

2004
MISSOURI
EMERGENCY SERVICE VEHICLE
CRASHES

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FOREWORD

The mission of the Missouri Department of Transportation, Highway Safety Division is to reduce the number and severity of traffic crashes throughout the state. In order to develop effective traffic safety programs and countermeasures, reliable statistical planning documents are imperative.

For this reason, the 2004 Missouri Emergency Vehicle Crashes report was produced by the Statistical Analysis Center of the Missouri State Highway Patrol at the request of the Highway Safety Division.

The dedication of the individuals who compiled this report is to be commended. Without their diligence and expertise, Missouri officials would be hard-pressed to have this statistical data available in such a usable format.

It is our desire that traffic safety officials and managers of emergency vehicles would carefully review this publication to analyze local crash experience and evaluate their operations to ensure that proper precautions and training measures have been implemented.

If you require more information on traffic safety programs or need additional statistical information, please contact the Missouri Department of Transportation, Highway Safety Division at 1-800-800-2358.

ACKNOWLEDGEMENTS

The Missouri Department of Transportation, Highway Safety Division requested publication of this report to determine the magnitude, severity, and characteristics of traffic crashes involving emergency service vehicles in the State.

The primary source of information in this report was traffic crash data obtained from the Statewide Traffic Accident Records System (STARS). The Missouri State Highway Patrol, Traffic Division, is responsible for coordinating the STARS program as well as encoding all traffic crash data being reported.

Special recognition is given to all Missouri law enforcement agencies and officers who provide traffic crash investigation services on Missouri roadways and report their findings to STARS. Because of their efforts, traffic safety authorities have the capability of conducting analysis on Missouri's emergency service vehicle traffic crash problems.

Over the past few years, the ability to analyze Missouri's traffic safety problems using STARS data has been greatly enhanced, in large part, due to the Missouri Traffic Records Committee. This Committee was developed to act as an advisory body to the Missouri State Highway Patrol for upgrading and maintaining STARS.

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

Ronald G. Beck, 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 Department of Transportation, Highway Safety Division, and other State and local authorities with information on the problem of emergency service vehicle traffic crashes in the State of Missouri. In 2004, Missouri experienced 1,591 emergency service vehicle traffic crashes. Crashes 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 crashes adversely affects the public welfare.

The primary source of data used in this study was the Missouri Statewide Traffic Accident Records System (STARS).

In 2004, there were 1,483 traffic crashes involving 1,526 emergency service vehicles in the State of Missouri. Seven persons were killed and 432 persons were injured in these traffic crashes. Of the 1,526 emergency service vehicles involved, 350 (22.9%) were on an emergency run at the time of the crash. The seriousness of these traffic crashes 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 crashes. Of the 1,526 emergency vehicles involved in 2004 traffic crashes, 1,150 (75.4%) were law enforcement vehicles. This finding is not surprising since there are a significantly greater number of police vehicles in operation compared to ambulances and fire vehicles. In addition, many law enforcement units patrol Missouri roadways throughout their shift, while ambulances and fire vehicles are normally stationed at fixed locations until called to respond to a situation.

Of the 1,526 emergency vehicles involved in 2004 Missouri traffic crashes, 203 (13.3%) were fire vehicles. Although no accurate count is available, the number of fire vehicles in the State is estimated to be 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 crashes while on emergency runs. Of the 350 vehicles making an emergency run when involved in a traffic crash in 2004, 60 (17.1%) were vehicles of this type.

Of the 1,526 emergency service vehicles involved in 2004 Missouri traffic crashes, 159 (10.4%) were ambulances. Ambulances also made up a higher proportion of emergency service vehicles involved in traffic crashes while making emergency runs. Of the 350 emergency service vehicles involved in 2004 Missouri traffic crashes while on emergency runs, 38 (10.9%) were ambulances.

INTRODUCTION

This report is one in a series which identifies the magnitude, severity, and characteristics of emergency service vehicles involved in traffic crashes occurring in the State of Missouri. It describes Missouri's emergency service vehicle traffic crash experience in 2002 - 2004 with emphasis on the most recent year (2004).

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 crashes 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 crashes. 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 crashes. The loss of technically trained emergency service manpower reduces the community's capabilities to adequately respond to future emergency situations.

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

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 crashes occurring on public roadways if they involve a death or personal injury or property damage over \$500.00. They submit 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) staff who conducted the analysis.

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 crashes occurring on private property, such as a private driveway, were not attainable for this analysis. In addition, certain incidents are not classified as traffic crashes. For instance, cases where police establish a roadblock and a pursued person uses their vehicle to intentionally ram the blocking police vehicle are not classified as traffic crashes and are not 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 crash problem. The second section describes the findings from an analysis which focuses 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 crash activity. Traffic crashes involving emergency service vehicles are defined as any crash in which one or more emergency service vehicles were directly involved in the incident. Emergency service vehicles include those 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 2004 there were 1,483 traffic crashes involving 1,526 emergency service vehicles in the State of Missouri. Seven persons were killed and 432 persons were injured in these traffic crashes. One person was killed or injured every 20.0 hours in these types of crashes in 2004.
- Police vehicles comprise the largest number of emergency service vehicles involved in Missouri's traffic crashes. Of the 1,526 emergency service vehicles involved, 1,150 (75.4%) were police vehicles. They were involved in 1,118 traffic crashes. A total of 350 emergency service vehicles were on emergency runs when the traffic crash occurred. Of these, 238 (68.0%) 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 officers' on-duty miles of travel are substantially greater increases their risk of being involved in traffic crashes.
- Fire vehicles were the second most common type of emergency vehicle involved in Missouri's traffic crashes in 2004. Of the 1,526 emergency vehicles involved in 2004 Missouri traffic crashes, 203 (13.3%) were fire vehicles. They were involved in 201 traffic crashes. Of the 350 emergency vehicles on emergency run at the time of the traffic crash, 60 (17.1%) were fire vehicles.
- Ambulances were the third most frequent emergency vehicle type involved in Missouri's 2004 traffic crashes. Of the 1,526 emergency vehicles involved, 159 (10.4%) were ambulances. They were involved in 153 traffic crashes. Like fire vehicles, ambulances were more likely to be involved in a traffic crash when on an emergency run. Of the 350 emergency vehicles on emergency run when the traffic crash occurred, 10.9% were ambulances.
- Emergency vehicles classified as 'Other' made up a small proportion of those involved in Missouri's 2004 traffic crashes. Of the 1,526 emergency vehicles involved, only 14 (0.9%) were emergency vehicles classified as 'Other'.

2004 MISSOURI TRAFFIC CRASHES

EMERGENCY SERVICE (ES) VEHICLE INVOLVEMENT

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ES VEHICLE INVOLVED	6	0.6	269	0.6	1,208	0.9	1,483	0.8
NO ES VEHICLE INVOLVED	1,000	99.4	45,582	99.4	134,178	99.1	180,760	99.2
TOTAL	1,006	100.0	45,851	100.0	135,386	100.0	182,243	100.0

TABLE 1.0.1

MISSOURI EMERGENCY SERVICE VEHICLE INVOLVED CRASHES

2002 - 2004

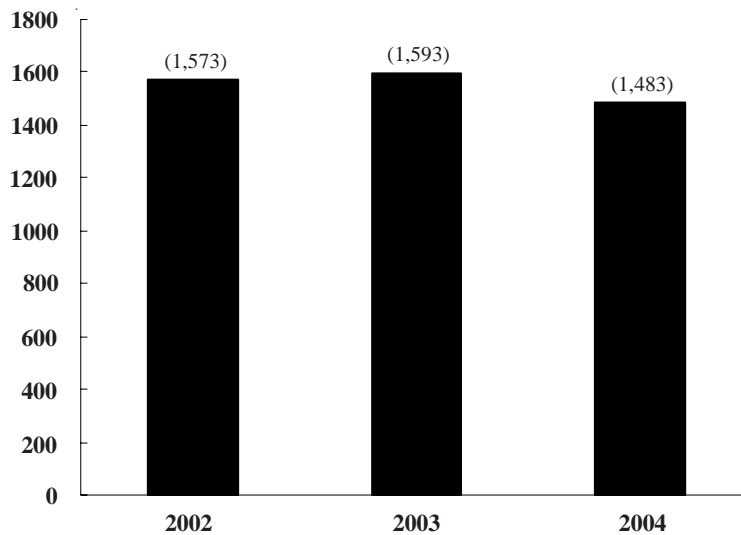


FIGURE 1.0.1

MISSOURI EMERGENCY SERVICE VEHICLE PERSONAL INJURY PROBLEM ANALYSIS CLOCK

2004

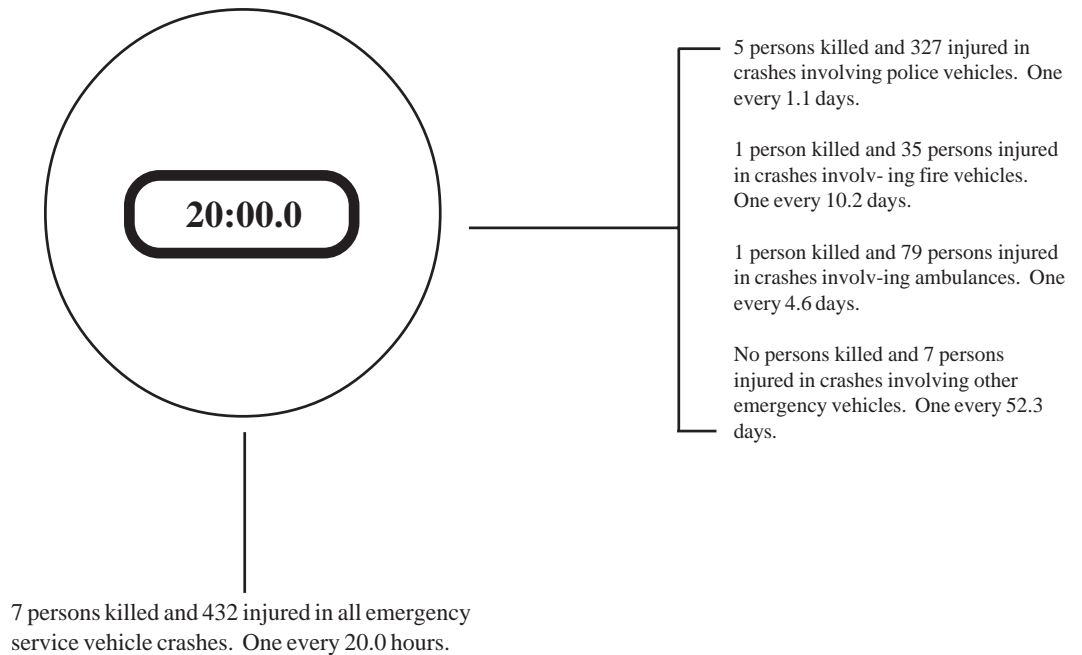


FIGURE 1.0.2

2004 MISSOURI EMERGENCY SERVICE (ES) VEHICLE CRASHES

TYPE OF EMERGENCY SERVICE VEHICLE INVOLVED

	FATAL	PERSONAL INJURY	PROPERTY DAMAGE	TOTAL	NUMBER OF ES VEHICLES INVOLVED¹
TOTAL NUMBER OF ES VEHICLE CRASHES	6	269	1,208	1,483	1,526
INVOLVING					
POLICE VEHICLE	4	204	910	1,118	1,150
FIRE VEHICLE	1	21	179	201	203
AMBULANCE	1	40	112	153	159
OTHER ES VEHICLE	0	5	9	14	14

¹The number of emergency service vehicles involved does not equal the number of emergency service traffic crashes since there are cases where more than one emergency service vehicle was involved in the same traffic crash. There were 1,483 traffic crashes involving 1,526 emergency service vehicles

