2002

MISSOURI

EMERGENCY SERVICE VEHICLE

CRASHES

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ACKNOWLEDGEMENTS

The Missouri Division of Highway Safety 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
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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 crashes in the State of Missouri. In 2002, Missouri experienced 1,639 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 2002, there were 1,573 Missouri traffic crashes involving 1,620 emergency service vehicles. Two persons were killed and 471 persons were injured in these traffic crashes. Of the 1,620 emergency service vehicles involved, 367 (22.7%) 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 1,620 emergency vehicles involved in 2002 traffic crashes, 1,249 (77.1%) 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 1,620 emergency vehicles involved in 2002 Missouri traffic crashes, 182 (11.2%) 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 367 vehicles making an emergency run when involved in a traffic crash in 2002, 57 (15.5%) were vehicles of this type.

Of the 1,620 emergency service vehicles involved in 2002 Missouri traffic crashes, 170 (10.5%) were ambulances. Ambulances also made up a higher proportion of emergency service vehicles involved in traffic crashes while making emergency runs. Of the 367 emergency service vehicles involved in 2002 Missouri traffic crashes while on emergency runs, 39 (10.6%) 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 2000 - 2002 with emphasis on the most recent year (2002).

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 2002 there were 1,573 traffic crashes involving 1,620 emergency service vehicles in the State of Missouri. Two persons were killed and 471 persons were injured in these traffic crashes. One person was killed or injured every 18.5 hours in these types of crashes in 2002.

- Police vehicles comprise the largest number of emergency service vehicles involved in Missouri's traffic crashes. Of the 1,620 emergency service vehicles involved, 1,249 (77.1%) were police vehicles. They were involved in 1,208 traffic crashes. A total of 367 emergency service vehicles were on emergency runs when the traffic crash occurred. Of these, 252 (68.7%) 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 2002. Of the 1,620 emergency vehicles involved in 2002 Missouri traffic crashes, 182 (11.2%) were fire vehicles. They were involved in 181 traffic crashes. Of the 367 emergency vehicles on emergency run at the time of the traffic crash, 57 (15.5%) were fire vehicles.

- Ambulances were the third most frequent emergency vehicle type involved in Missouri's 2002 traffic crashes. Of the 1,620 emergency vehicles involved, 170 (10.5%) were ambulances. They were involved in 168 traffic crashes. Like fire vehicles, ambulances were more likely to be involved in a traffic crash when on an emergency run. Of the 367 emergency vehicles on emergency run when the traffic crash occurred, 10.6% were ambulances.

- Emergency vehicles classified as 'Other' made up a small proportion of those involved in Missouri's 2002 traffic crashes. Of the 1,620 emergency vehicles involved, only 19 (1.2%) were emergency vehicles classified as 'Other'.

2002 MISSOURI TRAFFIC CRASHES

EMERGENCY SERVICE (ES) VEHICLE INVOLVEMENT

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ES VEHICLE INVOLVED	1	0.1	268	0.6	1,304	1.0	1,573	0.9
NO ES VEHICLE INVOLVED	1,081	99.9	47,705	99.4	135,427	99.0	184,213	99.1
TOTAL	1,082	100.0	47,973	100.0	136,731	100.0	185,786	100.0

TABLE 1.0.1

MISSOURI EMERGENCY SERVICE VEHICLE INVOLVED CRASHES

2000 - 2002

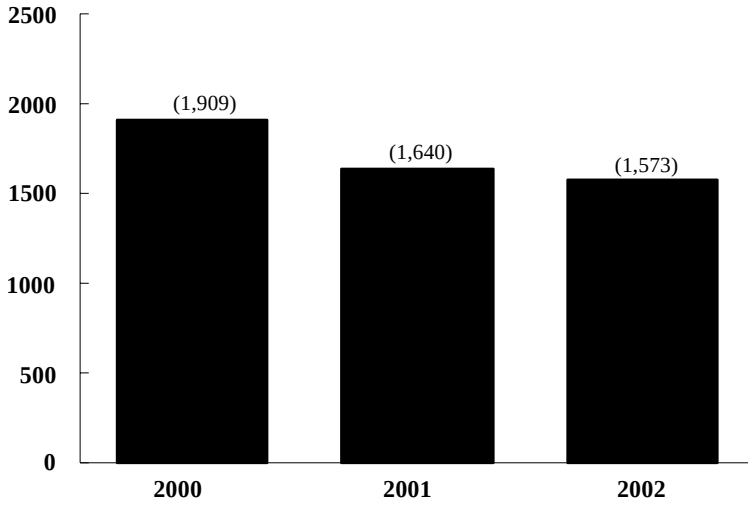


FIGURE 1.0.1

MISSOURI EMERGENCY SERVICE VEHICLE PERSONAL INJURY PROBLEM ANALYSIS CLOCK

2002

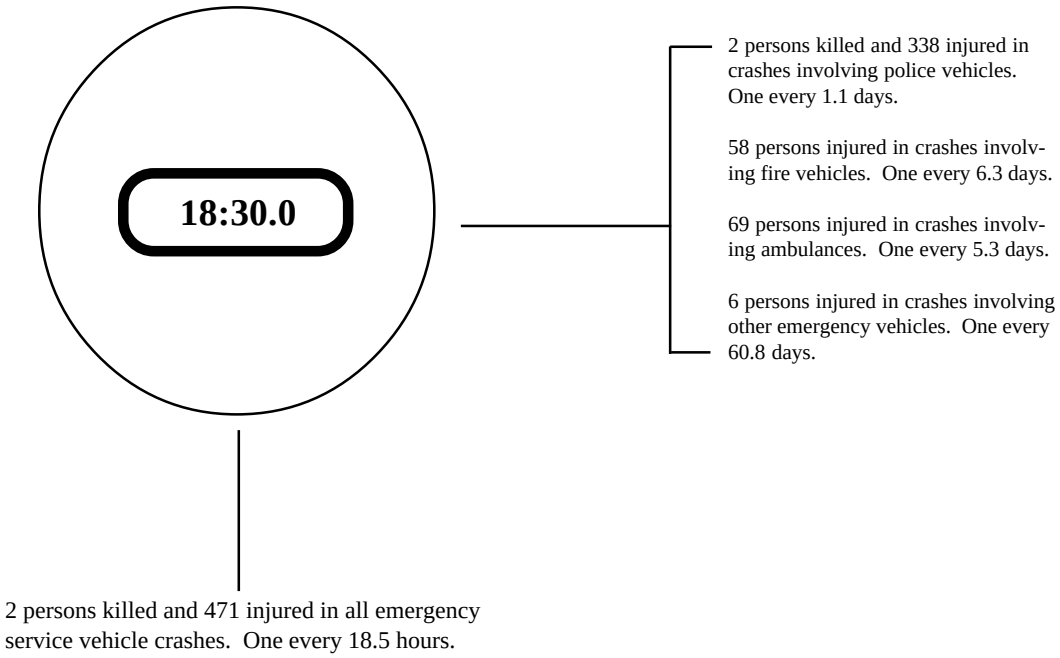


FIGURE 1.0.2

2002 MISSOURI EMERGENCY SERVICE (ES) VEHICLE CRASHES

TYPE OF EMERGENCY SERVICE VEHICLE INVOLVED

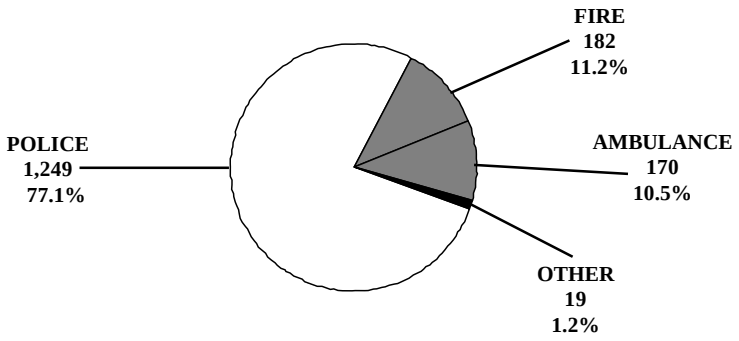
	FATAL	PERSONAL INJURY	PROPERTY DAMAGE	TOTAL	NUMBER OF ES VEHICLES INVOLVED[1]
TOTAL NUMBER OF ES VEHICLE CRASHES	**1**	**268**	**1,304**	**1,573**	**1,620**
INVOLVING					
POLICE VEHICLE	1	212	995	1,208	1,249
FIRE VEHICLE	0	23	158	181	182
AMBULANCE	0	30	138	168	170
OTHER ES VEHICLE	0	3	15	18	19

[1]The 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 1,573 traffic crashes involving 1,620 emergency service vehicles

TABLE 1.0.2

TYPE OF EMERGENCY SERVICE VEHICLES INVOLVED IN

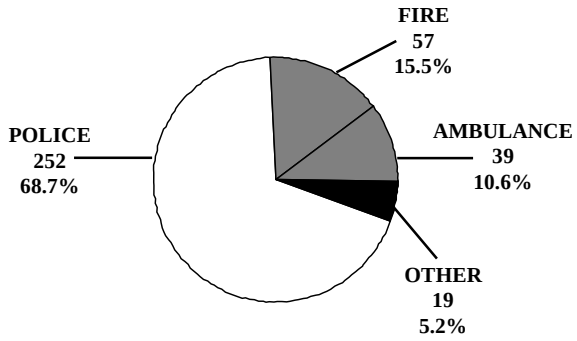
2002 MISSOURI TRAFFIC CRASHES



TOTAL = 1,620

FIGURE 1.0.3

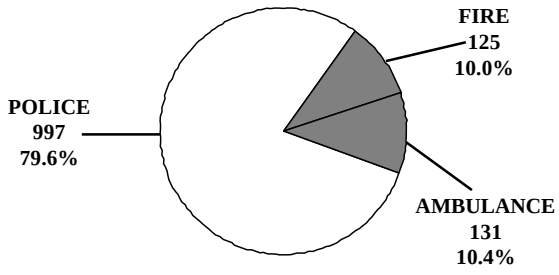
TYPE OF EMERGENCY SERVICE VEHICLES INVOLVED IN 2002 MISSOURI TRAFFIC CRASHES WHILE ON EMERGENCY RUN



TOTAL = 367

FIGURE 1.0.4

TYPE OF EMERGENCY SERVICE VEHICLES INVOLVED IN 2002 MISSOURI TRAFFIC CRASHES NOT ON EMERGENCY RUN



TOTAL = 1,253

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.

2002 SUMMARY ANALYSIS

- In 2002, there were 1,208 traffic crashes involving one or more police vehicles in the State of Missouri. Two persons were killed and 338 were injured in these crashes.
- In 20.2% of the traffic crashes involving police vehicles, the police vehicle was on an emergency run at the time of the incident.
- In 2002, one person was killed or injured in a police vehicle related crash every 1.1 days in the State of Missouri.
- Of all 2002 crashes involving police vehicles, the first harmful event in 54.6% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 22.3% of the cases, it involved a motor vehicle striking a fixed object. In 12.3% of the cases, the vehicle struck an animal.
- Of all 2002 crashes involving police vehicles, 51.6% occurred in an urban area of the State and 48.4% occurred in a rural area.
- Of all police vehicle drivers involved in 2002 traffic crashes, 92.0% were male and 8.0% were female. The average age of the police vehicle driver was 34.2 years.
- There were 1,249 police vehicles involved in the 1,208 traffic crashes in the State. Of these, 1,098 or 88.2% were automobiles.

