1998 Utah Crash Summary

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Introduction

The Utah Crash Summary is produced each year to identify and describe the trends and effects of traffic crashes in Utah. These statistics describe the factors that contribute to the occurrence of crashes, and crash related injuries and fatalities. This report is designed to heighten awareness about traffic safety by allowing safety program specialists and public health personnel to identify areas where education or programs may be designed to reduce traffic related injuries and fatalities.

The data for this summary is derived from Utah crash reports. These reported are filled out by law enforcement officers throughout the state who collect data from crash scenes on public roadways. Information is collected when a crash involves injuries, fatalities, when the jurisdiction in which the crash occurs requires it or when the responding officer determines that a report is warranted.

Crash reports are forwarded to the Utah Department of Transportation (UDOT) for central collection. UDOT reviews the crash report forms and enters the data into a database called the Crash Analysis Reporting System (CARS). Beginning in 1997, all private property crashes were excluded from CARS. Since private property crashes account for approximately 10% of crashes in previous years, the decrease in crashes since 1997 is due in part to the exclusion of private property crashes. Additional information is collected on fatal crashes and compiled into a separate database, the Fatality Analysis Reporting System (FARS). This database was used for the reporting of alcohol and other drug-related fatal crashes and fatalities.

This report was prepared by the Utah Crash Outcome Data Evaluation System (CODES) project located at the Intermountain Injury Control Research Center, University of Utah School of Medicine.

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This crash summary is available on the internet at http://codes.med.utah.edu/UtahCrash1998

Definitions

Alcohol and Other Drug-Related Crash - A crash in which the investigating officer cited a driver for "driving under the influence" (DUI) or coded a contributing factor of "DUI", "had been drinking" or "under the influence of drugs". Since breath test or blood test results may not always be used to determine alcohol and other drug content, these crashes may be underestimated.

Alcohol and Other Drug-Related Fatal Crash - A crash resulting in one or more deaths and in which the drug / alcohol test was positive for any driver, pedestrian, or bicyclist involved in the crash. Alcohol and other drug-related fatal crash information is obtained as part of the FARS database.

Alcohol and Other Drug-Related Fatality - A death resulting from an alcohol and other drug-related crash. Since breath test or blood test results may not always be used to determine alcohol and other drug-related crashes, these fatalities may be underestimated.

Alcohol and Other Drug-Related Injury - A non-fatal injury resulting from an alcohol and other drug-related crash. Since breath test or blood test results may not always be used to determine alcohol and other drug-related crashes, these injuries may be underestimated.

Alcohol and Other Drug-Related Injury Crash - A non-fatal crash in which one or more persons are injured and in which the investigating officer cited a driver for "driving under the influence" (DUI) or coded a contributing factor of "DUI", "had been drinking" or "under the influence of drugs". Since breath test or blood test results may not always be used to determine alcohol and other drug-related crashes, these injury crashes may be underestimated.

Crash Participant - A person who is involved in a crash, including motor vehicle occupants, pedestrians and bicyclists.

Contributing Factor - The circumstances reported by the investigating officer surrounding a crash that contribute to the crash or the crash severity. Examples are "speed too fast", "fatigue" and "had been drinking".

Fatal Crash - A motor vehicle crash on public roadways resulting in one or more deaths. The death must occur within 30 days of the crash.

Injury Crash - A crash in which one or more persons sustained a possible injury, probable injury, or an incapacitating injury as recorded by the investigating officer.

Large Truck Crash - A crash involving one or more vehicles of the following type: (1) a 2-axel, 6-tire single unit truck or van, (2) a 3 or more axle single unit truck, (3) a single unit truck with one or more trailer, (4) a bobtail (power unit only), (5) a tractor with one or more trailer, (6) a concrete mixer, (7) a garbage/ dump truck, (8) an auto transporter, (9) a flatbed truck, and (10) a cargo tank.

Million Vehicle Miles Traveled - The number of miles in millions traveled in a year for a given area. This is calculated by the Utah Department of Transportation.

Motorcycle Crash - A crash involving one or more motorcycles or mopeds.

Motor Vehicle Crash - A crash that involves a motor vehicle on public roadways.

Out of State Driver - A driver licensed from a state other than Utah who is involved in a crash. These drivers may reside in the state of Utah, but have not yet applied for a Utah driver's license.

Seatbelt Use - Seatbelt use is reported for occupants in a passenger car, a light truck or van. Occupants are coded as wearing a seatbelt if they reported using a shoulder/lap belt, lap belt or a child safety seat (occupants using only a shoulder strap were reported to be unbelted). In the majority of cases, seatbelt use as recorded by the investigating officer is self-reported by the crash occupant. It is possible that crash occupants may report using a seatbelt when they were not in order to avoid a citation or fine. In the case of fatal or severe injury crashes the officer will determine the seatbelt use.

School Bus Crash - A crash involving one or more school buses.

Speed-Related Crash - A crash where the investigating officer cites one or more drivers for "speeding", or codes a contributing factor of "speed too fast".

Teenage Driver - A 15 to 19 year old driver.

Teenage Driver Crash - A crash involving a teenage driver.

Teenage Driver Fatal Crash - A fatal crash involving a teenage driver.

Teenage Driver Injury Crash - An injury crash involving a teenage driver.

Violation - The traffic violation that a driver was cited for at the scene of the crash. These include both moving and non-moving violations.

Executive Summary

The state of Utah has made great strides in reducing the motor vehicle crash rate. Since 1968, the injury and fatal crash rates in Utah have steadily decreased. The 1998 crash rate of 254.2 per 100 million vehicle miles traveled is the lowest in 30 years. The crash rate reduction can be attributed to local and statewide traffic safety programs that have increased awareness of the problem, laws mandating seatbelt use, decreased speed limits and increased DUI legislation and enforcement. Despite this progress, motor vehicle crashes continue to take their toll. In our state a crash occurs every 10 minutes, a person is injured in a crash every 17 minutes, and one person dies every day from a motor vehicle crash.