TABLE 1.0.2

**TYPE OF EMERGENCY SERVICE VEHICLES INVOLVED IN
2004 MISSOURI TRAFFIC CRASHES**

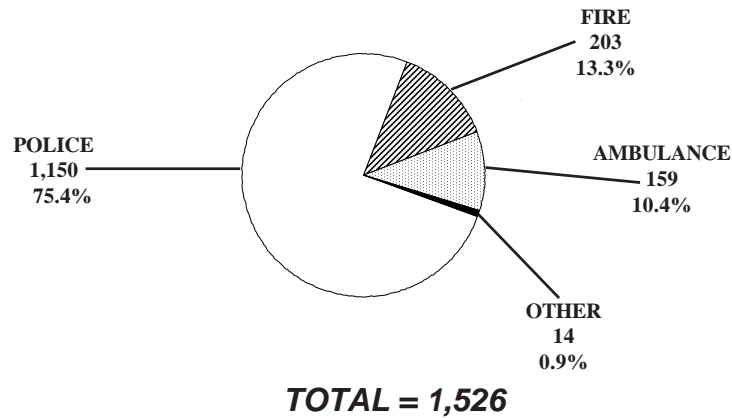
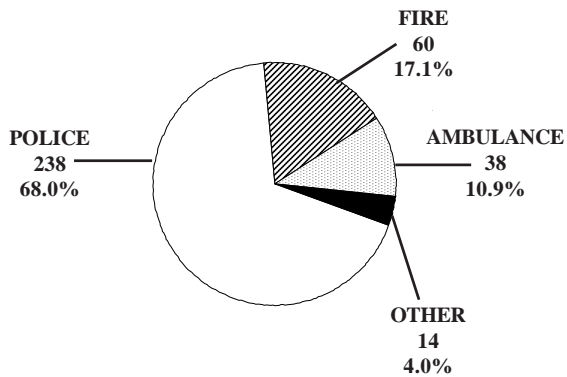


FIGURE 1.0.3

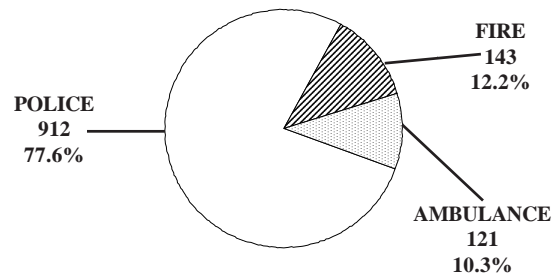
**TYPE OF EMERGENCY SERVICE
VEHICLES INVOLVED IN 2004 MISSOURI
TRAFFIC CRASHES WHILE ON
EMERGENCY RUN**



TOTAL = 350

FIGURE 1.0.4

**TYPE OF EMERGENCY SERVICE
VEHICLES INVOLVED IN 2004 MISSOURI
TRAFFIC CRASHES NOT ON
EMERGENCY RUN**



TOTAL = 1,176

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 crash activity. Police vehicle traffic crashes are defined as any crash in which one or more police vehicles were directly involved in the incident. Data displays also are provided which describe characteristics of the police vehicle drivers involved in these traffic crashes.

2004 SUMMARY ANALYSIS

- In 2004, there were 1,118 traffic crashes involving one or more police vehicles in the State of Missouri. Five persons were killed and 327 were injured in these crashes.
- In 20.4% of the traffic crashes involving police vehicles, the police vehicle was on an emergency run at the time of the incident.
- In 2004, one person was killed or injured in a police vehicle related crash every 1.1 days in the State of Missouri.
- Of all 2004 crashes involving police vehicles, the first harmful event in 53.4% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 19.9% of the cases, it involved a motor vehicle striking a fixed object. In 14.2% of the cases, the vehicle struck an animal.
- Of all 2004 crashes involving police vehicles, 54.5% occurred in an urban area of the State and 45.5% occurred in a rural area.
- Of all police vehicle drivers in 2004 traffic crashes, 88.9% were male and 11.1% were female. The average age of the police vehicle driver was 34.6 years.
- There were 1,150 police vehicles in the 1,118 traffic crashes in the State. Of these, 1,003 or 87.7% were automobiles.

**2004 POLICE VEHICLE INVOLVED CRASHES
EMERGENCY RUN STATUS**

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	TOTAL NUMBER ¹		POLICE VEHICLE DRIVERS/PASSENGERS ²	
									KILLED	INJURED	KILLED	INJURED
POLICE VEHICLE ON RUN	2	50.0	63	30.9	163	17.9	228	20.4	3	102	2	56
POLICE VEHICLE NOT ON RUN	2	50.0	141	69.1	747	82.1	890	79.6	2	225	0	126
TOTAL	4	100.0	204	100.0	910	100.0	1,118	100.0	5	327	2	182

¹This statistic indicates the total number of persons killed and injured in a crash where one or more police vehicles were involved.

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

TABLE 2.0.1

2003 and 2004 POLICE VEHICLE INVOLVED CRASH ANALYSIS

	2003	2004	RATE OF CHANGE
FATAL	3	4	+ 33.3
PERSONAL INJURY	236	204	- 13.6
PROPERTY DAMAGE	1,008	910	- 9.7
TOTAL	1,247	1,118	- 10.3

TABLE 2.0.2

2004 POLICE VEHICLE INVOLVED CRASHES

CRASH TYPE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	1	0.5	158	17.4	159	14.2
BICYCLIST	0	0.0	2	1.0	2	0.2	4	0.4
FIXED OBJECT	1	25.0	38	18.6	183	20.1	222	19.9
OTHER OBJECT	0	0.0	2	1.0	34	3.7	36	3.2
PEDESTRIAN	0	0.0	6	2.9	0	0.0	6	0.5
TRAIN	0	0.0	0	0.0	0	0.0	0	0.0
VEHICLE IN TRANSPORT	3	75.0	144	70.6	450	49.5	597	53.4
VEHICLE ON OTHER ROADWAY	0	0.0	0	0.0	1	0.1	1	0.1
PARKED VEHICLE	0	0.0	2	1.0	73	8.0	75	6.7
NON-COLLISION OVERTURN	0	0.0	6	2.9	2	0.2	8	0.7
NON-COLLISION OTHER	0	0.0	3	1.5	7	0.8	10	0.9
TOTAL	4	100.0	204	100.0	910	100.0	1,118	100.0

TABLE 2.0.3

2004 POLICE VEHICLE INVOLVED CRASHES

AREA CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	1	25.0	128	62.8	480	52.8	609	54.5
RURAL	3	75.0	76	37.2	430	47.2	509	45.5
TOTAL	4	100.0	204	100.0	910	100.0	1,118	100.0

TABLE 2.0.4

2004 POLICE VEHICLE INVOLVED CRASHES

ROAD CURVATURE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	4	100.0	169	83.3	764	84.7	937	84.5
CURVE	0	0.0	34	16.7	138	15.3	172	15.5
UNKNOWN	0	-	1	-	8	-	9	-
TOTAL	4	100.0	204	100.0	910	100.0	1,118	100.0

TABLE 2.0.5

2004 POLICE VEHICLE INVOLVED CRASHES

ROAD INCLINE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	1	25.0	121	59.9	568	63.0	690	62.3
HILL	2	50.0	70	34.7	305	33.9	377	34.1
CREST	1	25.0	11	5.4	28	3.1	40	3.6
UNKNOWN	0	-	2	-	9	-	11	-
TOTAL	4	100.0	204	100.0	910	100.0	1,118	100.0

TABLE 2.0.6

2004 POLICE VEHICLE INVOLVED CRASHES

ROAD CONDITIONS BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	4	100.0	166	81.4	718	79.4	888	79.9
WET	0	0.0	29	14.2	146	16.2	175	15.7
SNOW	0	0.0	2	1.0	18	2.0	20	1.8
ICE	0	0.0	6	2.9	16	1.8	22	2.0
SLUSH	0	0.0	1	0.5	1	0.1	2	0.2
MUD	0	0.0	0	0.0	2	0.2	2	0.2
STANDING WATER	0	0.0	0	0.0	2	0.2	2	0.2
MOVING WATER	0	0.0	0	0.0	1	0.1	1	0.1
UNKNOWN	0	-	0	-	6	-	6	-
TOTAL	4	100.0	204	100.0	910	100.0	1,118	100.0

TABLE 2.0.7

2004 POLICE VEHICLE INVOLVED CRASHES

HIGHWAY CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	15	7.4	64	7.0	79	7.1
U.S. HIGHWAY	1	25.0	14	6.9	106	11.7	121	10.8
STATE NUMBERED	0	0.0	38	18.6	150	16.5	188	16.8
SINGLE STATE LETTERED	0	0.0	11	5.4	60	6.6	71	6.4
DOUBLE STATE LETTERED	0	0.0	4	2.0	12	1.3	16	1.4
OUTER ROAD	1	25.0	3	1.5	11	1.2	15	1.3
COUNTY ROAD	0	0.0	22	10.8	84	9.2	106	9.5
CITY STREET	2	50.0	92	45.1	360	39.6	454	40.6
INTERSTATE LOOP	0	0.0	0	0.0	4	0.4	4	0.4
OTHER ¹	0	0.0	5	2.5	59	6.5	64	5.7
TOTAL	4	100.0	204	100.0	910	100.0	1,118	100.0

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

TABLE 2.0.8

2004 POLICE VEHICLE INVOLVED CRASHES
HIGHWAY CLASSIFICATION BY AREA CLASSIFICATION AND CRASH SEVERITY

	URBAN						RURAL									
	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	7	5.5	28	5.8	35	5.8	0	0.0	8	10.5	36	8.4	44	8.6
U.S. HIGHWAY	0	0.0	5	3.9	35	7.3	40	6.6	1	33.3	9	11.8	71	16.5	81	15.9
STATE NUMBERED	0	0.0	18	14.1	45	9.4	63	10.3	0	0.0	20	26.3	105	24.4	125	24.6
SINGLE STATE LETTERED	0	0.0	5	3.9	13	2.7	18	3.0	0	0.0	6	7.9	47	10.9	53	10.4
DOUBLE STATE LETTERED	0	0.0	2	1.6	1	0.2	3	0.5	0	0.0	2	2.6	11	2.6	13	2.6
OUTER ROAD	0	0.0	1	0.8	5	1.0	6	1.0	1	33.3	2	2.6	6	1.4	9	1.8
COUNTY ROAD	0	0.0	4	3.1	14	2.9	18	3.0	0	0.0	18	23.7	70	16.3	88	17.3
CITY STREET	1	100.0	82	64.1	292	60.8	375	61.6	1	33.3	10	13.2	68	15.8	79	15.5
INTERSTATE LOOP	0	0.0	0	0.0	4	0.8	4	0.7	0	0.0	0	0.0	0	0.0	0	0.0
OTHER ¹	0	0.0	4	3.1	43	9.0	47	7.7	0	0.0	1	1.3	16	3.7	17	3.3
TOTAL	1	100.0	128	100.0	480	100.0	609	100.0	3	100.0	76	100.0	430	100.0	509	100.0

