



2009

MISSOURI

EMERGENCY SERVICE VEHICLE

CRASHES

**MISSOURI STATE HIGHWAY PATROL
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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 2009 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.

Leanna Depue, Highway Safety Director
MoDOT Highway Safety Division

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 State-wide Traffic Accident Records System (STARS). The Missouri State Highway Patrol, Traffic Records 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.

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 2009, Missouri experienced 1,469 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 2009, 1,513 emergency service vehicles were involved in crashes in the State. Four persons were killed and 380 persons were injured in these traffic crashes. Of the 1,513 emergency service vehicles involved, 341 (22.5%) 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 1,513 emergency vehicles involved in 2009 traffic crashes, 1,118 (73.9%) 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 1,513 emergency vehicles involved in 2009 Missouri traffic crashes, 181 (12.0%) 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 341 vehicles making an emergency run when involved in a traffic crash in 2009, 66 (19.4%) were vehicles of this type.

Of the 1,513 emergency service vehicles involved in 2009 Missouri traffic crashes, 175 (11.6%) were ambulances. Ambulances also made up a higher proportion of emergency service vehicles involved in traffic crashes while making emergency runs. Of the 341 emergency service vehicles involved in 2009 Missouri traffic crashes while on emergency runs, 43 (12.6%) 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 2007 - 2009 with emphasis on the most recent year (2009).

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 manually or electronically 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 2009 there were 1,469 traffic crashes involving 1,513 emergency service vehicles in the State of Missouri. Four persons were killed and 380 persons were injured in these traffic crashes. One person was killed or injured every 22.8 hours in these types of crashes in 2009.
- Police vehicles comprise the largest number of emergency service vehicles involved in Missouri's traffic crashes. Of the 1,513 emergency service vehicles involved, 1,118 (73.9%) were police vehicles. A total of 341 emergency service vehicles were on emergency runs when the traffic crash occurred. Of these, 198 (58.1%) 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 2009. Of the 1,513 emergency vehicles involved in 2009 Missouri traffic crashes, 181 (12.0%) were fire vehicles. Of the 341 emergency vehicles on emergency run at the time of the traffic crash, 66 (19.4%) were fire vehicles.
- Ambulances were the third most frequent emergency vehicle type involved in Missouri's 2009 traffic crashes. Of the 1,513 emergency vehicles involved, 175 (11.6%) were ambulances. Like fire vehicles, ambulances were more likely to be involved in a traffic crash when on an emergency run. Of the 341 emergency vehicles on emergency run when the traffic crash occurred, 43 (12.6%) were ambulances.
- Emergency vehicles classified as 'Other' made up a small proportion of those involved in Missouri's 2009 traffic crashes. Of the 1,513 emergency vehicles involved, only 39 (2.6%) were emergency vehicles classified as 'Other'.

2009 MISSOURI TRAFFIC CRASHES

EMERGENCY SERVICE (ES) VEHICLE INVOLVEMENT

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ES VEHICLE INVOLVED	7	0.9	259	0.7	1,203	1.0	1,469	1.0
NO ES VEHICLE INVOLVED	779	99.1	36,740	99.3	114,007	99.0	151,526	99.0
TOTAL	786	100.0	36,999	100.0	115,210	100.0	152,995	100.0

TABLE 1.0.1

MISSOURI EMERGENCY SERVICE VEHICLE INVOLVED CRASHES

2007 - 2009

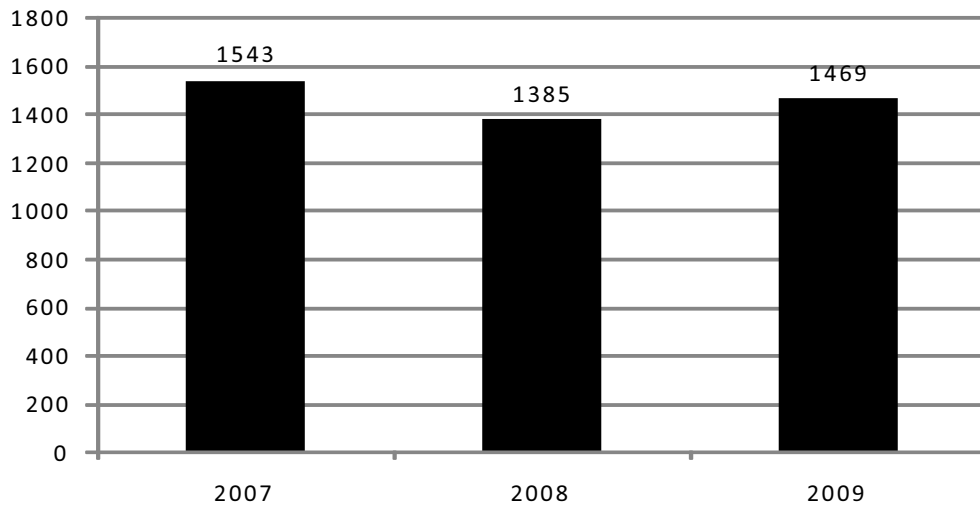


FIGURE 1.0.1

MISSOURI EMERGENCY SERVICE VEHICLE PERSONAL INJURY PROBLEM ANALYSIS CLOCK

2009

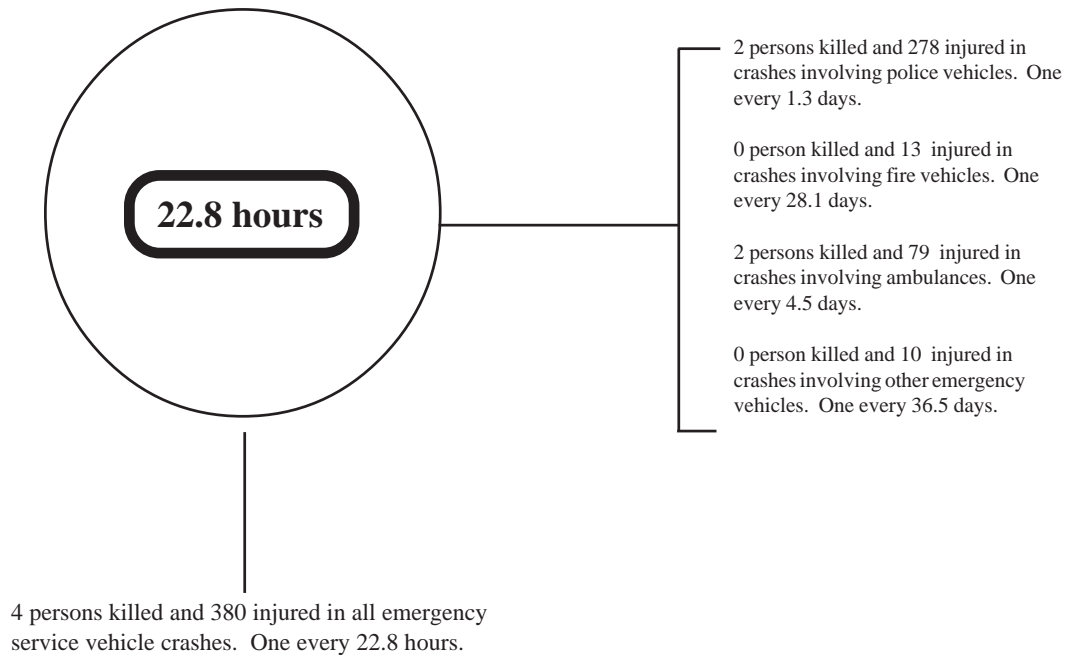


FIGURE 1.0.2

2009 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	7	259	1,203	1,469	1,513
INVOLVING					
POLICE VEHICLE	2	183	906	1,091	1,118
FIRE VEHICLE	3	23	152	178	181
AMBULANCE	2	45	121	168	175
OTHER ES VEHICLE	0	10	26	36	39

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 1,469 traffic crashes involving 1,513 emergency service vehicles