In 1998, there were 54,072 crashes accounting for 30,232 injured persons and 350 fatalities in Utah. Overall, crash participants are male, and in the age group 15-24 years. In addition, while most crashes occurred in the urban areas, fatal crashes were more likely to occur in rural areas. Increased speeds and longer response time for emergency medical services in the rural areas may account for the rural/urban difference in fatal crash rates.

Speeding and impaired driving are contributing factors that led to severe injury or death in motor vehicle crashes. There were over 7,788 speed-related crashes in 1998 resulting in 95 fatalities. The majority of the speed-related fatalities occurred on highways. In 1998, almost 2,000 crashes were attributed to alcohol and other drug involvement resulting in 49 fatalities. The percentage of fatalities that were alcohol and other drug-related in 1998 was 14%. This is the lowest percentage in the 1990's. While alcohol and drug-related crashes are a great concern nationwide, speeding appears to be the leading factor associated with crash fatalities and may warrant increased attention in Utah.

Seatbelts have been shown to save lives and decrease the severity of injuries in motor vehicle crashes. In Utah, unbelted occupants were 10 times more likely to sustain a fatal injury than belted occupants. Overall, 89% of the occupants involved in a crash in 1998 reported using a seatbelt, but seatbelt use rates varied by age and type of crash. Children under the age of 5 years had the highest percentage of seatbelt use (95%) while those aged 10-19 years experienced the lowest percentage of use (84%). Unfortunately, the rate for seatbelt use for fatalities was much lower; only 37% of the occupants who died in a crash were reported as wearing a seatbelt. In addition, the majority of ejected occupants (who often suffer severe injury or death) were not wearing a seatbelt.

Pedestrians, bicyclists, and motorcyclists involved in a motor vehicle crash are at risk from suffering an injury or death. In 1998, over 90% of pedestrians or bicyclists involved in a motor vehicle crash experienced an injury or death compared to 22% of all motor vehicle crash participants. Motorcyclists are also vulnerable to injury and death. Approximately 89% of motorcycle crashes resulted in an injury or death. As with seatbelts, helmets have proven to reduce severe injury and death for bicyclists and motorcyclists. Unfortunately, only 25% of motorcyclists involved in a crash were reported to be wearing a helmet.

Utah teenage drivers experience higher crash rates than other drivers. Every half hour, a crash occurs that involves a teenage driver. Lack of driving experience may contribute to the higher crash rates for young drivers. In fact, 42% of the teenage drivers involved in a crash received a citation compared to 34% of all drivers. The leading citations for teenage drivers were "failure to yield right of way", "improper lookout", and "following too closely". In addition, the leading contributing factor to teenage driver fatal crashes was "disregarded traffic signal".

Motor vehicle crashes in Utah continue to be a leading cause of death and disability in the state. Of particular concern are speed-related crashes, and crashes involving pedestrians, motorcyclists and teenage drivers.

1998 Crash Synopsis

Crashes, Injury Crashes and Fatal Crashes

- 54,072 motor vehicle crashes were reported, a 5% decrease from 1997
- Over 19,000 injury crashes in 1998 were reported, a 12% decrease from 1997
- 308 fatal motor vehicle crashes were reported, the same as 1997
- 38% of fatal crashes occurred between Memorial Day and Labor Day
- Sundays had nearly double the odds for a fatal crash than any other day of the week
- Thanksgiving had the highest fatal crash rate per day among holidays
- Head-on collisions were 15 times more likely to be fatal than other collision types
- Drivers cited for DUI were four times more likely to be involved in a fatal crash than drivers cited for other violations
- Drivers cited for speeding were three times more likely to be involved in a fatal crash than drivers cited for other violations
- Drivers between the age of 16 and 18 years old had the highest crash and injury crash rates per licensed driver
- Out of state drivers were involved in 9% of crashes and 19% of fatal crashes

Crash Participants, Injured Persons and Fatalities

- 350 crash related fatalities occurred, a 4% decrease from 1997
- For every 86 persons injured in a motor vehicle crash, one person was killed
- Front seat passengers (excluding drivers) were two times more likely than back seat passengers to sustain a fatal injury
- Crash participants over the age of 65 years were three times more likely to be killed than all other age groups

Pedestrian Crashes

- 851 pedestrians were involved in pedestrian-motor vehicle crashes
- 44 pedestrians were killed, a 13% increase from 1997
- 49% of the fatal pedestrian crashes occurred between Memorial Day and Labor Day
- 48% of the pedestrians were under the age of 20 years
- 44% of the drivers involved in pedestrian crashes were aged 15 to 29 years

Bicyclist-Motor Vehicle Crashes

- 839 bicyclists were involved in motor vehicle crashes, a 4% decrease from 1997
- 9 bicyclist were killed
- 29% of the motor vehicle drivers involved in bicyclist-motor vehicle crashes were 15 to 24 years of age

Motorcycle Crashes

- There were 589 crashes that involved motorcycles, a 15% decrease from 1997
- 14 motorcycle crashes were fatal
- 85% of the motorcyclists in crashes were male
- Motorcycle drivers accounted for 93% of motorcyclist fatalities
- 25% of motorcyclists involved in crashes were wearing a helmet

Teenage Driver Crashes

- 17,362 crashes and 69 fatal crashes involved a teenage driver
- Nearly 42% of all teenage drivers involved in a crash received a citation for a violation compared to 34% of all drivers involved in a crash
- Of the 69 teenager driver fatal crashes 6 involved alcohol or other drugs
- Teenage driver crashes that the teenage driven vehicles had 4 or more occupants were 4 times more likely to be fatal than crashes involving teenage driven vehicles with fewer occupants

Alcohol and Other Drug-Related Crashes

- 1,909 (4%) crashes and 48 (16%) fatal crashes involved alcohol or other drugs
- 49 fatalities were a result of alcohol and other drug-related crashes, a 44% decrease from 1997
- Male drivers were involved in over two-thirds (80%) of alcohol and other drug-related crashes
- 14% of the impaired drivers were under the age of 21 years
- 86% of drunk drivers involved in fatal crashes had a blood alcohol level above the legal limit of 0.08

Speed-Related Crashes

- 7,788 (14%) crashes and 90 (36%) fatal crashes were speed-related
- 95 person were killed in speed-related crashes
- The highest percentage of drivers involved in speed-related crashes were aged 15 to 24 years for both males and females