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

TABLE 2.0.9

**2004 POLICE VEHICLE INVOLVED CRASHES
MONTH OF YEAR**

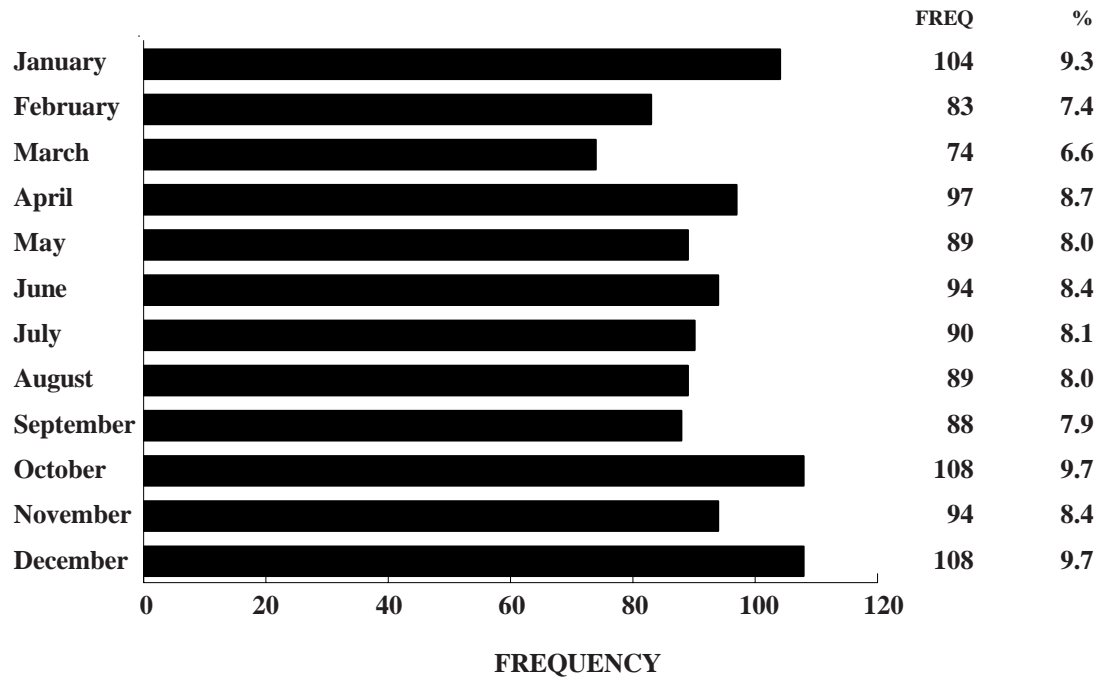


FIGURE 2.0.1

**2004 POLICE VEHICLE INVOLVED CRASHES
DAY OF WEEK**

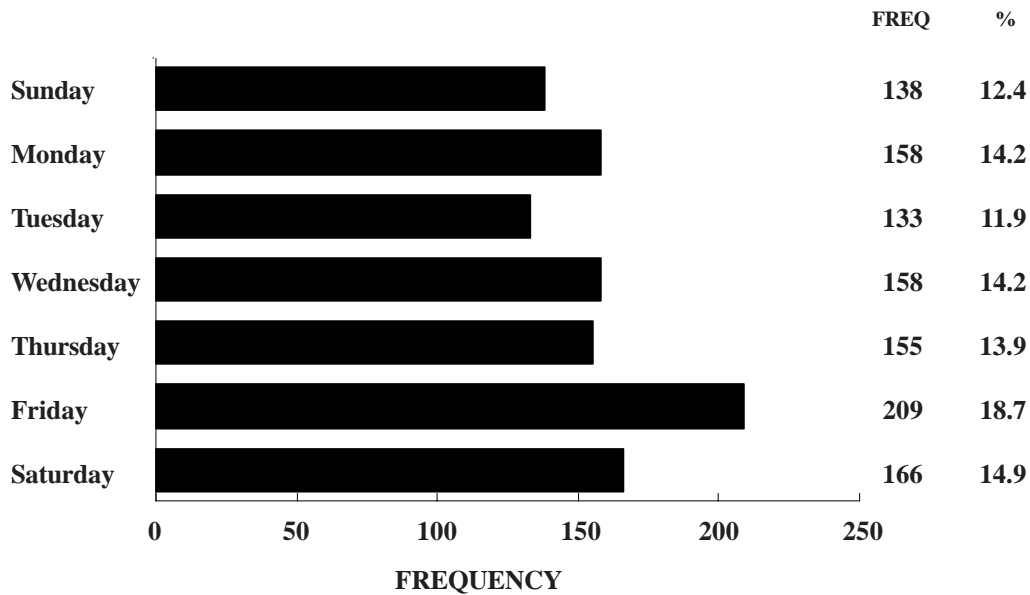


FIGURE 2.0.2

Unknown Data Not Included

**2004 POLICE VEHICLE INVOLVED CRASHES
HOUR OF DAY**

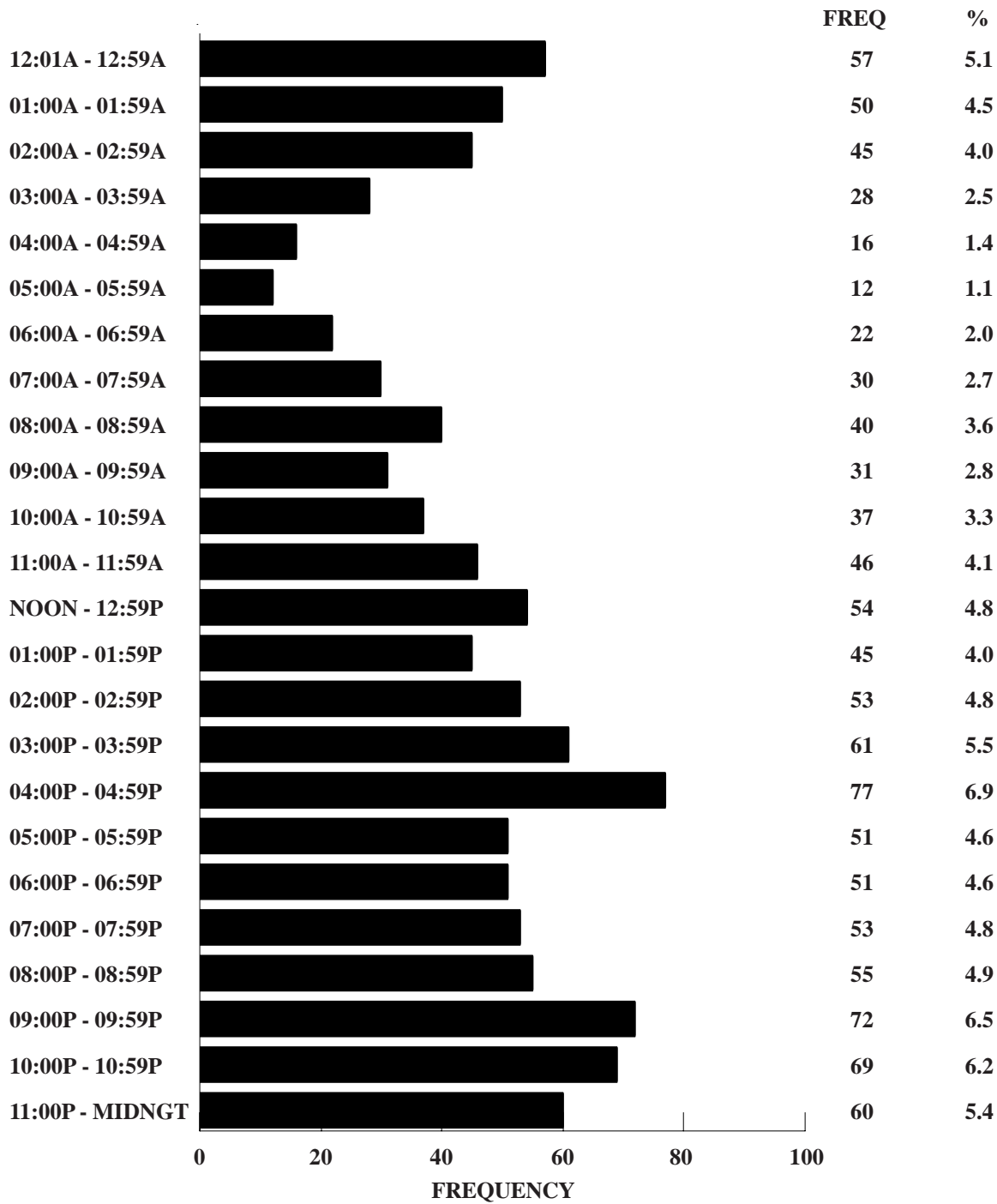


FIGURE 2.0.3

Unknown Data Not Included

2004 MISSOURI POLICE VEHICLE CRASHES

TYPE OF CIRCUMSTANCE INVOLVED BY CRASH SEVERITY AND PERSON CLASSIFICATION¹

FATAL AND PERSONAL INJURY POLICE VEHICLE CRASHES = 208				TOTAL POLICE VEHICLE CRASHES = 1,118		
	DRIVER OF POLICE VEHICLE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL F & PI	DRIVER OF POLICE VEHICLE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL CRASHES
VEHICLE DEFECTS	1.4	1.4	2.8	1.2	1.0	2.1
TRAFFIC CONTROL INOPERATIVE / MISSING	0.5	0.0	0.5	0.2	0.0	0.2
IMPROPERLY STOPPED ON ROADWAY	0.0	0.0	0.0	0.0	0.4	0.4
EXCEEDING SPEED LIMIT / TOO FAST FOR CONDITIONS	15.4	10.1	25.5	9.1	4.7	13.8
IMPROPER PASSING	0.5	0.0	0.5	0.4	0.4	0.7
VIOLATION OF STOP SIGN	2.4	7.2	9.6	1.1	2.6	3.7
WRONG SIDE NOT PASSING	1.0	3.4	4.3	0.5	1.5	2.0
FOLLOWING TOO CLOSE	2.4	4.8	7.2	2.5	3.2	5.7
IMPROPER SIGNAL	0.0	0.0	0.0	0.1	0.3	0.4
IMPROPER BACKING	0.5	0.5	1.0	3.8	3.0	6.8
IMPROPER TURN	2.4	1.9	4.3	1.6	1.7	3.3
IMPROPER LANE USAGE / CHANGE	2.4	3.8	6.2	2.0	3.1	5.1
WRONG WAY ONE-WAY STREET	0.0	0.0	0.0	0.1	0.0	0.1
IMPROPER START FROM PARK	0.0	0.0	0.0	0.0	0.1	0.1
IMPROPERLY PARKED	0.0	0.0	0.0	0.1	0.5	0.5
FAILED TO YIELD	6.3	22.1	27.9	4.5	13.2	17.3
DRINKING	1.4	5.8	7.2	0.4	2.9	3.3
DRUGS	0.0	1.4	1.4	0.0	0.5	0.5
PHYSICAL IMPAIRMENT	0.5	0.5	1.0	0.1	0.3	0.4
INATTENTION	13.5	16.3	28.8	18.0	12.8	29.6

¹This table identifies the percentage of crashes involving one or more police vehicles having a specific type of circumstance which contributed to the cause of the crash. This table further defines the percentage of crashes 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 crash. For instance, when examining speed involvement in 2004 Missouri police vehicle crashes, it was found that a police vehicle driver was speeding in 9.1% of the crashes. In 4.7% of the crashes another driver was speeding. In 13.8% of the crashes either a police vehicle driver, another driver, or both drivers were speeding.

TABLE 2.0.10

POLICE VEHICLES INVOLVED IN 2004 MISSOURI CRASHES

TYPE OF VEHICLE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AUTOMOBILE	3	75.0	185	87.7	815	87.7	1,003	87.7
SPORT UTILITY VEHICLE	0	0.0	6	2.8	28	3.0	34	3.0
VAN	1	25.0	8	3.8	25	2.7	34	3.0
BUS	0	0.0	0	0.0	1	0.1	1	0.1
MOTORCYCLE	0	0.0	10	4.7	2	0.2	12	1.1
BICYCLE	0	0.0	0	0.0	1	0.1	1	0.1
OTHER TRANSPORT DEVICE	0	0.0	0	0.0	1	0.1	1	0.1
PICK-UP TRUCK	0	0.0	1	0.5	45	4.8	46	4.0
OTHER TRUCK	0	0.0	1	0.5	11	1.2	12	1.1
UNKNOWN	0	-	0	-	6	-	6	-
TOTAL	4	100.0	211	100.0	935	100.0	1,150	100.0

TABLE 2.0.11

POLICE VEHICLES INVOLVED IN 2004 MISSOURI CRASHES

DRIVER INVOLVEMENT BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRIVERLESS	0	0.0	0	0.0	0	0.0	0	0.0
KNOWN DRIVER INVOLVED	4	100.0	211	100.0	924	98.8	1,139	99.0
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	11	1.2	11	1.0
TOTAL	4	100.0	211	100.0	935	100.0	1,150	100.0

TABLE 2.0.12

DRIVERS OF POLICE VEHICLES INVOLVED IN 2004 MISSOURI CRASHES

SEX OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	4	100.0	185	87.7	823	89.1	1,012	88.9
FEMALE	0	0.0	26	12.3	101	10.9	127	11.1
UNKNOWN	0	-	0	-	11	-	11	-
TOTAL	4	100.0	211	100.0	935	100.0	1,150	100.0