TABLE 1.0.2

**TYPE OF EMERGENCY SERVICE VEHICLES INVOLVED IN
2009 MISSOURI TRAFFIC CRASHES**

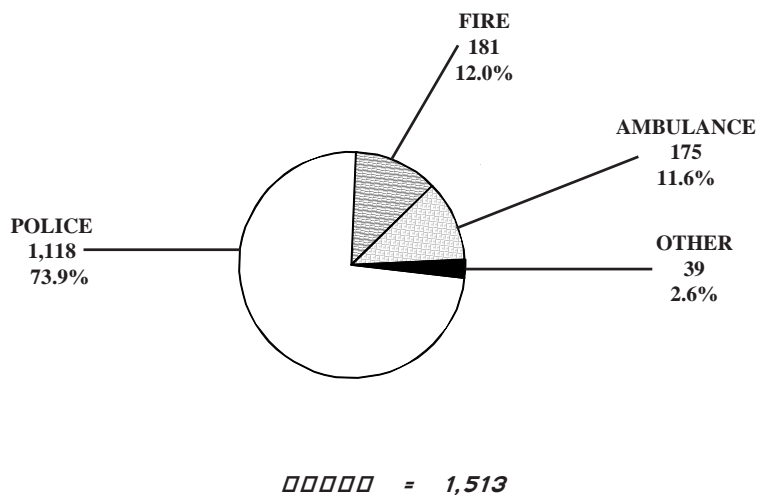


FIGURE 1.0.3

**TYPE OF EMERGENCY SERVICE
VEHICLES INVOLVED IN 2009 MISSOURI
TRAFFIC CRASHES WHILE ON
EMERGENCY RUN**

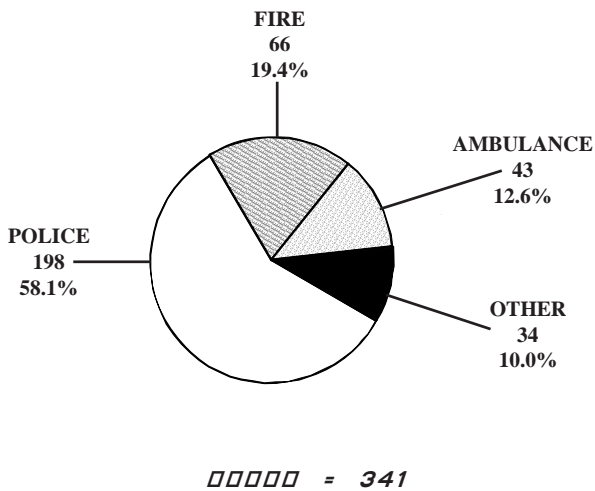


FIGURE 1.0.4

**TYPE OF EMERGENCY SERVICE
VEHICLES INVOLVED IN 2009 MISSOURI
TRAFFIC CRASHES NOT ON
EMERGENCY RUN**

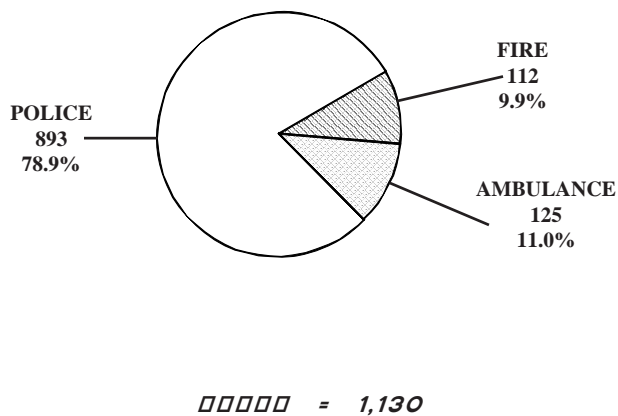


FIGURE 1.0.5

2.0 POLICE VEHICLE INVOLVEMENT

This section presents a series of data displays identifying 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.

2009 SUMMARY ANALYSIS

- In 2009, there were 1,091 traffic crashes involving one or more police vehicles in the State of Missouri. Two people were killed and 278 were injured in these crashes.
- In 18.2% of the traffic crashes involving police vehicles, the police vehicle was on an emergency run at the time of the incident.
- In 2009, one person was killed or injured in a police vehicle related crash every 1.3 days in the State of Missouri.
- Of all 2009 crashes involving police vehicles, the first harmful event in 47.4% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 24.6% of the cases, it involved a motor vehicle striking a fixed object. In 18.6% of the cases, the vehicle struck an animal.
- Of all 2009 crashes involving police vehicles, 52.5% occurred in an urban area of the State and 47.5% occurred in a rural area.
- Of all police vehicle drivers in 2009 traffic crashes, 90.8% were male and 9.2% were female. The average age of the police vehicle driver was 35.1 years.
- There were 1,118 police vehicles in the 1,091 traffic crashes in the State. Of these, 953 or 85.8% were automobiles.

**2009 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	0	0.0	58	31.7	140	15.5	198	18.2	0	82	0	74
POLICE VEHICLE NOT ON RUN	2	100.0	125	68.3	766	84.6	893	81.9	2	196	2	151
TOTAL	2	100.0	183	100.0	906	100.0	1,091	100.0	2	278	2	225

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

2008 and 2009 POLICE VEHICLE INVOLVED CRASH ANALYSIS

	2008	2009	RATE OF CHANGE
FATAL	1	2	+100.0
PERSONAL INJURY	206	183	-11.1
PROPERTY DAMAGE	859	906	+5.4
TOTAL	1,066	1,091	+2.3

TABLE 2.0.2

2009 POLICE VEHICLE INVOLVED CRASHES

CRASH TYPE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	6	3.3	197	21.7	203	18.6
BICYCLIST	0	0.0	3	1.6	1	0.1	4	0.4
FIXED OBJECT	1	50.0	38	20.8	229	25.3	268	24.6
OTHER OBJECT	0	50.0	0	0.0	24	2.7	24	2.2
PEDESTRIAN	1	0.0	4	2.2	1	0.1	6	0.6
VEHICLE IN TRANSPORT	0	0.0	125	68.3	392	43.3	517	47.4
VEHICLE ON OTHER ROADWAY	0	0.0	1	0.6	0	0.0	1	0.1
PARKED VEHICLE	0	0.0	2	1.1	45	5.0	47	4.3
NON-COLLISION OVERTURN	0	0.0	4	2.2	1	0.1	5	0.5
NON-COLLISION OTHER	0	0.0	0	0.0	16	1.8	16	1.5
TOTAL	2	100.0	183	100.0	906	100.0	1,091	100.0

TABLE 2.0.3

2009 POLICE VEHICLE INVOLVED CRASHES

AREA CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	2	100.0	108	59.0	463	51.1	573	52.5
RURAL	0	0.0	75	41.0	443	48.9	518	47.5
TOTAL	2	100.0	183	100.0	906	100.0	1,091	100.0

TABLE 2.0.4

2009 POLICE VEHICLE INVOLVED CRASHES

ROAD CURVATURE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	1	50.0	149	82.3	757	84.5	907	84.1
CURVE	1	50.0	32	17.7	139	15.5	172	15.9
UNKNOWN	0	-	2	-	10	-	12	-
TOTAL	2	100.0	183	100.0	906	100.0	1,091	100.0

TABLE 2.0.5

2009 POLICE VEHICLE INVOLVED CRASHES

ROAD INCLINE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	1	50.0	110	60.8	564	63.4	675	63.0
HILL	1	50.0	67	37.0	305	34.3	373	34.8
CREST	0	0.0	4	2.2	20	2.3	24	2.2
UNKNOWN	0	-	2	-	17	-	19	-
TOTAL	2	100.0	183	100.0	906	100.0	1,091	100.0

TABLE 2.0.6

2009 POLICE VEHICLE INVOLVED CRASHES

ROAD CONDITIONS BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	1	50.0	142	77.6	699	78.1	842	78.0
WET	1	50.0	37	20.2	142	15.9	180	16.7
SNOW	0	0.0	1	0.6	32	3.6	33	3.1
ICE	0	0.0	2	1.1	16	1.8	18	1.7
SLUSH	0	0.0	1	0.6	0	0.0	1	0.1
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	2	0.2	2	0.2
UNKNOWN	0	-	0	-	11	-	11	-
TOTAL	2	100.0	183	100.0	906	100.0	1,091	100.0

TABLE 2.0.7

2009 POLICE VEHICLE INVOLVED CRASHES

HIGHWAY CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	18	9.8	76	8.4	94	8.6
U.S. HIGHWAY	0	0.0	19	10.4	122	13.5	141	12.9
STATE NUMBERED	0	0.0	38	20.8	163	18.0	201	18.4
SINGLE STATE LETTERED	0	0.0	9	4.9	58	6.4	67	6.1
DOUBLE STATE LETTERED	0	0.0	7	3.8	17	1.9	24	2.2
OUTER ROAD	0	0.0	0	0.0	10	1.1	10	0.9
COUNTY ROAD	0	0.0	15	8.2	102	11.3	117	10.7
CITY STREET	2	100.0	72	39.3	308	34.0	382	35.0
OTHER ¹	0	0.0	5	2.7	50	5.5	55	5.0
TOTAL	2	100.0	183	100.0	906	100.0	1,091	100.0

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

TABLE 2.0.8

2009 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	9.3	40	8.6	50	8.7	0	0.0	8	10.7	36	8.1	44	8.5
U.S. HIGHWAY	0	0.0	9	8.3	39	8.4	48	8.4	0	0.0	10	13.3	83	18.7	93	18.0
STATE NUMBERED	0	0.0	16	14.8	54	11.7	70	12.2	0	0.0	22	29.3	109	24.6	131	25.3
SINGLE STATE LETTERED	0	0.0	1	0.9	6	1.3	7	1.2	0	0.0	8	10.7	52	11.7	60	11.6
DOUBLE STATE LETTERED	0	0.0	0	0.0	7	1.5	7	1.2	0	0.0	7	9.3	10	2.3	17	3.3
OUTER ROAD	0	0.0	0	0.0	5	1.1	5	0.9	0	0.0	0	0.0	5	1.1	5	1.0
COUNTY ROAD	0	0.0	4	3.7	15	3.2	19	3.3	0	0.0	11	14.7	87	19.6	98	18.9
CITY STREET	2	100.0	65	60.2	259	55.9	326	56.9	0	0.0	7	9.3	49	11.1	56	10.8
OTHER ¹	0	0.0	3	2.8	38	8.2	41	7.2	0	0.0	2	2.7	12	2.7	14	2.7
TOTAL	2	100.0	108	100.0	463	100.0	573	100.0	0	0.0	75	100.0	443	100.0	518	100.0