2002 POLICE VEHICLE INVOLVED CRASHES

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	1	100.0	56	26.4	187	18.8	244	20.2	2	86	0	48
POLICE VEHICLE NOT ON RUN	0	0.0	156	73.6	808	81.2	964	79.8	0	252	0	136
TOTAL	1	100.0	212	100.0	995	100.0	1,208	100.0	2	338	0	184

[1]This statistic indicates the total number of persons killed and injured in a crash 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

2001 and 2002 POLICE VEHICLE INVOLVED CRASH ANALYSIS

	2001	2002	RATE OF CHANGE
FATAL	5	1	- 80.0
PERSONAL INJURY	270	212	- 21.5
PROPERTY DAMAGE	1,079	995	- 7.8
TOTAL	1,354	1,208	- 10.8

TABLE 2.0.2

2002 POLICE VEHICLE INVOLVED CRASHES

CRASH TYPE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	4	1.9	145	14.6	149	12.3
BICYCLIST	0	0.0	2	0.9	1	0.1	3	0.3
FIXED OBJECT	0	0.0	32	15.1	237	23.8	269	22.3
OTHER OBJECT	0	0.0	4	1.9	39	3.9	43	3.6
PEDESTRIAN	0	0.0	3	1.4	1	0.1	4	0.3
TRAIN	0	0.0	0	0.0	0	0.0	0	0.0
VEHICLE IN TRANSPORT	1	100.0	154	72.6	505	50.8	660	54.6
VEHICLE ON OTHER ROADWAY	0	0.0	0	0.0	2	0.2	2	0.2
PARKED VEHICLE	0	0.0	7	3.3	52	5.2	59	4.9
NON-COLLISION OVERTURN	0	0.0	5	2.4	2	0.2	7	0.6
NON-COLLISION OTHER	0	0.0	1	0.5	11	1.1	12	1.0
TOTAL	1	100.0	212	100.0	995	100.0	1,208	100.0

TABLE 2.0.3

2002 POLICE VEHICLE INVOLVED CRASHES

AREA CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	0	0.0	126	59.4	497	50.0	623	51.6
RURAL	1	100.0	86	40.6	498	50.0	585	48.4
TOTAL	1	100.0	212	100.0	995	100.0	1,208	100.0

TABLE 2.0.4

2002 POLICE VEHICLE INVOLVED CRASHES

ROAD CURVATURE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	1	100.0	177	83.9	817	82.5	995	82.8
CURVE	0	0.0	34	16.1	173	17.5	207	17.2
UNKNOWN	0	-	1	-	5	-	6	-
TOTAL	1	100.0	212	100.0	995	100.0	1,208	100.0

TABLE 2.0.5

2002 POLICE VEHICLE INVOLVED CRASHES

ROAD INCLINE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	1	100.0	133	63.3	646	65.4	780	65.1
HILL	0	0.0	70	33.3	316	32.0	386	32.2
CREST	0	0.0	7	3.3	26	2.6	33	2.7
UNKNOWN	0	-	2	-	7	-	9	-
TOTAL	1	100.0	212	100.0	995	100.0	1,208	100.0

TABLE 2.0.6

2002 POLICE VEHICLE INVOLVED CRASHES

ROAD CONDITIONS BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	1	100.0	170	81.3	786	79.4	957	79.8
WET	0	0.0	36	17.2	137	13.8	173	14.4
SNOW	0	0.0	1	0.5	43	4.3	44	3.7
ICE	0	0.0	0	0.0	16	1.6	16	1.3
SLUSH	0	0.0	0	0.0	2	0.2	2	0.2
MUD	0	0.0	1	0.5	3	0.3	4	0.3
STANDING WATER	0	0.0	1	0.5	2	0.2	3	0.3
MOVING WATER	0	0.0	0	0.0	1	0.1	1	0.1
UNKNOWN	0	-	3	-	5	-	8	-
TOTAL	1	100.0	212	100.0	995	100.0	1,208	100.0

TABLE 2.0.7

2002 POLICE VEHICLE INVOLVED CRASHES

HIGHWAY CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	18	8.5	86	8.6	104	8.6
U.S. HIGHWAY	1	100.0	21	9.9	116	11.7	138	11.4
STATE NUMBERED	0	0.0	31	14.6	173	17.4	204	16.9
SINGLE STATE LETTERED	0	0.0	14	6.6	64	6.4	78	6.5
DOUBLE STATE LETTERED	0	0.0	5	2.4	20	2.0	25	2.1
OUTER ROAD	0	0.0	3	1.4	10	1.0	13	1.1
COUNTY ROAD	0	0.0	25	11.8	94	9.5	119	9.9
CITY STREET	0	0.0	90	42.5	359	36.1	449	37.2
INTERSTATE LOOP	0	0.0	1	0.5	5	0.5	6	0.5
OTHER[1]	0	0.0	4	1.9	68	6.8	72	6.0
TOTAL	1	100.0	212	100.0	995	100.0	1,208	100.0

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

TABLE 2.0.8

2002 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	10	7.9	35	7.0	45	7.2	0	0.0	8	9.3	51	10.2	59	10.1
U.S. HIGHWAY	0	0.0	5	4.0	40	8.1	45	7.2	1	100.0	16	18.6	76	15.3	93	15.9
STATE NUMBERED	0	0.0	14	11.1	51	10.3	65	10.4	0	0.0	17	19.8	122	24.5	139	23.8
SINGLE STATE LETTERED	0	0.0	3	2.4	8	1.6	11	1.8	0	0.0	11	12.8	56	11.2	67	11.5
DOUBLE STATE LETTERED	0	0.0	1	0.8	4	0.8	5	0.8	0	0.0	4	4.7	16	3.2	20	3.4
OUTER ROAD	0	0.0	1	0.8	3	0.6	4	0.6	0	0.0	2	2.3	7	1.4	9	1.5
COUNTY ROAD	0	0.0	6	4.8	7	1.4	13	2.1	0	0.0	19	22.1	87	17.5	106	18.1
CITY STREET	0	0.0	81	64.3	294	59.2	375	60.2	0	0.0	9	10.5	65	13.1	74	12.7
INTERSTATE LOOP	0	0.0	1	0.8	2	0.4	3	0.5	0	0.0	0	0.0	3	0.6	3	0.5
OTHER [1]	0	0.0	4	3.2	53	10.7	57	9.2	0	0.0	0	0.0	15	3.0	15	2.6
TOTAL	0	0.0	126	100.0	497	100.0	623	100.0	1	100.0	86	100.0	498	100.0	585	100.0

