3.8 BICYCLE INVOLVEMENT

This section presents a series of data displays which identify bicycle involvement in Missouri's traffic crash experience. Bicycle involved traffic crashes are defined as any crash in which one or more bicycles were directly involved in the incident. Data displays also are provided which describe characteristics of the bicyclist as well as other drivers and vehicles involved in the traffic crash.

2002 SUMMARY ANALYSIS

- Of all 2002 Missouri traffic crashes, 0.4% involved a bicycle. Of all fatal traffic crashes, 1.5% involved a bicycle. A total of 16 persons were killed and 641 were injured in these traffic crashes.
- There was a decrease of 3.6% in the rate of change when comparing total 2002 bicycle-related traffic crashes with those in 2001. There was an increase of 166.7% when comparing fatal 2002 bicycle-related crashes with 2001.
- In 2002, one person was killed or injured in a bicycle traffic crash every 13.3 hours in the State of Missouri.
- Of all 2002 bicycle traffic crashes, 75.6% occurred in an urban area and 24.4% occurred in a rural area of the State.
- Of all 2002 bicycle traffic crashes, 69.7% occurred on a city street.
- Of all 2002 bicycle traffic crashes, 73.7% occurred from April through September.
- Of all bicycle drivers involved in traffic crashes, 84.1% were male and 15.9% were female. The average age of bicycle drivers was 20.6 years.
- Of all other types of vehicles involved in bicycle crashes, 66.6% were automobiles and 15.6% were pickup trucks.

2002 MISSOURI TRAFFIC CRASHES

BICYCLE INVOLVEMENT

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%	TOTAL NUMBER[1] KILLED	TOTAL NUMBER[1] INJURED	BICYCLE DRIVERS/PASSENGERS[2] KILLED	BICYCLE DRIVERS/PASSENGERS[2] INJURED
BICYCLE INVOLVED	16	1.5	617	1.3	122	0.1	755	0.4	16	641	16	629
NO BICYCLE INVOLVED	1,059	98.5	47,109	98.7	130,975	99.9	179,143	99.6	1,184	71,625	-	-
UNKNOWN[3]	7	-	247	-	5,634	-	5,888	-	8	333	-	-
TOTAL	1,082	100.0	47,973	100.0	136,731	100.0	185,786	100.0	1,208	72,599	16	629

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

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

[3]Crashes were classified as unknown if the following conditions exist: none of the vehicles involved in the crash was a bicycle and the body type of one or more vehicles involved in the accident was not known.

TABLE 3.8.1

2001 and 2002 BICYCLE INVOLVED CRASH ANALYSIS

	2001	2002	RATE OF CHANGE
FATAL	6	16	+ 166.7
PERSONAL INJURY	634	617	- 2.7
PROPERTY DAMAGE	143	122	- 14.7
TOTAL	783	755	- 3.6

TABLE 3.8.2

2002 BICYCLE INVOLVED CRASHES

AREA CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
URBAN	8	50.0	469	76.0	94	77.0	571	75.6
RURAL	8	50.0	148	24.0	28	23.0	184	24.4
TOTAL	16	100.0	617	100.0	122	100.0	755	100.0

TABLE 3.8.3

2002 BICYCLE INVOLVED CRASHES

ROAD CURVATURE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
STRAIGHT	15	93.8	588	95.9	115	97.5	718	96.1
CURVE	1	6.2	25	4.1	3	2.5	29	3.9
UNKNOWN	0	-	4	-	4	-	8	-
TOTAL	16	100.0	617	100.0	122	100.0	755	100.0

TABLE 3.8.4

2002 BICYCLE INVOLVED CRASHES

ROAD INCLINE BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
LEVEL	8	50.0	436	71.6	96	82.1	540	72.8
HILL	7	43.8	156	25.6	19	16.2	182	24.5
CREST	1	6.2	17	2.8	2	1.7	20	2.7
UNKNOWN	0	-	8	-	5	-	13	-
TOTAL	16	100.0	617	100.0	122	100.0	755	100.0

TABLE 3.8.5

2002 BICYCLE INVOLVED CRASHES

ROAD CONDITIONS BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
DRY	15	93.8	587	95.6	110	90.9	712	94.8
WET	1	6.2	27	4.4	11	9.1	39	5.2
SNOW	0	0.0	0	0.0	0	0.0	0	0.0
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	-	3	-	1	-	4	-
TOTAL	16	100.0	617	100.0	122	100.0	755	100.0