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

TABLE 2.0.9

2009 POLICE VEHICLE INVOLVED CRASHES

MONTH OF YEAR

MONTH	FREQUENCY	PERCENT
JANUARY	103	9.4
FEBRUARY	66	6.1
MARCH	82	7.5
APRIL	69	6.3
MAY	91	8.3
JUNE	98	9.0
JULY	91	8.3
AUGUST	77	7.1
SEPTEMBER	82	7.5
OCTOBER	115	10.5
NOVEMBER	109	10.0
DECEMBER	108	9.9
TOTAL	1,091	100.0

TABLE 2.0.10

2009 POLICE VEHICLE INVOLVED CRASHES

DAY OF WEEK

DAY	FREQUENCY	PERCENT
SUNDAY	136	12.5
MONDAY	136	12.5
TUESDAY	147	13.5
WEDNESDAY	151	13.8
THURSDAY	164	15.0
FRIDAY	195	17.9
SATURDAY	162	14.9
TOTAL	1,091	100.0

TABLE 2.0.11

2009 POLICE VEHICLE INVOLVED CRASHES

HOUR OF DAY

HOUR	FREQUENCY	PERCENT
12:01A - 12:59A	57	5.2
01:00A - 01:59A	53	4.9
02:00A - 02:59A	43	4.0
03:00A - 03:59A	37	3.4
04:00A - 04:59A	21	1.9
05:00A - 05:59A	21	1.9
06:00A - 06:59A	33	3.0
07:00A - 07:59A	31	2.9
08:00A - 08:59A	28	2.6
09:00A - 09:59A	26	2.4
10:00A - 10:59A	30	2.8
11:00A - 11:59A	45	4.1
NOON - 12:59P	57	5.2
01:00P - 01:59P	50	4.6
02:00P - 02:59P	57	5.2
03:00P - 03:59P	53	4.9
04:00P - 04:59P	68	6.2
05:00P - 05:59P	51	4.7
06:00P - 06:59P	51	4.7
07:00P - 07:59P	54	5.0
08:00P - 08:59P	55	5.1
09:00P - 09:59P	57	5.2
10:00P - 10:59P	63	5.8
11:00P - MIDNIGHT	48	4.4
UNKNOWN	2	--
TOTAL	1,091	100.0

TABLE 2.0.12

2009 MISSOURI POLICE VEHICLE CRASHES

TYPE OF CIRCUMSTANCE INVOLVED BY CRASH SEVERITY AND PERSON CLASSIFICATION¹

FATAL AND PERSONAL INJURY POLICE VEHICLE CRASHES = 185				TOTAL POLICE VEHICLE CRASHES = 1,091		
	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	1.6	2.2	3.8	1.0	1.9	2.9
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	0.3	0.1	0.4
EXCEEDING SPEED LIMIT / TOO FAST FOR CONDITIONS	16.8	11.4	28.1	9.6	4.7	14.3
IMPROPER PASSING	1.1	1.1	2.2	0.5	0.5	1.0
VIOLATION OF STOP SIGN	1.1	2.7	3.8	0.5	1.2	1.6
WRONG SIDE NOT PASSING	1.1	2.2	3.2	0.3	0.7	1.0
FOLLOWING TOO CLOSE	3.2	7.0	9.7	2.3	2.9	5.1
IMPROPER SIGNAL	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPER BACKING	1.1	0.5	1.6	4.6	2.7	7.3
IMPROPER TURN	2.2	1.6	3.8	2.1	0.9	3.0
IMPROPER LANE USAGE / CHANGE	1.6	4.3	5.9	2.1	3.6	5.7
WRONG WAY ONE-WAY STREET	0.5	0.5	1.1	0.2	0.1	0.3
IMPROPER START FROM PARK	0.0	0.0	0.0	0.0	0.1	0.1
IMPROPERLY PARKED	0.5	0.0	0.5	0.2	0.6	0.8
FAILED TO YIELD	7.6	20.0	27.6	3.0	10.4	13.2
DRINKING	1.6	5.4	7.0	0.5	2.8	3.3
DRUGS	0.0	1.1	1.1	0.0	0.7	0.7
PHYSICAL IMPAIRMENT	1.1	1.1	2.2	0.5	0.5	0.9
INATTENTION	12.4	14.1	25.9	15.9	9.6	25.2

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 2009 Missouri police vehicle crashes, it was found that a police vehicle driver was speeding in 9.6% of the crashes. In 4.7% of the crashes another driver was speeding. In 14.3% of the crashes either a police vehicle driver, another driver, or both drivers were speeding.

TABLE 2.0.13

POLICE VEHICLES INVOLVED IN 2009 MISSOURI CRASHES

TYPE OF VEHICLE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AUTOMOBILE	1	50.0	151	80.3	801	87.0	953	85.8
SPORT UTILITY VEHICLE	1	50.0	15	8.0	56	6.1	72	6.5
VAN	0	0.0	3	1.6	14	1.5	17	1.5
BUS	0	0.0	1	0.5	0	0.0	1	0.1
MOTORCYCLE	0	0.0	10	5.3	6	0.7	16	1.4
PICK-UP TRUCK	0	0.0	7	3.7	38	4.1	45	4.1
OTHER TRUCK	0	0.0	1	0.5	6	0.7	7	0.6
UNKNOWN	0	-	3	-	4	-	7	-
TOTAL	2	100.0	191	100.0	925	100.0	1,118	100.0

TABLE 2.0.14

POLICE VEHICLES INVOLVED IN 2009 MISSOURI CRASHES

DRIVER INVOLVEMENT BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
KNOWN DRIVER INVOLVED	2	100.0	191	100.0	920	99.5	1,113	99.6
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	5	0.5	5	0.5
TOTAL	2	100.0	191	100.0	925	100.0	1,118	100.0

TABLE 2.0.15

DRIVERS OF POLICE VEHICLES INVOLVED IN 2009 MISSOURI CRASHES

SEX OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	2	100.0	169	88.5	839	91.2	1,010	90.8
FEMALE	0	0.0	22	11.5	81	8.8	103	9.2
UNKNOWN	0	-	0	-	5	-	5	-
TOTAL	2	100.0	191	100.0	925	100.0	1,118	100.0

TABLE 2.0.16

DRIVERS OF POLICE VEHICLES INVOLVED IN 2009 MISSOURI CRASHES

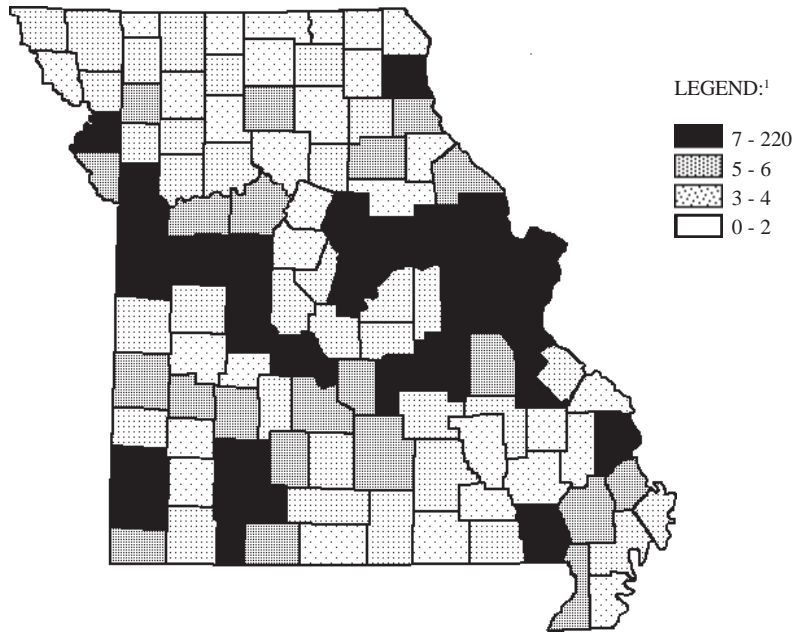
AGE OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	26.0	-	35.7	-	35.0	-	35.1	-
15 - 20 YEARS	0	0.0	3	1.6	10	1.1	13	1.2
21 - 25 YEARS	1	50.0	30	16.0	154	17.0	185	16.9
26 - 30 YEARS	1	50.0	40	21.4	200	22.0	241	22.0
31 - 35 YEARS	0	0.0	29	15.5	175	19.3	204	18.6
36 - 40 YEARS	0	0.0	28	15.0	143	15.8	171	15.6
41 - 45 YEARS	0	0.0	26	13.9	79	8.7	105	9.6
46 - 50 YEARS	0	0.0	10	5.4	61	6.7	71	6.5
51 - 55 YEARS	0	0.0	12	6.4	49	5.4	61	5.6
56 - 60 YEARS	0	0.0	5	2.7	26	2.9	31	2.8
61 - 65 YEARS	0	0.0	2	1.1	8	0.9	10	0.9
66 YEARS AND OVER	0	0.0	2	1.1	3	0.3	5	0.5
UNKNOWN	0	-	4	-	17	-	21	-
TOTAL	2	100.0	191	100.0	925	100.0	1,118	100.0