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

TABLE 2.0.9

2002 POLICE VEHICLE INVOLVED CRASHES
MONTH OF YEAR

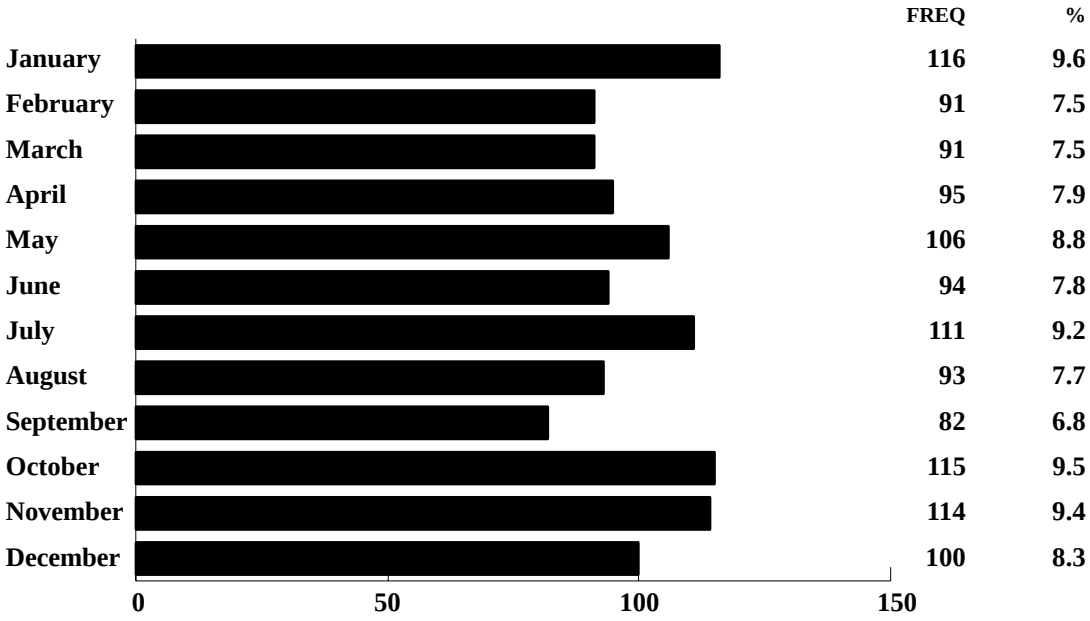


FIGURE 2.0.1

2002 POLICE VEHICLE INVOLVED CRASHES
DAY OF WEEK

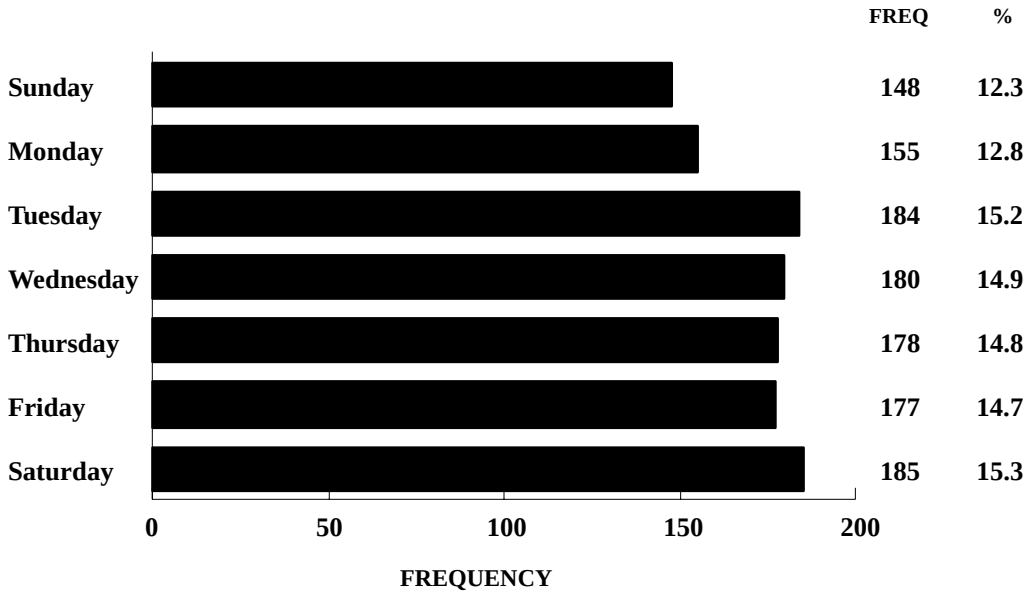


FIGURE 2.0.2

Unknown Data Not Included

2002 POLICE VEHICLE INVOLVED CRASHES
HOUR OF DAY

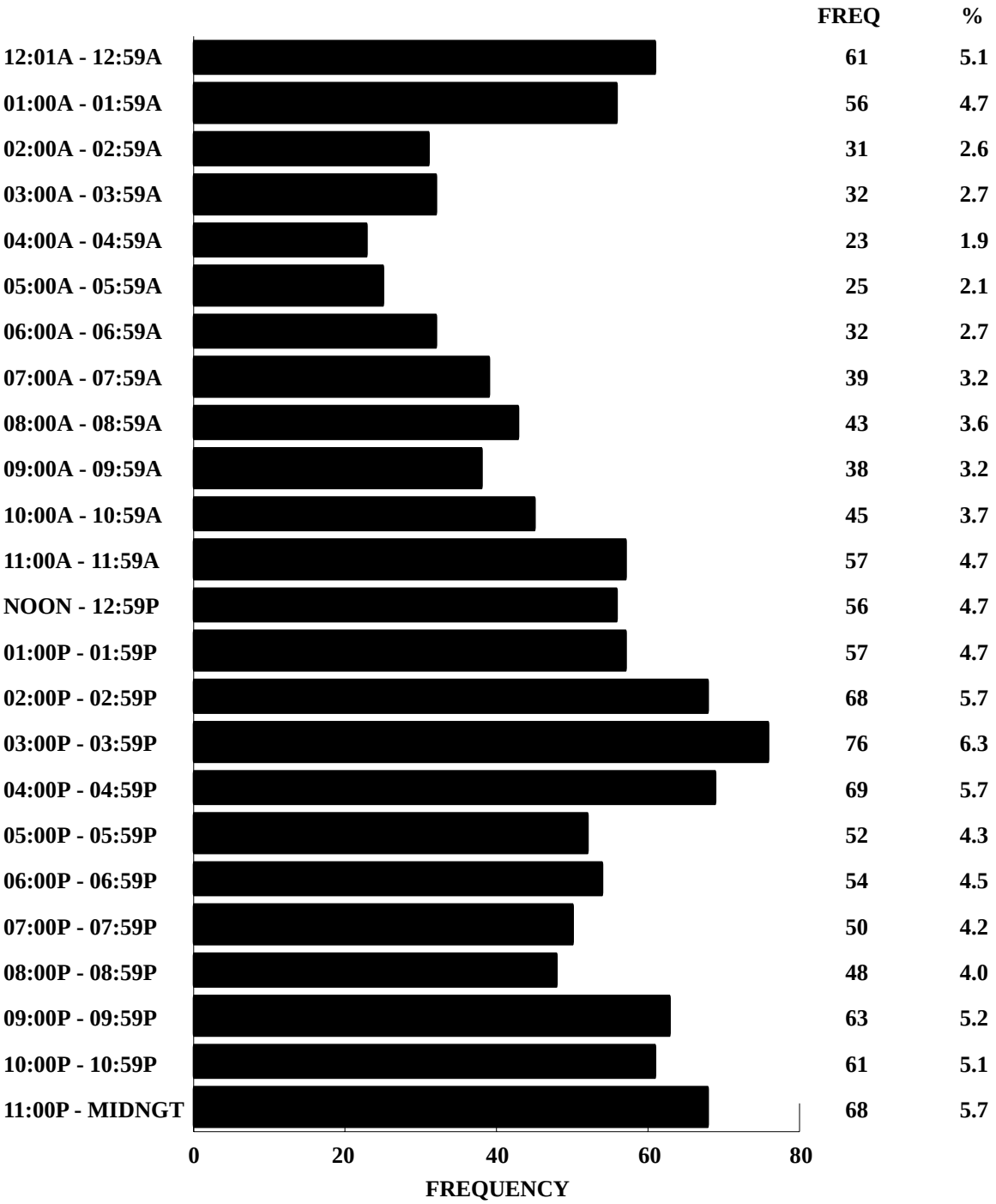


FIGURE 2.0.3

Unknown Data Not Included

2002 MISSOURI POLICE VEHICLE CRASHES

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

	FATAL AND PERSONAL INJURY POLICE VEHICLE CRASHES = 213			TOTAL POLICE VEHICLE CRASHES = 1,208		
	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	1.9	3.3	1.4	1.5	2.8
TRAFFIC CONTROL INOPERATIVE / MISSING	0.0	0.5	0.5	0.1	0.2	0.2
IMPROPERLY STOPPED ON ROADWAY	0.0	0.9	0.9	0.1	1.2	1.2
EXCEEDING SPEED LIMIT / TOO FAST FOR CONDITIONS	12.2	10.3	22.1	9.4	6.0	15.2
IMPROPER PASSING	0.9	0.5	1.4	0.5	0.7	1.2
VIOLATION OF STOP SIGN	2.8	4.7	6.6	0.7	2.1	2.6
WRONG SIDE NOT PASSING	0.0	3.3	3.3	0.5	1.2	1.7
FOLLOWING TOO CLOSE	3.3	6.1	9.4	2.6	3.3	5.9
IMPROPER SIGNAL	0.0	0.5	0.5	0.1	0.2	0.3
IMPROPER BACKING	0.5	0.0	0.5	2.2	3.0	5.1
IMPROPER TURN	0.9	3.3	4.2	1.3	1.9	3.2
IMPROPER LANE USAGE / CHANGE	1.9	3.3	5.2	1.6	3.1	4.6
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	0.2	0.0	0.2
IMPROPERLY PARKED	0.5	0.0	0.5	0.3	0.6	0.9
FAILED TO YIELD	3.8	23.5	27.2	3.2	12.9	15.9
DRINKING	0.5	8.0	8.5	0.4	4.2	4.6
DRUGS	0.0	0.5	0.5	0.1	0.5	0.6
PHYSICAL IMPAIRMENT	0.9	0.5	1.4	0.3	0.1	0.4
INATTENTION	11.3	22.1	33.3	16.1	13.2	28.6

[1]This 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 2002 Missouri police vehicle crashes, it was found that a police vehicle driver was speeding in 9.4% of the crashes. In 6.0% of the crashes another driver was speeding. In 15.2% of the crashes either a police vehicle driver, another driver, or both drivers were speeding.

TABLE 2.0.10

POLICE VEHICLES INVOLVED IN 2002 MISSOURI CRASHES

TYPE OF VEHICLE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AUTOMOBILE	1	100.0	198	88.0	899	88.2	1,098	88.2
SPORT UTILITY VEHICLE	0	0.0	4	1.8	36	3.5	40	3.2
VAN	0	0.0	8	3.6	28	2.8	36	2.9
BUS	0	0.0	1	0.4	1	0.1	2	0.2
MOTORCYCLE	0	0.0	6	2.7	5	0.5	11	0.9
PICK-UP TRUCK	0	0.0	7	3.1	39	3.8	46	3.7
OTHER TRUCK	0	0.0	1	0.4	11	1.1	12	1.0
UNKNOWN	0	-	1	-	3	-	4	-
TOTAL	1	100.0	226	100.0	1,022	100.0	1,249	100.0

TABLE 2.0.11

POLICE VEHICLES INVOLVED IN 2002 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	226	100.0	1,017	99.5	1,244	99.6
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	5	0.5	5	0.4
TOTAL	1	100.0	226	100.0	1,022	100.0	1,249	100.0

TABLE 2.0.12

DRIVERS OF POLICE VEHICLES INVOLVED IN 2002 MISSOURI CRASHES

SEX OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	1	100.0	203	89.8	937	92.5	1,141	92.0
FEMALE	0	0.0	23	10.2	76	7.5	99	8.0
UNKNOWN	0	-	0	-	9	-	9	-
TOTAL	1	100.0	226	100.0	1,022	100.0	1,249	100.0

TABLE 2.0.13

DRIVERS OF POLICE VEHICLES INVOLVED IN 2002 MISSOURI CRASHES

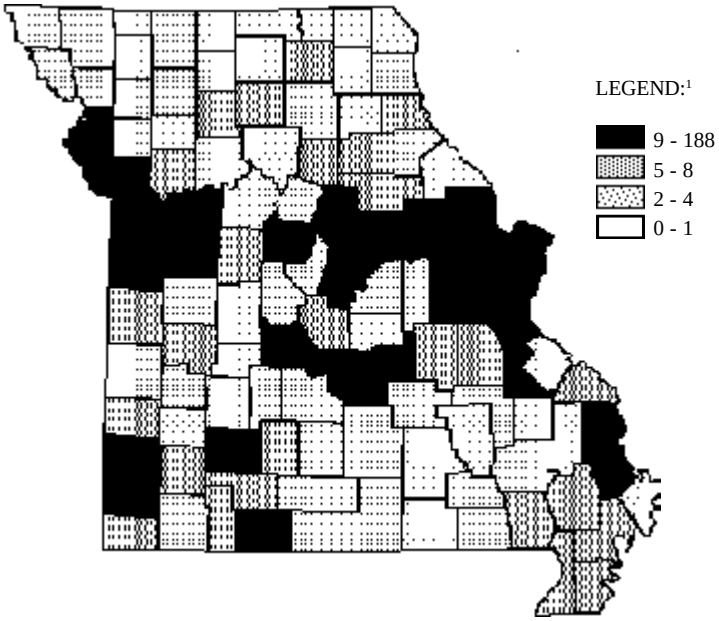
AGE OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	51.0	-	34.9	-	34.0	-	34.2	-
14 YEARS AND UNDER	0	0.0	0	0.0	1	0.1	1	0.1
15 - 20 YEARS	0	0.0	7	3.1	17	1.7	24	2.0
21 - 25 YEARS	0	0.0	41	18.2	156	15.5	197	16.0
26 - 30 YEARS	0	0.0	50	22.2	296	29.4	346	28.1
31 - 35 YEARS	0	0.0	41	18.2	204	20.3	245	19.9
36 - 40 YEARS	0	0.0	25	11.1	111	11.0	136	11.0
41 - 45 YEARS	0	0.0	18	8.0	78	7.8	96	7.8
46 - 50 YEARS	0	0.0	21	9.3	65	6.5	86	7.0
51 - 55 YEARS	1	100.0	10	4.4	41	4.1	52	4.2
56 - 60 YEARS	0	0.0	6	2.7	20	2.0	26	2.1
61 - 65 YEARS	0	0.0	3	1.3	7	0.7	10	0.8
66 YEARS AND OVER	0	0.0	3	1.3	11	1.1	14	1.1
UNKNOWN	0	-	1	-	15	-	16	-
TOTAL	1	100.0	226	100.0	1,022	100.0	1,249	100.0

TABLE 2.0.14

2002 POLICE VEHICLE 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	188	15.6	21.0	PHELPS	12	1.0
2.0	JACKSON	148	12.3	23.5	LAFAYETTE	11	0.9
3.0	ST. LOUIS CITY	121	10.0	23.5	MONTGOMERY	11	0.9
4.0	ST. CHARLES	57	4.7	23.5	NEWTON	11	0.9
5.0	GREENE	38	3.1	23.5	SCOTT	11	0.9
6.0	JEFFERSON	32	2.6	26.0	WARREN	10	0.8
7.0	JASPER	26	2.2	28.0	CASS	9	0.7
8.0	CLAY	23	1.9	28.0	COOPER	9	0.7
10.0	BUCHANAN	20	1.7	28.0	TANEY	9	0.7
10.0	FRANKLIN	20	1.7				First Quartile
10.0	PLATTE	20	1.7				
12.5	BOONE	18	1.5				Second Quartile
12.5	COLE	18	1.5	31.5	AUDRAIN	8	0.7
14.0	PULASKI	17	1.4	31.5	BUTLER	8	0.7
15.5	CAPE GIRARDEAU	14	1.2	31.5	MONROE	8	0.7
15.5	ST. FRANCOIS	14	1.2	31.5	STODDARD	8	0.7
18.5	CALLAWAY	13	1.1	37.5	ADAIR	7	0.6
18.5	CAMDEN	13	1.1	37.5	BATES	7	0.6
18.5	JOHNSON	13	1.1	37.5	LAWRENCE	7	0.6
18.5	LINCOLN	13	1.1	37.5	LINN	7	0.6