TABLE 3.8.6

2002 BICYCLE INVOLVED CRASHES

HIGHWAY CLASSIFICATION BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
INTERSTATE	0	0.0	1	0.2	0	0.0	1	0.1
U.S. HIGHWAY	0	0.0	16	2.6	4	3.3	20	2.7
STATE NUMBERED	5	31.2	51	8.3	7	5.7	63	8.3
SINGLE STATE LETTERED	3	18.8	19	3.1	3	2.5	25	3.3
DOUBLE STATE LETTERED	0	0.0	10	1.6	0	0.0	10	1.3
OUTER ROAD	0	0.0	3	0.5	0	0.0	3	0.4
COUNTY ROAD	2	12.5	62	10.1	10	8.2	74	9.8
CITY STREET	6	37.5	428	69.4	92	75.4	526	69.7
INTERSTATE LOOP	0	0.0	2	0.3	0	0.0	2	0.3
OTHER[1]	0	0.0	25	4.1	6	4.9	31	4.1
TOTAL	16	100.0	617	100.0	122	100.0	755	100.0

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

TABLE 3.8.7

2002 MISSOURI BICYCLE INVOLVED CRASHES
MONTH OF YEAR

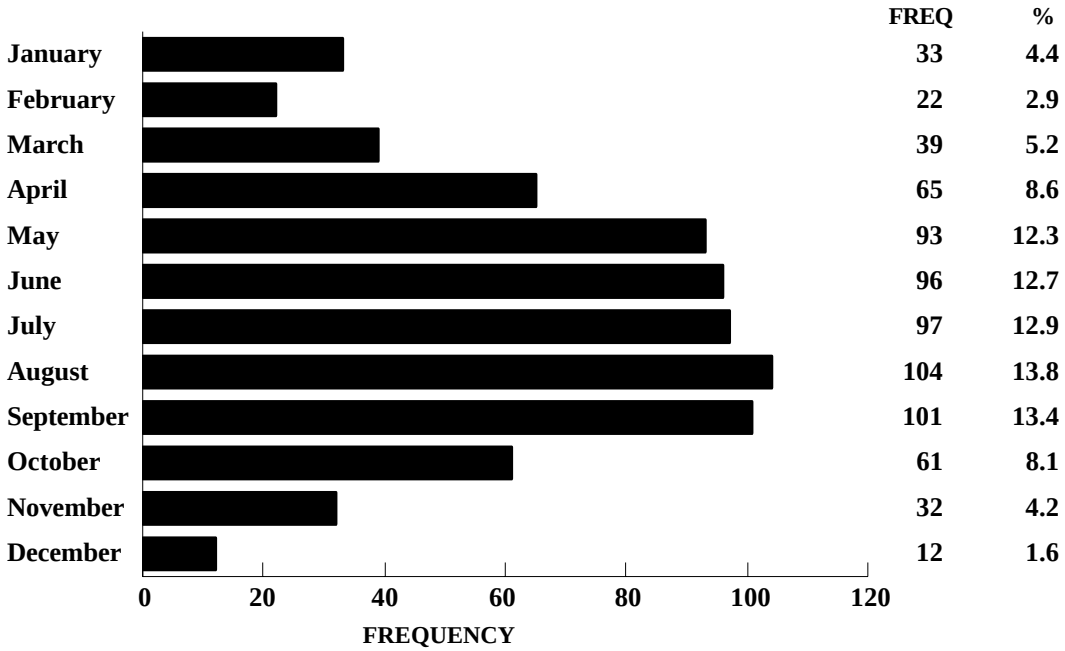


FIGURE 3.8.1

2002 MISSOURI BICYCLE INVOLVED CRASHES
DAY OF WEEK

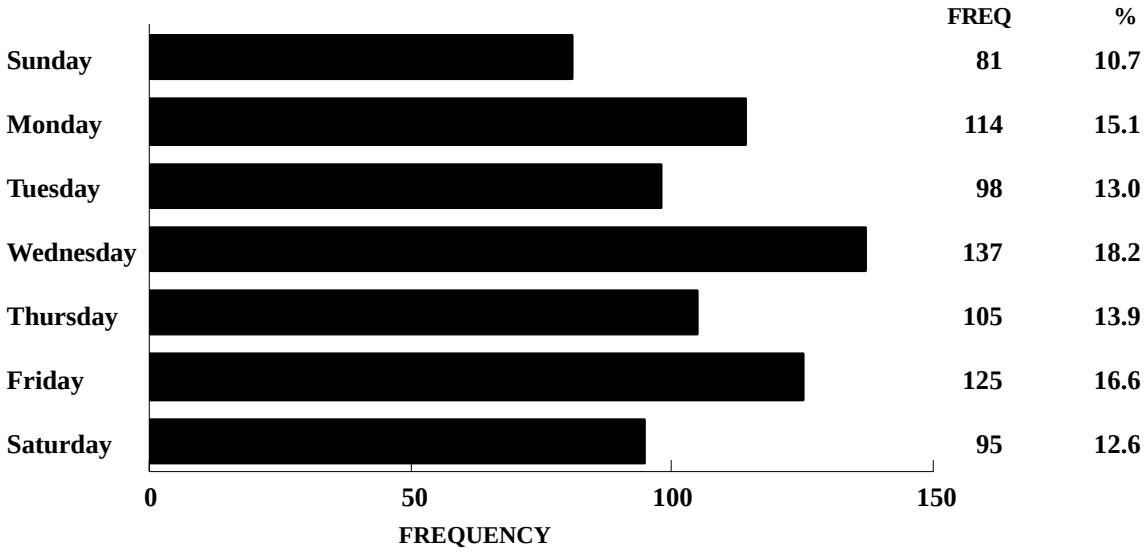
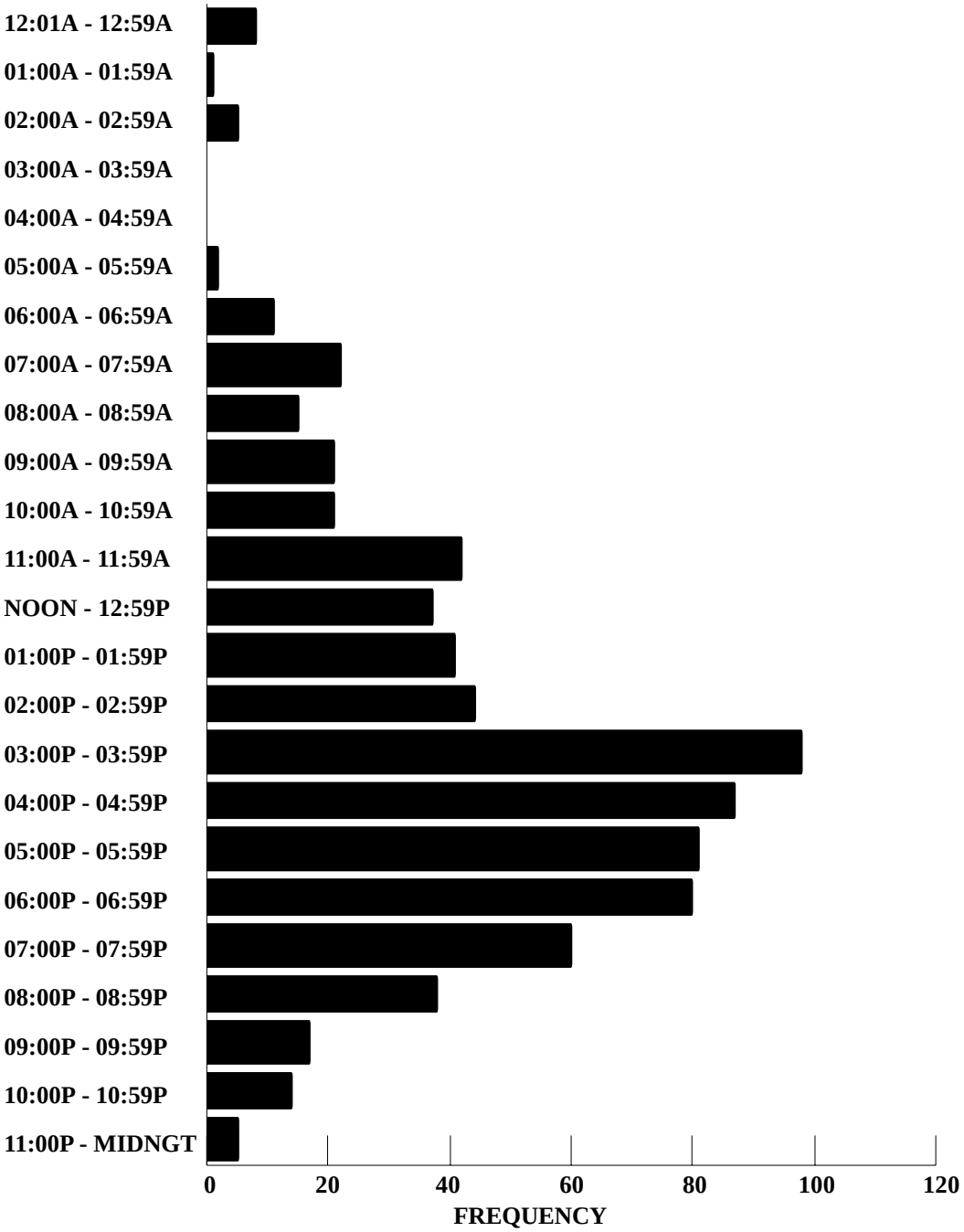