TABLE 2.0.13

DRIVERS OF POLICE VEHICLES INVOLVED IN 2004 MISSOURI CRASHES

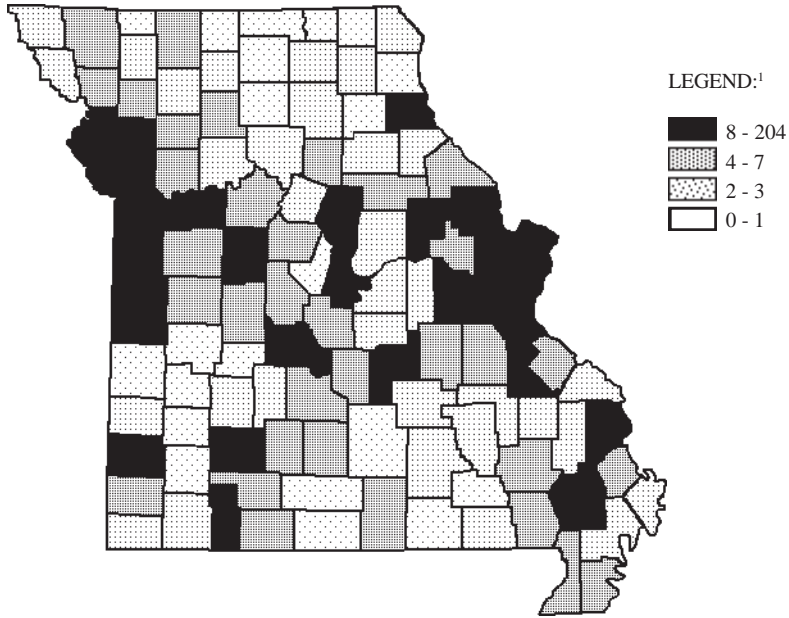
AGE OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	42.0	-	33.7	-	34.8	-	34.6	-
14 YEARS AND UNDER	0	0.0	0	0.0	0	0.0	0	0.0
15 - 20 YEARS	0	0.0	2	1.0	13	1.4	15	1.3
21 - 25 YEARS	0	0.0	38	18.2	134	14.8	172	15.4
26 - 30 YEARS	1	25.0	46	22.0	199	22.0	246	22.0
31 - 35 YEARS	0	0.0	58	27.8	231	25.6	289	25.9
36 - 40 YEARS	1	25.0	21	10.1	110	12.2	132	11.8
41 - 45 YEARS	1	25.0	17	8.1	82	9.1	100	9.0
46 - 50 YEARS	0	0.0	14	6.7	58	6.4	72	6.5
51 - 55 YEARS	0	0.0	8	3.8	36	4.0	44	3.9
56 - 60 YEARS	1	25.0	5	2.4	23	2.6	29	2.6
61 - 65 YEARS	0	0.0	0	0.0	7	0.8	7	0.6
66 YEARS AND OVER	0	0.0	0	0.0	10	1.1	10	0.9
UNKNOWN	0	-	2	-	32	-	34	-
TOTAL	4	100.0	211	100.0	935	100.0	1,150	100.0

TABLE 2.0.14

2004 POLICE VEHICLE INVOLVED CRASHES

COUNTY QUARTILE ANALYSIS



¹LEGEND CATEGORIES ARE BASED ON QUARTILES OF COUNTIES.

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
1.0	JACKSON	204	18.2	20.5	FRANKLIN	10	0.9
2.0	ST. LOUIS	165	14.8	23.5	BUCHANAN	9	0.8
3.0	ST. LOUIS CITY	84	7.5	23.5	CLINTON	9	0.8
4.0	ST. CHARLES	50	4.5	23.5	LAFAYETTE	9	0.8
5.0	CLAY	41	3.7	23.5	STODDARD	9	0.8
6.5	GREENE	24	2.1	26.5	MARION	8	0.7
6.5	JEFFERSON	24	2.1	26.5	MONTGOMERY	8	0.7
8.5	BOONE	22	2.0	First Quartile			
8.5	CASS	22	2.0	-----			
10.5	CAMDEN	19	1.7	Second Quartile			
10.5	ST. FRANCOIS	19	1.7	30.5	BUTLER	7	0.6
12.0	CAPE GIRARDEAU	17	1.5	30.5	MILLER	7	0.6
13.0	STONE	16	1.4	30.5	NODAWAY	7	0.6
14.5	COLE	13	1.2	30.5	PIKE	7	0.6
14.5	JASPER	13	1.2	30.5	PULASKI	7	0.6
17.5	LINCOLN	12	1.1	30.5	TANEY	7	0.6
17.5	PETTIS	12	1.1	36.5	AUDRAIN	6	0.5
17.5	PHELPS	12	1.1	36.5	BENTON	6	0.5
17.5	PLATTE	12	1.1	36.5	DE KALB	6	0.5
20.5	BATES	10	0.9	36.5	HOWELL	6	0.5

3.0 FIRE VEHICLE INVOLVEMENT

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

2004 SUMMARY ANALYSIS

- In 2004, there were 201 traffic crashes involving one or more fire vehicles in the State of Missouri. One person was killed and 35 were injured in these crashes.
- In 29.9% of the traffic crashes involving fire vehicles, the fire vehicle was on an emergency run at the time of the incident.
- In 2004, one person was injured in a fire vehicle related crash every 10.2 days in the State of Missouri.
- Of all 2004 crashes involving fire vehicles, the first harmful event in 52.7% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 23.9% of the cases, it involved a motor vehicle striking a parked vehicle. In 16.4% of the cases, the vehicle struck a fixed object.
- Of all 2004 crashes involving fire vehicles, 66.2% occurred in an urban area of the State and 33.8% occurred in a rural area.
- Of all fire vehicle drivers in 2004 traffic crashes, 92.6% were male and 7.4% were female. The average age of the fire vehicle driver was 39.4 years.

**2004 FIRE VEHICLE INVOLVED CRASHES
EMERGENCY RUN STATUS**

	FATAL	PERSONAL INJURY	PROPERTY DAMAGE	TOTAL	%	TOTAL NUMBER ¹ KILLED	FIRE VEHICLE DRIVERS/PASSENGERS ²		
							INJURED	%	KILLED
FIRE VEHICLE ON RUN	1	9	50	60	42.9	1	20	1	8
FIRE VEHICLE NOT ON RUN	0	12	129	141	57.1	0	15	0	8
TOTAL	1	21	179	201	100.0	1	35	1	16

¹This statistic indicates the total number of persons killed and injured in a crash where one or more fire vehicles were involved.

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

TABLE 3.0.1

2003 and 2004 FIRE VEHICLE INVOLVED CRASH ANALYSIS

	2003	2004	RATE OF CHANGE
FATAL	1	1	= 0.0
PERSONAL INJURY	31	21	- 32.3
PROPERTY DAMAGE	147	179	+ 21.8
TOTAL	179	201	+ 12.3

TABLE 3.0.2

2004 FIRE VEHICLE INVOLVED CRASHES

CRASH TYPE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	0	0.0	4	2.2	4	2.0
BICYCLIST	0	0.0	0	0.0	0	0.0	0	0.0
FIXED OBJECT	0	0.0	1	4.8	32	17.9	33	16.4
OTHER OBJECT	0	0.0	0	0.0	2	1.1	2	1.0
PEDESTRIAN	0	0.0	4	19.1	0	0.0	4	2.0
TRAIN	0	0.0	0	0.0	0	0.0	0	0.0
VEHICLE IN TRANSPORT	1	100.0	12	57.1	93	52.0	106	52.7
VEHICLE ON OTHER ROADWAY	0	0.0	0	0.0	1	0.6	1	0.5
PARKED VEHICLE	0	0.0	1	4.8	47	26.3	48	23.9
NON-COLLISION OVERTURN	0	0.0	3	14.3	0	0.0	3	1.5
NON-COLLISION OTHER	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	1	100.0	21	100.0	179	100.0	201	100.0

TABLE 3.0.3

2004 FIRE VEHICLE INVOLVED CRASHES

AREA CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	1	100.0	8	38.1	124	69.3	133	66.2
RURAL	0	0.0	13	61.9	55	30.7	68	33.8
TOTAL	1	100.0	21	100.0	179	100.0	201	100.0

TABLE 3.0.4

2004 FIRE VEHICLE INVOLVED CRASHES

ROAD CURVATURE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	1	100.0	15	75.0	160	89.9	176	88.4
CURVE	0	0.0	5	25.0	18	10.1	23	11.6
UNKNOWN	0	-	1	-	1	-	2	-
TOTAL	1	100.0	21	100.0	179	100.0	201	100.0

TABLE 3.0.5

2004 FIRE VEHICLE INVOLVED CRASHES

ROAD INCLINE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	0	0.0	11	52.4	135	76.7	146	73.7
HILL	1	100.0	10	47.6	38	21.6	49	24.8
CREST	0	0.0	0	0.0	3	1.7	3	1.5
UNKNOWN	0	-	0	-	3	-	3	-
TOTAL	1	100.0	21	100.0	179	100.0	201	100.0

TABLE 3.0.6

2004 FIRE VEHICLE INVOLVED CRASHES

ROAD CONDITIONS BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	1	100.0	15	79.0	117	66.1	133	67.5
WET	0	0.0	3	15.8	41	23.2	44	22.3
SNOW	0	0.0	0	0.0	8	4.5	8	4.1
ICE	0	0.0	1	5.3	11	6.2	12	6.1
SLUSH	0	0.0	0	0.0	0	0.0	0	0.0
MUD	0	0.0	0	0.0	0	0.0	0	0.0
STANDING WATER	0	0.0	0	0.0	0	0.0	0	0.0
MOVING WATER	0	0.0	0	0.0	0	0.0	0	0.0
UNKNOWN	0	-	2	-	2	-	4	-
TOTAL	1	100.0	21	100.0	179	100.0	201	100.0

TABLE 3.0.7

2004 FIRE VEHICLE INVOLVED CRASHES

HIGHWAY CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	0	0.0	6	3.4	6	3.0
U.S. HIGHWAY	0	0.0	2	9.5	6	3.4	8	4.0
STATE NUMBERED	0	0.0	6	28.6	8	4.5	14	7.0
SINGLE STATE LETTERED	0	0.0	3	14.3	9	5.0	12	6.0
DOUBLE STATE LETTERED	0	0.0	0	0.0	2	1.1	2	1.0
OUTER ROAD	0	0.0	0	0.0	2	1.1	2	1.0
COUNTY ROAD	0	0.0	3	14.3	20	11.2	23	11.4
CITY STREET	1	100.0	7	33.3	112	62.6	120	59.7
INTERSTATE LOOP	0	0.0	0	0.0	0	0.0	0	0.0
OTHER ¹	0	0.0	0	0.0	14	7.8	14	7.0
TOTAL	1	100.0	21	100.0	179	100.0	201	100.0

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

TABLE 3.0.8

2004 FIRE VEHICLE INVOLVED CRASHES
HIGHWAY CLASSIFICATION BY AREA CLASSIFICATION AND CRASH SEVERITY

	URBAN						RURAL									
	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	0	0.0	3	2.4	2	2.3	0	0.0	0	0.0	3	5.5	3	4.4
U.S. HIGHWAY	0	0.0	1	12.5	2	1.6	3	2.3	0	0.0	1	7.7	4	7.3	5	7.4
STATE NUMBERED	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	6	46.2	8	14.6	14	20.6
SINGLE STATE LETTERED	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	23.1	9	16.4	12	17.7
DOUBLE STATE LETTERED	0	0.0	0	0.0	1	0.8	1	0.8	0	0.0	0	0.0	1	1.8	1	1.5
OUTER ROAD	0	0.0	0	0.0	1	0.8	1	0.8	0	0.0	0	0.0	1	1.8	1	1.5
COUNTY ROAD	0	0.0	1	12.5	2	1.6	3	2.3	0	0.0	2	15.4	18	32.7	20	29.4
CITY STREET	1	100.0	6	75.0	107	86.3	114	85.7	0	0.0	1	7.7	5	9.1	6	8.8
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	0	0.0	8	6.5	8	6.0	0	0.0	0	0.0	6	10.9	6	8.8
TOTAL	1	100.0	8	100.0	124	100.0	133	100.0	0	0.0	13	100.0	55	100.0	68	100.0