TABLE 2.0.17

2009 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	ST. LOUIS	220	20.2	23.0	CALLAWAY	9	0.8
2.0	JACKSON	80	7.3	23.0	CRAWFORD	9	0.8
3.5	GREENE	58	5.3	23.0	JOHNSON	9	0.8
3.5	ST. LOUIS CITY	58	5.3	23.0	MONTGOMERY	9	0.8
5.0	ST. CHARLES	56	5.1	26.0	WARREN	8	0.7
6.0	CLAY	30	2.7	28.5	BENTON	7	0.6
7.0	BUCHANAN	25	2.3	28.5	LEWIS	7	0.6
8.0	BOONE	23	2.1	28.5	PETTIS	7	0.6
9.0	JEFFERSON	21	1.9	28.5	STONE	7	0.6
11.0	COLE	20	1.8				First Quartile
11.0	FRANKLIN	20	1.8				Second Quartile
11.0	JASPER	20	1.8				
13.0	CASS	16	1.5	36.5	CEDAR	6	0.5
14.0	CAPE GIRARDEAU	15	1.4	36.5	DUNKLIN	6	0.5
16.0	CAMDEN	14	1.3	36.5	LAFAYETTE	6	0.5
16.0	PHELPS	14	1.3	36.5	MC DONALD	6	0.5
16.0	ST. FRANCOIS	14	1.3	36.5	MONROE	6	0.5
18.5	CHRISTIAN	12	1.1	36.5	PULASKI	6	0.5
18.5	LINCOLN	12	1.1	36.5	SALINE	6	0.5
20.0	NEWTON	10	0.9	36.5	SCOTT	6	0.5
23.0	BUTLER	9	0.8	36.5	STODDARD	6	0.5

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
36.5	TEXAS	6	0.5	77.5	MISSISSIPPI	3	0.3
36.5	VERNON	6	0.5	77.5	MONITEAU	3	0.3
36.5	WEBSTER	6	0.5	77.5	MORGAN	3	0.3
47.0	DE KALB	5	0.5	77.5	NODAWAY	3	0.3
47.0	LACLEDE	5	0.5	77.5	RAY	3	0.3
47.0	LINN	5	0.5	77.5	RIPLEY	3	0.3
47.0	MARION	5	0.5	77.5	SHELBY	3	0.3
47.0	PIKE	5	0.5	77.5	WRIGHT	3	0.3
47.0	PLATTE	5	0.5				
47.0	POLK	5	0.5				
47.0	TANEY	5	0.5				
47.0	WASHINGTON	5	0.5				
Second Quartile				Third Quartile			
60.5	ATCHISON	4	0.4	92.0	BOLLINGER	2	0.2
60.5	BARRY	4	0.4	92.0	CARTER	2	0.2
60.5	BARTON	4	0.4	92.0	CHARITON	2	0.2
60.5	BATES	4	0.4	92.0	COOPER	2	0.2
60.5	CARROLL	4	0.4	92.0	HOLT	2	0.2
60.5	CLINTON	4	0.4	92.0	HOWARD	2	0.2
60.5	DALLAS	4	0.4	92.0	LAWRENCE	2	0.2
60.5	DENT	4	0.4	92.0	MACON	2	0.2
60.5	DOUGLAS	4	0.4	92.0	OREGON	2	0.2
60.5	GENTRY	4	0.4	92.0	PEMISCOT	2	0.2
60.5	HENRY	4	0.4	92.0	PERRY	2	0.2
60.5	HOWELL	4	0.4	92.0	RALLS	2	0.2
60.5	IRON	4	0.4	92.0	WAYNE	2	0.2
60.5	NEW MADRID	4	0.4	103.0	DADE	1	0.1
60.5	OSAGE	4	0.4	103.0	DAVISS	1	0.1
60.5	RANDOLPH	4	0.4	103.0	HICKORY	1	0.1
60.5	STE. GENEVIEVE	4	0.4	103.0	KNOX	1	0.1
60.5	SHANNON	4	0.4	103.0	LIVINGSTON	1	0.1
77.5	ADAIR	3	0.3	103.0	MADISON	1	0.1
77.5	ANDREW	3	0.3	103.0	MERCER	1	0.1
77.5	CALDWELL	3	0.3	103.0	REYNOLDS	1	0.1
77.5	GASCONADE	3	0.3	103.0	SCOTLAND	1	0.1
77.5	GRUNDY	3	0.3	111.5	AUDRAIN	0	0.0
77.5	HARRISON	3	0.3	111.5	CLARK	0	0.0
77.5	MARIES	3	0.3	111.5	OZARK	0	0.0
77.5	MILLER	3	0.3	111.5	PUTNAM	0	0.0
				111.5	ST. CLAIR	0	0.0
				111.5	SCHUYLER	0	0.0
				111.5	SULLIVAN	0	0.0
				111.5	WORTH	0	0.0
Fourth Quartile							

TABLE 2.0.18

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.

2009 SUMMARY ANALYSIS

- In 2009, there were 178 traffic crashes involving one or more fire vehicles in the State of Missouri. Five people were killed and 42 were injured in these crashes.
- In 37.1% of the traffic crashes involving fire vehicles, the fire vehicle was on an emergency run at the time of the incident.
- In 2009, one person was killed or injured in a fire vehicle related crash every 28.1 days in the State of Missouri.
- Of all 2009 crashes involving fire vehicles, the first harmful event in 56.7% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 19.1% of the cases, it involved a motor vehicle striking a parked vehicle. In 15.7% of the cases, the vehicle struck a fixed object.
- Of all 2009 crashes involving fire vehicles, 64.6% occurred in an urban area of the State and 35.4% occurred in a rural area.
- Of all fire vehicle drivers in 2009 traffic crashes, 95.0% were male and 5.0% were female. The average age of the fire vehicle driver was 39.7 years.

2009 FIRE VEHICLE INVOLVED CRASHES
EMERGENCY RUN STATUS

	FATAL	PERSONAL INJURY	PROPERTY DAMAGE	TOTAL	%	TOTAL NUMBER ¹ KILLED	FIRE VEHICLE DRIVERS/PASSENGERS ²	
							INJURED	%
FIRE VEHICLE ON RUN	2	8	56	66	37.1	2	2	8
FIRE VEHICLE NOT ON RUN	1	15	96	112	62.9	3	0	12
TOTAL	3	23	152	178	100.0	5	2	20

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

2008 and 2009 FIRE VEHICLE INVOLVED CRASH ANALYSIS

	2008	2009	RATE OF CHANGE
FATAL	1	3	+200.0
PERSONAL INJURY	24	23	-4.1
PROPERTY DAMAGE	120	152	+26.6
TOTAL	145	178	+22.7

TABLE 3.0.2

2009 FIRE VEHICLE INVOLVED CRASHES

CRASH TYPE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	0	0.0	6	4.0	6	3.4
BICYCLIST	0	0.0	1	4.4	0	0.0	1	0.6
FIXED OBJECT	0	0.0	2	8.7	26	17.1	28	15.7
OTHER OBJECT	0	0.0	0	0.0	1	0.7	1	0.6
PEDESTRIAN	1	33.3	1	4.4	0	0.0	2	1.1
VEHICLE IN TRANSPORT	2	66.7	16	69.6	83	54.6	101	56.7
VEHICLE ON OTHER ROADWAY	0	0.0	0	0.0	1	0.7	1	0.6
PARKED VEHICLE	0	0.0	0	0.0	34	22.4	34	19.1
NON-COLLISION OVERTURN	0	0.0	3	13.0	0	0.0	3	1.7
NON-COLLISION OTHER	0	0.0	0	0.0	1	0.7	1	0.6
TOTAL	3	100.0	23	100.0	152	100.0	178	100.0

TABLE 3.0.3

2009 FIRE VEHICLE INVOLVED CRASHES

AREA CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	1	33.3	9	39.1	105	69.1	115	64.6
RURAL	2	66.7	14	60.9	47	30.9	63	35.4
TOTAL	3	100.0	23	100.0	152	100.0	178	100.0

TABLE 3.0.4

2009 FIRE VEHICLE INVOLVED CRASHES

ROAD CURVATURE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	2	66.7	19	82.6	133	89.3	154	88.0
CURVE	1	33.3	4	17.4	16	10.7	21	12.0
UNKNOWN	0	-	0	-	3	-	3	-
TOTAL	3	100.0	23	100.0	152	100.0	178	100.0

TABLE 3.0.5

2009 FIRE VEHICLE INVOLVED CRASHES

ROAD INCLINE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	1	33.3	12	52.2	99	67.8	112	65.1
HILL	2	66.7	9	39.1	42	28.8	53	30.8
CREST	0	0.0	2	8.7	5	3.4	7	4.1
UNKNOWN	0	-	0	-	6	-	6	-
TOTAL	3	100.0	23	100.0	152	100.0	178	100.0