RANK	COUNTY	FREQUENCY	PERCENT
37.5	MC DONALD	7	0.6
37.5	MILLER	7	0.6
37.5	PEMISCOT	7	0.6
37.5	PETTIS	7	0.6
44.5	CHRISTIAN	6	0.5
44.5	MARION	6	0.5
44.5	NEW MADRID	6	0.5
44.5	RANDOLPH	6	0.5
44.5	STONE	6	0.5
44.5	WEBSTER	6	0.5
51.5	BARTON	5	0.4
51.5	CRAWFORD	5	0.4
51.5	DUNKLIN	5	0.4
51.5	LIVINGSTON	5	0.4
51.5	PERRY	5	0.4
51.5	RAY	5	0.4
51.5	ST. CLAIR	5	0.4
51.5	WASHINGTON	5	0.4
		Second Quartile	
		Third Quartile	
61.5	BARRY	4	0.3
61.5	CEDAR	4	0.3
61.5	GASCONADE	4	0.3
61.5	HENRY	4	0.3
61.5	HOWELL	4	0.3
61.5	LACLEDE	4	0.3
61.5	MACON	4	0.3
61.5	MORGAN	4	0.3
61.5	NODAWAY	4	0.3
61.5	RALLS	4	0.3
61.5	SALINE	4	0.3
61.5	WRIGHT	4	0.3
73.0	ANDREW	3	0.2
73.0	BENTON	3	0.2
73.0	CARROLL	3	0.2
73.0	CARTER	3	0.2
73.0	DAVIESS	3	0.2
73.0	GRUNDY	3	0.2
73.0	HICKORY	3	0.2
73.0	MONITEAU	3	0.2
73.0	OSAGE	3	0.2
73.0	STE. GENEVIEVE	3	0.2
73.0	TEXAS	3	0.2
86.5	ATCHISON	2	0.2
86.5	CLINTON	2	0.2
86.5	DALLAS	2	0.2
86.5	DE KALB	2	0.2
86.5	DENT	2	0.2
86.5	DOUGLAS	2	0.2
86.5	HARRISON	2	0.2
86.5	HOLT	2	0.2
86.5	HOWARD	2	0.2
86.5	IRON	2	0.2
86.5	LEWIS	2	0.2
86.5	OZARK	2	0.2
86.5	POLK	2	0.2
86.5	RIPLEY	2	0.2
86.5	VERNON	2	0.2
86.5	WAYNE	2	0.2
		Third Quartile	
		Fourth Quartile	
100.5	CALDWELL	1	0.1
100.5	CHARITON	1	0.1
100.5	CLARK	1	0.1
100.5	GENTRY	1	0.1
100.5	KNOX	1	0.1
100.5	MADISON	1	0.1
100.5	MARIES	1	0.1
100.5	MISSISSIPPI	1	0.1
100.5	PIKE	1	0.1
100.5	SCOTLAND	1	0.1
100.5	SHELBY	1	0.1
100.5	WORTH	1	0.1
111.0	BOLLINGER	0	0.0
111.0	DADE	0	0.0
111.0	MERCER	0	0.0
111.0	OREGON	0	0.0
111.0	PUTNAM	0	0.0
111.0	REYNOLDS	0	0.0
111.0	SCHUYLER	0	0.0
111.0	SHANNON	0	0.0
111.0	SULLIVAN	0	0.0

TABLE 2.0.15

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.

2002 SUMMARY ANALYSIS

- In 2002, there were 181 traffic crashes involving one or more fire vehicles in the State of Missouri. No people were killed and 58 were injured in these crashes.
- In 31.5% of the traffic crashes involving fire vehicles, the fire vehicle was on an emergency run at the time of the incident.
- In 2002, one person was injured in a fire vehicle related crash every 6.3 days in the State of Missouri.
- Of all 2002 crashes involving fire vehicles, the first harmful event in 60.2% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 20.4% of the cases, it involved a motor vehicle striking a parked vehicle. In 15.5% of the cases, the vehicle struck a fixed object.
- Of all 2002 crashes involving fire vehicles, 74.0% occurred in an urban area of the State and 26.0% occurred in a rural area.
- Of all fire vehicle drivers involved in 2002 traffic crashes, 95.6% were male and 4.4% were female. The average age of the fire vehicle driver was 38.2 years.

2002 FIRE VEHICLE INVOLVED CRASHES

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	15	65.2	42	26.6	57	31.5	0	44	0	13
FIRE VEHICLE NOT ON RUN	0	0.0	8	34.8	116	73.4	124	68.5	0	14	0	5
TOTAL	0	0.0	23	100.0	158	100.0	181	100.0	0	58	0	18

[1]This statistic indicates the total number of persons killed and injured in a crash 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

2001 and 2002 FIRE VEHICLE INVOLVED CRASH ANALYSIS

	2001	2002	RATE OF CHANGE
FATAL	2	0	- 100.0
PERSONAL INJURY	28	23	- 17.9
PROPERTY DAMAGE	144	158	+ 9.7
TOTAL	174	181	+ 4.0

TABLE 3.0.2

2002 FIRE VEHICLE INVOLVED CRASHES

CRASH TYPE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	0	0.0	1	0.6	1	0.6
BICYCLIST	0	0.0	1	4.4	0	0.0	1	0.6
FIXED OBJECT	0	0.0	1	4.4	27	17.1	28	15.5
OTHER OBJECT	0	0.0	0	0.0	1	0.6	1	0.6
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	82.6	90	57.0	109	60.2
VEHICLE ON OTHER ROADWAY	0	0.0	0	0.0	1	0.6	1	0.6
PARKED VEHICLE	0	0.0	1	4.4	36	22.8	37	20.4
NON-COLLISION OVERTURN	0	0.0	1	4.4	1	0.6	2	1.1
NON-COLLISION OTHER	0	0.0	0	0.0	1	0.6	1	0.6
TOTAL	0	0.0	23	100.0	158	100.0	181	100.0

TABLE 3.0.3

2002 FIRE VEHICLE INVOLVED CRASHES

AREA CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	0	0.0	15	65.2	119	75.3	134	74.0
RURAL	0	0.0	8	34.8	39	24.7	47	26.0
TOTAL	0	0.0	23	100.0	158	100.0	181	100.0

TABLE 3.0.4

2002 FIRE VEHICLE INVOLVED CRASHES

ROAD CURVATURE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	0	0.0	17	73.9	136	86.1	153	84.5
CURVE	0	0.0	6	26.1	22	13.9	28	15.5
UNKNOWN	0	-	0	-	0	-	0	-
TOTAL	0	0.0	23	100.0	158	100.0	181	100.0

TABLE 3.0.5

2002 FIRE VEHICLE INVOLVED CRASHES

ROAD INCLINE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	0	0.0	12	52.2	112	71.3	124	68.9
HILL	0	0.0	9	39.1	42	26.8	51	28.3
CREST	0	0.0	2	8.7	3	1.9	5	2.8
UNKNOWN	0	-	0	-	1	-	1	-
TOTAL	0	0.0	23	100.0	158	100.0	181	100.0

TABLE 3.0.6

2002 FIRE VEHICLE INVOLVED CRASHES

ROAD CONDITIONS BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	0	0.0	19	82.6	126	79.7	145	80.1
WET	0	0.0	3	13.0	18	11.4	21	11.6
SNOW	0	0.0	0	0.0	12	7.6	12	6.6
ICE	0	0.0	1	4.4	2	1.3	3	1.7
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	-	0	-	0	-	0	-
TOTAL	0	0.0	23	100.0	158	100.0	181	100.0

TABLE 3.0.7

2002 FIRE VEHICLE INVOLVED CRASHES

HIGHWAY CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	1	4.4	8	5.1	9	5.0
U.S. HIGHWAY	0	0.0	2	8.7	10	6.3	12	6.6
STATE NUMBERED	0	0.0	3	13.0	19	12.0	22	12.2
SINGLE STATE LETTERED	0	0.0	2	8.7	6	3.8	8	4.4
DOUBLE STATE LETTERED	0	0.0	0	0.0	2	1.3	2	1.1
OUTER ROAD	0	0.0	0	0.0	1	0.6	1	0.6
COUNTY ROAD	0	0.0	1	4.4	12	7.6	13	7.2
CITY STREET	0	0.0	12	52.2	95	60.1	107	59.1
INTERSTATE LOOP	0	0.0	0	0.0	0	0.0	0	0.0
OTHER[1]	0	0.0	2	8.7	5	3.2	7	3.9
TOTAL	0	0.0	23	100.0	158	100.0	181	100.0

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

TABLE 3.0.8

2002 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	4	3.4	4	3.0	0	0.0	1	12.5	4	10.3	5	10.6
U.S. HIGHWAY	0	0.0	1	6.7	7	5.9	8	6.0	0	0.0	1	12.5	3	7.7	4	8.5
STATE NUMBERED	0	0.0	1	6.7	13	10.9	14	10.5	0	0.0	2	25.0	6	15.4	8	17.0
SINGLE STATE LETTERED	0	0.0	0	0.0	1	0.8	1	0.8	0	0.0	2	25.0	5	12.8	7	14.9
DOUBLE STATE LETTERED	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	5.1	2	4.3
OUTER ROAD	0	0.0	0	0.0	1	0.8	1	0.8	0	0.0	0	0.0	0	0.0	0	0.0
COUNTY ROAD	0	0.0	0	0.0	1	0.8	1	0.8	0	0.0	1	12.5	11	28.2	12	25.5
CITY STREET	0	0.0	11	73.3	89	74.8	100	74.6	0	0.0	1	12.5	6	15.4	7	14.9
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	2	13.3	3	2.5	5	3.7	0	0.0	0	0.0	2	5.1	2	4.3
TOTAL	0	0.0	15	100.0	119	100.0	134	100.0	0	0.0	8	100.0	39	100.0	47	100.0