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

TABLE 3.0.9

**2004 FIRE VEHICLE INVOLVED CRASHES
MONTH OF YEAR**

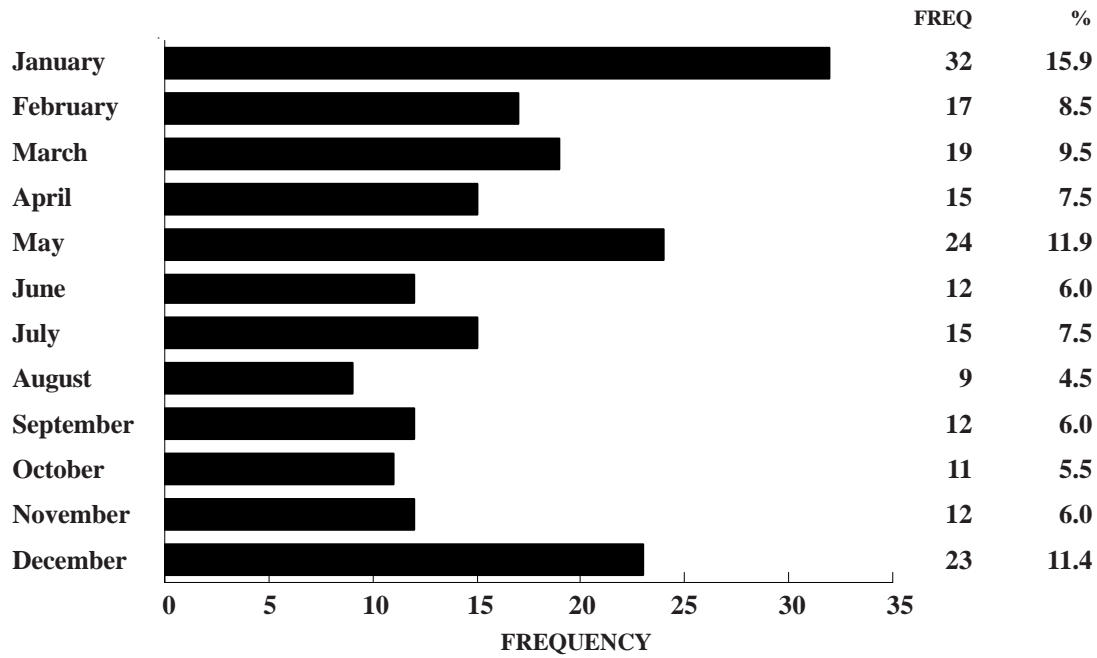


FIGURE 3.0.1

**2004 FIRE VEHICLE INVOLVED CRASHES
DAY OF WEEK**

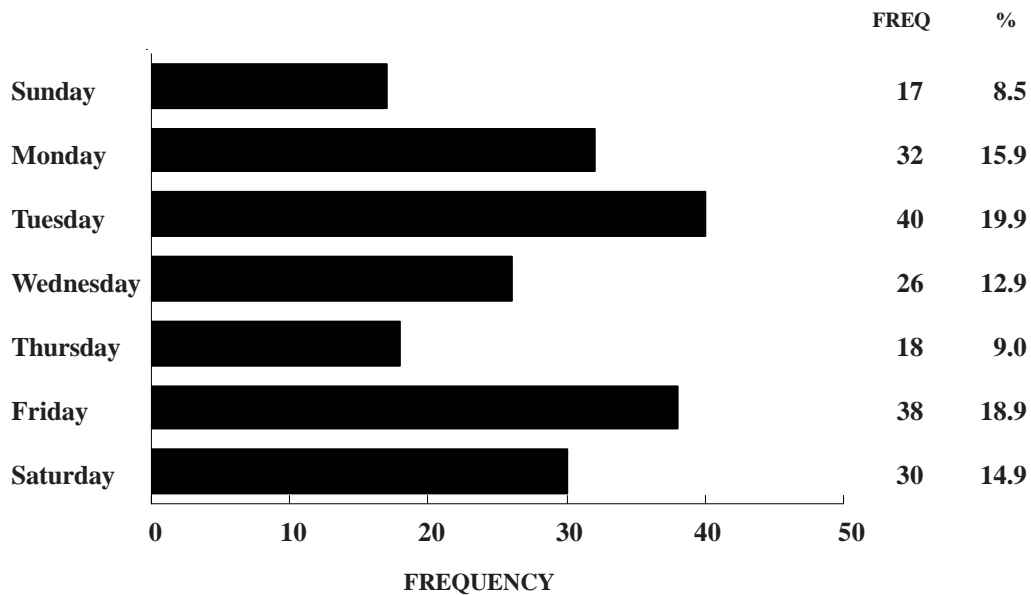


FIGURE 3.0.2

**2004 FIRE VEHICLE INVOLVED CRASHES
HOUR OF DAY**

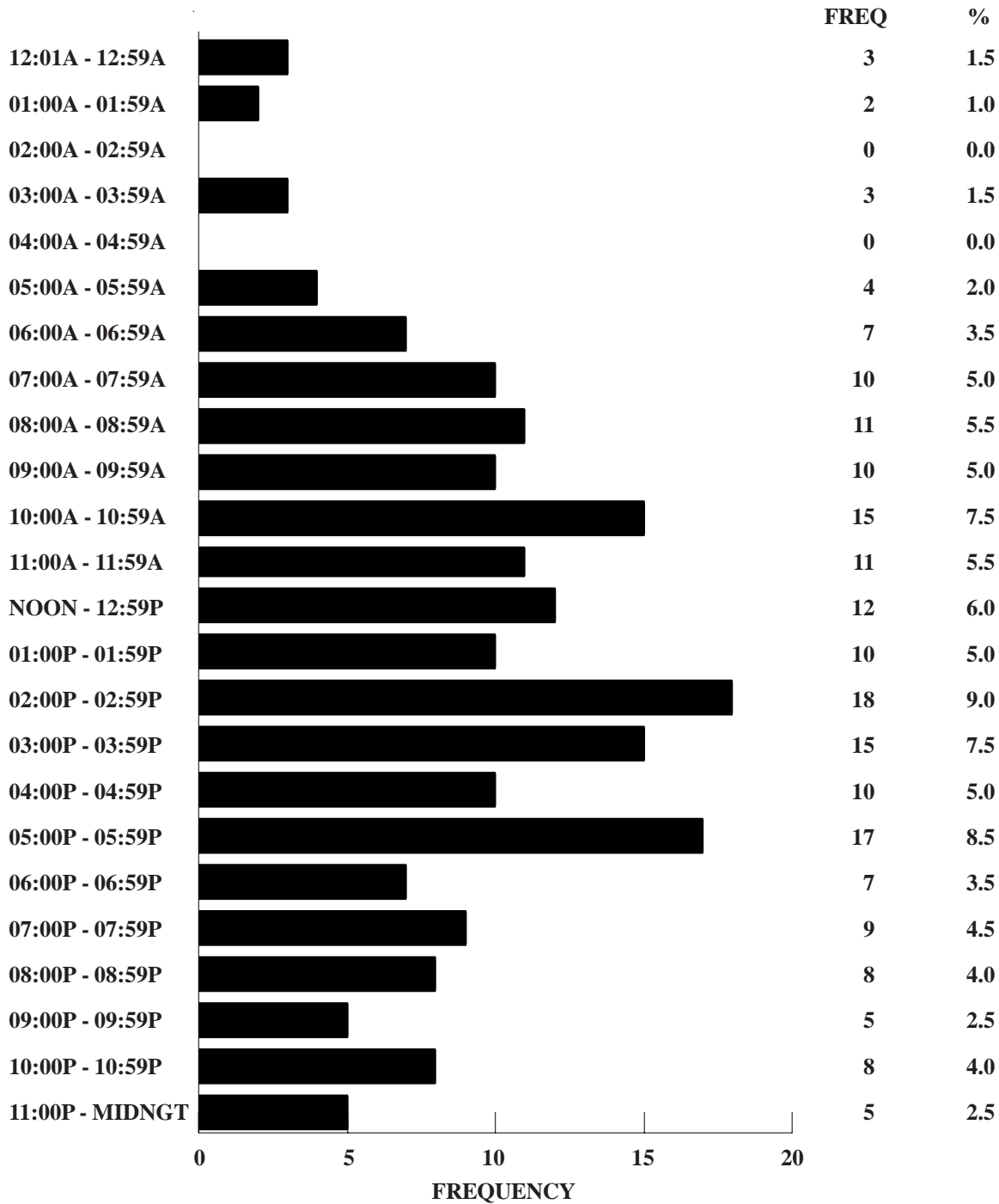


FIGURE 3.0.3

2004 MISSOURI FIRE VEHICLE CRASHES

TYPE OF CIRCUMSTANCE INVOLVED BY CRASH SEVERITY AND PERSON CLASSIFICATION¹

	FATAL AND PERSONAL INJURY FIRE VEHICLE CRASHES = 22			TOTAL FIRE VEHICLE CRASHES = 201		
	DRIVER OF FIRE VEHICLE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL F & PI	DRIVER OF FIRE VEHICLE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL CRASHES
VEHICLE DEFECTS	4.5	0.0	4.5	3.0	0.0	3.0
TRAFFIC CONTROL INOPERATIVE/ MISSING	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPERLY STOPPED ON ROADWAY	0.0	0.0	0.0	0.0	1.0	1.0
EXCEEDING SPEED LIMIT/ TOO FAST FOR CONDITIONS	13.6	4.5	18.1	6.5	4.0	10.4
IMPROPER PASSING	0.0	0.0	0.0	1.0	1.0	2.0
VIOLATION OF STOP SIGN	0.0	4.5	4.5	0.0	1.0	1.0
WRONG SIDE NOT PASSING	0.0	0.0	0.0	1.0	0.5	1.5
FOLLOWING TOO CLOSE	4.5	4.5	9.0	2.5	1.5	4.0
IMPROPER SIGNAL	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPER BACKING	0.0	0.0	0.0	7.0	0.5	7.5
IMPROPER TURN	0.0	0.0	0.0	4.5	2.5	7.0
IMPROPER LANE USAGE / CHANGE	4.5	0.0	4.5	1.0	2.5	3.5
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	1.0	0.0	1.0
IMPROPERLY PARKED	0.0	0.0	0.0	0.5	2.5	3.0
FAILED TO YIELD	9.1	22.7	22.7	3.0	8.5	10.4
DRINKING	0.0	4.5	4.5	0.0	1.0	1.0
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	13.6	22.7	31.8	21.4	12.9	30.8

¹This table identifies the percentage of crashes involving one or more fire vehicles having a specific type of circumstance which contributed to the cause of the crash. This table further defines the percentage of crashes 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 crash. For instance, when examining speed involvement in 2004 Missouri fire vehicle crashes, it was found that a fire vehicle driver was speeding in 6.5% of the crashes. In 4.0% of the crashes another driver was speeding. In 10.4% of the crashes either a fire vehicle driver, another driver, or both drivers were speeding.

