	0.0	9	11.5	17	7.6	26	8.6
DOUBLE STATE LETTERED	0	0.0	0	0.0	3	0.6	3	0.5	0	0.0	4	5.1	11	4.9	15	5.0
OUTER ROAD	0	0.0	0	0.0	6	1.3	6	0.9	0	0.0	0	0.0	1	0.4	1	0.3
COUNTY ROAD	0	0.0	5	2.7	24	5.1	29	4.4	0	0.0	16	20.5	46	20.4	62	20.5
CITY STREET	0	0.0	120	64.9	306	65.3	426	65.0	0	0.0	4	5.1	38	16.9	42	13.9
INTERSTATE LOOP	0	0.0	3	1.6	1	0.2	4	0.6	0	0.0	1	1.3	0	0.0	1	0.3
OTHER [1]	0	0.0	3	1.6	30	6.4	33	5.0	0	0.0	1	1.3	6	2.7	7	2.3
TOTAL	1	100.0	185	100.0	469	100.0	655	100.0	0	0.0	78	100.0	225	100.0	303	100.0

[1] "Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 2.0.9

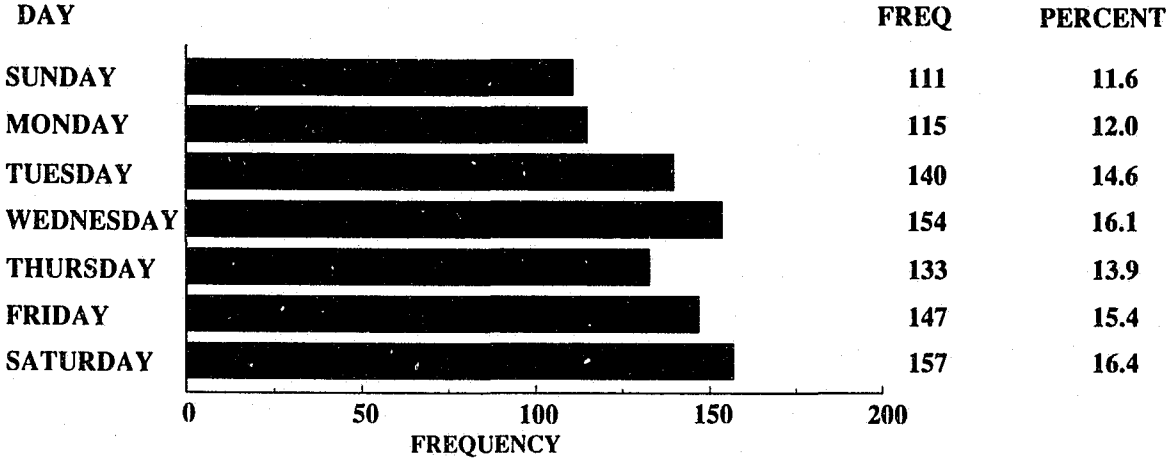
1993 POLICE VEHICLE INVOLVED ACCIDENTS
MONTH OF YEAR



UNKNOWN DATA NOT INCLUDED

FIGURE 2.0.1

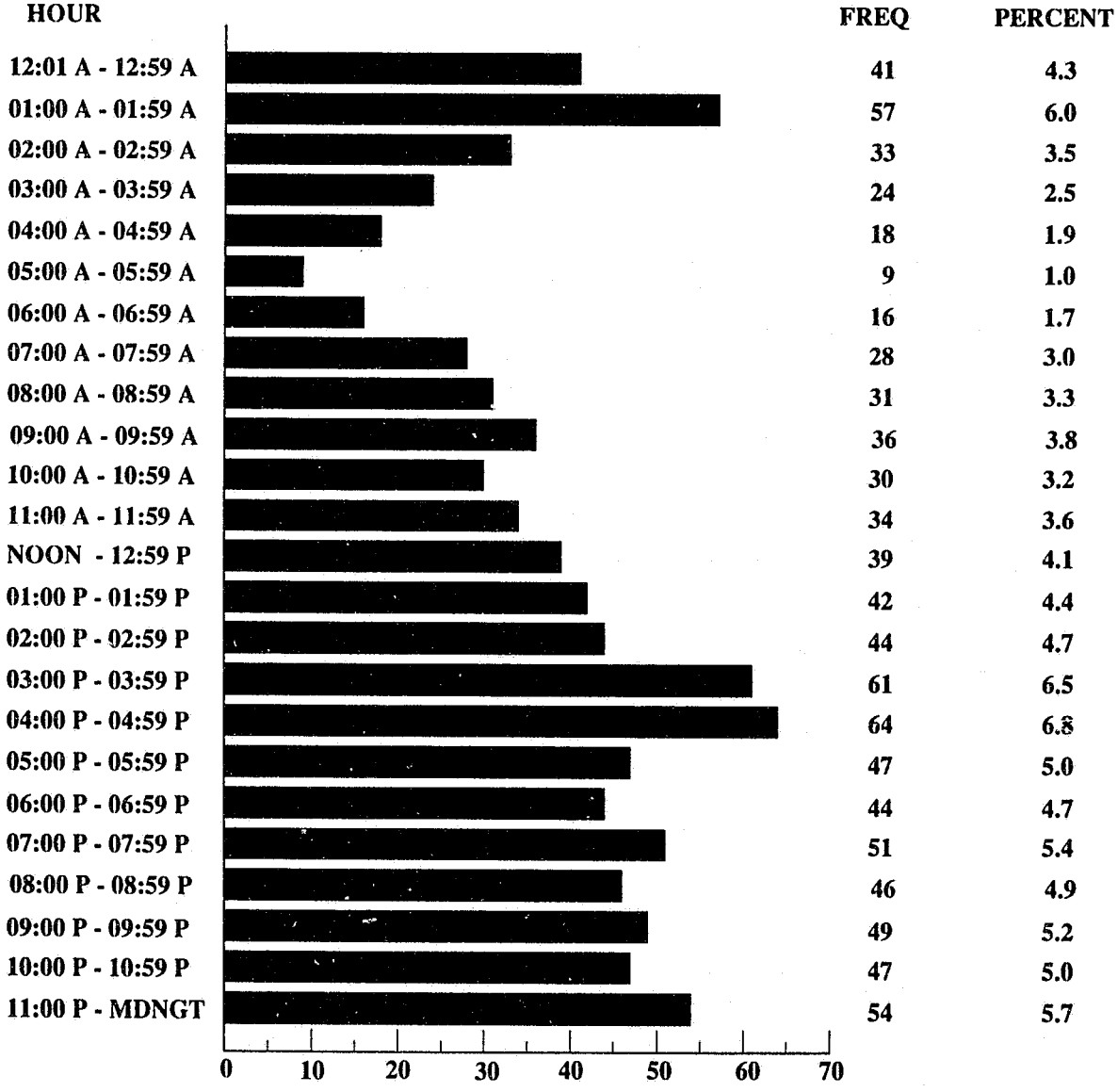
1993 POLICE VEHICLE INVOLVED ACCIDENTS
DAY OF WEEK



UNKNOWN DATA NOT INCLUDED

FIGURE 2.0.2

1993 POLICE VEHICLE INVOLVED ACCIDENTS
HOUR OF DAY



UNKNOWN DATA NOT INCLUDED

FIGURE 2.0.3

1993 MISSOURI POLICE VEHICLE ACCIDENTS

TYPE OF CIRCUMSTANCE INVOLVED BY ACCIDENT SEVERITY AND PERSON CLASSIFICATION[1]

	FATAL AND PERSONAL INJURY POLICE VEHICLE ACCIDENTS = 264			TOTAL POLICE VEHICLE ACCIDENTS = 958		
	DRIVER OF POLICE VEHICLE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL FATAL	DRIVER OF POLICE VEHICLE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL ACCIDENTS
EXCEEDING SPEED LIMIT/ TOO FAST FOR CONDITIONS	8.7	14.0	22.3	6.4	9.0	15.1
IMPROPER PASSING	0.0	0.8	0.8	0.3	1.3	1.6
VIOLATION OF STOP SIGN	1.5	5.3	6.8	0.7	3.1	3.9
WRONG SIDE NOT PASSING	0.4	3.4	3.8	0.5	1.8	2.3
FOLLOWING TOO CLOSE	0.4	1.9	2.3	0.7	1.6	2.3
IMPROPER SIGNAL	0.0	0.4	0.4	0.0	0.5	0.5
IMPROPER BACKING	0.4	0.8	1.1	2.0	3.2	5.2
IMPROPER TURN	0.8	3.4	4.2	0.6	3.2	3.9
IMPROPER LANE USAGE/CHANGE	0.0	3.8	3.8	0.2	3.2	3.4
WRONG WAY ONE-WAY STREET	0.0	0.4	0.4	0.3	0.3	0.6
IMPROPER START FROM PARK	0.0	0.8	0.8	0.0	0.4	0.4
IMPROPERLY PARKED	0.0	0.8	0.8	0.6	1.7	2.3
VEHICLE DEFECTS	1.5	1.9	3.4	1.4	1.9	3.2
FAILED TO YIELD	4.9	22.3	27.3	3.3	12.6	15.9
DRINKING	0.0	10.6	10.6	0.0	7.2	7.2
DRUGS	0.0	0.4	0.4	0.0	0.6	0.6
PHYSICAL IMPAIRMENT	0.8	0.4	1.1	0.6	0.4	1.0
INATTENTION	13.3	36.7	49.2	16.6	30.7	45.9

[1]This table identifies the percentage of accidents involving one or more police vehicles having a specific type of circumstance which contributed to the cause of the accident. This table further defines the percentage of accidents where the contributing circumstance was associated with the driver or his police vehicle as well as those attributed to other persons and vehicles in the accident. For instance, when examining speed involvement in 1993 Missouri police vehicle accidents, it was found that a driver of the police vehicle was speeding in 6.4% of the accidents. In 9.0% of the accidents another driver was speeding. In 15.1% of the accidents either a driver of the police vehicle, another driver, or both drivers were speeding.