FIGURE 3.8.2

2002 MISSOURI BICYCLE INVOLVED CRASHES
HOUR OF DAY



	FREQ	%
12:01A - 12:59A	8	1.1
01:00A - 01:59A	1	0.1
02:00A - 02:59A	5	0.7
03:00A - 03:59A	0	0.0
04:00A - 04:59A	0	0.0
05:00A - 05:59A	2	0.3
06:00A - 06:59A	11	1.5
07:00A - 07:59A	22	2.9
08:00A - 08:59A	15	2.0
09:00A - 09:59A	21	2.8
10:00A - 10:59A	21	2.8
11:00A - 11:59A	42	5.6
NOON - 12:59P	37	4.9
01:00P - 01:59P	41	5.5
02:00P - 02:59P	44	5.9
03:00P - 03:59P	98	13.1
04:00P - 04:59P	87	11.6
05:00P - 05:59P	81	10.8
06:00P - 06:59P	80	10.7
07:00P - 07:59P	60	8.0
08:00P - 08:59P	38	5.1
09:00P - 09:59P	17	2.3
10:00P - 10:59P	14	1.9
11:00P - MIDNGT	5	0.7

Unknown Data Not Included

FIGURE 3.8.3

2002 MISSOURI BICYCLE CRASHES

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

	FATAL BICYCLE CRASHES = 16			TOTAL BICYCLE CRASHES = 755		
	BICYCLE DRIVER/VEH.	OTHER DRIVER/ VEHICLE/PED.	TOTAL FATAL	BICYCLE DRIVER/VEH.	OTHER DRIVER/ VEHICLE/PED.	TOTAL CRASHES
VEHICLE DEFECTS	0.0	0.0	0.0	4.9	0.4	5.3
TRAFFIC CONTROL INOPERATIVE / MISSING	0.0	0.0	0.0	0.0	0.0	0.0
IMPROPERLY STOPPED ON ROADWAY	0.0	0.0	0.0	0.0	0.0	0.0
EXCEEDING SPEED LIMIT / TOO FAST FOR CONDITIONS	6.3	6.3	12.5	2.1	2.8	4.9
IMPROPER PASSING	0.0	0.0	0.0	0.8	1.2	2.0
VIOLATION OF STOP SIGN	6.3	0.0	6.3	10.1	1.3	11.3
WRONG SIDE NOT PASSING	12.5	0.0	12.5	3.8	0.5	4.2
FOLLOWING TOO CLOSE	0.0	0.0	0.0	0.1	0.8	0.9
IMPROPER SIGNAL	6.3	0.0	6.3	0.4	0.1	0.5
IMPROPER BACKING	0.0	0.0	0.0	0.0	0.1	0.1
IMPROPER TURN	0.0	0.0	0.0	1.6	1.6	3.2
IMPROPER LANE USAGE / CHANGE	25.0	0.0	25.0	6.0	1.1	6.9
WRONG WAY ONE-WAY STREET	0.0	0.0	0.0	0.5	0.1	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	0.1	0.0	0.1
FAILED TO YIELD	31.3	6.3	37.5	26.9	15.5	40.4
DRINKING	12.5	6.3	18.8	1.3	0.9	2.2
DRUGS	0.0	0.0	0.0	0.1	0.1	0.2
PHYSICAL IMPAIRMENT	0.0	0.0	0.0	0.1	0.1	0.2
INATTENTION	25.0	12.5	31.3	27.5	18.3	38.3