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

TABLE 3.0.9

2002 FIRE VEHICLE INVOLVED CRASHES
MONTH OF YEAR

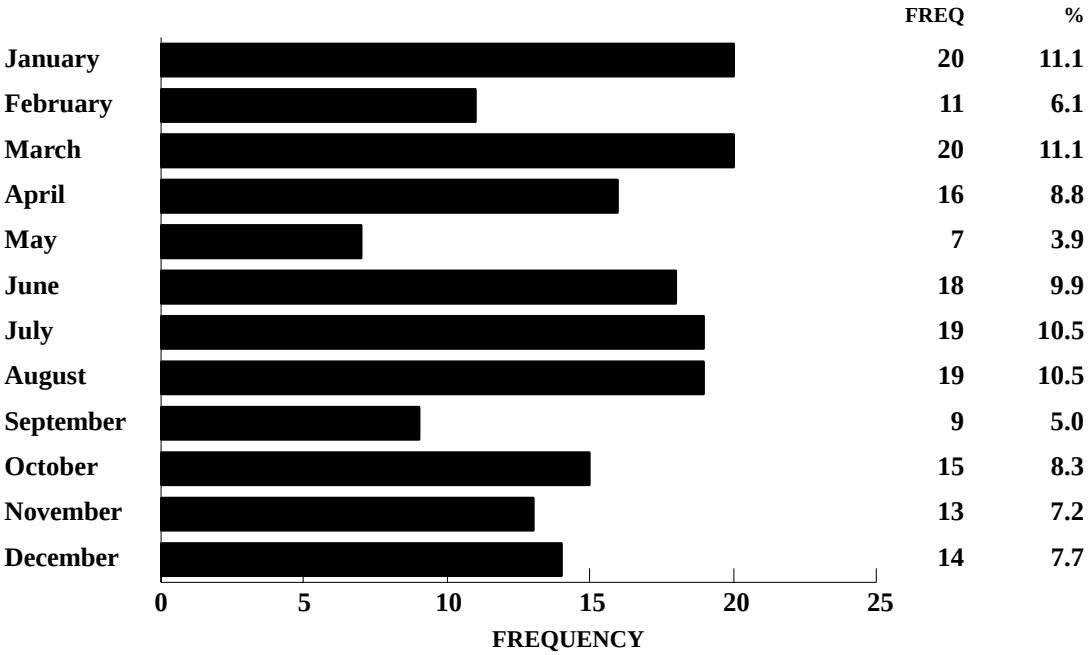


FIGURE 3.0.1

2002 FIRE VEHICLE INVOLVED CRASHES
DAY OF WEEK

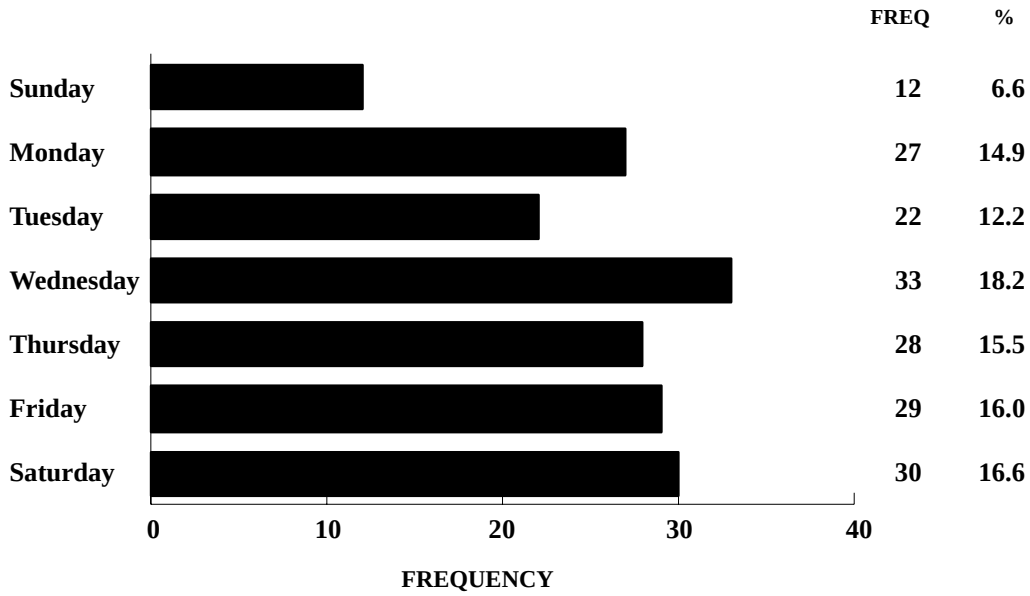


FIGURE 3.0.2

2002 FIRE VEHICLE INVOLVED CRASHES
HOUR OF DAY

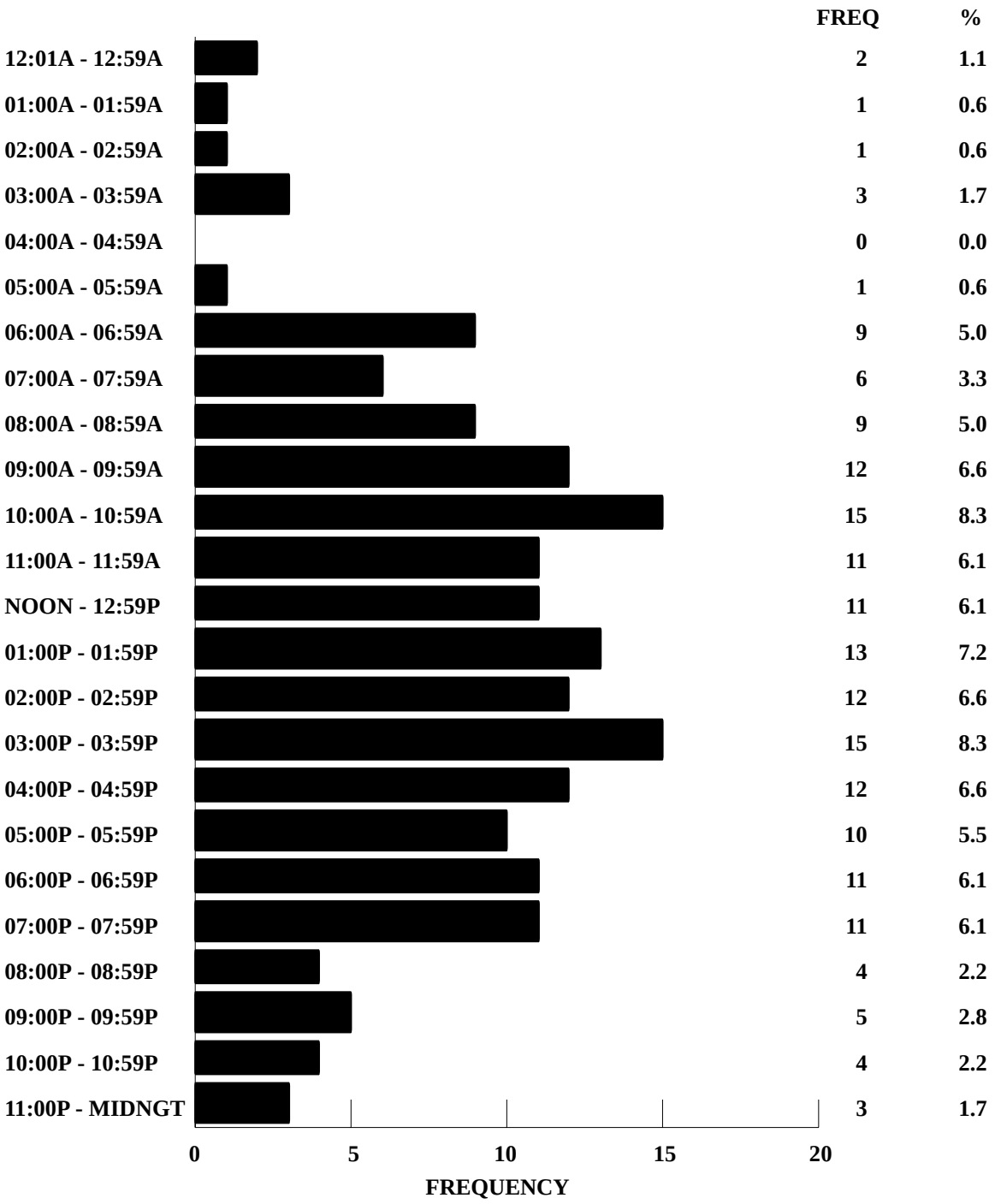


FIGURE 3.0.3

2002 MISSOURI FIRE VEHICLE CRASHES

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

	FATAL AND PERSONAL INJURY FIRE VEHICLE CRASHES = 23			TOTAL FIRE VEHICLE CRASHES = 181		
	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	0.0	4.3	4.3	3.9	0.6	4.4
TRAFFIC CONTROL INOPERATIVE / MISSING	0.0	0.0	0.0	0.6	0.6	1.1
IMPROPERLY STOPPED ON ROADWAY	0.0	0.0	0.0	0.6	1.1	1.7
EXCEEDING SPEED LIMIT / TOO FAST FOR CONDITIONS	17.4	13.0	30.4	4.4	2.2	6.6
IMPROPER PASSING	0.0	4.3	4.3	0.0	1.7	1.7
VIOLATION OF STOP SIGN	0.0	0.0	0.0	0.6	0.0	0.6
WRONG SIDE NOT PASSING	0.0	0.0	0.0	0.6	0.6	1.1
FOLLOWING TOO CLOSE	4.3	13.0	17.4	2.2	4.4	6.6
IMPROPER SIGNAL	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPER BACKING	0.0	0.0	0.0	6.1	1.1	7.2
IMPROPER TURN	0.0	0.0	0.0	3.3	0.6	3.9
IMPROPER LANE USAGE / CHANGE	0.0	4.3	4.3	2.2	2.2	4.4
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	1.7	0.0	1.7
IMPROPERLY PARKED	0.0	0.0	0.0	0.6	4.4	5.0
FAILED TO YIELD	8.7	34.8	43.5	2.8	17.1	19.3
DRINKING	0.0	0.0	0.0	0.0	0.0	0.0
DRUGS	0.0	4.3	4.3	0.0	0.6	0.6
PHYSICAL IMPAIRMENT	0.0	0.0	0.0	0.0	0.6	0.6
INATTENTION	8.7	26.1	34.8	21.5	11.6	32.6

[1]This 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 2002 Missouri fire vehicle crashes, it was found that a fire vehicle driver was speeding in 4.4% of the crashes. In 2.2% of the crashes another driver was speeding. In 6.6% of the crashes either a fire vehicle driver, another driver, or both drivers were speeding.