Occupant Protection

- 89% of all crash participants, 79% of injured crash participants and 37% of the fatalities were reported as using a seatbelt
- Unbelted occupants were 10 times more likely to be killed than belted occupants
- 93% of the ejected passengers were not wearing a seatbelt
- Children under the age of 2 years were 7 times more likely to be in a child safety seat than children between the ages of 2 to 4 years
- Children in the back seat were 3 times more likely to be in a child safety seat than children in the front seat

1998 Utah Crash Clock

- One crash occurs every 10 minutes
- One person is injured in a crash every 17 minutes
- One person dies in a crash every 25 hours
- One pedestrian is in a crash every 10 hours
- One pedestrian fatality occurs every 8 days
- One bicyclist is in a crash every 10 hours
- One motorcyclist is in a crash every 13 hours
- One motorcycle fatality occurs every 26 days
- One teenage driver crash occurs every ½ hour
- One teenage driver fatal crash occurs every 5 days
- One alcohol and other drug-related crash occurs every 5 hours
- One speed-related crash occurs every 1 hour
- One unbelted occupant dies every 2 ½ days

Section 1
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Utah Crashes 1968 - 1998

From 1968 to 1998, over 1.3 million crashes occurred in Utah with nearly half a million of the crashes involving injuries and 8,469 involving fatalities. Table 1.01 shows the Utah crash rates have decreased significantly over the past 30 years. The highest crash rate occurred in 1968 at 623.4 crashes per 100 million vehicle miles traveled (MVMT). The lowest crash rate occurred in 1998 at 254.6 crashes per 100 MVMT. The injury crash rate per 100 MVMT high was in 1970 (175.5) and the low was in 1991 (89.4). The fatal crash rate per 100 MVMT high occurred in 1968 (4.7) and the low occurred in 1992 (1.4). When comparing years, rates should be used rather than the crude number of events because they provide a more accurate picture of trends over time. The rates used in this report are based on the annual vehicle miles traveled. The Utah Department of Transportation supplied the number of vehicle miles traveled each year.

There was a change in crash rates from 1997 to 1998. In 1998, the statewide crash rate per 100 million vehicle miles traveled was 254.6, a 5% decrease from the 1997 rate. The injury crash rate decreased substantially (a 12% decrease), while the fatal crash rate was unchanged from 1997 to 1998.

Some of these changes may be due to crash reporting system as well as other factors. During the time period 1968 to 1998 the crash reporting criteria changed; most notably, 1997 was the first year to exclude crashes occurring on private property. This change probably accounts for the decrease in crashes and injury crashes from the previous year, but does not impact the reporting of fatal crashes. Additionally, improvements in the medical system may reduce fatalities but increase the number of injuries reported as more lives are saved. Increased use of seatbelts; improvements in the biomechanical design of roadways and vehicles; legislation, such as speed limits, drunk driving laws and other injury prevention strategies have decreased crashes and the severity of crash injuries.

Table 1.01 Utah Crashes, Injury Crashes and Fatal Crashes 1968-1998

Year	Million Vehicle Miles	Total Crashes	Injury Crashes	Fatal Crashes	Crash Rate per 100 Million Vehicle Miles	Injury Crash Rate Per 100 Million Vehicle Miles	Fatal Crash Rate per 100 Million Vehicle Miles
1968	5,539	34,532	9,550	258	623.4	172.4	4.7
1969	5,802	34,766	9,850	251	599.2	169.8	4.3
1970	6,108	35,166	10,722	276	575.7	175.5	4.5
1971	6,544	39,108	11,399	280	597.6	174.2	4.3
1972	6,969	39,856	11,630	312	571.9	166.9	4.5
1973	7,274	38,234	11,710	304	525.6	161.0	4.2
1974	7,457	31,401	10,560	204	421.1	141.6	2.7
1975	7,942	36,426	11,441	245	458.7	144.1	3.1
1976	8,420	34,345	11,685	225	407.9	138.8	2.7
1977	9,054	38,524	12,652	310	425.5	139.7	3.4
1978	9,826	42,684	13,423	315	434.4	136.6	3.2
1979	9,811	40,468	13,449	287	412.5	137.1	2.9
1980	10,645	33,582	11,701	292	315.5	109.9	2.7
1981	10,733	35,989	11,824	321	335.3	110.2	3.0
1982	10,947	38,192	11,504	263	348.9	105.1	2.4
1983	11,228	40,989	12,317	253	365.1	109.7	2.3
1984	11,642	47,489	13,477	274	407.9	115.8	2.4
1985	12,035	47,871	13,917	270	397.8	115.6	2.2
1986	12,253	46,690	13,988	276	381.0	114.2	2.3
1987	12,679	47,256	13,599	271	372.7	107.3	2.1
1988	13,263	49,249	13,377	258	371.3	100.9	1.9
1989	13,915	51,320	13,941	269	368.8	100.2	1.9
1990	14,646	52,691	14,632	236	359.8	99.9	1.6
1991	15,390	47,435	13,763	229	308.2	89.4	1.5
1992	16,263	50,660	15,665	235	311.5	96.3	1.4
1993	17,055	55,704	17,088	259	326.6	100.2	1.5
1994	18,080	59,272	18,726	303	327.8	103.6	1.7
1995	18,786	57,644	19,828	284	306.8	105.5	1.5
1996	19,433	61,505	20,988	292	316.5	108.0	1.5
1997	20,408	54,952	21,131	309	269.3	103.5	1.5
1998	21,237	54,072	19,427	308	254.6	91.5	1.5

Injury and Fatal Crashes Trends 1968 - 1998

Figures 1.01 and 1.02 reflect the trends in injury and fatal crash rates per 100 million vehicle miles traveled (MVMT) from 1968 to 1998. Both injury and fatal crash rates have been steadily decreasing. The injury crash rates were highest in the late sixties. A large decrease occurred in 1980 and there was a slight increase between 1990 to 1996. The fatal crash rates have markedly decreased from 4.7 per 100 MVMT in 1968 to 1.5 per 100 MVMT in 1998. The biggest decrease in fatal crash rates occurred in 1973, the same year the speed limit was lowered to 55 MPH.