[1]This table identifies the percentage of bicycle crashes 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 bicyclist or his bicycle as well as those attributed to other persons and vehicles in the crash. For instance, when examining driver failure to yield in 2002 Missouri bicycle crashes, it was found that a bicyclist failed to yield in 26.9% of the crashes. In 15.5% of the crashes another driver failed to yield. In 40.4% of the crashes either a bicyclist, another driver, or both drivers failed to yield.

TABLE 3.8.8

BICYCLES 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	16	100.0	623	100.0	119	97.5	758	99.6
UNKNOWN DRIVER INVOLVED	0	0.0	0	0.0	3	2.5	3	0.4
TOTAL	16	100.0	623	100.0	122	100.0	761	100.0

TABLE 3.8.9

BICYCLE DRIVERS INVOLVED IN 2002 MISSOURI CRASHES

SEX OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
MALE	16	100.0	518	83.1	101	87.1	635	84.1
FEMALE	0	0.0	105	16.9	15	12.9	120	15.9
UNKNOWN	0	-	0	-	6	-	6	-
TOTAL	16	100.0	623	100.0	122	100.0	761	100.0

TABLE 3.8.10

BICYCLE DRIVERS INVOLVED IN 2002 MISSOURI CRASHES

AGE OF DRIVER BY CRASH SEVERITY

	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AVERAGE AGE OF DRIVER	27.9	-	20.3	-	21.3	-	20.6	-
5 YEARS AND UNDER	0	0.0	14	2.3	2	2.0	16	2.2
6 - 10 YEARS	1	6.3	141	23.0	12	12.0	154	21.2
11 - 15 YEARS	6	37.5	185	30.2	31	31.0	222	30.5
16 - 20 YEARS	1	6.3	73	11.9	21	21.0	95	13.1
21 - 25 YEARS	1	6.3	44	7.2	8	8.0	53	7.3
26 - 30 YEARS	1	6.3	27	4.4	8	8.0	36	5.0
31 - 35 YEARS	0	0.0	16	2.6	3	3.0	19	2.6
36 - 40 YEARS	2	12.5	32	5.2	3	3.0	37	5.1
41 - 45 YEARS	1	6.3	33	5.4	2	2.0	36	5.0
46 - 50 YEARS	1	6.3	23	3.8	2	2.0	26	3.6
51 - 55 YEARS	0	0.0	10	1.6	7	7.0	17	2.3
56 - 60 YEARS	1	6.3	3	0.5	1	1.0	5	0.7
61 - 65 YEARS	1	6.3	3	0.5	0	0.0	4	0.6
66 YEARS AND OVER	0	0.0	8	1.3	0	0.0	8	1.1
UNKNOWN	0	-	11	-	22	-	33	-
TOTAL	16	100.0	623	100.0	122	100.0	761	100.0