TABLE 3.0.6

2009 FIRE VEHICLE INVOLVED CRASHES

ROAD CONDITIONS BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	3	100.0	17	73.9	120	80.0	140	79.6
WET	0	0.0	3	13.0	19	12.7	22	12.5
SNOW	0	0.0	0	0.0	6	4.0	6	3.4
ICE	0	0.0	2	8.7	5	3.3	7	4.0
STANDING WATER	0	0.0	1	4.4	0	0.0	1	0.6
UNKNOWN	0	-	0	-	2	-	2	-
TOTAL	3	100.0	23	100.0	152	100.0	178	100.0

TABLE 3.0.7

2009 FIRE VEHICLE INVOLVED CRASHES

HIGHWAY CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	4	17.4	8	5.3	12	6.7
U.S. HIGHWAY	0	0.0	2	8.7	4	2.6	6	3.4
STATE NUMBERED	2	66.7	4	17.4	11	7.2	17	9.6
SINGLE STATE LETTERED	0	0.0	3	13.0	13	8.6	16	9.0
DOUBLE STATE LETTERED	0	0.0	3	13.0	6	4.0	9	5.1
OUTER ROAD	0	0.0	0	0.0	0	0.0	0	0.0
COUNTY ROAD	0	0.0	1	4.4	13	8.6	14	7.9
CITY STREET	1	33.3	5	21.7	91	59.9	97	54.5
OTHER ¹	0	0.0	1	4.4	6	4.0	7	3.9
TOTAL	3	100.0	23	100.0	152	100.0	178	100.0

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

TABLE 3.0.8

2009 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	3	33.3	6	5.7	9	7.8	0	0.0	1	7.1	2	4.3	3	4.8
U.S. HIGHWAY	0	0.0	1	11.1	0	0.0	1	0.9	0	0.0	1	7.1	4	8.5	5	7.9
STATE NUMBERED	0	0.0	0	0.0	5	4.8	5	4.4	2	100.0	4	28.6	6	12.8	12	19.1
SINGLE STATE LETTERED	0	0.0	0	0.0	3	2.9	3	2.6	0	0.0	3	21.4	10	21.3	13	20.6
DOUBLE STATE LETTERED	0	0.0	0	0.0	2	1.9	2	1.7	0	0.0	3	21.4	4	8.5	7	11.1
COUNTY ROAD	0	0.0	0	0.0	2	1.9	2	1.7	0	0.0	1	7.1	11	23.4	12	19.1
CITY STREET	1	100.0	5	55.6	84	80.0	90	78.3	0	0.0	0	0.0	7	14.9	7	11.1
OTHER ¹	0	0.0	0	0.0	3	2.9	3	2.6	0	0.0	1	7.1	3	6.4	4	6.4
TOTAL	1	0.0	9	100.0	105	100.0	115	100.0	2	100.0	14	100.0	47	100.0	63	100.0

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

TABLE 3.0.9

2009 FIRE VEHICLE INVOLVED CRASHES

MONTH OF YEAR

MONTH	FREQUENCY	PERCENT
JANUARY	22	12.4
FEBRUARY	11	6.2
MARCH	14	7.9
APRIL	9	5.1
MAY	12	6.7
JUNE	14	7.9
JULY	18	10.1
AUGUST	15	8.4
SEPTEMBER	16	9.0
OCTOBER	19	10.7
NOVEMBER	7	3.9
DECEMBER	21	11.8
TOTAL	178	100.0

TABLE 3.0.10

2009 FIRE VEHICLE INVOLVED CRASHES

DAY OF WEEK

DAY	FREQUENCY	PERCENT
SUNDAY	19	10.7
MONDAY	24	13.5
TUESDAY	29	16.3
WEDNESDAY	16	9.0
THURSDAY	30	16.9
FRIDAY	33	18.5
SATURDAY	27	15.2
TOTAL	178	100.0

TABLE 3.0.11

2009 FIRE VEHICLE INVOLVED CRASHES

HOUR OF DAY

HOUR	FREQUENCY	PERCENT
12:01A - 12:59A	4	2.3
01:00A - 01:59A	1	0.6
02:00A - 02:59A	3	1.7
03:00A - 03:59A	5	2.8
04:00A - 04:59A	1	0.6
05:00A - 05:59A	2	1.1
06:00A - 06:59A	0	0.0
07:00A - 07:59A	4	2.3
08:00A - 08:59A	8	4.5
09:00A - 09:59A	17	9.6
10:00A - 10:59A	9	5.1
11:00A - 11:59A	17	9.6
NOON - 12:59P	14	7.9
01:00P - 01:59P	10	5.6
02:00P - 02:59P	5	2.8
03:00P - 03:59P	12	6.7
04:00P - 04:59P	12	6.7
05:00P - 05:59P	15	8.4
06:00P - 06:59P	12	6.7
07:00P - 07:59P	5	2.8
08:00P - 08:59P	7	3.9
09:00P - 09:59P	6	3.4
10:00P - 10:59P	7	3.9
11:00P - MIDNIGHT	2	1.1
TOTAL	178	100.0

TABLE 3.0.12

2009 MISSOURI FIRE VEHICLE CRASHES

TYPE OF CIRCUMSTANCE INVOLVED BY CRASH SEVERITY AND PERSON CLASSIFICATION¹

FATAL AND PERSONAL INJURY FIRE VEHICLE CRASHES = 26				TOTAL FIRE VEHICLE CRASHES = 178		
	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	3.8	3.8	1.1	1.7	2.8
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	0.6	0.6	1.1
EXCEEDING SPEED LIMIT / TOO FAST FOR CONDITIONS	19.2	23.1	42.3	5.6	6.7	12.4
IMPROPER PASSING	0.0	0.0	0.0	0.6	0.0	0.6
VIOLATION OF STOP SIGN	0.0	3.8	3.8	0.6	1.1	1.7
WRONG SIDE NOT PASSING	3.8	0.0	3.8	1.1	0.6	1.7
FOLLOWING TOO CLOSE	3.8	7.7	11.5	2.2	3.9	6.2
IMPROPER SIGNAL	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPER BACKING	3.8	0.0	3.8	8.4	0.6	9.0
IMPROPER TURN	0.0	3.8	3.8	4.5	0.6	5.1
IMPROPER LANE USAGE / CHANGE	11.5	0.0	11.5	2.8	3.4	6.2
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	0.6	0.0	0.6
IMPROPERLY PARKED	0.0	0.0	0.0	0.0	3.9	3.9
FAILED TO YIELD	3.8	19.2	23.1	2.2	11.8	13.5
DRINKING	0.0	0.0	0.0	0.6	1.1	1.7
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	15.4	19.2	30.8	21.3	12.9	33.7

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 2009 Missouri fire vehicle crashes, it was found that a fire vehicle driver was speeding in 5.6% of the crashes. In 6.7% of the crashes another driver was speeding. In 12.4% of the crashes either a fire vehicle driver, another driver, or both drivers were speeding.

TABLE 3.0.13

FIRE VEHICLES INVOLVED IN 2009 MISSOURI CRASHES

TYPE OF VEHICLE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AUTOMOBILE	0	0.0	1	4.4	7	4.6	8	4.4
SPORT UTILITY VEHICLE	0	0.0	2	8.7	12	7.8	14	7.8
VAN	0	0.0	0	0.0	1	0.7	1	0.6
MOTORCYCLE	0	0.0	1	4.4	1	0.7	2	1.1
ALL TERRAIN VEHICLE	0	0.0	0	0.0	1	0.7	1	0.6
OTHER TRANSPORT DEVICE	0	0.0	0	0.0	19	12.3	19	10.6
PICK-UP TRUCK	1	33.3	3	13.0	18	11.7	22	12.2
OTHER TRUCK	2	66.7	16	69.6	95	61.7	113	62.8
UNKNOWN	0	-	0	-	1	-	1	-
TOTAL	3	100.0	23	100.0	155	100.0	181	100.0

TABLE 3.0.14

FIRE VEHICLES INVOLVED IN 2009 MISSOURI CRASHES

DRIVER INVOLVEMENT BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
KNOWN DRIVER INVOLVED	3	100.0	23	100.0	154	99.4	180	99.5
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	1	0.7	1	0.6
TOTAL	3	100.0	23	100.0	155	100.0	181	100.0

TABLE 3.0.15

DRIVERS OF FIRE VEHICLES INVOLVED IN 2009 MISSOURI CRASHES

SEX OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	3	100.0	22	95.7	146	94.8	171	95.0
FEMALE	0	0.0	1	4.4	8	5.2	9	5.0
UNKNOWN	0	-	0	-	1	-	1	-
TOTAL	3	100.0	23	100.0	155	100.0	181	100.0