TABLE 3.0.10

FIRE VEHICLES INVOLVED IN 2002 MISSOURI CRASHES

TYPE OF VEHICLE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AUTOMOBILE	0	0.0	3	12.5	4	2.7	7	4.0
SPORT UTILITY VEHICLE	0	0.0	4	16.7	8	5.3	12	6.9
VAN	0	0.0	0	0.0	1	0.7	1	0.6
MOTORCYCLE	0	0.0	0	0.0	1	0.7	1	0.6
OTHER TRANSPORT DEVICE	0	0.0	2	8.3	11	7.3	13	7.4
PICK-UP TRUCK	0	0.0	3	12.5	11	7.3	14	8.0
OTHER TRUCK	0	0.0	12	50.0	115	76.2	127	72.6
UNKNOWN	0	-	0	-	7	-	7	-
TOTAL	0	0.0	24	100.0	158	100.0	182	100.0

TABLE 3.0.11

FIRE VEHICLES INVOLVED IN 2002 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	0	0.0	24	100.0	158	100.0	182	100.0
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	0	0.0	24	100.0	158	100.0	182	100.0

TABLE 3.0.12

DRIVERS OF FIRE VEHICLES INVOLVED IN 2002 MISSOURI CRASHES

SEX OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	0	0.0	22	91.7	152	96.2	174	95.6
FEMALE	0	0.0	2	8.3	6	3.8	8	4.4
UNKNOWN	0	-	0	-	0	-	0	-
TOTAL	0	0.0	24	100.0	158	100.0	182	100.0

TABLE 3.0.13

DRIVERS OF FIRE VEHICLES INVOLVED IN 2002 MISSOURI CRASHES

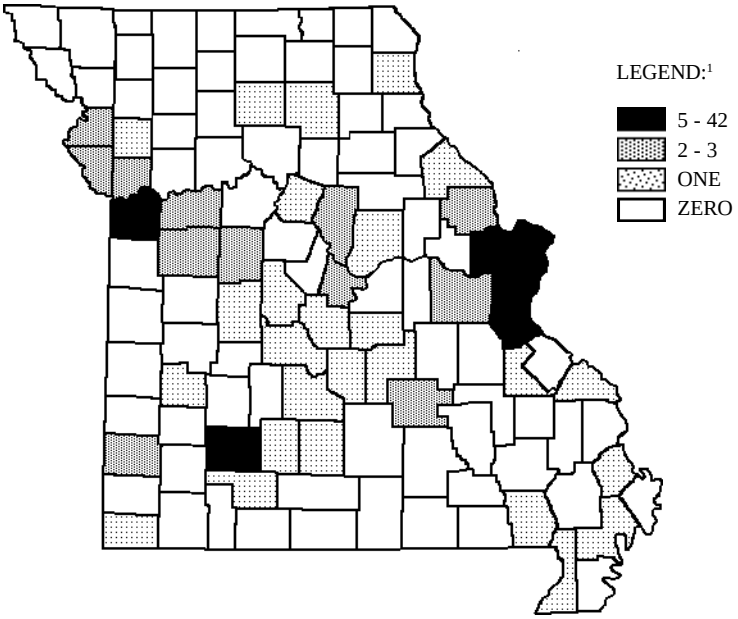
AGE OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	0.0	-	45.5	-	37.1	-	38.2	-
14 YEARS AND UNDER	0	0.0	0	0.0	0	0.0	0	0.0
15 - 20 YEARS	0	0.0	0	0.0	5	3.2	5	2.8
21 - 25 YEARS	0	0.0	2	8.3	12	7.6	14	7.7
26 - 30 YEARS	0	0.0	1	4.2	21	13.4	22	12.2
31 - 35 YEARS	0	0.0	2	8.3	39	24.8	41	22.7
36 - 40 YEARS	0	0.0	3	12.5	29	18.5	32	17.7
41 - 45 YEARS	0	0.0	4	16.7	22	14.0	26	14.4
46 - 50 YEARS	0	0.0	3	12.5	10	6.4	13	7.2
51 - 55 YEARS	0	0.0	4	16.7	13	8.3	17	9.4
56 - 60 YEARS	0	0.0	2	8.3	2	1.3	4	2.2
61 - 65 YEARS	0	0.0	2	8.3	4	2.6	6	3.3
66 YEARS AND OVER	0	0.0	1	4.2	0	0.0	1	0.6
UNKNOWN	0	-	0	-	1	-	1	-
TOTAL	0	0.0	24	100.0	158	100.0	182	100.0

TABLE 3.0.14

2002 FIRE VEHICLE INVOLVED CRASHES

COUNTY QUARTILE ANALYSIS



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

RANK	COUNTY	FREQUENCY	PERCENT
1.0	ST. LOUIS CITY	42	23.2
2.0	JACKSON	36	19.9
3.0	ST. LOUIS	24	13.3
4.0	GREENE	10	5.5
5.0	JEFFERSON	8	4.4
6.0	ST. CHARLES	5	2.8
			First Quartile
			Second Quartile
9.5	BOONE	3	1.7
9.5	BUCHANAN	3	1.7
9.5	CLAY	3	1.7
9.5	FRANKLIN	3	1.7
9.5	JOHNSON	3	1.7
9.5	PETTIS	3	1.7
15.5	COLE	2	1.1
15.5	DENT	2	1.1
15.5	JASPER	2	1.1
15.5	LAFAYETTE	2	1.1
15.5	LINCOLN	2	1.1
15.5	PLATTE	2	1.1
			Second Quartile
			Third Quartile
31.5	BENTON	1	0.6
31.5	BUTLER	1	0.6
31.5	CALLAWAY	1	0.6
31.5	CAMDEN	1	0.6
31.5	CEDAR	1	0.6
31.5	CHRISTIAN	1	0.6
31.5	CLINTON	1	0.6
31.5	DUNKLIN	1	0.6
31.5	HOWARD	1	0.6
31.5	LACLEDE	1	0.6
31.5	LEWIS	1	0.6
31.5	LINN	1	0.6
31.5	MC DONALD	1	0.6
31.5	MACON	1	0.6
31.5	MARIES	1	0.6
31.5	MILLER	1	0.6

RANK	COUNTY	FREQUENCY	PERCENT
31.5	MORGAN	1	0.6
31.5	NEW MADRID	1	0.6
31.5	PERRY	1	0.6
31.5	PHELPS	1	0.6
31.5	PIKE	1	0.6
31.5	PULASKI	1	0.6
31.5	ST. FRANCOIS	1	0.6
31.5	SCOTT	1	0.6
31.5	WEBSTER	1	0.6
31.5	WRIGHT	1	0.6
		Third Quartile	
		Fourth Quartile	
80.0	ADAIR	0	0.0
80.0	ANDREW	0	0.0
80.0	ATCHISON	0	0.0
80.0	AUDRAIN	0	0.0
80.0	BARRY	0	0.0
80.0	BARTON	0	0.0
80.0	BATES	0	0.0
80.0	BOLLINGER	0	0.0
80.0	CALDWELL	0	0.0
80.0	CAPE GIRARDEAU	0	0.0
80.0	CARROLL	0	0.0
80.0	CARTER	0	0.0
80.0	CASS	0	0.0
80.0	CHARITON	0	0.0
80.0	CLARK	0	0.0
80.0	COOPER	0	0.0
80.0	CRAWFORD	0	0.0
80.0	DADE	0	0.0
80.0	DALLAS	0	0.0
80.0	DAVIESS	0	0.0
80.0	DE KALB	0	0.0
80.0	DOUGLAS	0	0.0
80.0	GASCONADE	0	0.0
80.0	GENTRY	0	0.0
80.0	GRUNDY	0	0.0
80.0	HARRISON	0	0.0
80.0	HENRY	0	0.0
80.0	HICKORY	0	0.0
80.0	HOLT	0	0.0
80.0	HOWELL	0	0.0
80.0	IRON	0	0.0
80.0	KNOX	0	0.0
80.0	LAWRENCE	0	0.0
80.0	LIVINGSTON	0	0.0
80.0	MADISON	0	0.0
80.0	MARION	0	0.0
80.0	MERCER	0	0.0
80.0	MISSISSIPPI	0	0.0
80.0	MONITEAU	0	0.0
80.0	MONROE	0	0.0
80.0	MONTGOMERY	0	0.0
80.0	NEWTON	0	0.0
80.0	NODAWAY	0	0.0
80.0	OREGON	0	0.0
80.0	OSAGE	0	0.0
80.0	OZARK	0	0.0
80.0	PEMISCOT	0	0.0
80.0	POLK	0	0.0
80.0	PUTNAM	0	0.0
80.0	RALLS	0	0.0
80.0	RANDOLPH	0	0.0
80.0	RAY	0	0.0
80.0	REYNOLDS	0	0.0
80.0	RIPLEY	0	0.0
80.0	ST. CLAIR	0	0.0
80.0	STE. GENEVIEVE	0	0.0
80.0	SALINE	0	0.0
80.0	SCHUYLER	0	0.0
80.0	SCOTLAND	0	0.0
80.0	SHANNON	0	0.0
80.0	SHELBY	0	0.0
80.0	STODDARD	0	0.0
80.0	STONE	0	0.0
80.0	SULLIVAN	0	0.0
80.0	TANEY	0	0.0
80.0	TEXAS	0	0.0
80.0	VERNON	0	0.0
80.0	WARREN	0	0.0
80.0	WASHINGTON	0	0.0
80.0	WAYNE	0	0.0
80.0	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.

2002 SUMMARY ANALYSIS

- In 2002, there were 168 traffic crashes involving one or more ambulances in the State of Missouri. No people were killed and 69 were injured in these crashes.
- In 22.6% of the traffic crashes involving ambulances, the ambulance was on an emergency run at the time of the incident.
- In 2002, one person was killed or injured in an ambulance related crash every 5.3 days in the State of Missouri.
- Of all 2002 crashes involving ambulances, the first harmful event in 70.8% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 10.1% of the cases, it involved a motor vehicle striking a parked vehicle or a motor vehicle striking a fixed object.
- Of all 2002 crashes involving ambulances, 70.8% occurred in an urban area of the State and 29.2% occurred in a rural area.
- Of all ambulance drivers involved in 2002 traffic crashes, 69.1% were male and 30.9% were female. The average age of the ambulance driver was 31.8 years.

2002 AMBULANCE INVOLVED CRASHES

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	10	33.3	28	20.3	38	22.6	0	15	0	6
AMBULANCE NOT ON RUN	0	0.0	20	66.7	110	79.7	130	77.4	0	54	0	22
TOTAL	0	0.0	30	100.0	138	100.0	168	100.0	0	69	0	28

[1]This statistic indicates the total number of persons killed and injured in a crash 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

2001 and 2002 AMBULANCE INVOLVED CRASH ANALYSIS

	2001	2002	RATE OF CHANGE
FATAL	0	0	= 0.0
PERSONAL INJURY	16	30	+ 87.5
PROPERTY DAMAGE	102	138	+ 35.3
TOTAL	118	168	+ 42.4

TABLE 4.0.2

2002 AMBULANCE INVOLVED CRASHES

CRASH TYPE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	0	0.0	11	8.0	11	6.6
BICYCLIST	0	0.0	0	0.0	0	0.0	0	0.0
FIXED OBJECT	0	0.0	4	13.3	13	9.4	17	10.1
OTHER OBJECT	0	0.0	0	0.0	3	2.2	3	1.8
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	26	86.7	93	67.4	119	70.8
VEHICLE ON OTHER ROADWAY	0	0.0	0	0.0	0	0.0	0	0.0
PARKED VEHICLE	0	0.0	0	0.0	17	12.3	17	10.1
NON-COLLISION OVERTURN	0	0.0	0	0.0	0	0.0	0	0.0
NON-COLLISION OTHER	0	0.0	0	0.0	1	0.7	1	0.6
TOTAL	0	0.0	30	100.0	138	100.0	168	100.0

TABLE 4.0.3

2002 AMBULANCE INVOLVED CRASHES

AREA CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	0	0.0	22	73.3	97	70.3	119	70.8
RURAL	0	0.0	8	26.7	41	29.7	49	29.2
TOTAL	0	0.0	30	100.0	138	100.0	168	100.0

TABLE 4.0.4

2002 AMBULANCE INVOLVED CRASHES

ROAD CURVATURE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	0	0.0	25	83.3	121	89.6	146	88.5
CURVE	0	0.0	5	16.7	14	10.4	19	11.5
UNKNOWN	0	-	0	-	3	-	3	-
TOTAL	0	0.0	30	100.0	138	100.0	168	100.0