Figure 1.01 Injury Crash Rates per Miles Traveled, 1968 - 1998

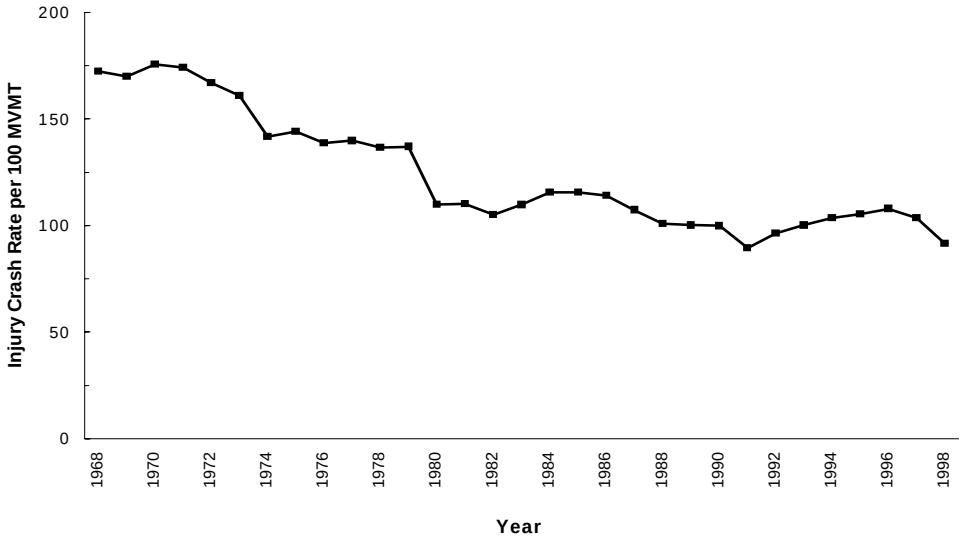
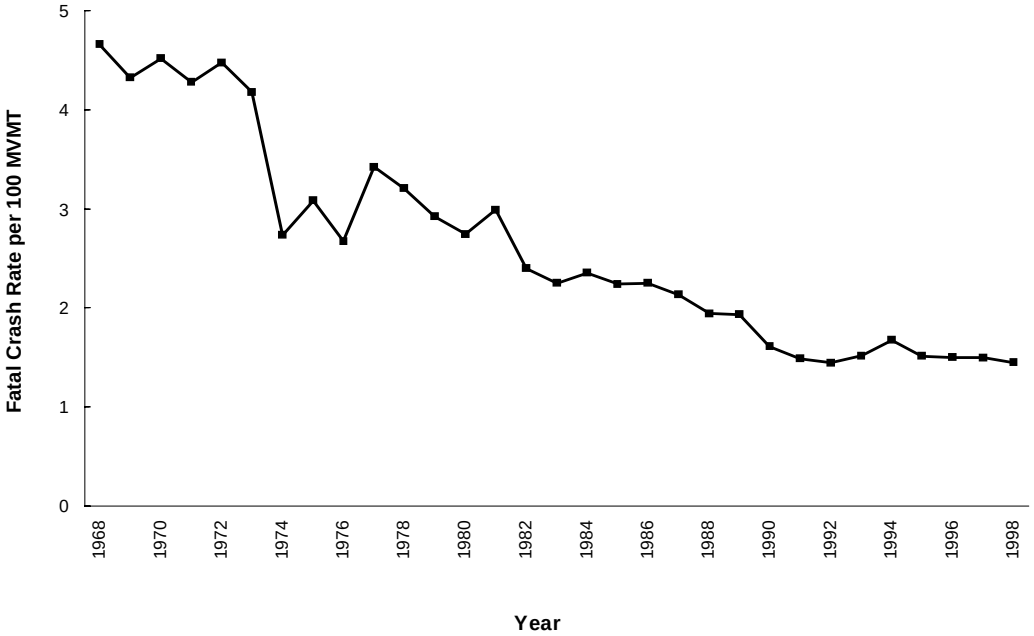


Figure 1.02 Fatal Crash Rates per Miles Traveled, 1968 - 1998



1998 Crash Severity

Figure 1.03 Severity of Crashes as Reported by Police, 1998 (n=54,072)

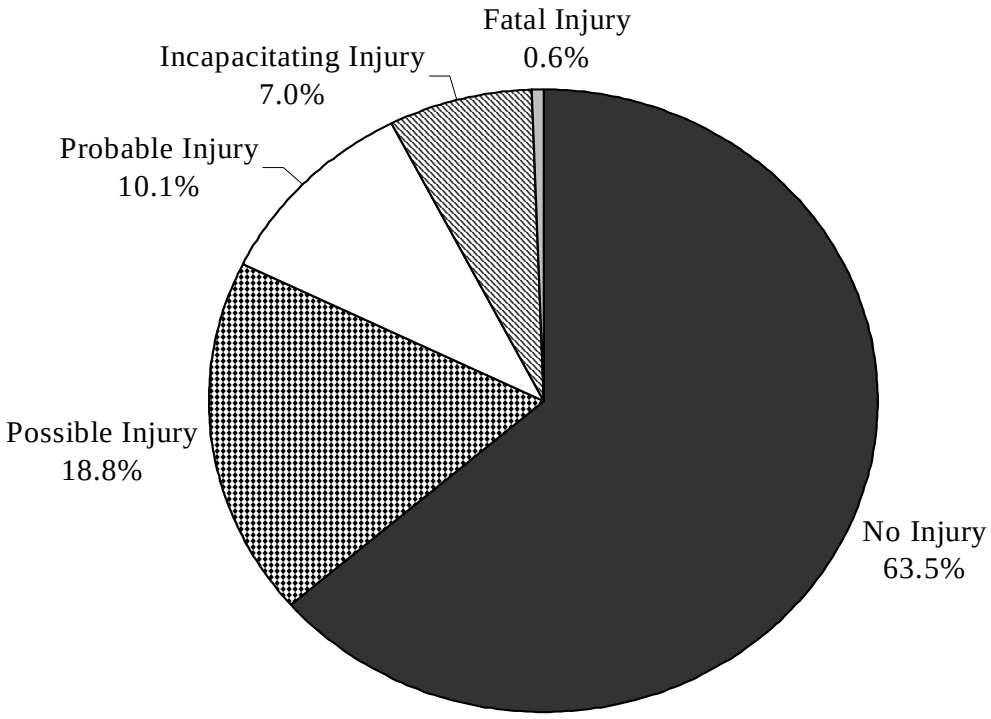


Figure 1.03 shows the breakdown of crash severity as recorded by the police. The majority (63%) of crashes resulted in property damage only. Thirty-seven percent (37%) of crashes resulted in some level of injury. Fatal crashes represented only 1% of crashes in Utah.