TABLE 3.8.11

2002 BICYCLE INVOLVED CRASHES[1]

OTHER TYPES OF VEHICLES INVOLVED BY CRASH SEVERITY

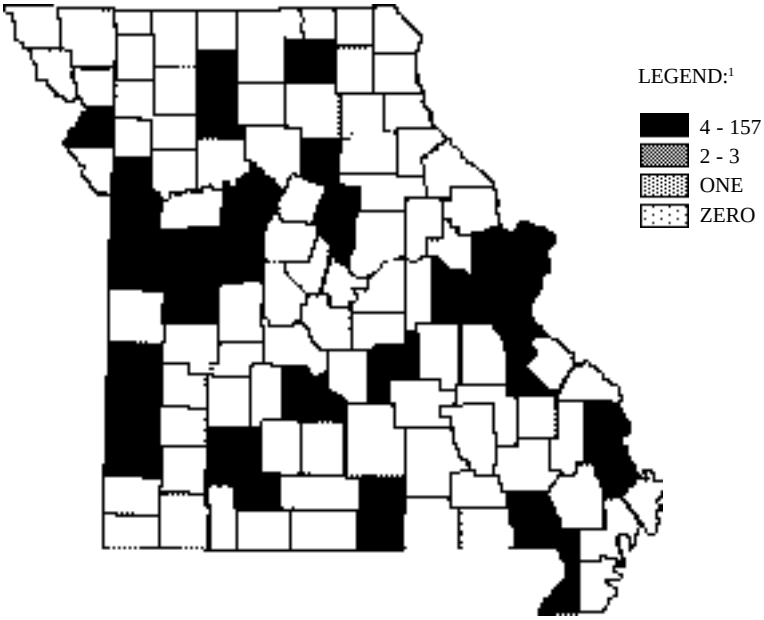
	FATAL	%	PERSONAL INJURY	%	PROPERTY DAMAGE	%	TOTAL	%
AUTOMOBILE	8	50.0	394	64.3	98	80.3	500	66.6
SPORT UTILITY VEHICLE	1	6.3	60	9.8	6	4.9	67	8.9
LIMOUSINE	0	0.0	0	0.0	0	0.0	0	0.0
VAN	0	0.0	40	6.5	5	4.1	45	6.0
BUS	0	0.0	4	0.7	1	0.8	5	0.7
SCHOOL BUS	0	0.0	4	0.7	0	0.0	4	0.5
MOTORCYCLE	0	0.0	5	0.8	0	0.0	5	0.7
MOPED	0	0.0	0	0.0	0	0.0	0	0.0
MOTOR HOME / CAMPER	0	0.0	0	0.0	0	0.0	0	0.0
FARM EQUIPMENT	0	0.0	0	0.0	0	0.0	0	0.0
CONSTRUCTION EQUIPMENT	0	0.0	0	0.0	0	0.0	0	0.0
OTHER TRANSPORT DEVICE	0	0.0	0	0.0	0	0.0	0	0.0
PICKUP TRUCK	6	37.5	99	16.1	12	9.8	117	15.6
OTHER TRUCKS	1	6.3	7	1.1	0	0.0	8	1.1
ALL TERRAIN VEHICLE	0	0.0	0	0.0	0	0.0	0	0.0
UNKNOWN	0	-	5	-	0	-	5	-
TOTAL	16	100.0	618	100.0	122	100.0	756	100.0

[1]This table includes all vehicle types (excluding bicycles) involved in bicycle crashes.

TABLE 3.8.12

2002 BICYCLE INVOLVED CRASHES

COUNTY QUARTILE ANALYSIS



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

RANK	COUNTY	FREQUENCY	PERCENT
1.0	ST. LOUIS	157	20.8
2.0	ST. LOUIS CITY	110	14.6
3.0	JACKSON	101	13.4
4.0	GREENE	37	4.9
5.0	BOONE	35	4.6
6.0	ST. CHARLES	33	4.4
7.0	BUCHANAN	24	3.2
8.0	JASPER	22	2.9
9.5	BUTLER	10	1.3
9.5	PETTIS	10	1.3
11.0	JEFFERSON	9	1.2
13.5	CAPE GIRARDEAU	8	1.1
13.5	CASS	8	1.1
13.5	HENRY	8	1.1
13.5	ST. FRANCOIS	8	1.1
16.5	SCOTT	7	0.9
16.5	VERNON	7	0.9
19.0	ADAIR	6	0.8
19.0	DUNKLIN	6	0.8
19.0	RANDOLPH	6	0.8
23.5	BARTON	5	0.7
23.5	CHRISTIAN	5	0.7
23.5	FRANKLIN	5	0.7
23.5	GRUNDY	5	0.7
23.5	HOWELL	5	0.7
23.5	SALINE	5	0.7
29.0	CLAY	4	0.5
29.0	JOHNSON	4	0.5
29.0	LACLEDE	4	0.5
29.0	LIVINGSTON	4	0.5
29.0	PHELPS	4	0.5
			First Quartile
			Second Quartile
37.0	BARRY	3	0.4
37.0	BATES	3	0.4
37.0	CLINTON	3	0.4
37.0	COLE	3	0.4
37.0	CRAWFORD	3	0.4
37.0	LAWRENCE	3	0.4