TABLE 4.0.5

2002 AMBULANCE INVOLVED CRASHES

ROAD INCLINE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	0	0.0	20	66.7	101	76.5	121	74.7
HILL	0	0.0	6	20.0	27	20.5	33	20.4
CREST	0	0.0	4	13.3	4	3.0	8	4.9
UNKNOWN	0	-	0	-	6	-	6	-
TOTAL	0	0.0	30	100.0	138	100.0	168	100.0

TABLE 4.0.6

2002 AMBULANCE INVOLVED CRASHES

ROAD CONDITIONS BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	0	0.0	20	66.7	114	82.6	134	79.8
WET	0	0.0	9	30.0	17	12.3	26	15.5
SNOW	0	0.0	1	3.3	7	5.1	8	4.8
ICE	0	0.0	0	0.0	0	0.0	0	0.0
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	-	0	-	0	-	0	-
TOTAL	0	0.0	30	100.0	138	100.0	168	100.0

TABLE 4.0.7

2002 AMBULANCE INVOLVED CRASHES

HIGHWAY CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	3	10.0	13	9.4	16	9.5
U.S. HIGHWAY	0	0.0	2	6.7	15	10.9	17	10.1
STATE NUMBERED	0	0.0	6	20.0	15	10.9	21	12.5
SINGLE STATE LETTERED	0	0.0	0	0.0	5	3.6	5	3.0
DOUBLE STATE LETTERED	0	0.0	1	3.3	3	2.2	4	2.4
OUTER ROAD	0	0.0	0	0.0	1	0.7	1	0.6
COUNTY ROAD	0	0.0	2	6.7	7	5.1	9	5.4
CITY STREET	0	0.0	15	50.0	74	53.6	89	53.0
INTERSTATE LOOP	0	0.0	0	0.0	0	0.0	0	0.0
OTHER[1]	0	0.0	1	3.3	5	3.6	6	3.6
TOTAL	0	0.0	30	100.0	138	100.0	168	100.0

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

TABLE 4.0.8

2002 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	2	9.1	8	8.3	10	8.4	0	0.0	1	12.5	5	12.2	6	12.2
U.S. HIGHWAY	0	0.0	1	4.6	8	8.3	9	7.6	0	0.0	1	12.5	7	17.1	8	16.3
STATE NUMBERED	0	0.0	2	9.1	7	7.2	9	7.6	0	0.0	4	50.0	8	19.5	12	24.5
SINGLE STATE LETTERED	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5	12.2	5	10.2
DOUBLE STATE LETTERED	0	0.0	0	0.0	1	1.0	1	0.8	0	0.0	1	12.5	2	4.9	3	6.1
OUTER ROAD	0	0.0	0	0.0	1	1.0	1	0.8	0	0.0	0	0.0	0	0.0	0	0.0
COUNTY ROAD	0	0.0	1	4.6	1	1.0	2	1.7	0	0.0	1	12.5	6	14.6	7	14.3
CITY STREET	0	0.0	15	68.2	68	70.1	83	69.8	0	0.0	0	0.0	6	14.6	6	12.2
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	4.6	3	3.1	4	3.4	0	0.0	0	0.0	2	4.9	2	4.1
TOTAL	0	0.0	22	100.0	97	100.0	119	100.0	0	0.0	8	100.0	41	100.0	49	100.0