TABLE 3.0.16

DRIVERS OF FIRE VEHICLES INVOLVED IN 2009 MISSOURI CRASHES

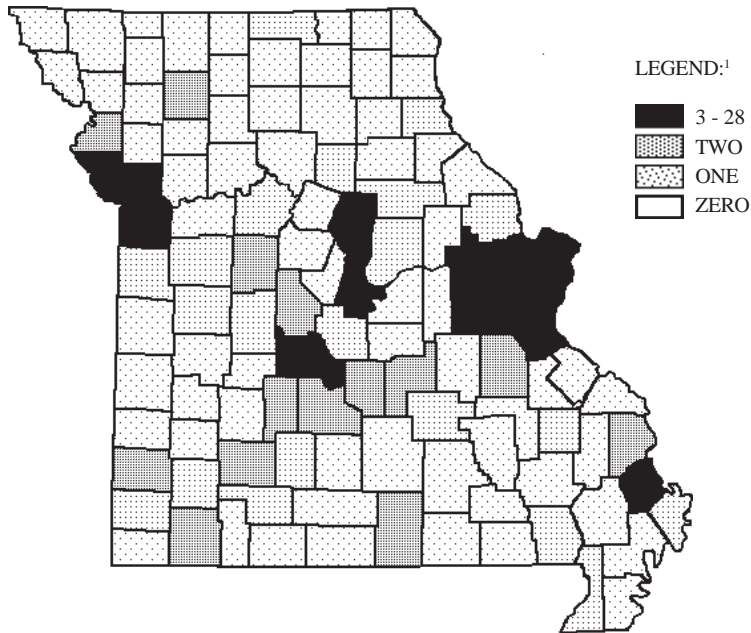
AGE OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	42.7	-	36.7	-	40.1	-	39.7	-
15 - 20 YEARS	0	0.0	1	4.4	1	0.7	2	1.1
21 - 25 YEARS	1	33.3	6	26.1	15	9.8	22	12.3
26 - 30 YEARS	0	0.0	0	0.0	21	13.7	21	11.7
31 - 35 YEARS	0	0.0	3	13.0	19	12.4	22	12.3
36 - 40 YEARS	0	0.0	3	13.0	25	16.3	28	15.6
41 - 45 YEARS	1	33.3	5	21.7	25	16.3	31	17.3
46 - 50 YEARS	0	0.0	2	8.7	21	13.7	23	12.9
51 - 55 YEARS	0	0.0	3	13.0	10	6.5	13	7.3
56 - 60 YEARS	0	0.0	0	0.0	7	4.6	7	3.9
61 - 65 YEARS	1	33.3	0	0.0	7	4.6	8	4.5
66 YEARS AND OVER	0	0.0	0	0.0	2	1.3	2	1.1
UNKNOWN	0	-	0	-	2	-	2	-
TOTAL	3	100.0	23	100.0	155	100.0	181	100.0

TABLE 3.0.17

2009 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	JACKSON	28	15.7	20.5	GREENE	2	1.1
2.0	ST. LOUIS CITY	27	15.2	20.5	HOWELL	2	1.1
3.0	ST. LOUIS	23	12.9	20.5	JASPER	2	1.1
4.0	JEFFERSON	10	5.6	20.5	LACLEDE	2	1.1
5.0	ST. CHARLES	8	4.5	20.5	MORGAN	2	1.1
6.0	FRANKLIN	6	3.4	20.5	PETTIS	2	1.1
7.5	BOONE	5	2.8	20.5	PHELPS	2	1.1
7.5	PLATTE	5	2.8	20.5	PULASKI	2	1.1
9.5	CLAY	4	2.2	20.5	WASHINGTON	2	1.1
9.5	COLE	4	2.2				
12.0	CAMDEN	3	1.7				Second Quartile
12.0	SCOTT	3	1.7				
12.0	WARREN	3	1.7				Third Quartile
			First Quartile	38.0	AUDRAIN	1	0.6
				38.0	BENTON	1	0.6
				38.0	BUTLER	1	0.6
			Second Quartile	38.0	CALLAWAY	1	0.6
20.5	BARRY	2	1.1	38.0	CASS	1	0.6
20.5	BUCHANAN	2	1.1	38.0	CHRISTIAN	1	0.6
20.5	CAPE GIRARDEAU	2	1.1	38.0	DENT	1	0.6
20.5	DALLAS	2	1.1	38.0	DUNKLIN	1	0.6
20.5	DAVISS	2	1.1	38.0	HENRY	1	0.6

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
38.0	JOHNSON	1	0.6	82.0	KNOX	0	0.0
38.0	LAWRENCE	1	0.6	82.0	LAFAYETTE	0	0.0
38.0	LINCOLN	1	0.6	82.0	LEWIS	0	0.0
38.0	MADISON	1	0.6	82.0	LINN	0	0.0
38.0	MARION	1	0.6	82.0	LIVINGSTON	0	0.0
38.0	MILLER	1	0.6	82.0	MC DONALD	0	0.0
38.0	MISSISSIPPI	1	0.6	82.0	MACON	0	0.0
38.0	NEWTON	1	0.6	82.0	MARIES	0	0.0
38.0	PUTNAM	1	0.6	82.0	MERCER	0	0.0
38.0	RANDOLPH	1	0.6	82.0	MONITEAU	0	0.0
38.0	SALINE	1	0.6	82.0	MONROE	0	0.0
38.0	WEBSTER	1	0.6	82.0	MONTGOMERY	0	0.0
Third Quartile				82.0	NEW MADRID	0	0.0
Fourth Quartile				82.0	NODAWAY	0	0.0
82.0	ADAIR	0	0.0	82.0	OREGON	0	0.0
82.0	ANDREW	0	0.0	82.0	OSAGE	0	0.0
82.0	ATCHISON	0	0.0	82.0	OZARK	0	0.0
82.0	BARTON	0	0.0	82.0	PEMISCOT	0	0.0
82.0	BATES	0	0.0	82.0	PERRY	0	0.0
82.0	BOLLINGER	0	0.0	82.0	PIKE	0	0.0
82.0	BOLDWELL	0	0.0	82.0	POLK	0	0.0
82.0	CARROLL	0	0.0	82.0	RALLS	0	0.0
82.0	CARTER	0	0.0	82.0	RAY	0	0.0
82.0	CEDAR	0	0.0	82.0	REYNOLDS	0	0.0
82.0	CHARITON	0	0.0	82.0	RIPLEY	0	0.0
82.0	CLARK	0	0.0	82.0	ST. CLAIR	0	0.0
82.0	CLINTON	0	0.0	82.0	ST. FRANCOIS	0	0.0
82.0	COOPER	0	0.0	82.0	STE. GENEVIEVE	0	0.0
82.0	CRAWFORD	0	0.0	82.0	SCHUYLER	0	0.0
82.0	DADE	0	0.0	82.0	SCOTLAND	0	0.0
82.0	DE KALB	0	0.0	82.0	SHANNON	0	0.0
82.0	DOUGLAS	0	0.0	82.0	SHELBY	0	0.0
82.0	GASCONADE	0	0.0	82.0	STODDARD	0	0.0
82.0	GENTRY	0	0.0	82.0	STONE	0	0.0
82.0	GRUNDY	0	0.0	82.0	SULLIVAN	0	0.0
82.0	HARRISON	0	0.0	82.0	TANEY	0	0.0
82.0	HICKORY	0	0.0	82.0	TEXAS	0	0.0
82.0	HOLT	0	0.0	82.0	VERNON	0	0.0
82.0	HOWARD	0	0.0	82.0	WAYNE	0	0.0
82.0	IRON	0	0.0	82.0	WORTH	0	0.0
				82.0	WRIGHT	0	0.0

TABLE 3.0.18

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.

2009 SUMMARY ANALYSIS

- In 2009, there were 168 traffic crashes involving one or more ambulances in the State of Missouri. Two people were killed and 79 were injured in these crashes.
- In 25.6% of the traffic crashes involving ambulances, the ambulance was on an emergency run at the time of the incident.
- In 2009, one person was killed or injured in an ambulance related crash every 4.5 days in the State of Missouri.
- Of all 2009 crashes involving ambulances, the first harmful event in 60.1% of the cases involved one motor vehicle in transport striking another motor vehicle in transport. In 12.5% of the cases a motor vehicle struck an animal, and in 8.9% of the cases, a motor vehicle struck a fixed object.
- Of all 2009 crashes involving ambulances, 67.3% occurred in an urban area of the State and 2.7% occurred in a rural area.
- Of all ambulance drivers involved in 2009 traffic crashes, 71.5% were male and 28.5% were female. The average age of the ambulance driver was 34.9 years.