TABLE 3.0.10

FIRE VEHICLES INVOLVED IN 2004 MISSOURI CRASHES

TYPE OF VEHICLE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AUTOMOBILE	0	0.0	3	14.3	11	6.4	14	7.2
SPORT UTILITY VEHICLE	0	0.0	3	14.3	14	8.1	17	8.8
VAN	0	0.0	0	0.0	2	1.2	2	1.0
MOTORCYCLE	0	0.0	2	9.5	0	0.0	2	1.0
CONSTRUCTION EQUIPMENT	0	0.0	0	0.0	1	0.6	1	0.5
OTHER TRANSPORT DEVICE	0	0.0	2	9.5	27	15.7	29	15.0
PICK-UP TRUCK	0	0.0	2	9.5	14	8.1	16	8.3
OTHER TRUCK	1	100.0	9	42.9	103	59.9	113	58.3
UNKNOWN	0	-	0	-	9	-	9	-
TOTAL	1	100.0	21	100.0	181	100.0	203	100.0

TABLE 3.0.11

FIRE VEHICLES INVOLVED IN 2004 MISSOURI CRASHES

DRIVER INVOLVEMENT BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRIVERLESS	0	0.0	0	0.0	0	0.0	0	0.0
KNOWN DRIVER INVOLVED	1	100.0	21	100.0	180	99.5	202	99.5
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	1	0.5	1	0.5
TOTAL	1	100.0	21	100.0	181	100.0	203	100.0

TABLE 3.0.12

DRIVERS OF FIRE VEHICLES INVOLVED IN 2004 MISSOURI CRASHES

SEX OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	1	100.0	20	95.2	166	92.2	187	92.6
FEMALE	0	0.0	1	4.8	14	7.8	15	7.4
UNKNOWN	0	-	0	-	1	-	1	-
TOTAL	1	100.0	21	100.0	181	100.0	203	100.0

TABLE 3.0.13

DRIVERS OF FIRE VEHICLES INVOLVED IN 2004 MISSOURI CRASHES

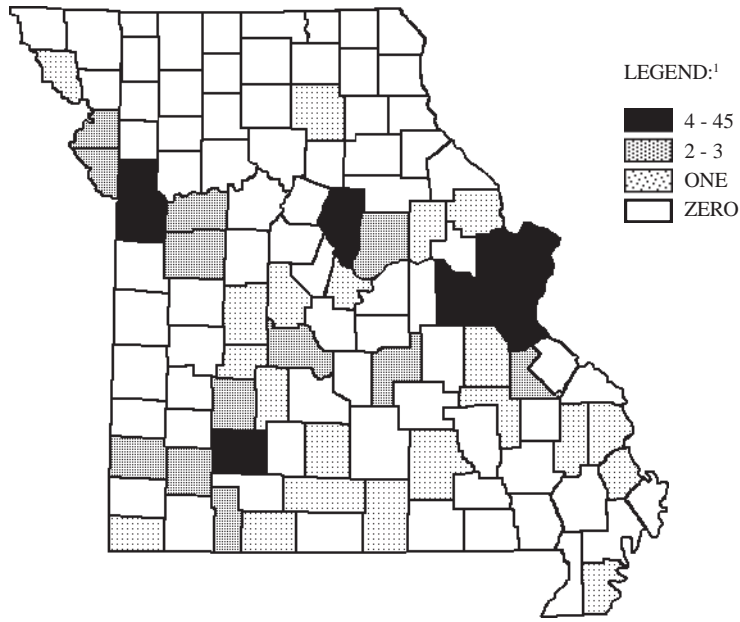
AGE OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	47.0	-	42.1	-	39.1	-	39.4	-
14 YEARS AND UNDER	0	0.0	0	0.0	0	0.0	0	0.0
15 - 20 YEARS	0	0.0	1	4.8	1	0.6	2	1.0
21 - 25 YEARS	0	0.0	2	9.5	19	10.6	21	10.5
26 - 30 YEARS	0	0.0	1	4.8	26	14.5	27	13.4
31 - 35 YEARS	0	0.0	2	9.5	23	12.9	25	12.4
36 - 40 YEARS	0	0.0	3	14.3	34	19.0	37	18.4
41 - 45 YEARS	0	0.0	4	19.1	29	16.2	33	16.4
46 - 50 YEARS	1	100.0	3	14.3	25	14.0	29	14.4
51 - 55 YEARS	0	0.0	1	4.8	9	5.0	10	5.0
56 - 60 YEARS	0	0.0	3	14.3	6	3.4	9	4.5
61 - 65 YEARS	0	0.0	0	0.0	2	1.1	2	1.0
66 YEARS AND OVER	0	0.0	1	4.8	5	2.8	6	3.0
UNKNOWN	0	-	0	-	2	-	2	-
TOTAL	1	100.0	21	100.0	181	100.0	203	100.0

TABLE 3.0.14

2004 FIRE VEHICLE INVOLVED CRASHES

COUNTY QUARTILE ANALYSIS



¹LEGEND CATEGORIES ARE BASED ON QUARTILES OF COUNTIES.

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
1.0	ST. LOUIS CITY	45	22.4	18.5	LAFAYETTE	2	1.0
2.0	JACKSON	34	16.9	18.5	PLATTE	2	1.0
3.0	ST. LOUIS	24	11.9	18.5	POLK	2	1.0
4.5	BOONE	11	5.5	18.5	STONE	2	1.0
4.5	JEFFERSON	11	5.5	Second Quartile			
6.0	ST. CHARLES	9	4.5	Third Quartile			
7.0	FRANKLIN	7	3.5	32.0	BENTON	1	0.5
8.0	GREENE	5	2.5	32.0	BOLLINGER	1	0.5
9.0	CLAY	4	2.0	32.0	CAPE GIRARDEAU	1	0.5
First Quartile				32.0	COLE	1	0.5
Second Quartile				32.0	DALLAS	1	0.5
12.5	CAMDEN	3	1.5	32.0	DOUGLAS	1	0.5
12.5	JASPER	3	1.5	32.0	HICKORY	1	0.5
12.5	JOHNSON	3	1.5	32.0	HOLT	1	0.5
12.5	LAWRENCE	3	1.5	32.0	HOWELL	1	0.5
12.5	PHELPS	3	1.5	32.0	IRON	1	0.5
12.5	ST. FRANCOIS	3	1.5	32.0	LINCOLN	1	0.5
18.5	BUCHANAN	2	1.0	32.0	MC DONALD	1	0.5
18.5	CALLAWAY	2	1.0	32.0	MACON	1	0.5

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
32.0	MONTGOMERY	1	0.5	79.0	LACLEDE	0	0.0
32.0	MORGAN	1	0.5	79.0	LEWIS	0	0.0
32.0	PEMISCOT	1	0.5	79.0	LINN	0	0.0
32.0	SCOTT	1	0.5	79.0	LIVINGSTON	0	0.0
32.0	SHANNON	1	0.5	79.0	MADISON	0	0.0
32.0	TANEY	1	0.5	79.0	MARIES	0	0.0
32.0	WASHINGTON	1	0.5	79.0	MARION	0	0.0
32.0	WRIGHT	1	0.5	79.0	MERCER	0	0.0
Third Quartile				79.0	MILLER	0	0.0
Fourth Quartile				79.0	MISSISSIPPI	0	0.0
79.0	ADAIR	0	0.0	79.0	MONITEAU	0	0.0
79.0	ANDREW	0	0.0	79.0	MONROE	0	0.0
79.0	ATCHISON	0	0.0	79.0	NEW MADRID	0	0.0
79.0	AUDRAIN	0	0.0	79.0	NEWTON	0	0.0
79.0	BARRY	0	0.0	79.0	NODAWAY	0	0.0
79.0	BARTON	0	0.0	79.0	OREGON	0	0.0
79.0	BATES	0	0.0	79.0	OSAGE	0	0.0
79.0	BUTLER	0	0.0	79.0	OZARK	0	0.0
79.0	CALDWELL	0	0.0	79.0	PERRY	0	0.0
79.0	CARROLL	0	0.0	79.0	PETTIS	0	0.0
79.0	CARTER	0	0.0	79.0	PIKE	0	0.0
79.0	CASS	0	0.0	79.0	PULASKI	0	0.0
79.0	CEDAR	0	0.0	79.0	PUTNAM	0	0.0
79.0	CHARITON	0	0.0	79.0	RALLS	0	0.0
79.0	CHRISTIAN	0	0.0	79.0	RANDOLPH	0	0.0
79.0	CLARK	0	0.0	79.0	RAY	0	0.0
79.0	CLINTON	0	0.0	79.0	REYNOLDS	0	0.0
79.0	COOPER	0	0.0	79.0	RIPLEY	0	0.0
79.0	CRAWFORD	0	0.0	79.0	ST. CLAIR	0	0.0
79.0	DADE	0	0.0	79.0	STE. GENEVIEVE	0	0.0
79.0	DAVISS	0	0.0	79.0	SALINE	0	0.0
79.0	DE KALB	0	0.0	79.0	SCHUYLER	0	0.0
79.0	DENT	0	0.0	79.0	SCOTLAND	0	0.0
79.0	DUNKLIN	0	0.0	79.0	SHELBY	0	0.0
79.0	GASCONADE	0	0.0	79.0	STODDARD	0	0.0
79.0	GENTRY	0	0.0	79.0	SULLIVAN	0	0.0
79.0	GRUNDY	0	0.0	79.0	TEXAS	0	0.0
79.0	HARRISON	0	0.0	79.0	VERNON	0	0.0
79.0	HENRY	0	0.0	79.0	WARREN	0	0.0
79.0	HOWARD	0	0.0	79.0	WAYNE	0	0.0
79.0	KNOX	0	0.0	79.0	WEBSTER	0	0.0
				79.0	WORTH	0	0.0

TABLE 3.0.15

4.0 AMBULANCE INVOLVEMENT

This section presents a series of data displays which identify ambulance involvement in Missouri's traffic crash activity. Ambulance traffic crashes are defined as any crash 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 crashes.

2004 SUMMARY ANALYSIS

- In 2004, there were 153 traffic crashes involving one or more ambulances in the State of Missouri. One person was killed and 79 were injured in these crashes.
- In 24.8% of the traffic crashes involving ambulances, the ambulance was on an emergency run at the time of the incident.
- In 2004, one person was killed or injured in an ambulance related crash every 4.6 days in the State of Missouri.
- Of all 2004 crashes involving ambulances, the first harmful event in 70.6% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 10.5% of the cases, a motor vehicle struck a fixed object, and in 9.8% of the cases a motor vehicle struck a parked vehicle.
- Of all 2004 crashes involving ambulances, 69.3% occurred in an urban area of the State and 30.7% occurred in a rural area.
- Of all ambulance drivers involved in 2004 traffic crashes, 73.6% were male and 26.4% were female. The average age of the ambulance driver was 33.8 years.

2004 AMBULANCE INVOLVED CRASHES
EMERGENCY RUN STATUS

	FATAL		PERSONAL INJURY		PROPERTY DAMAGE		TOTAL		TOTAL NUMBER ¹		AMBULANCE DRIVERS/PASSENGERS ²	
		%		%		%		%	KILLED	INJURED	KILLED	INJURED
AMBULANCE ON RUN	0	0.0	16	40.0	22	19.6	38	24.8	0	35	0	26
AMBULANCE NOT ON RUN	1	100.0	24	60.0	90	80.4	115	75.2	1	44	0	24
TOTAL	1	100.0	40	100.0	112	100.0	153	100.0	1	79	0	50

¹This statistic indicates the total number of persons killed and injured in a crash where one or more ambulances were involved.