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

TABLE 4.0.9

2002 AMBULANCE INVOLVED CRASHES
MONTH OF YEAR

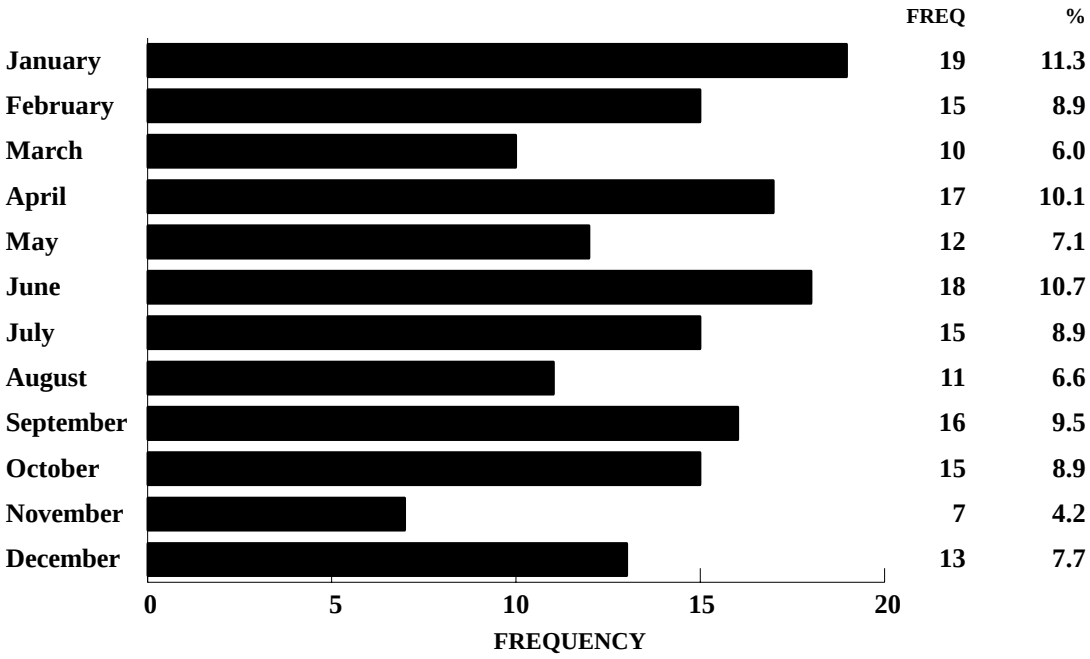


FIGURE 4.0.1

2002 AMBULANCE INVOLVED CRASHES
DAY OF WEEK

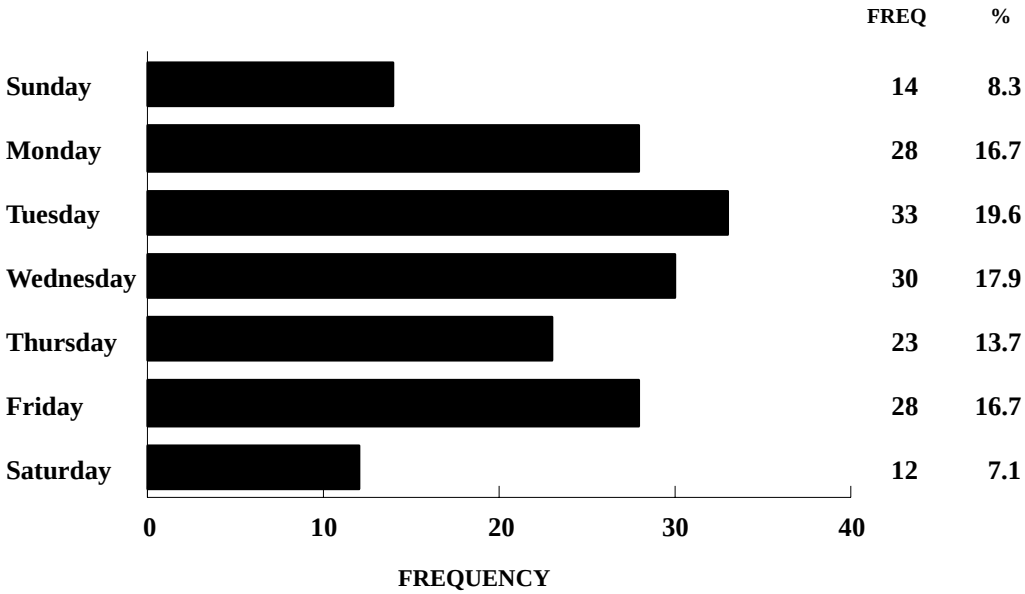


FIGURE 4.0.2

2002 AMBULANCE INVOLVED CRASHES
HOUR OF DAY

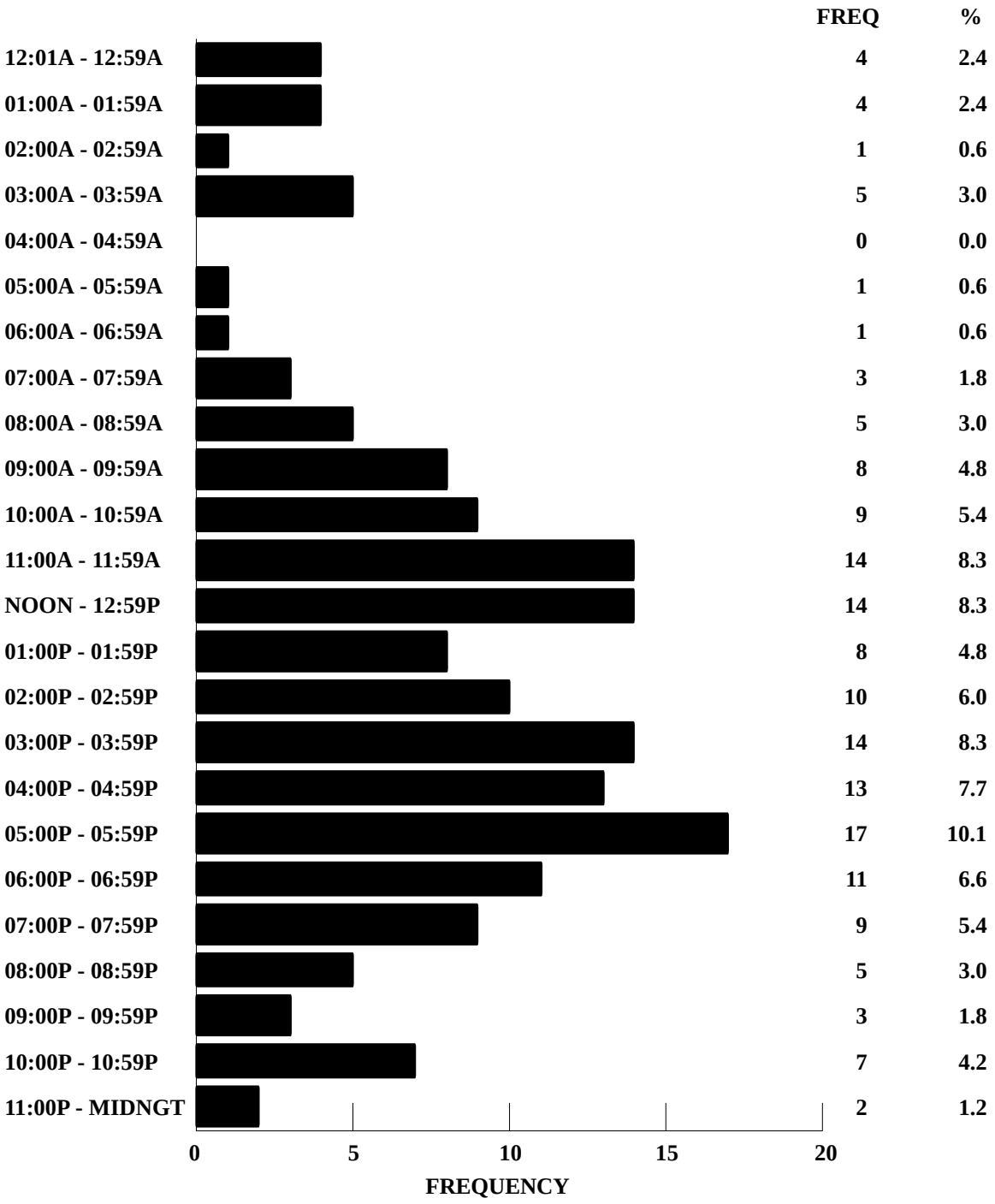


FIGURE 4.0.3

Unknown Data Not Included

2002 MISSOURI AMBULANCE CRASHES

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

	FATAL AND PERSONAL INJURY AMBULANCE CRASHES = 30			TOTAL AMBULANCE CRASHES = 168		
	DRIVER OF AMBULANCE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL F & PI	DRIVER OF AMBULANCE/ VEHICLE	OTHER DRIVER/ VEHICLE/ PEDESTRIAN	TOTAL CRASHES
VEHICLE DEFECTS	0.0	0.0	0.0	1.8	1.8	3.6
TRAFFIC CONTROL INOPERATIVE / MISSING	0.0	3.3	3.3	0.0	0.6	0.6
IMPROPERLY STOPPED ON ROADWAY	0.0	0.0	0.0	0.0	0.0	0.0
EXCEEDING SPEED LIMIT / TOO FAST FOR CONDITIONS	10.0	6.7	16.7	3.0	3.6	6.5
IMPROPER PASSING	0.0	0.0	0.0	0.6	1.2	1.8
VIOLATION OF STOP SIGN	3.3	6.7	10.0	2.4	1.2	3.6
WRONG SIDE NOT PASSING	0.0	3.3	3.3	0.0	1.8	1.8
FOLLOWING TOO CLOSE	10.0	10.0	16.7	3.6	3.0	6.0
IMPROPER SIGNAL	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPER BACKING	0.0	0.0	0.0	1.8	1.8	3.6
IMPROPER TURN	3.3	0.0	3.3	2.4	0.6	3.0
IMPROPER LANE USAGE / CHANGE	0.0	10.0	10.0	4.8	4.8	9.5
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	0.0	0.0	0.0
IMPROPERLY PARKED	0.0	0.0	0.0	0.0	1.2	1.2
FAILED TO YIELD	3.3	33.3	33.3	3.0	14.9	16.7
DRINKING	3.3	3.3	6.6	1.2	0.6	1.8
DRUGS	3.3	0.0	3.3	0.6	0.0	0.6
PHYSICAL IMPAIRMENT	3.3	3.3	6.6	1.2	0.6	1.8
INATTENTION	10.0	16.7	26.7	19.0	16.7	35.1

[1]This 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 2002 Missouri ambulance crashes, it was found that an ambulance driver was speeding in 3.0% of the crashes. In 3.6% of the crashes another driver was speeding. In 6.5% of the crashes either an ambulance driver, another driver, or both drivers were speeding.

TABLE 4.0.10

AMBULANCES INVOLVED IN 2002 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	0	0.0	30	100.0	139	99.3	169	99.4
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	1	0.7	1	0.6
TOTAL	0	0.0	30	100.0	140	100.0	170	100.0

TABLE 4.0.11

DRIVERS OF AMBULANCES INVOLVED IN 2002 MISSOURI CRASHES

SEX OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	0	0.0	21	70.0	95	68.8	116	69.1
FEMALE	0	0.0	9	30.0	43	31.2	52	30.9
UNKNOWN	0	-	0	-	2	-	2	-
TOTAL	0	0.0	30	100.0	140	100.0	170	100.0

TABLE 4.0.12

DRIVERS OF AMBULANCES INVOLVED IN 2002 MISSOURI CRASHES

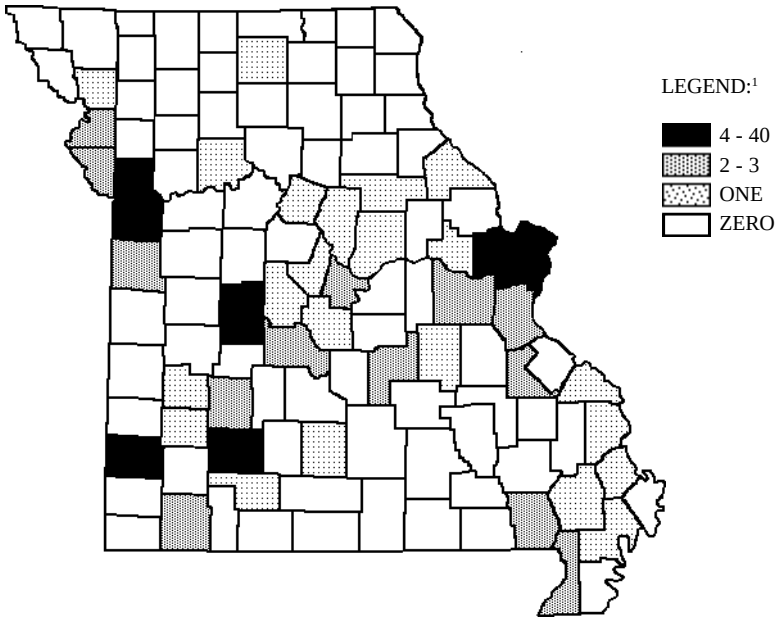
AGE OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	0.0	-	31.7	-	31.9	-	31.8	-
14 YEARS AND UNDER	0	0.0	0	0.0	0	0.0	0	0.0
15 - 20 YEARS	0	0.0	2	6.7	8	5.9	10	6.0
21 - 25 YEARS	0	0.0	6	20.0	37	27.2	43	25.9
26 - 30 YEARS	0	0.0	10	33.3	33	24.3	43	25.9
31 - 35 YEARS	0	0.0	5	16.7	15	11.0	20	12.1
36 - 40 YEARS	0	0.0	1	3.3	16	11.8	17	10.2
41 - 45 YEARS	0	0.0	3	10.0	11	8.1	14	8.4
46 - 50 YEARS	0	0.0	2	6.7	6	4.4	8	4.8
51 - 55 YEARS	0	0.0	1	3.3	5	3.7	6	3.6
56 - 60 YEARS	0	0.0	0	0.0	4	2.9	4	2.4
61 - 65 YEARS	0	0.0	0	0.0	1	0.7	1	0.6
66 YEARS AND OVER	0	0.0	0	0.0	0	0.0	0	0.0
UNKNOWN	0	-	0	-	4	-	4	-
TOTAL	0	0.0	30	100.0	140	100.0	170	100.0

TABLE 4.0.13

2002 AMBULANCE INVOLVED CRASHES

COUNTY QUARTILE ANALYSIS



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

RANK	COUNTY	FREQUENCY	PERCENT
1.0	ST. LOUIS CITY	40	23.8
2.0	ST. LOUIS	30	17.9
3.0	JACKSON	23	13.7
4.5	CLAY	5	3.0
4.5	ST. CHARLES	5	3.0
7.0	BENTON	4	2.4
7.0	GREENE	4	2.4
7.0	JASPER	4	2.4
			First Quartile
			Second Quartile
11.0	DUNKLIN	3	1.8
11.0	FRANKLIN	3	1.8
11.0	JEFFERSON	3	1.8
11.0	PHELPS	3	1.8
11.0	ST. FRANCOIS	3	1.8
17.5	BARRY	2	1.2
17.5	BUCHANAN	2	1.2
17.5	BUTLER	2	1.2
17.5	CAMDEN	2	1.2
17.5	CASS	2	1.2
17.5	COLE	2	1.2
17.5	PLATTE	2	1.2
17.5	POLK	2	1.2
			Second Quartile
			Third Quartile
32.5	ANDREW	1	0.6
32.5	AUDRAIN	1	0.6
32.5	BOONE	1	0.6
32.5	CALLAWAY	1	0.6
32.5	CAPE GIRARDEAU	1	0.6
32.5	CARROLL	1	0.6
32.5	CEDAR	1	0.6
32.5	CHRISTIAN	1	0.6
32.5	CRAWFORD	1	0.6
32.5	DADE	1	0.6
32.5	HOWARD	1	0.6
32.5	MILLER	1	0.6
32.5	MONITEAU	1	0.6
32.5	MORGAN	1	0.6
32.5	NEW MADRID	1	0.6

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
32.5	PERRY	1	0.6	79.5	LINCOLN	0	0.0
32.5	PIKE	1	0.6	79.5	LINN	0	0.0
32.5	SCOTT	1	0.6	79.5	LIVINGSTON	0	0.0
32.5	STODDARD	1	0.6	79.5	MC DONALD	0	0.0
32.5	SULLIVAN	1	0.6	79.5	MACON	0	0.0
32.5	WARREN	1	0.6	79.5	MADISON	0	0.0
32.5	WRIGHT	1	0.6	79.5	MARIES	0	0.0
		Third Quartile		79.5	MARION	0	0.0
				79.5	MERCER	0	0.0
		Fourth Quartile		79.5	MISSISSIPPI	0	0.0
79.5	ADAIR	0	0.0	79.5	MONROE	0	0.0
79.5	ATCHISON	0	0.0	79.5	MONTGOMERY	0	0.0
79.5	BARTON	0	0.0	79.5	NEWTON	0	0.0
79.5	BATES	0	0.0	79.5	NODAWAY	0	0.0
79.5	BOLLINGER	0	0.0	79.5	OREGON	0	0.0
79.5	CALDWELL	0	0.0	79.5	OSAGE	0	0.0
79.5	CARTER	0	0.0	79.5	OZARK	0	0.0
79.5	CHARITON	0	0.0	79.5	PEMISCOT	0	0.0
79.5	CLARK	0	0.0	79.5	PETTIS	0	0.0
79.5	CLINTON	0	0.0	79.5	PULASKI	0	0.0
79.5	COOPER	0	0.0	79.5	PUTNAM	0	0.0
79.5	DALLAS	0	0.0	79.5	RALLS	0	0.0
79.5	DAVIESS	0	0.0	79.5	RANDOLPH	0	0.0
79.5	DE KALB	0	0.0	79.5	RAY	0	0.0
79.5	DENT	0	0.0	79.5	REYNOLDS	0	0.0
79.5	DOUGLAS	0	0.0	79.5	RIPLEY	0	0.0
79.5	GASCONADE	0	0.0	79.5	ST. CLAIR	0	0.0
79.5	GENTRY	0	0.0	79.5	STE. GENEVIEVE	0	0.0
79.5	GRUNDY	0	0.0	79.5	SALINE	0	0.0
79.5	HARRISON	0	0.0	79.5	SCHUYLER	0	0.0
79.5	HENRY	0	0.0	79.5	SCOTLAND	0	0.0
79.5	HICKORY	0	0.0	79.5	SHANNON	0	0.0
79.5	HOLT	0	0.0	79.5	SHELBY	0	0.0
79.5	HOWELL	0	0.0	79.5	STONE	0	0.0
79.5	IRON	0	0.0	79.5	TANEY	0	0.0
79.5	JOHNSON	0	0.0	79.5	TEXAS	0	0.0
79.5	KNOX	0	0.0	79.5	VERNON	0	0.0
79.5	LACLEDE	0	0.0	79.5	WASHINGTON	0	0.0
79.5	LAFAYETTE	0	0.0	79.5	WAYNE	0	0.0
79.5	LAWRENCE	0	0.0	79.5	WEBSTER	0	0.0
79.5	LEWIS	0	0.0	79.5	WORTH	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:

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

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.