2009 AMBULANCE INVOLVED CRASHES
EMERGENCY RUN STATUS

	FATAL	PERSONAL INJURY	PROPERTY DAMAGE	TOTAL	%	TOTAL NUMBER ¹ KILLED	AMBULANCE DRIVERS/PASSENGERS ²		
							INJURED	KILLED	INJURED
AMBULANCE ON RUN	1	6	36	43	25.6	1	15	1	12
AMBULANCE NOT ON RUN	1	39	85	125	74.4	1	64	1	45
TOTAL	2	45	121	168	100.0	2	79	2	57

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

2008 and 2009 AMBULANCE INVOLVED CRASH ANALYSIS

	2008	2009	RATE OF CHANGE
FATAL	2	2	=0.0
PERSONAL INJURY	22	45	+104.5
PROPERTY DAMAGE	125	121	-3.2
TOTAL	149	168	+12.7

TABLE 4.0.2

2009 AMBULANCE INVOLVED CRASHES

CRASH TYPE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
ANIMAL	0	0.0	0	0.0	21	17.4	21	12.5
BICYCLIST	1	50.0	3	6.7	1	0.8	5	3.0
FIXED OBJECT	0	0.0	4	8.9	11	9.1	15	8.9
OTHER OBJECT	0	0.0	0	0.0	3	2.5	3	1.8
PEDESTRIAN	0	0.0	1	2.2	0	0.0	1	0.6
VEHICLE IN TRANSPORT	0	0.0	35	77.8	66	54.6	101	60.1
PARKED VEHICLE	0	0.0	2	4.4	18	14.9	20	11.9
NON-COLLISION OTHER	1	50.0	0	0.0	1	0.8	2	1.2
TOTAL	2	100.0	45	100.0	121	100.0	168	100.0

TABLE 4.0.3

2009 AMBULANCE INVOLVED CRASHES

AREA CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	1	50.0	37	82.2	75	62.0	113	67.3
RURAL	1	50.0	8	17.8	46	38.0	55	32.7
TOTAL	2	100.0	45	100.0	121	100.0	168	100.0

TABLE 4.0.4

2009 AMBULANCE INVOLVED CRASHES

ROAD CURVATURE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	2	100.0	43	95.6	101	85.6	146	88.5
CURVE	0	0.0	2	4.4	17	14.4	19	11.5
UNKNOWN	0	-	0	-	3	-	3	-
TOTAL	2	100.0	45	100.0	121	100.0	168	100.0

TABLE 4.0.5

2009 AMBULANCE INVOLVED CRASHES

ROAD INCLINE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	1	50.0	35	77.8	81	69.2	117	71.3
HILL	1	50.0	9	20.0	33	28.2	43	26.2
CREST	0	0.0	1	2.2	3	2.6	4	2.4
UNKNOWN	0	-	0	-	4	-	4	-
TOTAL	2	100.0	45	100.0	121	100.0	168	100.0

TABLE 4.0.6

2009 AMBULANCE INVOLVED CRASHES
ROAD CONDITIONS BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	2	100.0	41	91.1	95	78.5	138	82.1
WET	0	0.0	3	6.7	20	16.5	23	13.7
SNOW	0	0.0	0	0.0	3	2.5	3	1.8
ICE	0	0.0	1	2.2	3	2.5	3	2.4
TOTAL	2	100.0	45	100.0	121	100.0	168	100.0

TABLE 4.0.7

2009 AMBULANCE INVOLVED CRASHES
HIGHWAY CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	1	50.0	2	4.4	9	7.4	12	7.1
U.S. HIGHWAY	0	0.0	1	2.2	19	15.7	20	11.9
STATE NUMBERED	0	0.0	4	8.9	18	14.9	22	13.1
SINGLE STATE LETTERED	0	0.0	3	6.7	7	5.8	10	6.0
DOUBLE STATE LETTERED	0	0.0	0	0.0	4	3.3	4	2.4
COUNTY ROAD	0	0.0	0	0.0	4	3.3	4	2.4
CITY STREET	1	50.0	35	77.8	56	46.3	92	54.8
OTHER ¹	0	0.0	0	0.0	4	3.3	4	2.4
TOTAL	2	100.0	45	100.0	121	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

2009 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	5.4	5	6.7	7	6.2	1	100.0	0	0.0	4	8.7	5	9.1
U.S. HIGHWAY	0	0.0	1	2.7	4	5.3	5	4.4	0	0.0	0	0.0	15	32.6	15	27.3
STATE NUMBERED	0	0.0	2	5.4	10	13.3	12	10.6	0	0.0	2	25.0	8	17.4	10	18.2
SINGLE STATE LETTERED	0	0.0	1	2.7	2	2.7	3	2.7	0	0.0	2	25.0	5	10.9	7	12.7
DOUBLE STATE LETTERED	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	8.7	4	7.3
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	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	8.7	4	7.3
CITY STREET	1	100.0	31	83.8	50	66.7	82	72.6	0	0.0	4	50.0	6	13.0	10	18.2
OTHER ¹	0	0.0	0	0.0	4	5.3	4	3.5	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	1	100.0	37	100.0	75	100.0	113	100.0	1	100.0	8	100.0	46	100.0	55	100.0

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

TABLE 4.0.9

2009 AMBULANCE INVOLVED CRASHES

MONTH OF YEAR

MONTH	FREQUENCY	PERCENT
JANUARY	20	11.9
FEBRUARY	13	7.7
MARCH	11	6.6
APRIL	10	6.0
MAY	9	5.4
JUNE	16	9.5
JULY	14	8.3
AUGUST	19	11.3
SEPTEMBER	14	8.3
OCTOBER	15	8.9
NOVEMBER	17	10.1
DECEMBER	10	6.0
TOTAL	168	100.0

TABLE 4.0.10

2009 AMBULANCE INVOLVED CRASHES

DAY OF WEEK

DAY	FREQUENCY	PERCENT
SUNDAY	16	9.5
MONDAY	25	14.9
TUESDAY	27	16.1
WEDNESDAY	13	7.7
THURSDAY	21	12.5
FRIDAY	37	22.0
SATURDAY	29	17.3
TOTAL	168	100.0

TABLE 4.0.11

2009 AMBULANCE INVOLVED CRASHES

HOUR OF DAY

HOUR	FREQUENCY	PERCENT
12:01A - 12:59A	0	0.0
01:00A - 01:59A	3	1.8
02:00A - 02:59A	4	2.4
03:00A - 03:59A	2	1.2
04:00A - 04:59A	3	1.8
05:00A - 05:59A	2	1.2
06:00A - 06:59A	2	1.2
07:00A - 07:59A	6	3.6
08:00A - 08:59A	8	4.8
09:00A - 09:59A	6	3.6
10:00A - 10:59A	5	3.0
11:00A - 11:59A	10	6.0
NOON - 12:59P	7	4.2
01:00P - 01:59P	13	7.8
02:00P - 02:59P	9	5.4
03:00P - 03:59P	10	6.0
04:00P - 04:59P	6	3.6
05:00P - 05:59P	13	7.8
06:00P - 06:59P	15	9.0
07:00P - 07:59P	7	4.2
08:00P - 08:59P	12	7.2
09:00P - 09:59P	12	7.2
10:00P - 10:59P	9	5.4
11:00P - MIDNIGHT	3	1.8
UNKNOWN	1	--
TOTAL	168	100.0

TABLE 4.0.12

2009 MISSOURI AMBULANCE CRASHES

TYPE OF CIRCUMSTANCE INVOLVED BY CRASH SEVERITY AND PERSON CLASSIFICATION¹

	FATAL AND PERSONAL INJURY AMBULANCE CRASHES = 47			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	0.6	1.2	1.8
TRAFFIC CONTROL INOPERATIVE / MISSING	0.0	0.0	0.0	0.6	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	8.5	0.0	8.5	5.4	1.8	7.1
IMPROPER PASSING	0.0	0.0	0.0	1.2	1.2	1.8
VIOLATION OF STOP SIGN	8.5	4.3	12.8	2.4	2.4	4.8
WRONG SIDE NOT PASSING	0.0	6.4	6.4	0.6	3.6	4.2
FOLLOWING TOO CLOSE	8.5	4.3	12.8	4.2	3.0	7.1
IMPROPER SIGNAL	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPER BACKING	0.0	0.0	0.0	1.2	0.6	1.8
IMPROPER TURN	0.0	0.0	0.0	1.2	0.6	1.8
IMPROPER LANE USAGE / CHANGE	6.4	2.1	8.5	5.4	2.4	7.7
WRONG WAY ONE-WAY STREET	0.0	0.0	0.0	0.6	0.0	0.6
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	8.5	21.3	27.7	4.8	14.3	17.9
DRINKING	2.1	4.3	6.4	0.6	1.2	1.8
DRUGS	0.0	0.0	0.0	0.0	0.0	0.0
PHYSICAL IMPAIRMENT	4.3	2.1	6.4	1.2	0.6	1.8
INATTENTION	14.9	12.8	27.7	12.5	11.9	23.8

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 2009 Missouri ambulance crashes, it was found that an ambulance driver was speeding in 5.4% of the crashes. In 1.8% of the crashes another driver was speeding. In 7.1% of the crashes either an ambulance driver, another driver, or both drivers were speeding.