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

TABLE 4.0.1

2003 and 2004 AMBULANCE INVOLVED CRASH ANALYSIS

	2003	2004	RATE OF CHANGE
FATAL	1	1	= 0.0
PERSONAL INJURY	38	40	+ 5.3
PROPERTY DAMAGE	121	112	- 7.4
TOTAL	160	153	- 4.4

TABLE 4.0.2

2004 AMBULANCE INVOLVED CRASHES

CRASH TYPE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	0	0.0	11	9.8	11	7.2
BICYCLIST	0	0.0	0	0.0	0	0.0	0	0.0
FIXED OBJECT	0	0.0	5	12.5	11	9.8	16	10.5
OTHER OBJECT	0	0.0	0	0.0	1	0.9	1	0.7
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	1	100.0	34	85.0	73	65.2	108	70.6
VEHICLE ON OTHER ROADWAY	0	0.0	0	0.0	1	0.9	1	0.7
PARKED VEHICLE	0	0.0	0	0.0	15	13.4	15	9.8
NON-COLLISION OVERTURN	0	0.0	1	2.5	0	0.0	1	0.7
NON-COLLISION OTHER	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	1	100.0	40	100.0	112	100.0	153	100.0

TABLE 4.0.3

2004 AMBULANCE INVOLVED CRASHES

AREA CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	1	100.0	31	77.5	74	66.1	106	69.3
RURAL	0	0.0	9	22.5	38	33.9	47	30.7
TOTAL	1	100.0	40	100.0	112	100.0	153	100.0

TABLE 4.0.4

2004 AMBULANCE INVOLVED CRASHES

ROAD CURVATURE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	1	100.0	34	87.2	96	86.5	131	86.8
CURVE	0	0.0	5	12.8	15	13.5	20	13.2
UNKNOWN	0	-	1	-	1	-	2	-
TOTAL	1	100.0	40	100.0	112	100.0	153	100.0

TABLE 4.0.5

2004 AMBULANCE INVOLVED CRASHES

ROAD INCLINE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	1	100.0	25	64.1	86	77.5	112	74.2
HILL	0	0.0	13	33.3	22	19.8	35	23.2
CREST	0	0.0	1	2.6	3	2.7	4	2.7
UNKNOWN	0	-	1	-	1	-	2	-
TOTAL	1	100.0	40	100.0	112	100.0	153	100.0

TABLE 4.0.6

2004 AMBULANCE INVOLVED CRASHES

ROAD CONDITIONS BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	0	0.0	30	75.0	80	71.4	110	71.9
WET	1	100.0	7	17.5	23	20.5	31	20.3
SNOW	0	0.0	1	2.5	4	3.6	5	3.3
ICE	0	0.0	2	5.0	4	3.6	6	3.9
SLUSH	0	0.0	0	0.0	0	0.0	0	0.0
MUD	0	0.0	0	0.0	0	0.0	0	0.0
STANDING WATER	0	0.0	0	0.0	0	0.0	0	0.0
MOVING WATER	0	0.0	0	0.0	1	0.9	1	0.7
UNKNOWN	0	-	0	-	0	-	0	-
TOTAL	1	100.0	40	100.0	112	100.0	153	100.0

TABLE 4.0.7

2004 AMBULANCE INVOLVED CRASHES

HIGHWAY CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	3	7.5	10	8.9	13	8.5
U.S. HIGHWAY	0	0.0	7	17.5	14	12.5	21	13.7
STATE NUMBERED	0	0.0	2	5.0	11	9.8	13	8.5
SINGLE STATE LETTERED	0	0.0	0	0.0	4	3.6	4	2.6
DOUBLE STATE LETTERED	1	100.0	1	2.5	2	1.8	4	2.6
OUTER ROAD	0	0.0	0	0.0	0	0.0	0	0.0
COUNTY ROAD	0	0.0	3	7.5	5	4.5	8	5.2
CITY STREET	0	0.0	23	57.5	56	50.0	79	51.6
INTERSTATE LOOP	0	0.0	0	0.0	0	0.0	0	0.0
OTHER ¹	0	0.0	1	2.5	10	8.9	11	7.2
TOTAL	1	100.0	40	100.0	112	100.0	153	100.0

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

TABLE 4.0.8

2004 AMBULANCE INVOLVED CRASHES
HIGHWAY CLASSIFICATION BY AREA CLASSIFICATION AND CRASH SEVERITY

	URBAN						RURAL									
	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	1	3.2	6	8.1	7	6.6	0	0.0	2	22.2	4	10.5	6	12.8
U.S. HIGHWAY	0	0.0	6	19.4	7	9.5	13	12.3	0	0.0	1	11.1	7	18.4	8	17.0
STATE NUMBERED	0	0.0	0	0.0	3	4.1	3	2.8	0	0.0	2	22.2	8	21.1	10	21.3
SINGLE STATE LETTERED	0	0.0	0	0.0	1	1.4	1	0.9	0	0.0	0	0.0	3	7.9	3	6.4
DOUBLE STATE LETTERED	1	100.0	0	0.0	1	1.4	2	1.9	0	0.0	1	11.1	1	2.6	2	4.3
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	2	6.5	0	0.0	2	1.9	0	0.0	1	11.1	5	13.2	6	12.8
CITY STREET	0	0.0	21	67.7	50	67.6	71	67.0	0	0.0	2	22.2	6	15.8	8	17.0
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	3.2	6	8.1	7	6.6	0	0.0	0	0.0	4	10.5	4	8.5
TOTAL	1	100.0	31	100.0	74	100.0	106	100.0	0	0.0	9	100.0	38	100.0	47	100.0