TABLE 2.0.10

POLICE VEHICLES INVOLVED IN 1993 MISSOURI ACCIDENTS

TYPE OF VEHICLE BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AUTOMOBILE	1	100.0	252	92.7	656	92.7	909	92.7
STATION WAGON	0	0.0	1	0.4	1	0.1	2	0.2
SPORT UTILITY VEHICLE	0	0.0	0	0.0	11	1.6	11	1.1
VAN/SMALL BUS	0	0.0	12	4.4	28	4.0	40	4.1
MOTORCYCLE	0	0.0	3	1.1	5	0.7	8	0.8
BICYCLE	0	0.0	1	0.4	0	0.0	1	0.1
OTHER TRANSPORT DEVICE	0	0.0	1	0.4	0	0.0	1	0.1
PICK-UP TRUCK	0	0.0	0	0.0	4	0.6	4	0.4
OTHER TRUCK	0	0.0	2	0.7	3	0.4	5	0.5
TOTAL	1	100.0	272	100.0	708	100.0	981	100.0

TABLE 2.0.11

POLICE VEHICLES INVOLVED IN 1993 MISSOURI ACCIDENTS

DRIVER INVOLVEMENT BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRIVERLESS	1	100.0	20	7.4	98	13.8	119	12.1
KNOWN DRIVER INVOLVED	0	0.0	252	92.6	606	85.6	858	87.5
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	4	0.6	4	0.4
TOTAL	1	100.0	272	100.0	708	100.0	981	100.0

TABLE 2.0.12

DRIVERS OF POLICE VEHICLES INVOLVED IN 1993 MISSOURI ACCIDENTS

SEX OF DRIVER BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	0	0.0	230	91.3	569	93.9	799	93.1
FEMALE	0	0.0	22	8.7	37	6.1	59	6.9
UNKNOWN	0	-	0	-	4	-	4	-
TOTAL	0	0.0	252	100.0	610	100.0	862	100.0

TABLE 2.0.13

DRIVERS OF POLICE VEHICLES INVOLVED IN 1993 MISSOURI ACCIDENTS

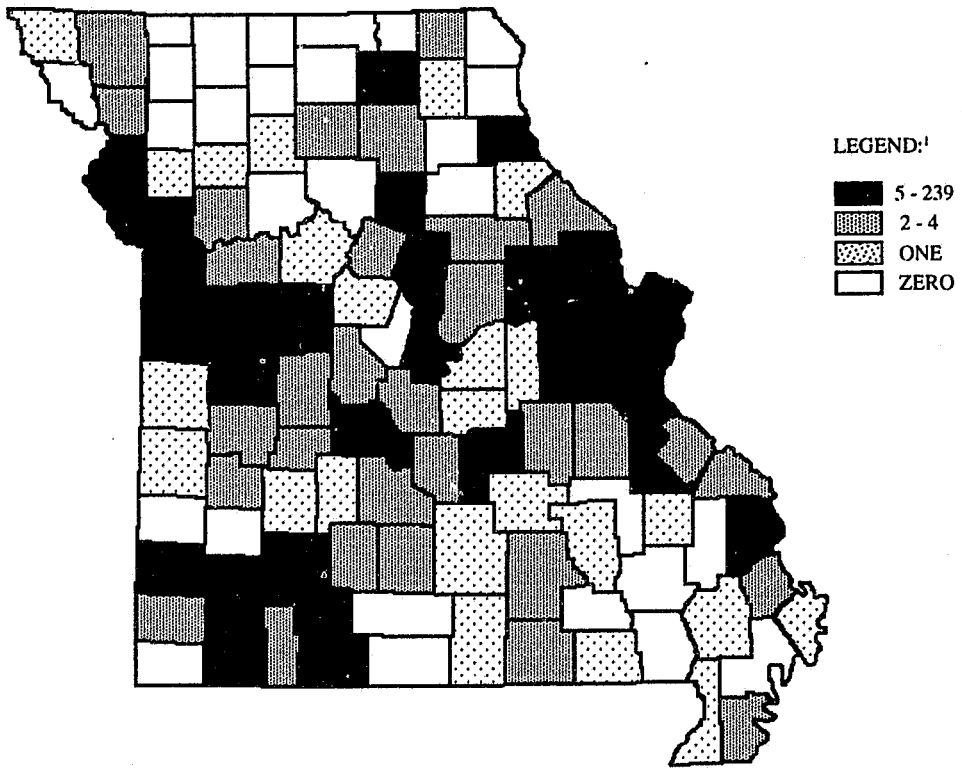
AGE OF DRIVER BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	0.0	-	35.0	-	34.4	-	34.5	-
15 YEARS AND UNDER	0	0.0	0	0.0	0	0.0	0	0.0
16 - 20 YEARS	0	0.0	0	0.0	1	0.2	1	0.1
21 - 25 YEARS	0	0.0	39	15.7	108	17.9	147	17.2
26 - 30 YEARS	0	0.0	55	22.2	170	28.1	225	26.4
31 - 35 YEARS	0	0.0	54	21.8	90	14.9	144	16.9
36 - 40 YEARS	0	0.0	34	13.7	80	13.2	114	13.4
41 - 45 YEARS	0	0.0	31	12.5	60	9.9	91	10.7
46 - 50 YEARS	0	0.0	20	8.1	56	9.3	76	8.9
51 - 55 YEARS	0	0.0	9	3.6	24	4.0	33	3.9
56 - 60 YEARS	0	0.0	2	0.8	6	1.0	8	0.9
61 - 65 YEARS	0	0.0	3	1.2	8	1.3	11	1.3
66 YEARS AND OVER	0	0.0	1	0.4	2	0.3	3	0.4
UNKNOWN	0	-	4	-	5	-	9	-
TOTAL	0	0.0	252	100.0	610	100.0	862	100.0

TABLE 2.0.14

1993 POLICE VEHICLE INVOLVED ACCIDENTS

COUNTY QUARTILE ANALYSIS



[1] LEGEND CATEGORIES ARE BASED ON QUARTILES OF COUNTIES.

RANK	COUNTY	FREQUENCY	PERCENT
1.0	JACKSON	239	24.9
2.0	ST. LOUIS	157	16.4
3.0	ST. LOUIS CITY	134	14.0
4.0	ST. CHARLES	37	3.9
5.0	GREENE	35	3.7
6.0	JEFFERSON	31	3.2
7.0	CLAY	22	2.3
8.5	BUCHANAN	14	1.5
8.5	PLATTE	14	1.5
10.5	BOONE	13	1.4
10.5	JASPER	13	1.4
13.5	CAMDEN	9	0.9
13.5	COLE	9	0.9
13.5	FRANKLIN	9	0.9
13.5	ST. FRANCOIS	9	0.9
17.0	CAPE GIRARDEAU	8	0.8
17.0	CASS	8	0.8
17.0	LAWRENCE	8	0.8
21.0	ADAIR	7	0.7
21.0	CHRISTIAN	7	0.7
21.0	HENRY	7	0.7
21.0	LINCOLN	7	0.7
21.0	WARREN	7	0.7
24.5	PHELPS	6	0.6
24.5	RANDOLPH	6	0.6
28.5	BARRY	5	0.5
28.5	JOHNSON	5	0.5
28.5	MARION	5	0.5
28.5	MONTGOMERY	5	0.5
28.5	PETTIS	5	0.5
28.5	TANEY	5	0.5
			First Quartile
			Second Quartile
34.0	CALLAWAY	4	0.4
34.0	MILLER	4	0.4

RANK	COUNTY	FREQUENCY	PERCENT
34.0	NEWTON	4	0.4
34.0	RAY	4	0.4
34.0	WRIGHT	4	0.4
44.5	ANDREW	3	0.3
44.5	CEDAR	3	0.3
44.5	CRAWFORD	3	0.3
44.5	HICKORY	3	0.3
44.5	LACLEDE	3	0.3
44.5	LAFAYETTE	3	0.3
44.5	NODAWAY	3	0.3
44.5	OREGON	3	0.3
44.5	PERRY	3	0.3
44.5	PIKE	3	0.3
44.5	PULASKI	3	0.3
44.5	ST. CLAIR	3	0.3
44.5	STE. GENEVIEVE	3	0.3
44.5	SCOTT	3	0.3
44.5	WASHINGTON	3	0.3
44.5	WEBSTER	3	0.3
57.5	AUDRAIN	2	0.2
57.5	BENTON	2	0.2
57.5	HOWARD	2	0.2
57.5	LINN	2	0.2
57.5	MACON	2	0.2
57.5	MORGAN	2	0.2
57.5	PEMISCOTT	2	0.2
57.5	SCOTLAND	2	0.2
57.5	SHANNON	2	0.2
57.5	STONE	2	0.2
			Second Quartile
			Third Quartile
74.5	ATCHISON	1	0.1
74.5	BATES	1	0.1
74.5	CALDWELL	1	0.1
74.5	CLINTON	1	0.1
74.5	COOPER	1	0.1
74.5	DALLAS	1	0.1
74.5	DENT	1	0.1
74.5	DUNKLIN	1	0.1
74.5	GASCONADE	1	0.1
74.5	HOWELL	1	0.1
74.5	KNOX	1	0.1
74.5	LIVINGSTON	1	0.1
74.5	MADISON	1	0.1
74.5	MARIES	1	0.1
74.5	MISSISSIPPI	1	0.1
74.5	OSAGE	1	0.1
74.5	POLK	1	0.1
74.5	RALLS	1	0.1
74.5	REYNOLDS	1	0.1
74.5	RIPLEY	1	0.1
74.5	SALINE	1	0.1
74.5	STODDARD	1	0.1
74.5	TEXAS	1	0.1
74.5	VERNON	1	0.1
			Third Quartile
			Fourth Quartile
101.0	BARTON	0	0.0
101.0	BOLLINGER	0	0.0
101.0	BUTLER	0	0.0
101.0	CARROLL	0	0.0
101.0	CARTER	0	0.0
101.0	CHARITON	0	0.0
101.0	CLARK	0	0.0
101.0	DADE	0	0.0
101.0	DAVIESS	0	0.0
101.0	DEKALB	0	0.0
101.0	DOUGLAS	0	0.0
101.0	GENTRY	0	0.0
101.0	GRUNDY	0	0.0
101.0	HARRISON	0	0.0
101.0	HOLT	0	0.0
101.0	IRON	0	0.0
101.0	LEWIS	0	0.0
101.0	MCDONALD	0	0.0
101.0	MERCER	0	0.0
101.0	MONITEAU	0	0.0
101.0	MONROE	0	0.0
101.0	NEW MADRID	0	0.0
101.0	OZARK	0	0.0
101.0	PUTNAM	0	0.0
101.0	SCHUYLER	0	0.0
101.0	SHELBY	0	0.0
101.0	SULLIVAN	0	0.0
101.0	WAYNE	0	0.0
101.0	WORTH	0	0.0