1998 Crashes by County

Figure 1.04 depicts the number of injury and fatal crashes for each county in Utah, while Table 1.02 shows the rates of crashes, injury crashes and fatal crashes for each county. Two different rates are given in Table 1.02, one based on population of the county and the other on the miles traveled in the county. The rate of crashes per miles traveled provides a more accurate reflection of the motor vehicle crash risk. Cases where the crash rate per population is higher than the rate per miles traveled may indicate that the county has a large number of non-county drivers. Salt Lake, Weber and Utah had the highest crash and injury crash rates per mile traveled, while Piute, Wayne and Rich counties had the highest rates of fatal crashes.

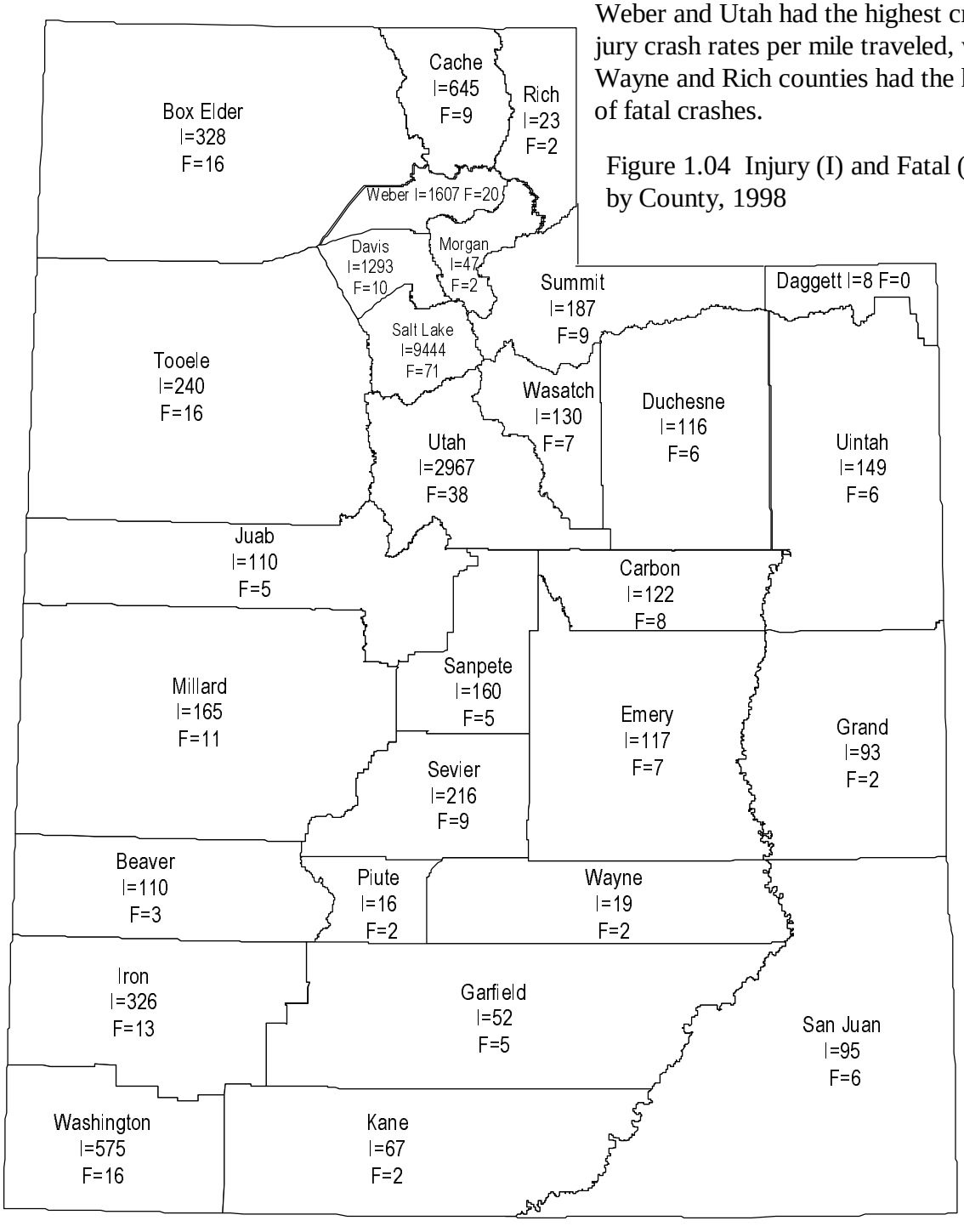


Figure 1.04 Injury (I) and Fatal (F) Crashes by County, 1998

Table 1.02 Crashes, Injury Crashes and Fatal Crashes by County, 1998

County	Crashes #	Crashes Rate per 10,000 Population	Crashes Rate per MVMT	Injury Crashes #	Injury Crashes Rate per 10,000 Population	Injury Crashes Rate per 10 MVMT	Fatal Crashes #	Fatal Crashes Rate per 10,000 Population	Fatal Crashes Rate per 100 MVMT
Beaver	315	495.4	1.6	110	173.0	5.5	3	4.7	1.5
Box Elder	931	225.4	1.1	328	79.4	3.8	16	3.9	1.9
Cache	2,047	226.8	2.8	645	71.5	8.7	9	1.0	1.2
Carbon	388	175.2	1.2	122	55.1	3.6	8	3.6	2.4
Daggett	50	600.2	2.2	8	96.0	3.5	0	0.0	0.0
Davis	4,035	176.9	2.1	1,293	56.7	6.6	10	0.4	0.5
Duchesne	358	250.9	2.0	116	81.3	6.4	6	4.2	3.3
Emery	328	296.6	1.0	117	105.8	3.6	7	6.3	2.1
Garfield	147	316.7	1.2	52	112.0	4.1	5	10.8	4.0
Grand	244	245.1	0.9	93	93.4	3.6	2	2.0	0.8
Iron	961	301.7	1.8	326	102.3	6.1	13	4.1	3.0
Juab	305	386.9	1.0	110	139.5	3.4	5	6.3	1.6
Kane	258	363.1	2.1	67	94.3	5.6	2	2.8	1.7
Millard	416	332.4	1.0	165	131.8	4.1	11	8.8	2.8
Morgan	157	229.0	1.4	47	68.6	4.1	2	2.9	1.8
Piute	62	383.4	2.0	16	98.9	5.3	2	12.4	6.6
Rich	66	354.6	1.5	23	123.6	5.1	2	10.7	4.5
Salt Lake	24,770	291.4	3.5	9,444	111.1	13.4	71	0.8	1.0
San Juan	285	213.8	1.1	95	71.3	3.5	6	4.5	2.2
Sanpete	471	220.6	2.1	160	74.9	7.2	5	2.3	2.3
Sevier	638	338.5	1.8	216	114.6	6.1	9	4.8	2.5
Summit	841	328.8	1.5	187	73.1	3.3	9	3.5	1.6
Tooele	701	205.7	1.1	240	70.4	3.8	16	4.7	2.5
Uintah	513	209.4	1.8	149	60.8	5.3	6	2.4	2.1
Utah	8,202	245.7	3.0	2,967	88.9	10.8	38	1.1	1.4
Wasatch	487	357.4	2.2	130	95.4	5.8	7	5.1	3.1
Washington	1,690	211.7	2.0	575	72.0	6.8	16	2.0	1.9
Wayne	67	265.9	1.8	19	75.4	5.1	2	7.9	5.4
Weber	4,339	235.4	3.1	1,607	87.2	11.5	20	1.1	1.4