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

TABLE 4.0.9

**2004 AMBULANCE INVOLVED CRASHES
MONTH OF YEAR**

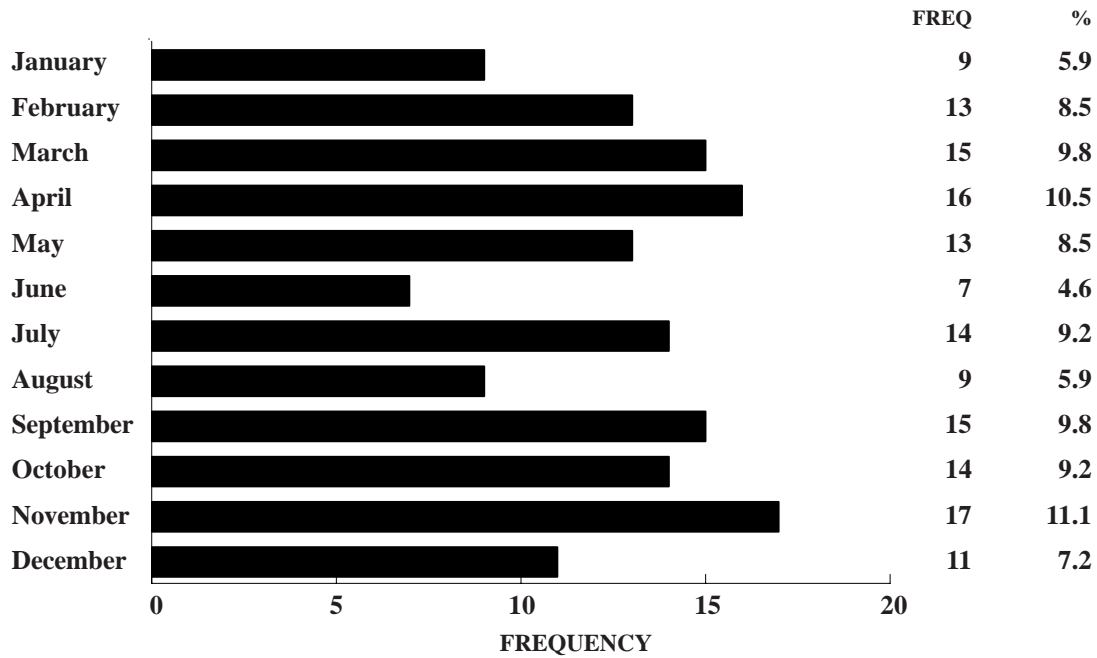


FIGURE 4.0.1

**2004 AMBULANCE INVOLVED CRASHES
DAY OF WEEK**

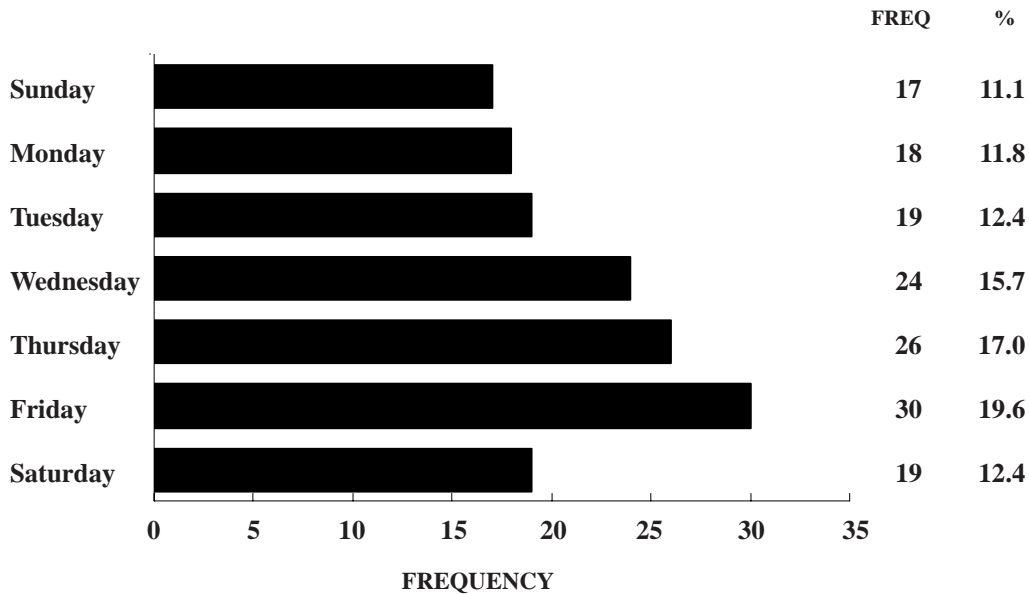


FIGURE 4.0.2

**2004 AMBULANCE INVOLVED CRASHES
HOUR OF DAY**

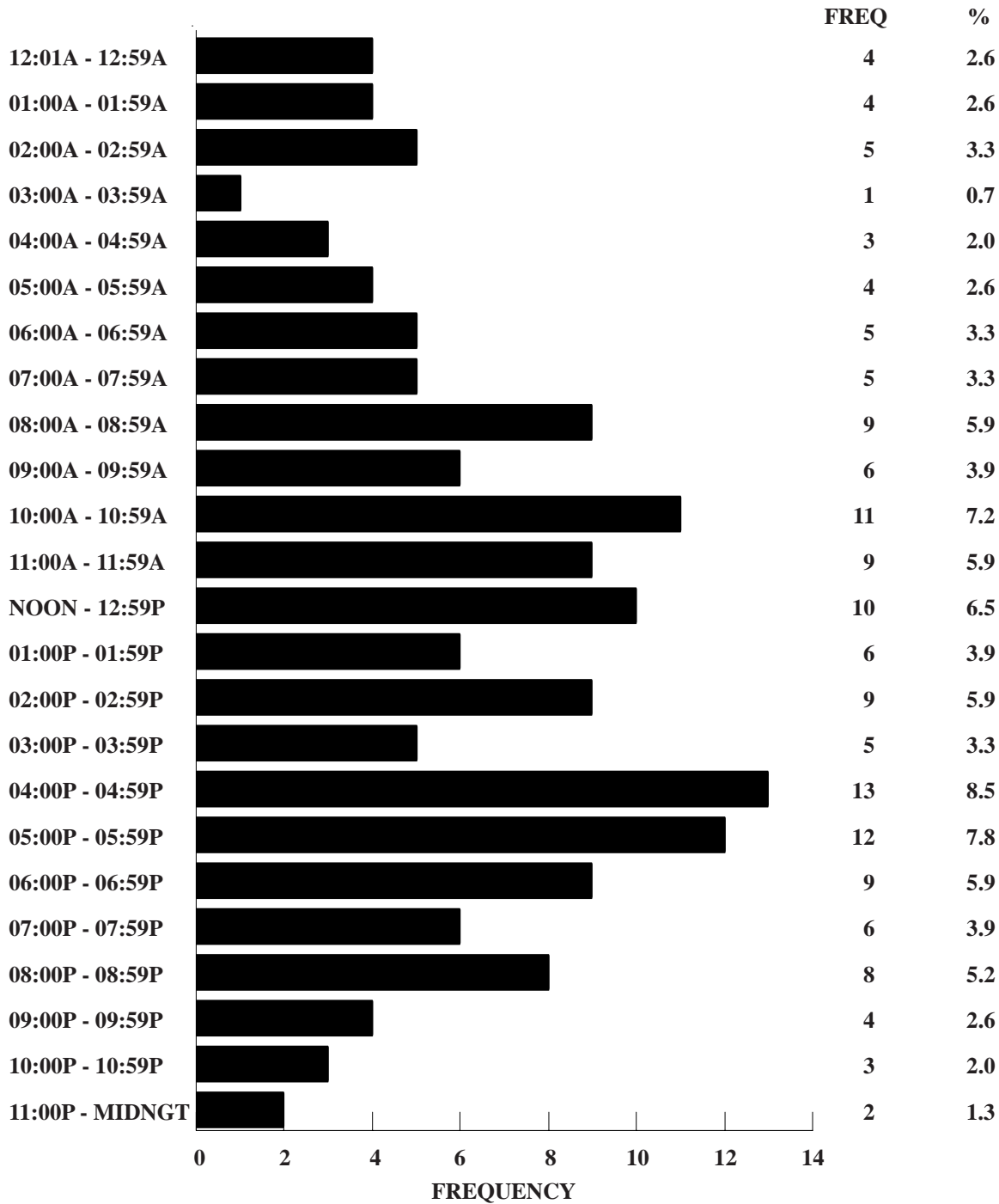


FIGURE 4.0.3

2004 MISSOURI AMBULANCE CRASHES

TYPE OF CIRCUMSTANCE INVOLVED BY CRASH SEVERITY AND PERSON CLASSIFICATION¹

FATAL AND PERSONAL INJURY AMBULANCE CRASHES = 41				TOTAL AMBULANCE CRASHES = 153		
	DRIVER OF AMBULANCE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL F & PI	DRIVER OF AMBULANCE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL CRASHES
VEHICLE DEFECTS	4.9	0.0	4.9	2.0	0.7	2.6
TRAFFIC CONTROL INOPERATIVE / MISSING	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPERLY STOPPED ON ROADWAY	0.0	0.0	0.0	0.0	0.7	0.7
EXCEEDING SPEED LIMIT / TOO FAST FOR CONDITIONS	9.8	2.4	12.2	6.5	2.6	9.1
IMPROPER PASSING	0.0	0.0	0.0	1.3	0.0	1.3
VIOLATION OF STOP SIGN	2.4	4.9	7.3	0.7	2.6	3.3
WRONG SIDE NOT PASSING	0.0	0.0	0.0	0.7	1.3	1.3
FOLLOWING TOO CLOSE	2.4	0.0	2.4	3.3	2.6	5.9
IMPROPER SIGNAL	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPER BACKING	0.0	0.0	0.0	3.9	0.0	3.9
IMPROPER TURN	0.0	2.4	2.4	2.6	1.3	3.9
IMPROPER LANE USAGE / CHANGE	0.0	2.4	2.4	2.0	4.6	5.9
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	0.0	1.3	1.3
FAILED TO YIELD	12.2	39.0	48.8	5.2	18.3	22.9
DRINKING	4.9	0.0	4.9	1.3	0.0	1.3
DRUGS	0.0	0.0	0.0	0.0	0.0	0.0
PHYSICAL IMPAIRMENT	0.0	0.0	0.0	0.7	0.0	0.7
INATTENTION	9.8	14.6	24.4	15.7	11.8	27.5

¹This table identifies the percentage of crashes involving one or more ambulances having a specific type of circumstance which contributed to the cause of the crash. This table further defines the percentage of crashes where the contributing circumstance was associated with the driver or his ambulance as well as those attributed to other persons and vehicles in the crash. For instance, when examining speed involvement in 2004 Missouri ambulance crashes, it was found that an ambulance driver was speeding in 6.5% of the crashes. In 2.6% of the crashes another driver was speeding. In 9.1% of the crashes either an ambulance driver, another driver, or both drivers were speeding.

TABLE 4.0.10

AMBULANCES INVOLVED IN 2004 MISSOURI CRASHES

DRIVER INVOLVEMENT BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRIVERLESS	0	0.0	0	0.0	0	0.0	0	0.0
KNOWN DRIVER INVOLVED	1	100.0	42	100.0	112	96.6	155	97.5
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	4	3.4	4	2.5
TOTAL	1	100.0	42	100.0	116	100.0	159	100.0

TABLE 4.0.11

DRIVERS OF AMBULANCES INVOLVED IN 2004 MISSOURI CRASHES

SEX OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	1	100.0	31	73.8	82	73.2	114	73.6
FEMALE	0	0.0	11	26.2	30	26.8	41	26.4
UNKNOWN	0	-	0	-	4	-	4	-
TOTAL	1	100.0	42	100.0	116	100.0	159	100.0

TABLE 4.0.12

DRIVERS OF AMBULANCES INVOLVED IN 2004 MISSOURI CRASHES

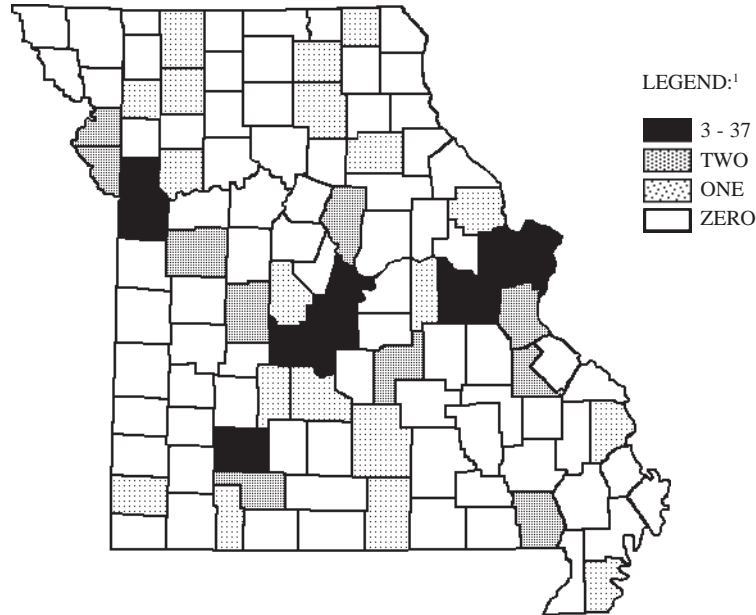
AGE OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	32.0	-	35.5	-	33.2	-	33.8	-
14 YEARS AND UNDER	0	0.0	0	0.0	0	0.0	0	0.0
15 - 20 YEARS	0	0.0	1	2.6	5	4.6	6	4.0
21 - 25 YEARS	0	0.0	8	20.5	27	24.6	35	23.3
26 - 30 YEARS	0	0.0	7	18.0	19	17.3	26	17.3
31 - 35 YEARS	1	100.0	6	15.4	20	18.2	27	18.0
36 - 40 YEARS	0	0.0	7	18.0	14	12.7	21	14.0
41 - 45 YEARS	0	0.0	3	7.7	11	10.0	14	9.3
46 - 50 YEARS	0	0.0	2	5.1	7	6.4	9	6.0
51 - 55 YEARS	0	0.0	2	5.1	2	1.8	4	2.7
56 - 60 YEARS	0	0.0	0	0.0	1	0.9	1	0.7
61 - 65 YEARS	0	0.0	2	5.1	2	1.8	4	2.7
66 YEARS AND OVER	0	0.0	1	2.6	2	1.8	3	2.0
UNKNOWN	0	-	3	-	6	-	9	-
TOTAL	1	100.0	42	100.0	116	100.0	159	100.0

TABLE 4.0.13

2004 AMBULANCE INVOLVED CRASHES

COUNTY QUARTILE ANALYSIS



¹ LEGEND CATEGORIES ARE BASED ON QUARTILES OF COUNTIES.

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
1.0	ST. LOUIS CITY	37	24.2	15.5	PLATTE	2	1.3
2.0	ST. LOUIS	26	17.0	15.5	ST. FRANCOIS	2	1.3
3.0	JACKSON	22	14.4	Second Quartile			
4.5	CLAY	6	3.9	-----			
4.5	GREENE	6	3.9	Third Quartile			
6.5	MILLER	4	2.6	30.0	ADAIR	1	0.7
6.5	ST. CHARLES	4	2.6	30.0	CAPE GIRARDEAU	1	0.7
9.0	CAMDEN	3	2.0	30.0	DALLAS	1	0.7
9.0	COLE	3	2.0	30.0	DAVISS	1	0.7
9.0	FRANKLIN	3	2.0	30.0	DE KALB	1	0.7
-----				30.0	GASCONADE	1	0.7
First Quartile				30.0	HARRISON	1	0.7
-----				30.0	HOWELL	1	0.7
Second Quartile				30.0	LACLEDE	1	0.7
15.5	BENTON	2	1.3	30.0	LINCOLN	1	0.7
15.5	BOONE	2	1.3	30.0	MACON	1	0.7
15.5	BUCHANAN	2	1.3	30.0	MONROE	1	0.7
15.5	BUTLER	2	1.3	30.0	MORGAN	1	0.7
15.5	CHRISTIAN	2	1.3	30.0	NEWTON	1	0.7
15.5	JEFFERSON	2	1.3	30.0	PEMISCOT	1	0.7
15.5	JOHNSON	2	1.3	30.0	RAY	1	0.7
15.5	PHELPS	2	1.3				

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
30.0	SCOTLAND	1	0.7	77.5	LIVINGSTON	0	0.0
30.0	STONE	1	0.7	77.5	MC DONALD	0	0.0
30.0	TEXAS	1	0.7	77.5	MADISON	0	0.0
Third Quartile				77.5	MARIES	0	0.0
Fourth Quartile				77.5	MARION	0	0.0
77.5	ANDREW	0	0.0	77.5	MERCER	0	0.0
77.5	ATCHISON	0	0.0	77.5	MISSISSIPPI	0	0.0
77.5	AUDRAIN	0	0.0	77.5	MONITEAU	0	0.0
77.5	BARRY	0	0.0	77.5	MONTGOMERY	0	0.0
77.5	BARTON	0	0.0	77.5	NEW MADRID	0	0.0
77.5	BATES	0	0.0	77.5	NODAWAY	0	0.0
77.5	BOLLINGER	0	0.0	77.5	OREGON	0	0.0
77.5	CALDWELL	0	0.0	77.5	OSAGE	0	0.0
77.5	CALLAWAY	0	0.0	77.5	OZARK	0	0.0
77.5	CARROLL	0	0.0	77.5	PERRY	0	0.0
77.5	CARTER	0	0.0	77.5	PETTIS	0	0.0
77.5	CASS	0	0.0	77.5	PIKE	0	0.0
77.5	CEDAR	0	0.0	77.5	POLK	0	0.0
77.5	CHARITON	0	0.0	77.5	PULASKI	0	0.0
77.5	CLARK	0	0.0	77.5	PUTNAM	0	0.0
77.5	CLINTON	0	0.0	77.5	RALLS	0	0.0
77.5	COOPER	0	0.0	77.5	RANDOLPH	0	0.0
77.5	CRAWFORD	0	0.0	77.5	REYNOLDS	0	0.0
77.5	DADE	0	0.0	77.5	RIPLEY	0	0.0
77.5	DENT	0	0.0	77.5	ST. CLAIR	0	0.0
77.5	DOUGLAS	0	0.0	77.5	STE. GENEVIEVE	0	0.0
77.5	DUNKLIN	0	0.0	77.5	SALINE	0	0.0
77.5	GENTRY	0	0.0	77.5	SCHUYLER	0	0.0
77.5	GRUNDY	0	0.0	77.5	SCOTT	0	0.0
77.5	HENRY	0	0.0	77.5	SHANNON	0	0.0
77.5	HICKORY	0	0.0	77.5	SHELBY	0	0.0
77.5	HOLT	0	0.0	77.5	STODDARD	0	0.0
77.5	HOWARD	0	0.0	77.5	SULLIVAN	0	0.0
77.5	IRON	0	0.0	77.5	TANEY	0	0.0
77.5	JASPER	0	0.0	77.5	VERNON	0	0.0
77.5	KNOX	0	0.0	77.5	WARREN	0	0.0
77.5	LAFAYETTE	0	0.0	77.5	WASHINGTON	0	0.0
77.5	LAWRENCE	0	0.0	77.5	WAYNE	0	0.0
77.5	LEWIS	0	0.0	77.5	WEBSTER	0	0.0
77.5	LINN	0	0.0	77.5	WORTH	0	0.0
				77.5	WRIGHT	0	0.0

TABLE 4.0.14

GLOSSARY

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

EMERGENCY SERVICE VEHICLE INVOLVED TRAFFIC CRASH: Any crash 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 CRASH: A crash in which one or more persons were killed as a result of the crash and their death(s) occurred within 30 days of the incident.

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

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

POLICE VEHICLE INVOLVED TRAFFIC CRASH: Any crash in which one or more police vehicles were directly involved in the incident.

PROPERTY DAMAGE TRAFFIC CRASH: Any crash 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:

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

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.