TABLE 2.0.15

MISSOURI POLICE VEHICLE INVOLVED ACCIDENTS
1991 - 1993

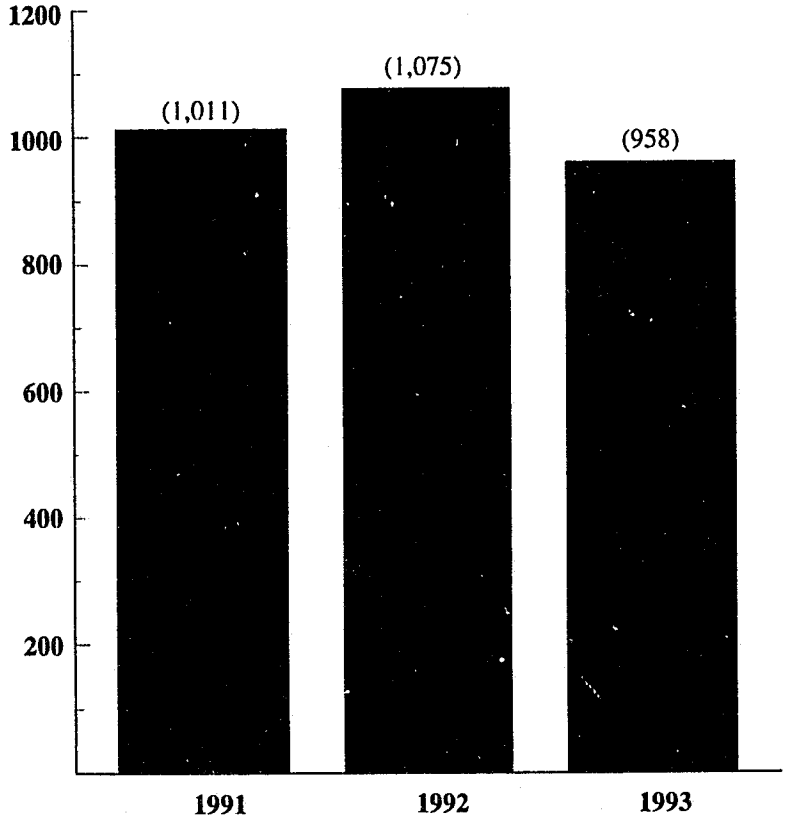


FIGURE 2.0.4

3.0 FIRE VEHICLE INVOLVEMENT

This section presents a series of data displays which identify fire vehicle involvement in Missouri's traffic accident activity. Fire vehicle traffic accidents are defined as any accident in which one or more fire vehicles were directly involved in the incident. Data displays also are provided which describe characteristics of the drivers of the fire vehicles involved in these traffic accidents.

1993 SUMMARY ANALYSIS

- In 1993, there was a total of 129 traffic accidents involving one or more fire vehicles in the State of Missouri. No one was killed and 55 were injured in these accidents.
- There was an increase of 38.7% when comparing 1993 fire vehicle related traffic accidents with those occurring in 1992.
- In 49.6% of the fire vehicle involved traffic accidents, the fire vehicle was on an emergency run at the time of the incident.
- In 1993, one person was injured in a fire vehicle related accident every 6.6 days in the State of Missouri.
- Of all 1993 fire vehicle involved accidents, the first harmful event in 58.1% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 28.7% of the cases, it involved a motor vehicle striking a parked vehicle and in 10.1% of the cases, the vehicle struck a fixed object.
- Of all 1993 fire vehicle involved accidents, 72.1% occurred in an urban area of the State and 27.9% occurred in a rural area.
- Of all drivers of fire vehicles involved in 1993 traffic accidents, 97.4% were male and 2.6% were female. The average age of the driver of the fire vehicle was 35.5 years.

1993 FIRE VEHICLE INVOLVED ACCIDENTS

EMERGENCY RUN STATUS

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	TOTAL NUMBER[1] KILLED	TOTAL NUMBER[1] INJURED	FIRE VEHICLE DRIVERS/PASSENGERS[2] KILLED	FIRE VEHICLE DRIVERS/PASSENGERS[2] INJURED
FIRE VEHICLE ON RUN	0	0.0	16	64.0	48	46.2	64	49.6	0	39	0	13
FIRE VEHICLE NOT ON RUN	0	0.0	9	36.0	56	53.8	65	50.4	0	16	0	5
TOTAL	0	0.0	25	100.0	104	100.0	129	100.0	0	55	0	18

[1]This statistic indicates the total number of persons killed and injured in an accident where one or more fire vehicles were involved.

[2]This statistic indicates the number of fire vehicle drivers and passengers killed and injured.

TABLE 3.0.1

1992 and 1993 FIRE VEHICLE INVOLVED ACCIDENT ANALYSIS

	1992	1993	RATE OF CHANGE
FATAL	2	0	- 100.0
PERSONAL INJURY	11	25	+ 127.3
PROPERTY DAMAGE	80	104	+ 30.0
TOTAL	93	129	+ 38.7

TABLE 3.0.2

1993 FIRE VEHICLE INVOLVED ACCIDENTS

ACCIDENT TYPE BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	0	0.0	0	0.0	0	0.0
BICYCLIST	0	0.0	0	0.0	0	0.0	0	0.0
FIXED OBJECT	0	0.0	2	8.0	11	10.6	13	10.1
OTHER OBJECT	0	0.0	0	0.0	0	0.0	0	0.0
PEDESTRIAN	0	0.0	0	0.0	0	0.0	0	0.0
TRAIN	0	0.0	0	0.0	0	0.0	0	0.0
VEHICLE IN TRANSPORT	0	0.0	19	76.0	56	53.9	75	58.1
VEHICLE ON OTHER ROADWAY	0	0.0	0	0.0	0	0.0	0	0.0
PARKED VEHICLE	0	0.0	3	12.0	34	32.7	37	28.7
NON-COLLISION OVERTURN	0	0.0	1	4.0	2	1.9	3	2.3
NON-COLLISION OTHER	0	0.0	0	0.0	1	1.0	1	0.8
TOTAL	0	0.0	25	100.0	104	100.0	129	100.0

TABLE 3.0.3

1993 FIRE VEHICLE INVOLVED ACCIDENTS

AREA CLASSIFICATION BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	0	0.0	14	56.0	79	76.0	93	72.1
RURAL	0	0.0	11	44.0	25	24.0	36	27.9
TOTAL	0	0.0	25	100.0	104	100.0	129	100.0

TABLE 3.0.4

1993 FIRE VEHICLE INVOLVED ACCIDENTS

ROAD CURVATURE BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	0	0.0	23	92.0	88	85.4	111	86.7
CURVE	0	0.0	2	8.0	15	14.6	17	13.3
UNKNOWN	0	-	0	-	1	-	1	-
TOTAL	0	0.0	25	100.0	104	100.0	129	100.0

TABLE 3.0.5

1993 FIRE VEHICLE INVOLVED ACCIDENTS

ROAD INCLINE BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	0	0.0	20	80.0	77	74.8	97	75.8
HILL	0	0.0	4	16.0	25	24.3	29	22.7
CREST	0	0.0	1	4.0	1	1.0	2	1.6
UNKNOWN	0	-	0	-	1	-	1	-
TOTAL	0	0.0	25	100.0	104	100.0	129	100.0

TABLE 3.0.6

1993 FIRE VEHICLE INVOLVED ACCIDENTS

ROAD CONDITIONS BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	0	0.0	17	68.0	65	62.5	82	63.6
WET	0	0.0	6	24.0	29	27.9	35	27.1
SNOW	0	0.0	0	0.0	2	1.9	2	1.6
ICE	0	0.0	2	8.0	7	6.7	9	7.0
MUD	0	0.0	0	0.0	1	1.0	1	0.8
UNKNOWN	0	-	0	-	0	-	0	-
TOTAL	0	0.0	25	100.0	104	100.0	129	100.0

TABLE 3.0.7

1993 FIRE VEHICLE INVOLVED ACCIDENTS

HIGHWAY CLASSIFICATION BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	1	4.0	6	5.8	7	5.4
U.S. HIGHWAY	0	0.0	5	20.0	7	6.7	12	9.3
STATE NUMBERED	0	0.0	2	8.0	7	6.7	9	7.0
SINGLE STATE LETTERED	0	0.0	1	4.0	4	3.9	5	3.9
DOUBLE STATE LETTERED	0	0.0	2	8.0	0	0.0	2	1.6
OUTER ROAD	0	0.0	0	0.0	0	0.0	0	0.0
COUNTY ROAD	0	0.0	3	12.0	12	11.5	15	11.6
CITY STREET	0	0.0	10	40.0	67	64.4	77	59.7
INTERSTATE LOOP	0	0.0	0	0.0	0	0.0	0	0.0
OTHER[1]	0	0.0	1	4.0	1	1.0	2	1.6
TOTAL	0	0.0	25	100.0	104	100.0	129	100.0

[1] "Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 3.0.8

1993 FIRE VEHICLE INVOLVED ACCIDENTS

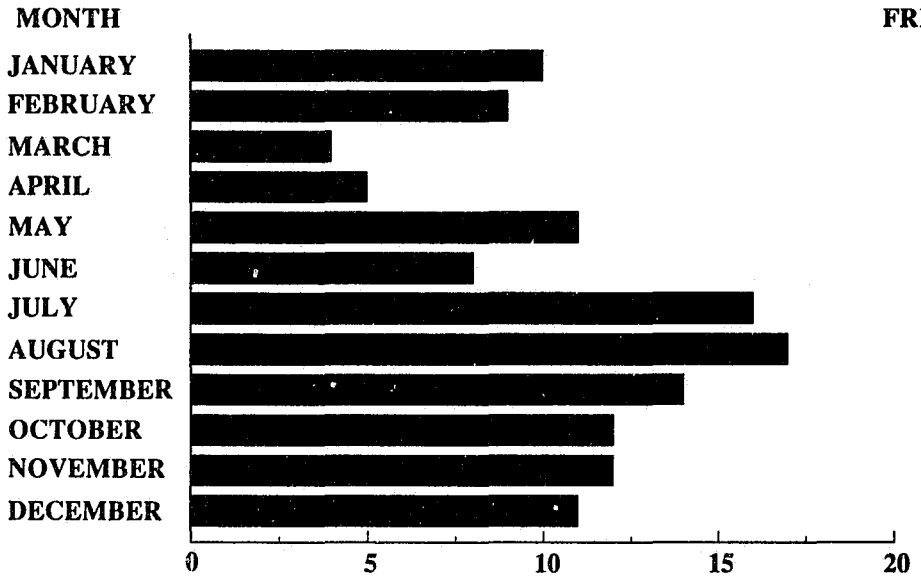
HIGHWAY CLASSIFICATION BY AREA CLASSIFICATION AND ACCIDENT SEVERITY

	URBAN								RURAL							
	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	0	0.0	3	3.8	3	3.2	0	0.0	1	9.1	3	12.0	4	11.1
U.S. HIGHWAY	0	0.0	3	21.4	5	6.3	8	8.6	0	0.0	2	18.2	2	8.0	4	11.1
STATE NUMBERED	0	0.0	1	7.1	5	6.3	6	6.5	0	0.0	1	9.1	2	8.0	3	8.3
SINGLE STATE LETTERED	0	0.0	0	0.0	1	1.3	1	1.1	0	0.0	1	9.1	3	12.0	4	11.1
DOUBLE STATE LETTERED	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	18.2	0	0.0	2	5.6
OUTER ROAD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
COUNTY ROAD	0	0.0	0	0.0	3	3.8	3	3.2	0	0.0	3	27.3	9	36.0	12	33.3
CITY STREET	0	0.0	9	64.3	61	77.2	70	75.3	0	0.0	1	9.1	6	24.0	7	19.4
INTERSTATE LOOP	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
OTHER [1]	0	0.0	1	7.1	1	1.3	2	2.2	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	0	0.0	14	100.0	79	100.0	93	100.0	0	0.0	11	100.0	25	100.0	36	100.0