RANK	COUNTY	FREQUENCY	PERCENT
37.0	MARION	3	0.4
37.0	MORGAN	3	0.4
37.0	PLATTE	3	0.4
37.0	STODDARD	3	0.4
37.0	WARREN	3	0.4
51.5	ANDREW	2	0.3
51.5	AUDRAIN	2	0.3
51.5	BENTON	2	0.3
51.5	CARROLL	2	0.3
51.5	KNOX	2	0.3
51.5	LAFAYETTE	2	0.3
51.5	LINCOLN	2	0.3
51.5	MC DONALD	2	0.3
51.5	NEW MADRID	2	0.3
51.5	NEWTON	2	0.3
51.5	NODAWAY	2	0.3
51.5	PERRY	2	0.3
51.5	PIKE	2	0.3
51.5	RAY	2	0.3
51.5	TANEY	2	0.3
51.5	TEXAS	2	0.3
51.5	WASHINGTON	2	0.3
51.5	WRIGHT	2	0.3
		Second Quartile	
		Third Quartile	
72.5	CALDWELL	1	0.1
72.5	CALLAWAY	1	0.1
72.5	CEDAR	1	0.1
72.5	CLARK	1	0.1
72.5	COOPER	1	0.1
72.5	DENT	1	0.1
72.5	GASCONADE	1	0.1
72.5	HARRISON	1	0.1
72.5	HOWARD	1	0.1
72.5	IRON	1	0.1
72.5	LEWIS	1	0.1
72.5	LINN	1	0.1
72.5	MACON	1	0.1
72.5	MADISON	1	0.1
72.5	MONITEAU	1	0.1
72.5	OZARK	1	0.1
72.5	PEMISCOT	1	0.1
72.5	POLK	1	0.1
72.5	PULASKI	1	0.1
72.5	RALLS	1	0.1
72.5	ST. CLAIR	1	0.1
72.5	STE. GENEVIEVE	1	0.1
72.5	WAYNE	1	0.1
72.5	WEBSTER	1	0.1
		Third Quartile	
		Fourth Quartile	
100.0	ATCHISON	0	0.0
100.0	BOLLINGER	0	0.0
100.0	CAMDEN	0	0.0
100.0	CARTER	0	0.0
100.0	CHARITON	0	0.0
100.0	DADE	0	0.0
100.0	DALLAS	0	0.0
100.0	DAVIESS	0	0.0
100.0	DE KALB	0	0.0
100.0	DOUGLAS	0	0.0
100.0	GENTRY	0	0.0
100.0	HICKORY	0	0.0
100.0	HOLT	0	0.0
100.0	MARIES	0	0.0
100.0	MERCER	0	0.0
100.0	MILLER	0	0.0
100.0	MISSISSIPPI	0	0.0
100.0	MONROE	0	0.0
100.0	MONTGOMERY	0	0.0
100.0	OREGON	0	0.0
100.0	OSAGE	0	0.0
100.0	PUTNAM	0	0.0
100.0	REYNOLDS	0	0.0
100.0	RIPLEY	0	0.0
100.0	SCHUYLER	0	0.0
100.0	SCOTLAND	0	0.0
100.0	SHANNON	0	0.0
100.0	SHELBY	0	0.0
100.0	STONE	0	0.0
100.0	SULLIVAN	0	0.0
100.0	WORTH	0	0.0