Statewide	54,072	257.4	2.5	19,427	92.5	9.1	308	1.5	1.5

1998 Crashes by City

The crash rates per population for cities with over 200 crashes in 1998 are shown in Table 1.03. While, South Salt Lake had the highest rate of crashes and injury crashes, Ogden had the highest rate of fatal crashes.

Table 1.03 Crash, Injury Crash and Fatal Crash Rates of Cities with More than 200 Crashes, 1998

City	Crashes #	Crashes Rate Per 100,000 Population	Injury Crashes #	Injury Crashes Rate Per 100,000 Population	Fatal Crashes #	Fatal Crashes Rate Per 100,000 Population
Salt Lake City	4,013	2,269.0	1,006	568.8	13	7.4
West Valley City	2,988	2,924.7	528	516.8	5	4.9
Provo	2,543	2,507.2	423	417.1	5	4.9
Sandy	2,260	2,302.2	275	280.1	6	6.1
Orem	2,177	2,671.2	296	363.2	6	7.4
Ogden	2,117	3,188.2	359	540.6	12	18.1
Murray	2,005	5,824.8	235	682.7	4	11.6
South Salt Lake	1,322	7,039.0	166	883.9	0	0.0
Logan	1,113	2,618.5	155	364.7	0	0.0
West Jordan	1,090	1,799.5	193	318.6	2	3.3
St. George	1,040	2,227.8	149	319.2	5	10.7
Layton	945	1,791.7	146	276.8	2	3.8
Taylorsville	849	1,463.8	114	196.6	2	3.4
Draper	783	3,436.5	111	487.2	1	4.4
Bountiful	634	1,580.3	90	224.3	0	0.0
Midvale	616	2,209.7	78	279.8	1	3.6
Clearfield	516	2,237.5	68	294.9	1	4.3
Roy	463	1,505.9	64	208.2	0	0.0
Cedar City	436	2,060.6	63	297.7	1	4.7
American Fork	397	1,905.8	68	326.4	2	9.6
South Jordan	370	1,449.7	47	184.1	0	0.0
Riverdale	365	5,080.0	58	807.2	0	0.0
North Salt Lake	352	4,371.0	30	372.5	0	0.0
Riverton	322	1,316.4	45	184.0	1	4.1
Springville	313	1,872.9	53	317.1	1	6.0
Spanish Fork	303	1,862.1	59	362.6	0	0.0
Pleasant Grove	272	1,367.2	49	246.3	0	0.0
Centerville	265	1,744.5	44	289.6	0	0.0
South Ogden	260	1,782.3	44	301.6	1	6.9
Lindon	235	3,631.6	37	571.8	1	15.5
Park City	225	3,519.5	18	281.6	0	0.0
Farmington	205	1,839.9	31	278.2	2	18.0

1998 Crash Times

Crashes and injury crashes were more likely to occur between 3 p.m. and 5 p.m. with a peak at 5 p.m. (evening rush hour). Fatal crashes followed a different pattern with the peak occurring at 4 p.m., but a high percentage also occurred in late evening (7 p.m. - 11 p.m.) and early morning (6 a.m. - 7 a.m.) hours.

December had the highest rate of crashes and injury crashes per day while summer months (July to September) had the highest rates of fatal crashes per day (Table 1.05). In fact, 38% of all fatal crashes occurred between Memorial Day and Labor Day. The fatal crash rate per day was 1.0 between Memorial Day and Labor Day, which was slightly larger than the yearly fatal crash rate per day of 0.8.