[1] "Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 3.0.9

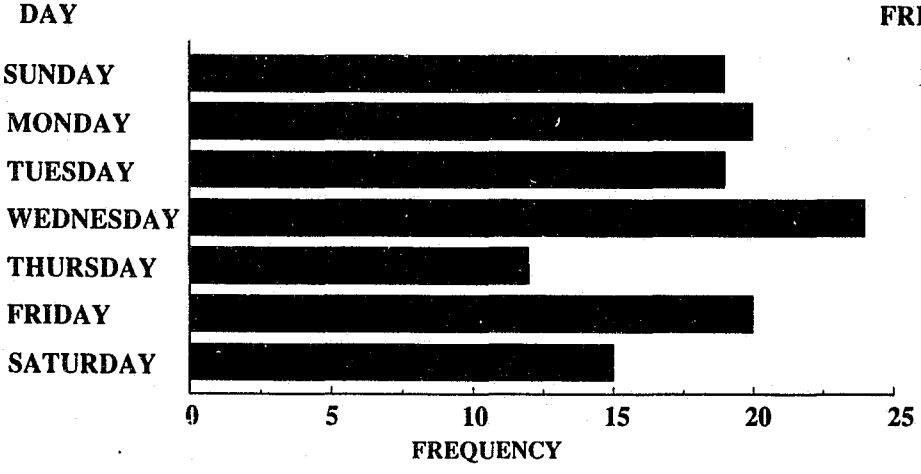
1993 FIRE VEHICLE INVOLVED ACCIDENTS
MONTH OF YEAR



UNKNOWN DATA NOT INCLUDED

FIGURE 3.0.1

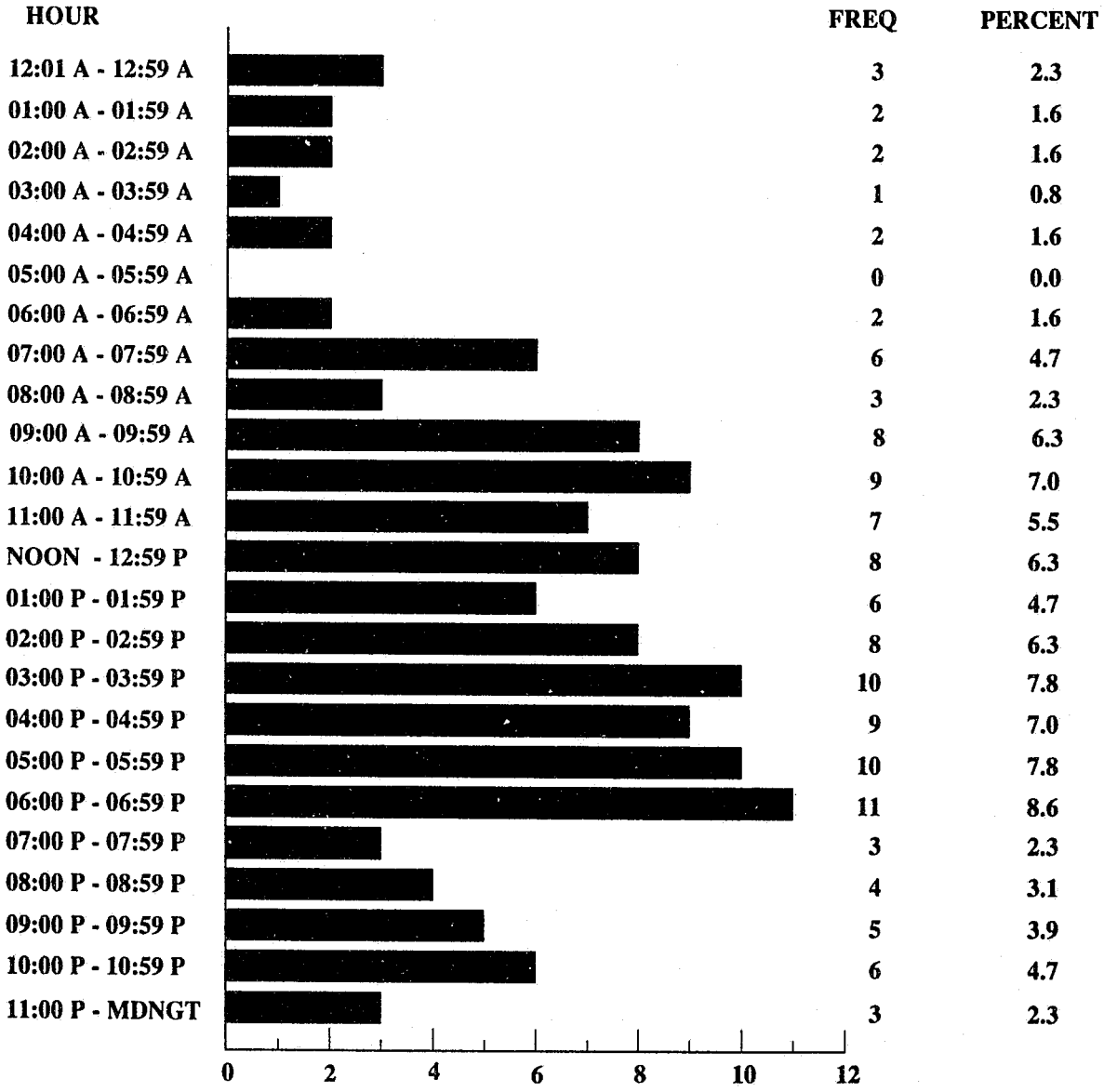
1993 FIRE VEHICLE INVOLVED ACCIDENTS
DAY OF WEEK



UNKNOWN DATA NOT INCLUDED

FIGURE 3.0.2

1993 FIRE VEHICLE INVOLVED ACCIDENTS
HOUR OF DAY



UNKNOWN DATA NOT INCLUDED

FIGURE 3.0.3

1993 MISSOURI FIRE VEHICLE ACCIDENTS

TYPE OF CIRCUMSTANCE INVOLVED BY ACCIDENT SEVERITY AND PERSON CLASSIFICATION[1]

	FATAL AND PERSONAL INJURY FIRE VEHICLE ACCIDENTS = 25			TOTAL FIRE VEHICLE ACCIDENTS = 129		
	DRIVER OF FIRE VEHICLE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL FATAL	DRIVER OF FIRE VEHICLE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL ACCIDENTS
EXCEEDING SPEED LIMIT / TOO FAST FOR CONDITIONS	20.0	4.0	24.0	7.8	1.6	9.3
IMPROPER PASSING	0.0	4.0	4.0	0.0	1.6	1.6
VIOLATION OF STOP SIGN	8.0	12.0	20.0	3.1	3.9	7.0
WRONG SIDE NOT PASSING	0.0	0.0	0.0	1.6	0.8	2.3
FOLLOWING TOO CLOSE	0.0	4.0	4.0	1.6	3.1	4.7
IMPROPER SIGNAL	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPER BACKING	4.0	0.0	4.0	4.7	0.0	4.7
IMPROPER TURN	0.0	0.0	0.0	0.8	0.0	0.8
IMPROPER LANE USAGE/CHANGE	0.0	0.0	0.0	0.8	3.9	4.7
WRONG WAY ONE-WAY STREET	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPER START FROM PARK	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPERLY PARKED	0.0	0.0	0.0	0.8	1.6	2.3
VEHICLE DEFECTS	0.0	0.0	0.0	1.6	0.0	1.6
FAILED TO YIELD	0.0	28.0	28.0	2.3	19.4	21.7
DRINKING	0.0	0.0	0.0	0.0	0.0	0.0
DRUGS	0.0	0.0	0.0	0.0	0.0	0.0
PHYSICAL IMPAIRMENT	0.0	0.0	0.0	0.0	0.0	0.0
INATTENTION	12.0	40.0	52.0	24.8	30.2	52.7

[1]This table identifies the percentage of accidents involving one or more fire vehicles having a specific type of circumstance which contributed to the cause of the accident. This table further defines the percentage of accidents where the contributing circumstance was associated with the driver or his fire vehicle as well as those attributed to other persons and vehicles in the accident. For instance, when examining speed involvement in 1993 Missouri fire vehicle accidents, it was found that a driver of the fire vehicle was speeding in 7.8% of the accidents. In 1.6% of the accidents another driver was speeding. In 9.3% of the accidents either a driver of the fire vehicle, another driver, or both drivers were speeding.

TABLE 3.0.10

FIRE VEHICLES INVOLVED IN 1993 MISSOURI ACCIDENTS

TYPE OF VEHICLE BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AUTOMOBILE	0	0.0	4	16.0	8	7.7	12	9.3
STATION WAGON	0	0.0	0	0.0	3	2.9	3	2.3
SPORT UTILITY VEHICLE	0	0.0	1	4.0	7	6.7	8	6.2
VAN/SMALL BUS	0	0.0	0	0.0	3	2.9	3	2.3
OTHER TRANSPORT DEVICE	0	0.0	5	20.0	9	8.7	14	10.9
PICK-UP TRUCK	0	0.0	1	4.0	2	1.9	3	2.3
OTHER TRUCK	0	0.0	14	56.0	72	69.2	86	66.7
UNKNOWN	0	-	0	-	1	-	1	-
TOTAL	0	0.0	25	100.0	105	100.0	130	100.0

TABLE 3.0.11

FIRE VEHICLES INVOLVED IN 1993 MISSOURI ACCIDENTS

DRIVER INVOLVEMENT BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRIVERLESS	0	0.0	2	8.0	12	11.4	14	10.8
KNOWN DRIVER INVOLVED	0	0.0	23	92.0	91	86.7	114	87.7
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	2	1.9	2	1.5
TOTAL	0	0.0	25	100.0	105	100.0	130	100.0

TABLE 3.0.12

DRIVERS OF FIRE VEHICLES INVOLVED IN 1993 MISSOURI ACCIDENTS

SEX OF DRIVER BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	0	0.0	23	100.0	88	96.7	111	97.4
FEMALE	0	0.0	0	0.0	3	3.3	3	2.6
UNKNOWN	0	-	0	-	2	-	2	-
TOTAL	0	0.0	23	100.0	93	100.0	116	100.0