TABLE 4.0.13

AMBULANCE VEHICLES INVOLVED IN 2009 MISSOURI CRASHES

TYPE OF VEHICLE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AUTOMOBILE	0	0.0	16	32.0	4	3.3	20	11.6
SPORT UTILITY VEHICLE	0	0.0	1	2.0	2	1.7	3	1.7
VAN	0	0.0	9	18.0	38	31.7	47	27.3
MOTORCYCLE	0	0.0	2	4.0	0	0.0	2	1.2
MOPED	0	0.0	1	2.0	0	0.0	1	0.6
BICYCLE	1	50.0	2	4.0	0	0.0	3	1.7
OTHER TRANSPORT DEVICE	0	0.0	6	12.0	32	26.7	38	22.1
PICK-UP TRUCK	0	0.0	5	10.0	2	1.7	7	4.1
OTHER TRUCK	1	50.0	8	16.0	42	35.0	51	29.7
UNKNOWN	0	-	0	-	3	-	3	-
TOTAL	2	100.0	50	100.0	123	100.0	175	100.0

TABLE 4.0.14

AMBULANCES INVOLVED IN 2009 MISSOURI CRASHES

DRIVER INVOLVEMENT BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
KNOWN DRIVER INVOLVED	2	100.0	48	96.0	122	99.2	172	98.3
UNKNOWN DRIVER INVOLVED	0	0.0	2	4.0	1	0.8	3	1.7
TOTAL	2	100.0	50	100.0	123	100.0	175	100.0

TABLE 4.0.15

DRIVERS OF AMBULANCES INVOLVED IN 2009 MISSOURI CRASHES

SEX OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	2	100.0	30	62.5	91	74.6	123	71.5
FEMALE	0	0.0	18	37.5	31	25.4	49	28.5
UNKNOWN	0	-	2	-	1	-	3	-
TOTAL	2	100.0	50	100.0	123	100.0	175	100.0

TABLE 4.0.16

DRIVERS OF AMBULANCES INVOLVED IN 2009 MISSOURI CRASHES

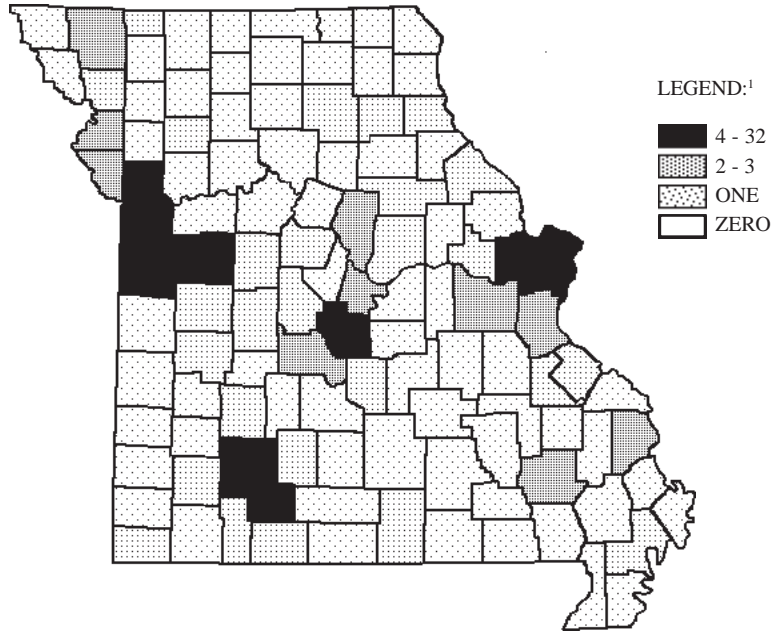
AGE OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	37.0	-	37.7	-	33.8	-	34.9	-
14 YEARS AND UNDER	1	50.0	0	0.0	0	0.0	1	0.6
15 - 20 YEARS	0	0.0	5	10.6	3	2.5	8	4.7
21 - 25 YEARS	0	0.0	9	19.2	22	18.0	31	18.1
26 - 30 YEARS	0	0.0	6	12.8	28	23.0	34	19.9
31 - 35 YEARS	0	0.0	3	6.4	20	16.4	23	13.5
36 - 40 YEARS	0	0.0	5	10.6	22	18.0	27	15.8
41 - 45 YEARS	0	0.0	3	6.4	12	9.8	15	8.8
46 - 50 YEARS	0	0.0	6	12.8	5	4.1	11	6.4
51 - 55 YEARS	0	0.0	4	8.5	7	5.7	11	6.4
56 - 60 YEARS	1	50.0	4	8.5	2	1.6	7	4.1
61 - 65 YEARS	0	0.0	1	2.1	1	0.8	2	1.2
66 YEARS AND OVER	0	0.0	1	2.1	0	0.0	1	0.6
UNKNOWN	0	-	3	-	1	-	4	-
TOTAL	2	100.0	50	100.0	123	100.0	175	100.0

TABLE 4.0.17

2009 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	32	19.0	18.0	COLE	2	1.2
2.5	GREENE	24	14.3	18.0	FRANKLIN	2	1.2
2.5	ST. LOUIS	24	14.3	18.0	NODAWAY	2	1.2
4.0	JACKSON	10	6.0	Second Quartile			
5.5	CLAY	5	3.0	-----			
5.5	ST. CHARLES	5	3.0	Third Quartile			
8.5	CASS	4	2.4	34.0	ANDREW	1	0.6
8.5	CHRISTIAN	4	2.4	34.0	AUDRAIN	1	0.6
8.5	JOHNSON	4	2.4	34.0	BENTON	1	0.6
8.5	MILLER	4	2.4	34.0	CALDWELL	1	0.6
First Quartile				34.0	CALLAWAY	1	0.6
-----				34.0	COOPER	1	0.6
Second Quartile				34.0	HENRY	1	0.6
13.0	BOONE	3	1.8	34.0	HOWELL	1	0.6
13.0	BUCHANAN	3	1.8	34.0	LAWRENCE	1	0.6
13.0	JEFFERSON	3	1.8	34.0	MC DONALD	1	0.6
13.0	PLATTE	3	1.8	34.0	MACON	1	0.6
13.0	WAYNE	3	1.8	34.0	MARION	1	0.6
18.0	CAMDEN	2	1.2	34.0	MORGAN	1	0.6
18.0	CAPE GIRARDEAU	2	1.2	34.0	NEW MADRID	1	0.6

RANK	COUNTY	FREQUENCY	PERCENT	RANK	COUNTY	FREQUENCY	PERCENT
34.0	PETTIS	1	0.6	81.5	HOLT	0	0.0
34.0	PIKE	1	0.6	81.5	HOWARD	0	0.0
34.0	POLK	1	0.6	81.5	IRON	0	0.0
34.0	PULASKI	1	0.6	81.5	JASPER	0	0.0
34.0	ST. CLAIR	1	0.6	81.5	LAFAYETTE	0	0.0
34.0	ST. FRANCOIS	1	0.6	81.5	LEWIS	0	0.0
34.0	STE. GENEVIEVE	1	0.6	81.5	LINCOLN	0	0.0
34.0	SHELBY	1	0.6	81.5	NEWTON	0	0.0
34.0	STONE	1	0.6	81.5	OREGON	0	0.0
34.0	TANEY	1	0.6	81.5	PERRY	0	0.0
34.0	WARREN	1	0.6	81.5	PHELPS	0	0.0
34.0	WEBSTER	1	0.6	81.5	REYNOLDS	0	0.0
34.0	WORTH	1	0.6	81.5	TEXAS	0	0.0
Third Quartile				81.5	VERNON	0	0.0
Fourth Quartile				81.5	LACLEDE	0	0.0
81.5	ADAIR	0	0.0	81.5	OSAGE	0	0.0
81.5	ATCHISON	0	0.0	81.5	PEMISCOT	0	0.0
81.5	BARRY	0	0.0	81.5	KNOX	0	0.0
81.5	BARTON	0	0.0	81.5	LINN	0	0.0
81.5	BATES	0	0.0	81.5	LIVINGSTON	0	0.0
81.5	BOLLINGER	0	0.0	81.5	MADISON	0	0.0
81.5	BUTLER	0	0.0	81.5	MARIES	0	0.0
81.5	CARROLL	0	0.0	81.5	MERCER	0	0.0
81.5	CARTER	0	0.0	81.5	MISSISSIPPI	0	0.0
81.5	CEDAR	0	0.0	81.5	MONITEAU	0	0.0
81.5	CHARITON	0	0.0	81.5	MONROE	0	0.0
81.5	CLARK	0	0.0	81.5	MONTGOMERY	0	0.0
81.5	CLINTON	0	0.0	81.5	OZARK	0	0.0
81.5	CRAWFORD	0	0.0	81.5	PUTNAM	0	0.0
81.5	DADE	0	0.0	81.5	RALLS	0	0.0
81.5	DALLAS	0	0.0	81.5	RANDOLPH	0	0.0
81.5	DAVISS	0	0.0	81.5	RAY	0	0.0
81.5	DE KALB	0	0.0	81.5	RIPLEY	0	0.0
81.5	DENT	0	0.0	81.5	SALINE	0	0.0
81.5	DOUGLAS	0	0.0	81.5	SCHUYLER	0	0.0
81.5	DUNKLIN	0	0.0	81.5	SCOTLAND	0	0.0
81.5	GASCONADE	0	0.0	81.5	SCOTT	0	0.0
81.5	GENTRY	0	0.0	81.5	SHANNON	0	0.0
81.5	GRUNDY	0	0.0	81.5	STODDARD	0	0.0
81.5	HARRISON	0	0.0	81.5	SULLIVAN	0	0.0
81.5	HICKORY	0	0.0	81.5	WASHINGTON	0	0.0
				81.5	WRIGHT	0	0.0

TABLE 4.0.18

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.