Table 1.04 Hour of Crashes, Injury Crashes and Fatal Crashes, 1998

	Crashes		Injury Crashes		Fatal Crashes	
Hour	#	%	#	%	#	%
12 a.m.	702	1.3%	277	1.4%	5	1.6%
1 a.m.	644	1.2%	250	1.3%	9	2.9%
2 a.m.	462	0.9%	186	1.0%	3	1.0%
3 a.m.	318	0.6%	113	0.6%	5	1.6%
4 a.m.	331	0.6%	116	0.6%	3	1.0%
5 a.m.	559	1.0%	183	0.9%	5	1.6%
6 a.m.	1,229	2.3%	443	2.3%	15	4.9%
7 a.m.	2,516	4.7%	837	4.3%	17	5.5%
8 a.m.	2,437	4.5%	839	4.3%	10	3.2%
9 a.m.	2,052	3.8%	726	3.7%	10	3.2%
10 a.m.	2,205	4.1%	818	4.2%	10	3.2%
11 a.m.	2,694	5.0%	946	4.9%	13	4.2%
12 p.m.	3,293	6.1%	1,153	5.9%	11	3.6%
1 p.m.	3,360	6.2%	1,259	6.5%	21	6.8%
2 p.m.	3,779	7.0%	1,411	7.3%	16	5.2%
3 p.m.	4,318	8.0%	1,587	8.2%	20	6.5%
4 p.m.	4,587	8.5%	1,612	8.3%	25	8.1%
5 p.m.	5,127	9.5%	1,841	9.5%	15	4.9%
6 p.m.	3,907	7.2%	1,398	7.2%	17	5.5%
7 p.m.	2,728	5.0%	972	5.0%	20	6.5%
8 p.m.	2,080	3.8%	732	3.8%	18	5.8%
9 p.m.	2,019	3.7%	693	3.6%	14	4.5%
10 p.m.	1,543	2.9%	592	3.0%	17	5.5%
11 p.m.	1,182	2.2%	443	2.3%	9	2.9%
Grand Total	54,072	100.0%	19,427	100.0%	308	100.0%

Figure 1.05 Hour of Injury Crashes and Fatal Crashes, 1998 (See Table 1.04 for values)

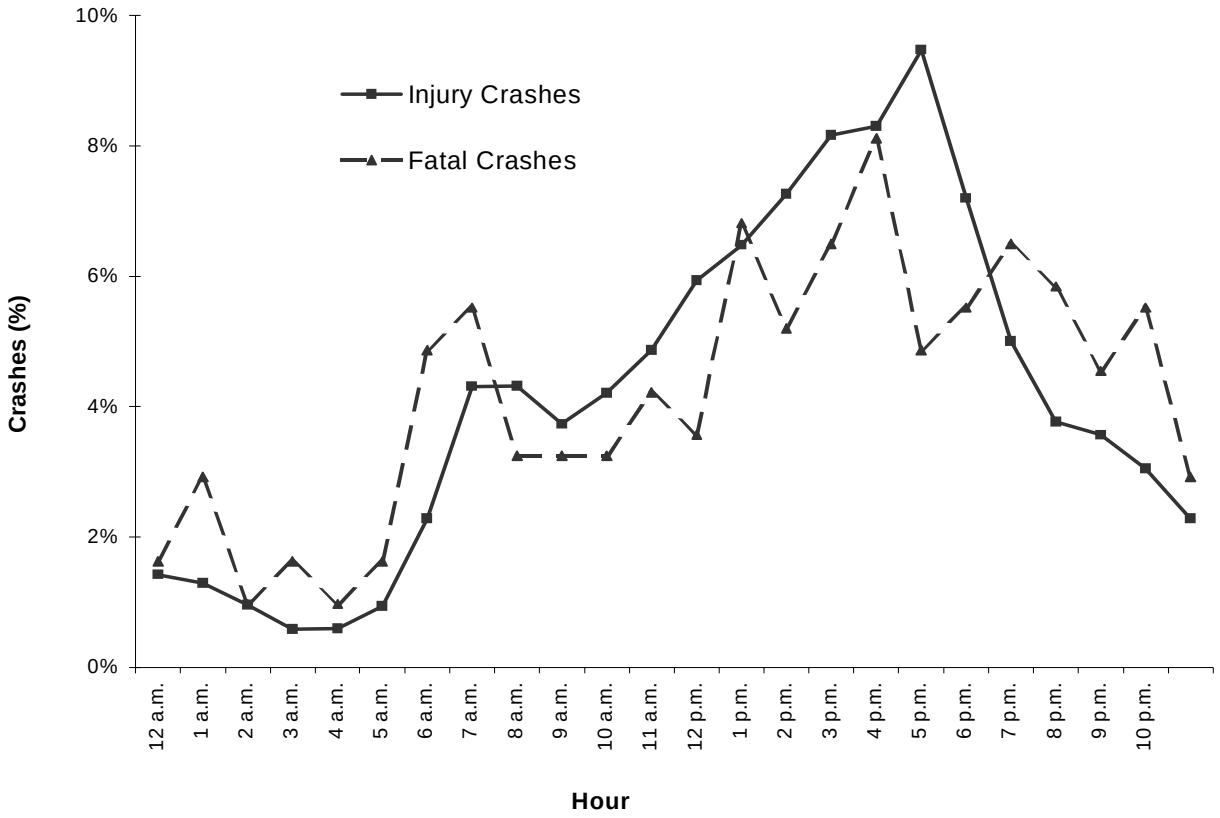
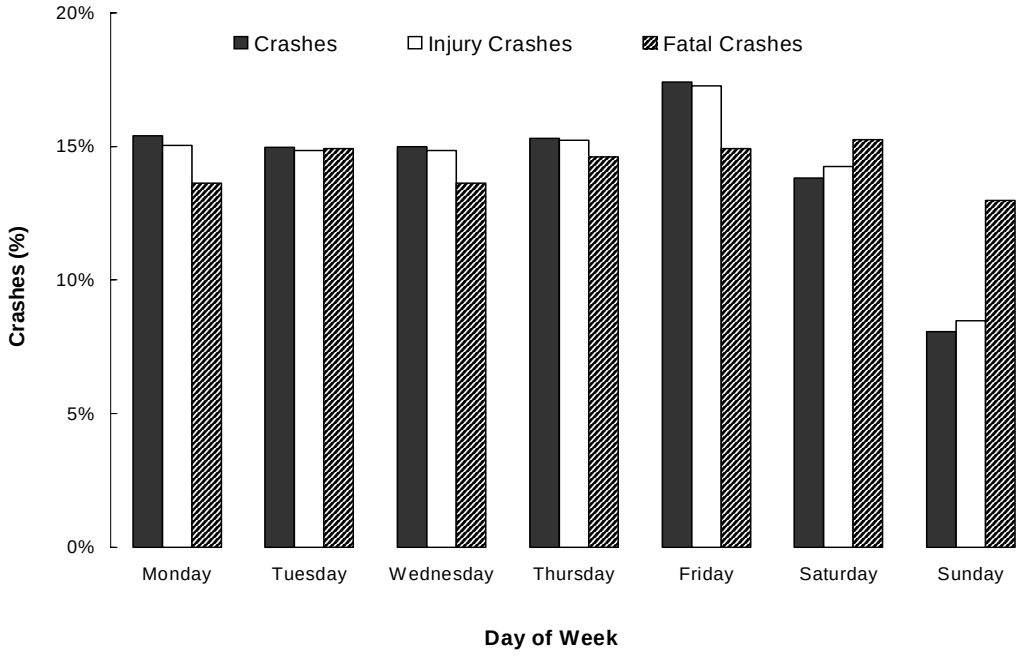