TABLE 3.0.13

DRIVERS OF FIRE VEHICLES INVOLVED IN 1993 MISSOURI ACCIDENTS

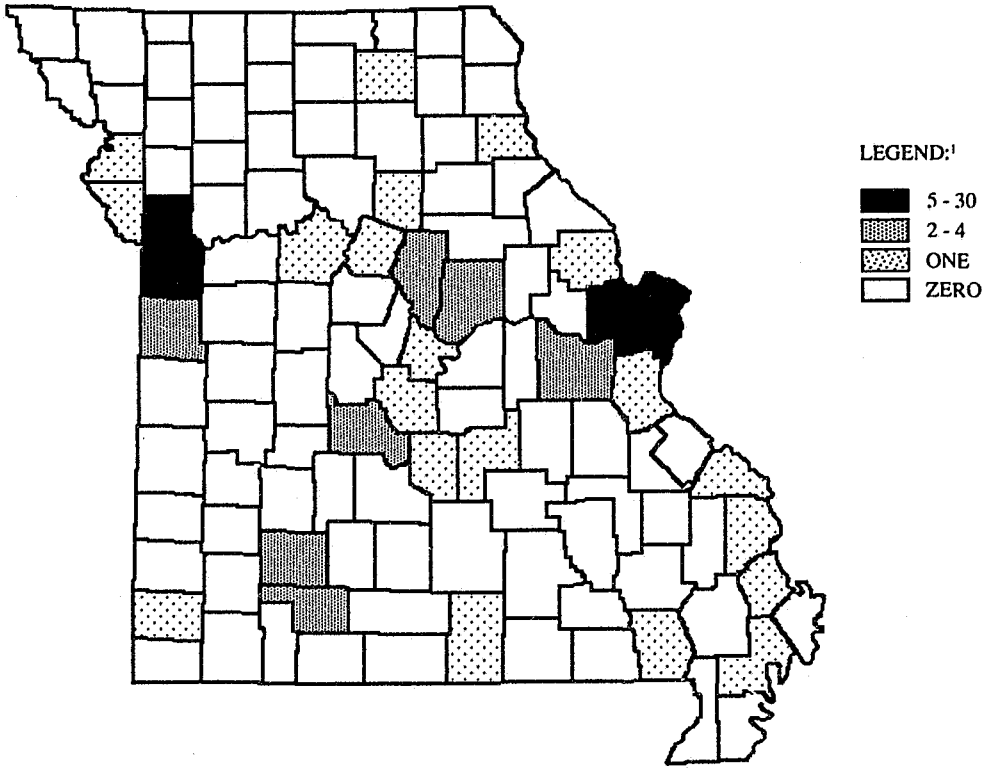
AGE OF DRIVER BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	0.0	-	40.5	-	34.3	-	35.5	-
15 YEARS AND UNDER	0	0.0	0	0.0	0	0.0	0	0.0
16 - 20 YEARS	0	0.0	0	0.0	3	3.3	3	2.7
21 - 25 YEARS	0	0.0	0	0.0	7	7.8	7	6.3
26 - 30 YEARS	0	0.0	4	18.2	30	33.3	34	30.4
31 - 35 YEARS	0	0.0	4	18.2	17	18.9	21	18.8
36 - 40 YEARS	0	0.0	4	18.2	13	14.4	17	15.2
41 - 45 YEARS	0	0.0	2	9.1	6	6.7	8	7.1
46 - 50 YEARS	0	0.0	4	18.2	6	6.7	10	8.9
51 - 55 YEARS	0	0.0	3	13.6	5	5.6	8	7.1
56 - 60 YEARS	0	0.0	1	4.6	3	3.3	4	3.6
61 - 65 YEARS	0	0.0	0	0.0	0	0.0	0	0.0
66 YEARS AND OVER	0	0.0	0	0.0	0	0.0	0	0.0
UNKNOWN	0	-	1	-	3	-	4	-
TOTAL	0	0.0	23	100.0	93	100.0	116	100.0

TABLE 3.0.14

1993 FIRE VEHICLE INVOLVED ACCIDENTS

COUNTY QUARTILE ANALYSIS



[1]LEGEND CATEGORIES ARE BASED ON QUARTILES OF COUNTIES.

RANK	COUNTY	FREQUENCY	PERCENT
1.0	JACKSON	30	23.3
2.0	ST. LOUIS CITY	24	18.6
3.0	ST. LOUIS	21	16.3
4.0	ST. CHARLES	9	7.0
5.0	CLAY	5	3.9
			First Quartile
			Second Quartile
6.5	BOONE	4	3.1
6.5	GREENE	4	3.1
8.5	CALLAWAY	3	2.3
8.5	FRANKLIN	3	2.3
11.0	CAMDEN	2	1.6
11.0	CASS	2	1.6
11.0	CHRISTIAN	2	1.6
			Second Quartile
			Third Quartile
22.5	ADAIR	1	0.8
22.5	BUCHANAN	1	0.8
22.5	BUTLER	1	0.8
22.5	CAPE GIRARDEAU	1	0.8
22.5	COLE	1	0.8
22.5	HOWARD	1	0.8
22.5	HOWELL	1	0.8
22.5	JEFFERSON	1	0.8
22.5	LINCOLN	1	0.8
22.5	MARION	1	0.8
22.5	MILLER	1	0.8
22.5	NEW MADRID	1	0.8
22.5	NEWTON	1	0.8
22.5	PERRY	1	0.8
22.5	PHELPS	1	0.8
22.5	PLATTE	1	0.8
22.5	PULASKI	1	0.8
22.5	RANDOLPH	1	0.8
22.5	SALINE	1	0.8
22.5	SCOTT	1	0.8
			Third Quartile

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
		Fourth Quartile					
74.0	ANDREW	0	0.0	74.0	MC DONALD	0	0.0
74.0	ATCHISON	0	0.0	74.0	MACON	0	0.0
74.0	AUDRAIN	0	0.0	74.0	MADISON	0	0.0
74.0	BARRY	0	0.0	74.0	MARIES	0	0.0
74.0	BARTON	0	0.0	74.0	MERCER	0	0.0
74.0	BATES	0	0.0	74.0	MISSISSIPPI	0	0.0
74.0	BENTON	0	0.0	74.0	MONITEAU	0	0.0
74.0	BOLLINGER	0	0.0	74.0	MONROE	0	0.0
74.0	CALDWELL	0	0.0	74.0	MONTGOMERY	0	0.0
74.0	CARROLL	0	0.0	74.0	MORGAN	0	0.0
74.0	CARTER	0	0.0	74.0	NODAWAY	0	0.0
74.0	CEDAR	0	0.0	74.0	OREGON	0	0.0
74.0	CHARITON	0	0.0	74.0	OSAGE	0	0.0
74.0	CLARK	0	0.0	74.0	OZARK	0	0.0
74.0	CLINTON	0	0.0	74.0	PEMISCOTT	0	0.0
74.0	COOPER	0	0.0	74.0	PETTIS	0	0.0
74.0	CRAWFORD	0	0.0	74.0	PIKE	0	0.0
74.0	DADE	0	0.0	74.0	POLK	0	0.0
74.0	DALLAS	0	0.0	74.0	PUTNAM	0	0.0
74.0	DAVIESS	0	0.0	74.0	RALLS	0	0.0
74.0	DE KALB	0	0.0	74.0	RAY	0	0.0
74.0	DENT	0	0.0	74.0	REYNOLDS	0	0.0
74.0	DOUGLAS	0	0.0	74.0	RIPLEY	0	0.0
74.0	DUNKLIN	0	0.0	74.0	ST. CLAIR	0	0.0
74.0	GASCONADE	0	0.0	74.0	ST. FRANCOIS	0	0.0
74.0	GENTRY	0	0.0	74.0	STE. GENEVIEVE	0	0.0
74.0	GRUNDY	0	0.0	74.0	SCHUYLER	0	0.0
74.0	HARRISON	0	0.0	74.0	SCOTLAND	0	0.0
74.0	HENRY	0	0.0	74.0	SHANNON	0	0.0
74.0	HICKORY	0	0.0	74.0	SHELBY	0	0.0
74.0	HOLT	0	0.0	74.0	STODDARD	0	0.0
74.0	IRON	0	0.0	74.0	STONE	0	0.0
74.0	JASPER	0	0.0	74.0	SULLIVAN	0	0.0
74.0	JOHNSON	0	0.0	74.0	TANEY	0	0.0
74.0	KNOX	0	0.0	74.0	TEXAS	0	0.0
74.0	LACLEDE	0	0.0	74.0	VERNON	0	0.0
74.0	LAFAYETTE	0	0.0	74.0	WARREN	0	0.0
74.0	LAWRENCE	0	0.0	74.0	WASHINGTON	0	0.0
74.0	LEWIS	0	0.0	74.0	WAYNE	0	0.0
74.0	LINN	0	0.0	74.0	WEBSTER	0	0.0
74.0	LIVINGSTON	0	0.0	74.0	WORTH	0	0.0
				74.0	WRIGHT	0	0.0

TABLE 3.0.15

MISSOURI FIRE VEHICLE INVOLVED ACCIDENTS
1991 - 1993

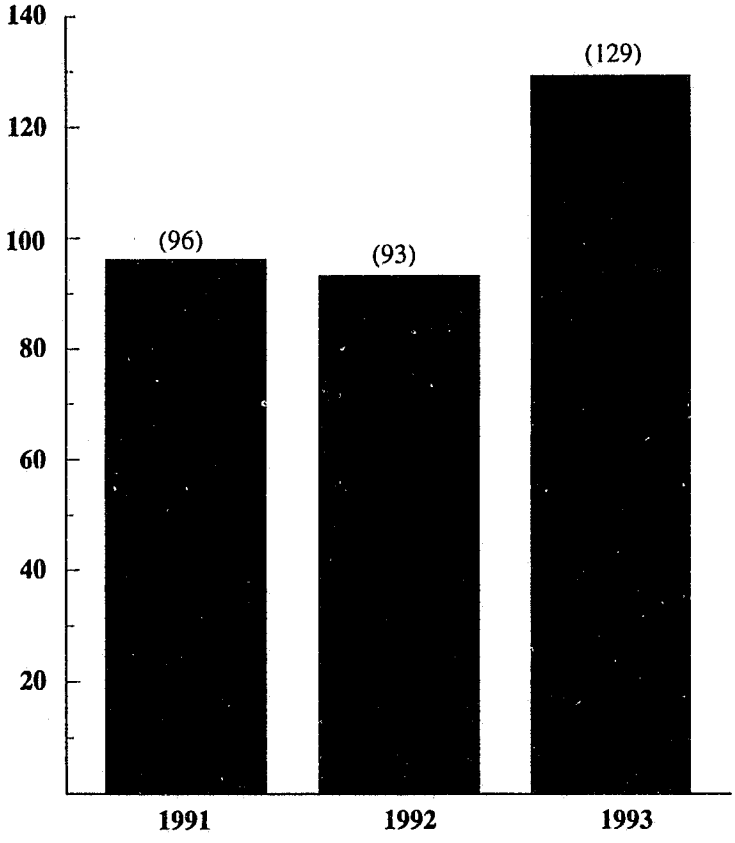


FIGURE 3.0.4

4.0 AMBULANCE INVOLVEMENT

This section presents a series of data displays which identify ambulance involvement in Missouri's traffic accident activity. Ambulance traffic accidents are defined as any accident in which one or more ambulances were directly involved in the incident. Data displays also are provided which describe characteristics of the ambulance drivers involved in these traffic accidents.