TABLE 3.8.13

2002 BICYCLE INVOLVED CRASHES

CITY LISTING

RANK	CITY	FREQUENCY	PERCENT[1]
1.0	ST. LOUIS	110	16.8
2.0	KANSAS CITY	71	10.9
3.0	COLUMBIA	33	5.1
4.0	SPRINGFIELD	32	4.9
5.0	ST. JOSEPH	24	3.7
6.0	JOPLIN	15	2.3
7.5	INDEPENDENCE	11	1.7
7.5	OVERLAND	11	1.7
10.0	POPLAR BLUFF	9	1.4
10.0	ST. PETERS	9	1.4
10.0	SEDALIA	9	1.4
13.0	BLUE SPRINGS	8	1.2
13.0	CAPE GIRARDEAU	8	1.2
13.0	KIRKWOOD	8	1.2
15.5	FLORISSANT	7	1.1
15.5	LEE'S SUMMIT	7	1.1
19.5	JENNINGS	6	0.9
19.5	MAPLEWOOD	6	0.9
19.5	MOBERLY	6	0.9
19.5	NEVADA	6	0.9
19.5	ST. CHARLES	6	0.9
19.5	SIKESTON	6	0.9
27.0	CHESTERFIELD	5	0.8
27.0	CLINTON	5	0.8
27.0	FARMINGTON	5	0.8
27.0	FERGUSON	5	0.8
27.0	KIRKSVILLE	5	0.8
27.0	LAMAR	5	0.8
27.0	MARSHALL	5	0.8
27.0	PINE LAWN	5	0.8
27.0	TRENTON	5	0.8
37.5	ARNOLD	4	0.6
37.5	BALLWIN	4	0.6
37.5	BRIDGETON	4	0.6
37.5	CARTHAGE	4	0.6
37.5	CHILLICOTHE	4	0.6
37.5	CREVE COEUR	4	0.6
37.5	MARYLAND HEIGHTS	4	0.6
37.5	O'FALLON	4	0.6
37.5	RAYMORE	4	0.6
37.5	ROLLA	4	0.6
37.5	ST. ANN	4	0.6
37.5	WEBSTER GROVES	4	0.6
46.5	BERKELEY	3	0.5
46.5	CLAYTON	3	0.5
46.5	JEFFERSON CITY	3	0.5
46.5	TOWN AND COUNTRY	3	0.5
46.5	UNIVERSITY CITY	3	0.5
46.5	WEST PLAINS	3	0.5

[1]Percentage is based on bicycle involved crashes which occurred in Missouri municipalities with populations of 1,000 or more. Only those municipalities comprising 0.5% or more of these crashes are listed.

TABLE 3.8.14

MISSOURI FATAL AND PERSONAL INJURY BICYCLE INVOLVED CRASHES
ANNUAL TIME SERIES

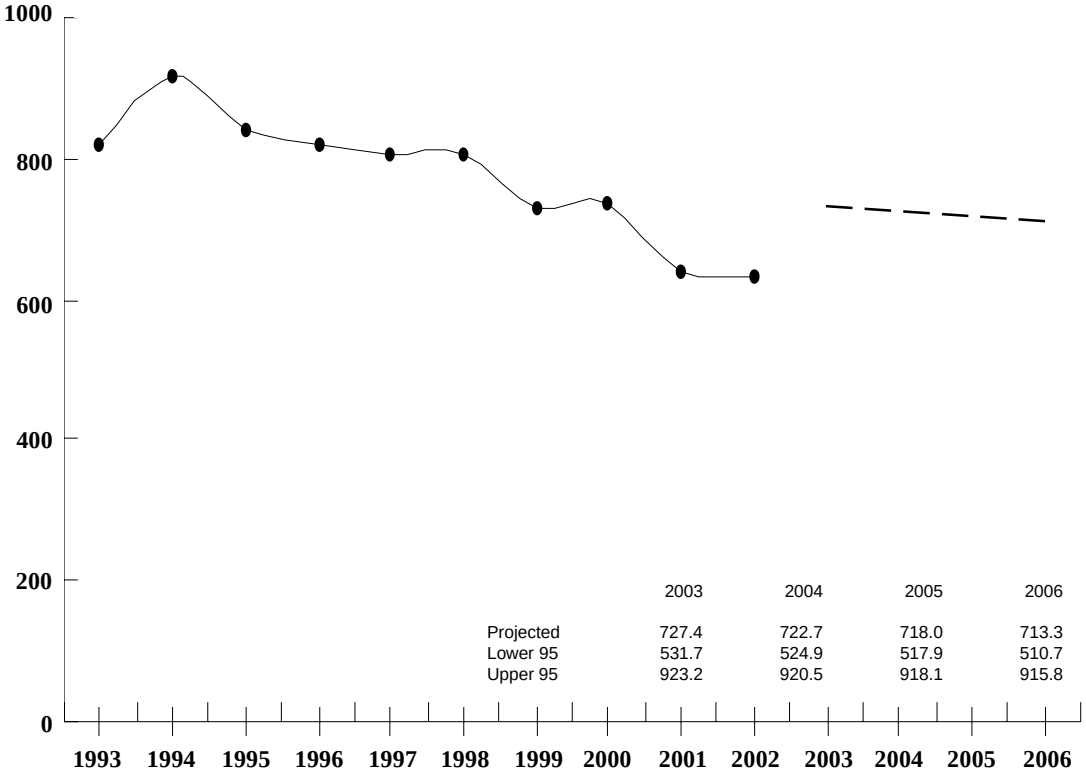


FIGURE 3.8.4