1993 SUMMARY ANALYSIS

- In 1993, there was a total of 87 traffic accidents involving one or more ambulances in the State of Missouri. No one was killed and 68 were injured in these accidents.
- There was an increase of 41.4% when comparing 1993 ambulance related traffic accidents with those occurring in 1992.
- In 34.2% of the ambulance involved traffic accidents, the ambulance was on an emergency run at the time of the incident.
- In 1993, one person was injured in an ambulance related accident every 5.4 days in the State of Missouri.
- Of all 1993 ambulance involved accidents, the first harmful event in 66.7% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 15.5% of the cases, it involved a motor vehicle striking a fixed object and in 12.2% of the cases, the vehicle struck a parked vehicle.
- Of all 1993 ambulance involved accidents, 74.0% occurred in an urban area of the State and 26.0% occurred in a rural area.
- Of all ambulance drivers involved in 1993 traffic accidents, 83.5% were male and 16.5% were female. The average age of ambulance drivers was 31.1 years.

1993 AMBULANCE INVOLVED ACCIDENTS

EMERGENCY RUN STATUS

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	TOTAL NUMBER[1] KILLED	TOTAL NUMBER[1] INJURED	AMBULANCE DRIVERS/PASSENGERS[2] KILLED	AMBULANCE DRIVERS/PASSENGERS[2] INJURED
AMBULANCE ON RUN	0	0.0	9	27.3	33	36.7	42	34.2	0	23	0	19
AMBULANCE NOT ON RUN	0	0.0	24	72.7	57	63.3	81	65.8	0	45	0	24
TOTAL	0	0.0	33	100.0	90	100.0	123	100.0	0	68	0	43

[1]This statistic indicates the total number of persons killed and injured in an accident where one or more ambulances were involved.

[2]This statistic indicates the number of ambulance drivers and passengers killed and injured.

TABLE 4.0.1

1992 and 1993 AMBULANCE INVOLVED ACCIDENT ANALYSIS

	1992	1993	RATE OF CHANGE
FATAL	1	0	- 100.0
PERSONAL INJURY	14	33	+135.7
PROPERTY DAMAGE	72	90	+ 25.0
TOTAL	87	123	+ 41.4

TABLE 4.0.2

1993 AMBULANCE INVOLVED ACCIDENTS

ACCIDENT TYPE BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	0	0.0	4	4.4	4	3.3
BICYCLIST	0	0.0	0	0.0	0	0.0	0	0.0
FIXED OBJECT	0	0.0	2	6.1	17	18.9	19	15.5
OTHER OBJECT	0	0.0	0	0.0	0	0.0	0	0.0
PEDESTRIAN	0	0.0	0	0.0	0	0.0	0	0.0
TRAIN	0	0.0	0	0.0	0	0.0	0	0.0
VEHICLE IN TRANSPORT	0	0.0	28	84.9	54	60.0	82	66.7
VEHICLE ON OTHER ROADWAY	0	0.0	0	0.0	0	0.0	0	0.0
PARKED VEHICLE	0	0.0	1	3.0	14	15.6	15	12.2
NON-COLLISION OVERTURN	0	0.0	2	6.1	1	1.1	3	2.4
NON-COLLISION OTHER	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	0	0.0	33	100.0	90	100.0	123	100.0

TABLE 4.0.3

1993 AMBULANCE INVOLVED ACCIDENTS

AREA CLASSIFICATION BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	0	0.0	24	72.7	67	74.4	91	74.0
RURAL	0	0.0	9	27.3	23	25.6	32	26.0
TOTAL	0	0.0	33	100.0	90	100.0	123	100.0

TABLE 4.0.4

1993 AMBULANCE INVOLVED ACCIDENTS

ROAD CURVATURE BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	0	0.0	27	84.4	72	87.8	99	86.8
CURVE	0	0.0	5	15.6	10	12.2	15	13.2
UNKNOWN	0	-	1	-	8	-	9	-
TOTAL	0	0.0	33	100.0	90	100.0	123	100.0

TABLE 4.0.5

1993 AMBULANCE INVOLVED ACCIDENTS

ROAD INCLINE BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	0	0.0	24	75.0	59	72.0	83	72.8
HILL	0	0.0	7	21.9	22	26.8	29	25.4
CREST	0	0.0	1	3.1	1	1.2	2	1.8
UNKNOWN	0	-	1	-	8	-	9	-
TOTAL	0	0.0	33	100.0	90	100.0	123	100.0

TABLE 4.0.6

1993 AMBULANCE INVOLVED ACCIDENTS

ROAD CONDITIONS BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	0	0.0	21	63.6	50	55.6	71	57.7
WET	0	0.0	8	24.2	16	17.8	24	19.5
SNOW	0	0.0	1	3.0	6	6.7	7	5.7
ICE	0	0.0	3	9.1	18	20.0	21	17.1
MUD	0	0.0	0	0.0	0	0.0	0	0.0
UNKNOWN	0	-	0	-	0	-	0	-
TOTAL	0	0.0	33	100.0	90	100.0	123	100.0

TABLE 4.0.7

1993 AMBULANCE INVOLVED ACCIDENTS

HIGHWAY CLASSIFICATION BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	3	9.1	8	8.9	11	8.9
U.S. HIGHWAY	0	0.0	7	21.2	8	8.9	15	12.2
STATE NUMBERED	0	0.0	6	18.2	10	11.1	16	13.0
SINGLE STATE LETTERED	0	0.0	0	0.0	6	6.7	6	4.9
DOUBLE STATE LETTERED	0	0.0	1	3.0	0	0.0	1	0.8
OUTER ROAD	0	0.0	0	0.0	0	0.0	0	0.0
COUNTY ROAD	0	0.0	2	6.1	6	6.7	8	6.5
CITY STREET	0	0.0	13	39.4	49	54.4	62	50.4
INTERSTATE LOOP	0	0.0	0	0.0	0	0.0	0	0.0
OTHER[1]	0	0.0	1	3.0	3	3.3	4	3.3
TOTAL	0	0.0	33	100.0	90	100.0	123	100.0

[1] "Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 4.0.8

1993 AMBULANCE INVOLVED ACCIDENTS

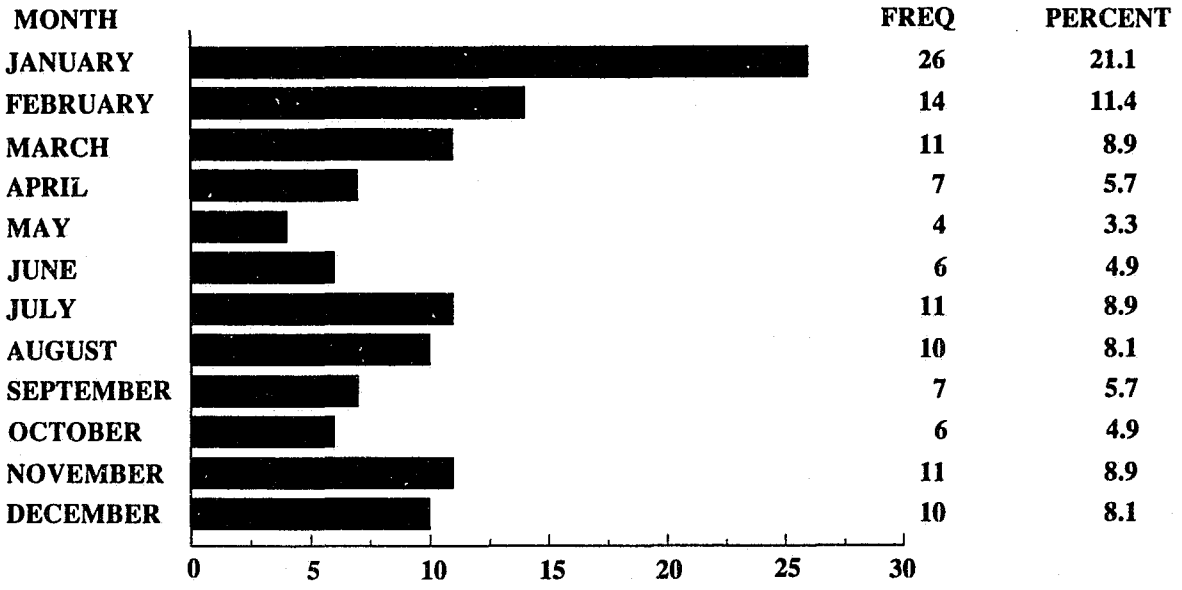
HIGHWAY CLASSIFICATION BY AREA CLASSIFICATION AND ACCIDENT SEVERITY

	URBAN								RURAL							
	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	3	12.5	6	9.0	9	9.9	0	0.0	0	0.0	2	8.7	2	6.3
U.S. HIGHWAY	0	0.0	5	20.8	2	3.0	7	7.7	0	0.0	2	22.2	6	26.1	8	25.0
STATE NUMBERED	0	0.0	2	8.3	5	7.5	7	7.7	0	0.0	4	44.4	5	21.7	9	28.1
SINGLE STATE LETTERED	0	0.0	0	0.0	2	3.0	2	2.2	0	0.0	0	0.0	4	17.4	4	12.5
DOUBLE STATE LETTERED	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	11.1	0	0.0	1	3.1
OUTER ROAD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
COUNTY ROAD	0	0.0	0	0.0	2	3.0	2	2.2	0	0.0	2	22.2	4	17.4	6	18.8
CITY STREET	0	0.0	13	54.2	47	70.2	60	65.9	0	0.0	0	0.0	2	8.7	2	6.3
INTERSTATE LOOP	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
OTHER [1]	0	0.0	1	4.2	3	4.5	4	4.4	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	0	0.0	24	100.0	67	100.0	91	100.0	0	0.0	9	100.0	23	100.0	32	100.0

[1] "Other" includes types of roads that are maintained by the State as well as by local jurisdictions.

TABLE 4.0.9

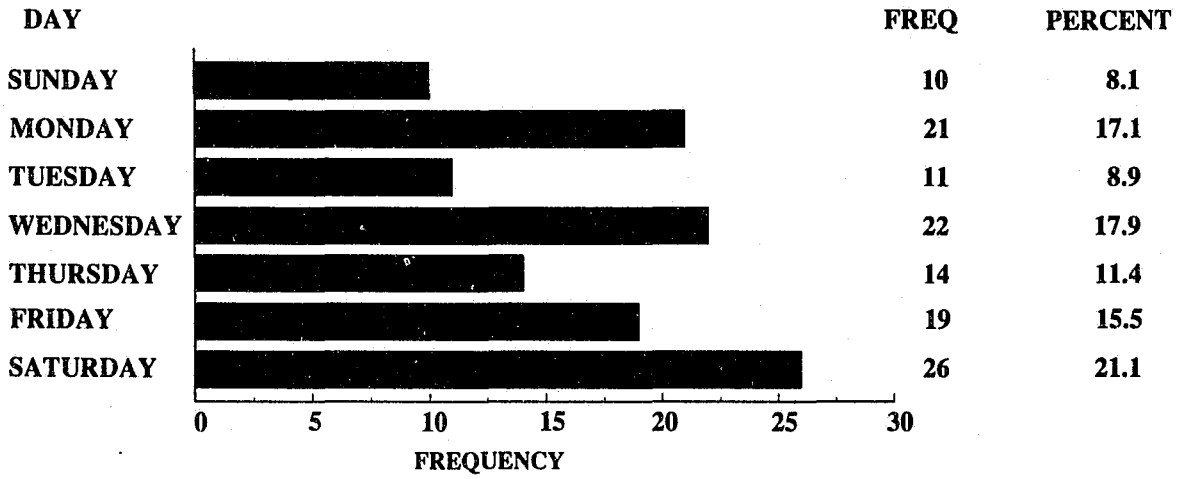
1993 AMBULANCE INVOLVED ACCIDENTS
MONTH OF YEAR



UNKNOWN DATA NOT INCLUDED

FIGURE 4.0.1

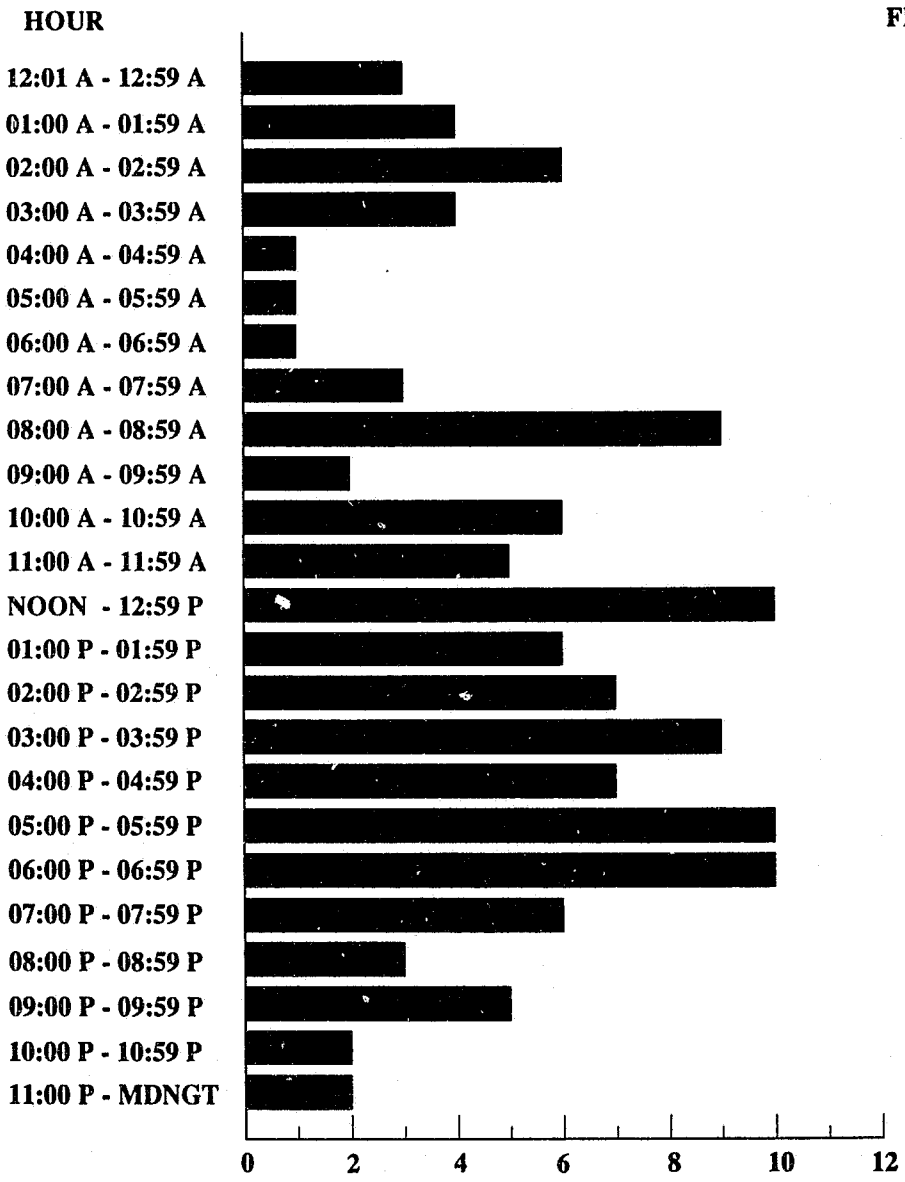
1993 AMBULANCE INVOLVED ACCIDENTS
DAY OF WEEK



UNKNOWN DATA NOT INCLUDED

FIGURE 4.0.2

1993 AMBULANCE INVOLVED ACCIDENTS
HOUR OF DAY



UNKNOWN DATA NOT INCLUDED

FIGURE 4.0.3

1993 MISSOURI AMBULANCE ACCIDENTS

TYPE OF CIRCUMSTANCE INVOLVED BY ACCIDENT SEVERITY AND PERSON CLASSIFICATION[1]

	FATAL AND PERSONAL INJURY AMBULANCE ACCIDENTS = 33			TOTAL AMBULANCE ACCIDENTS = 123		
	DRIVER OF AMBULANCE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL FATAL	DRIVER OF AMBULANCE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL ACCIDENTS
EXCEEDING SPEED LIMIT/ TOO FAST FOR CONDITIONS	15.2	15.2	27.3	11.4	13.0	22.8
IMPROPER PASSING	0.0	0.0	0.0	0.8	0.0	0.8
VIOLATION OF STOP SIGN	15.2	6.1	21.2	5.7	1.6	7.3
WRONG SIDE NOT PASSING	0.0	3.0	3.0	0.8	0.8	1.6
FOLLOWING TOO CLOSE	0.0	6.1	6.1	0.0	3.3	3.3
IMPROPER SIGNAL	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPER BACKING	0.0	0.0	0.0	0.8	0.8	1.6
IMPROPER TURN	0.0	0.0	0.0	0.0	0.8	0.8
IMPROPER LANE USAGE/CHANGE	3.0	0.0	3.0	2.4	2.4	4.9
WRONG WAY ONE-WAY STREET	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPER START FROM PARK	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPERLY PARKED	0.0	0.0	0.0	0.8	0.0	0.8
VEHICLE DEFECTS	0.0	0.0	0.0	0.8	0.0	0.8
FAILED TO YIELD	3.0	15.2	18.2	1.6	12.2	13.8
DRINKING	0.0	6.1	6.1	0.0	4.1	4.1
DRUGS	0.0	0.0	0.0	0.0	0.0	0.0
PHYSICAL IMPAIRMENT	3.0	0.0	3.0	0.8	0.0	0.8
INATTENTION	21.2	24.2	45.5	18.7	25.2	41.5

[1]This table identifies the percentage of accidents involving one or more ambulances having a specific type of circumstance which contributed to the cause of the accident. This table further defines the percentage of accidents where the contributing circumstance was associated with the driver of the ambulance or his vehicle as well as those attributed to other persons and vehicles in the accident. For instance, when examining speed involvement in 1993 Missouri ambulance accidents, it was found that the driver of the ambulance was speeding in 11.4% of the accidents. In 13.0% of the accidents another driver was speeding. In 22.8% of the accidents either the driver of the ambulance, another driver, or both drivers were speeding.

TABLE 4.0.10

AMBULANCES INVOLVED IN 1993 MISSOURI ACCIDENTS

DRIVER INVOLVEMENT BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRIVERLESS	0	0.0	0	0.0	8	8.9	8	6.5
KNOWN DRIVER INVOLVED	0	0.0	33	100.0	82	91.1	115	93.5
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	0	0.0	33	100.0	90	100.0	123	100.0

TABLE 4.0.11

DRIVERS OF AMBULANCES INVOLVED IN 1993 MISSOURI ACCIDENTS

SEX OF DRIVER BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	0	0.0	24	72.7	72	87.8	96	83.5
FEMALE	0	0.0	9	27.3	10	12.2	19	16.5
UNKNOWN	0	-	0	-	0	-	0	-
TOTAL	0	0.0	33	100.0	82	100.0	115	100.0

TABLE 4.0.12

DRIVERS OF AMBULANCES INVOLVED IN 1993 MISSOURI ACCIDENTS

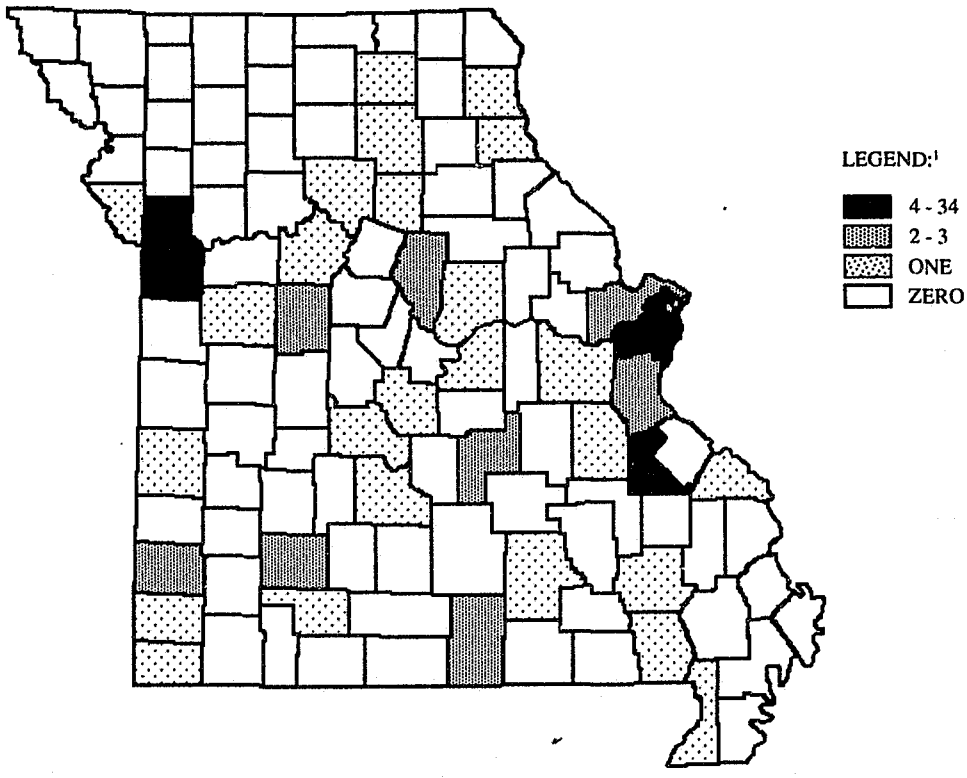
AGE OF DRIVER BY ACCIDENT SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	0.0	-	33.7	-	30.0	-	31.1	-
15 YEARS AND UNDER	0	0.0	0	0.0	0	0.0	0	0.0
16 - 20 YEARS	0	0.0	1	3.0	2	2.4	3	2.6
21 - 25 YEARS	0	0.0	6	18.2	19	23.2	25	21.7
26 - 30 YEARS	0	0.0	11	33.3	34	41.5	45	39.1
31 - 35 YEARS	0	0.0	4	12.1	12	14.6	16	13.9
36 - 40 YEARS	0	0.0	5	15.2	9	11.0	14	12.2
41 - 45 YEARS	0	0.0	1	3.0	5	6.1	6	5.2
46 - 50 YEARS	0	0.0	2	6.1	0	0.0	2	1.7
51 - 55 YEARS	0	0.0	1	3.0	0	0.0	1	0.9
56 - 60 YEARS	0	0.0	0	0.0	0	0.0	0	0.0
61 - 65 YEARS	0	0.0	1	3.0	0	0.0	1	0.9
66 YEARS AND OVER	0	0.0	1	3.0	1	1.2	2	1.7
UNKNOWN	0	-	0	-	0	-	0	-
TOTAL	0	0.0	33	100.0	82	100.0	115	100.0

TABLE 4.0.13

1993 AMBULANCE INVOLVED ACCIDENTS

COUNTY QUARTILE ANALYSIS



[1]LEGEND CATEGORIES ARE BASED ON QUARTILES OF COUNTIES.

RANK	COUNTY	FREQUENCY	PERCENT
1.0	JACKSON	34	27.6
2.0	ST. LOUIS CITY	22	17.9
3.0	ST. LOUIS	15	12.2
4.5	CLAY	4	3.3
4.5	ST. FRANCOIS	4	3.3
			First Quartile
			Second Quartile
7.0	BOONE	3	2.4
7.0	GREENE	3	2.4
7.0	HOWELL	3	2.4
11.0	JASPER	2	1.6
11.0	JEFFERSON	2	1.6
11.0	PETTIS	2	1.6
11.0	PHELPS	2	1.6
11.0	ST. CHARLES	2	1.6
			Second Quartile

RANK	COUNTY	FREQUENCY	PERCENT
			Third Quartile
26.0	ADAIR	1	0.8
26.0	BUTLER	1	0.8
26.0	CALLAWAY	1	0.8
26.0	CAMDEN	1	0.8
26.0	CHARITON	1	0.8
26.0	CHRISTIAN	1	0.8
26.0	DUNKLIN	1	0.8
26.0	FRANKLIN	1	0.8
26.0	JOHNSON	1	0.8
26.0	LACLEDE	1	0.8
26.0	LEWIS	1	0.8
26.0	MC DONALD	1	0.8
26.0	MACON	1	0.8
26.0	MARION	1	0.8
26.0	MILLER	1	0.8
26.0	NEWTON	1	0.8
26.0	OSAGE	1	0.8
26.0	PERRY	1	0.8

RANK	COUNTY	FREQUENCY	PERCENT
26.0	PLATTE	1	0.8
26.0	RANDOLPH	1	0.8
26.0	SALINE	1	0.8
26.0	SHANNON	1	0.8
26.0	VERNON	1	0.8
26.0	WASHINGTON	1	0.8
26.0	WAYNE	1	0.8
			Third Quartile
			Fourth Quartile
77.0	ANDREW	0	0.0
77.0	ATCHISON	0	0.0
77.0	AUDRAIN	0	0.0
77.0	BARRY	0	0.0
77.0	BARTON	0	0.0
77.0	BATES	0	0.0
77.0	BENTON	0	0.0
77.0	BOLLINGER	0	0.0
77.0	BUCHANAN	0	0.0
77.0	CALDWELL	0	0.0
77.0	CAPEGIRARDEAU	0	0.0
77.0	CARROLL	0	0.0
77.0	CARTER	0	0.0
77.0	CASS	0	0.0
77.0	CEDAR	0	0.0
77.0	CLARK	0	0.0
77.0	CLINTON	0	0.0
77.0	COLE	0	0.0
77.0	COOPER	0	0.0
77.0	CRAWFORD	0	0.0
77.0	DADE	0	0.0
77.0	DALLAS	0	0.0
77.0	DAVIESS	0	0.0
77.0	DEKALB	0	0.0
77.0	DENT	0	0.0
77.0	DOUGLAS	0	0.0
77.0	GASCONADE	0	0.0
77.0	GENTRY	0	0.0
77.0	GRUNDY	0	0.0
77.0	HARRISON	0	0.0
77.0	HENRY	0	0.0
77.0	HICKORY	0	0.0
77.0	HOLT	0	0.0
77.0	HOWARD	0	0.0
77.0	IRON	0	0.0
77.0	KNOX	0	0.0
77.0	LAFAYETTE	0	0.0
77.0	LAWRENCE	0	0.0
77.0	LINCOLN	0	0.0
77.0	LINN	0	0.0
77.0	LIVINGSTON	0	0.0
77.0	MADISON	0	0.0
77.0	MARIES	0	0.0
77.0	MERCER	0	0.0
77.0	MISSISSIPPI	0	0.0
77.0	MONITEAU	0	0.0
77.0	MONROE	0	0.0
77.0	MONTGOMERY	0	0.0
77.0	MORGAN	0	0.0
77.0	NEW MADRID	0	0.0
77.0	NODAWAY	0	0.0
77.0	OREGON	0	0.0
77.0	OZARK	0	0.0
77.0	PEMISCOTT	0	0.0
77.0	PIKE	0	0.0
77.0	POLK	0	0.0
77.0	PULASKI	0	0.0
77.0	PUTNAM	0	0.0
77.0	RALLS	0	0.0
77.0	RAY	0	0.0
77.0	REYNOLDS	0	0.0
77.0	RIPLEY	0	0.0
77.0	ST. CLAIR	0	0.0
77.0	STE. GENEVIEVE	0	0.0
77.0	SCHUYLER	0	0.0
77.0	SCOTLAND	0	0.0
77.0	SCOTT	0	0.0
77.0	SHELBY	0	0.0
77.0	STODDARD	0	0.0
77.0	STONE	0	0.0
77.0	SULLIVAN	0	0.0
77.0	TANEY	0	0.0
77.0	TEXAS	0	0.0
77.0	WARREN	0	0.0
77.0	WEBSTER	0	0.0
77.0	WORTH	0	0.0
77.0	WRIGHT	0	0.0

TABLE 4.0.14

MISSOURI AMBULANCE INVOLVED ACCIDENTS
1991 - 1993

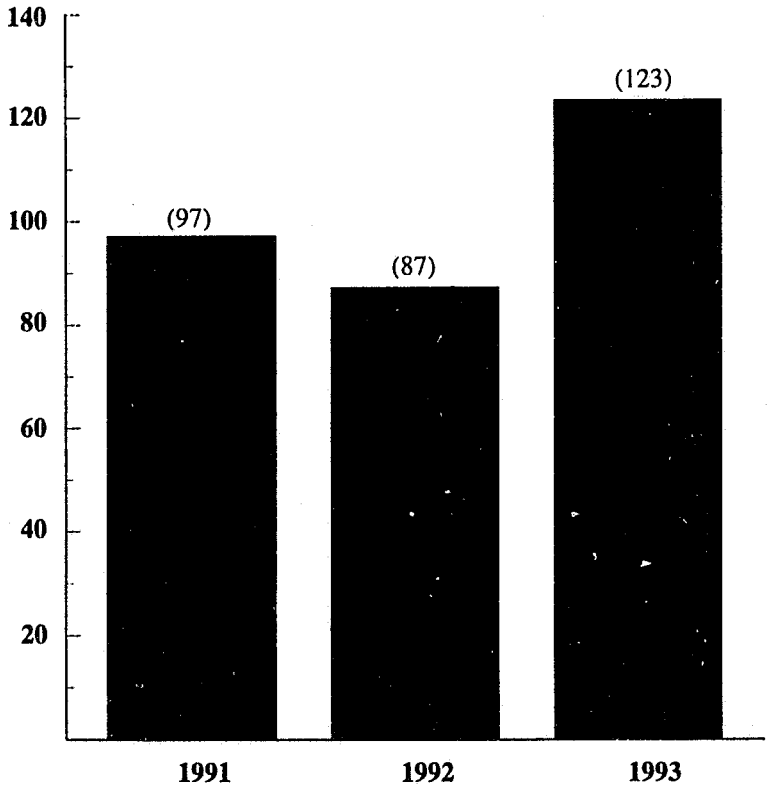


FIGURE 4.0.4

GLOSSARY

AMBULANCE INVOLVED TRAFFIC ACCIDENT: Any accident in which one or more ambulances were directly involved in the incident.

EMERGENCY SERVICE VEHICLE INVOLVED TRAFFIC ACCIDENT: Any accident in which one or more emergency service vehicles (i.e., police, fire, ambulance, and 'other' emergency service vehicle) were directly involved in the incident.

FATAL TRAFFIC ACCIDENT: An accident in which one or more persons were killed as a result of the accident and their death(s) occurred within 30 days of the incident. From 1979 - 1987, an accident would be classified as a fatal if their death(s) occurred within 90 days of the incident. Prior to 1979, an accident would be classified as a fatal if their death(s) occurred within 12 months of the incident.

FIRE VEHICLE INVOLVED TRAFFIC ACCIDENT: Any accident in which one or more fire vehicles were directly involved in the incident.

PERSONAL INJURY TRAFFIC ACCIDENT: Any accident in which no person was killed but one or more persons were injured in the incident.

POLICE VEHICLE INVOLVED TRAFFIC ACCIDENT: Any accident in which one or more police vehicles were involved in the incident.

PROPERTY DAMAGE TRAFFIC ACCIDENT: Any accident in which no person was killed or injured but property was damaged in the incident.

QUARTILE: The value that marks the boundary between two consecutive intervals in a frequency distribution of four intervals with each containing one quarter of the total population.

RATE OF CHANGE: The formula is:

$$\frac{\text{Value in Current Period - Value in Base Period}}{\text{Value in Base Period}} \times 100$$

RURAL AREA: Any community of less than 5,000 population or an unincorporated area of the State.

URBAN AREA: Any community in the State having a population of 5,000 or more.