Table 1.05 Month of Crashes, Injury Crashes and Fatal Crashes, 1998

Crash Month	Crashes #	Crashes Rate per Day	Injury Crashes #	Injury Crashes Rate per Day	Fatal Crashes #	Fatal Crashes Rate per Day
January	4,380	141.3	1,447	46.7	23	0.7
February	4,438	158.5	1,454	51.9	21	0.8
March	4,071	131.3	1,468	47.4	17	0.5
April	4,108	136.9	1,512	50.4	21	0.7
May	4,163	134.3	1,597	51.5	24	0.8
June	4,376	145.9	1,650	55.0	24	0.8
July	4,570	147.4	1,783	57.5	38	1.2
August	4,565	147.3	1,759	56.7	34	1.1
September	4,629	154.3	1,736	57.9	39	1.3
October	4,798	154.8	1,705	55.0	28	0.9
November	4,384	146.1	1,509	50.3	23	0.7
December	5,590	180.3	1,807	58.3	16	0.5
Grand Total	54,072	148.1	19,427	53.2	308	0.8

Figure 1.06 shows that the highest percentage of crashes occurred on Friday. The highest percentage of fatal crashes occurred on Saturday. However, crashes occurring on Sundays were 1.6 times more likely to involve a fatality compared to crashes that occurred on other days of the week. The majority of Sunday fatal crashes occurred during the early morning hours. These crashes tended to be alcohol related which increases the likelihood for a fatality.

Figure 1.06 Day of Week for Crashes, Injury Crashes and Fatal Crashes, 1998 (See Table 1.06 for values)



Note: The above graph is based on percentage for the different crash categories. To read the above graph, look at one category across the groups. For example, look at only the white bars (i.e. injury crashes) from day to day. Do not compare the heights of the different crash categories for a specific day.

Table 1.06 Day of Week for Crashes, Injury Crashes and Fatal Crashes, 1998

	Crashes		Injury Crashes		Fatal Crashes	
Day of Week	**#**	**%**	**#**	**%**	**#**	**%**
Monday	8,331	15.4%	2,924	15.1%	42	13.6%
Tuesday	8,094	15.0%	2,885	14.9%	46	14.9%
Wednesday	8,106	15.0%	2,888	14.9%	42	13.6%
Thursday	8,272	15.3%	2,959	15.2%	45	14.6%
Friday	9,421	17.4%	3,354	17.3%	46	14.9%
Saturday	7,479	13.8%	2,772	14.3%	47	15.3%
Sunday	4,369	8.1%	1,645	8.5%	40	13.0%
Grand Total	54,072	100.0%	19,427	100.0%	308	100.0%

Holiday Crashes 1996 - 1998

Table 1.07 shows the number of fatal crashes that occurred on holidays for the past three years. The number of days included in a holiday varied by year. When a holiday falls on Monday, the holiday begins at noon the Friday before the holiday and ends at midnight on the holiday. If a holiday does not fall on the weekend, the holiday begins at noon on the day before and ends on midnight the day after. Because of the differing lengths of holidays, the rate per day is provided and should be used to compare holidays by year. Holidays are a concern due to the increased motor vehicle travel, combined with other risk factors (e.g., alcohol and other drug impaired driving, fatigued driving). Thanksgiving was the holiday with the highest rate of fatal crashes for 1996 and 1998, while July 4th had the highest rate of fatal crashes per day in 1997.

Table 1.07 Fatal Crashes by Holiday, 1996 - 1998

	1996 Fatal Crashes		1997 Fatal Crashes		1998 Fatal Crashes	
Holiday	**#**	**Rate per day**	**#**	**Rate per day**	**#**	**Rate per day**
New Years	4	0.8	3	1.0	2	0.4
Memorial Day	2	0.4	3	0.8	2	0.5
July 4th	1	0.2	7	1.8	2	0.7
July 24th	3	0.6	1	0.3	2	0.5
Labor Day	4	0.8	4	1.0	4	1.0
Thanksgiving	4	1.0	6	1.2	10	2.5
Christmas	1	0.3	2	0.4	2	0.5
Total	19	0.6	26	0.9	24	0.9

1998 Crash Characteristics

Table 1.08 Types of Crashes, Injury Crashes and Fatal Crashes, 1998

Crash Type	Crashes		Injury Crashes		Fatal Crashes	
	#	%	#	%	#	%
Two Motor Vehicles	39,274	72.6%	13,615	70.1%	98	31.8%
Ran Off Roadway - To the Right	3,454	6.4%	1,494	7.7%	60	19.5%
Motor Vehicle and Fixed Object	2,242	4.1%	684	3.5%	14	4.5%
Motor Vehicle and Wild Animal	2,197	4.1%	146	0.8%	1	0.3%
Ran Off Roadway - To the Left	1,753	3.2%	784	4.0%	33	10.7%
Other Non-Collision	1,651	3.1%	521	2.7%	8	2.6%
Motor Vehicle and Bicycle	804	1.5%	728	3.7%	9	2.9%
Motor Vehicle and Pedestrian	748	1.4%	679	3.5%	41	13.3%
Ran Off Roadway Through Median	627	1.2%	316	1.6%	31	10.1%
Motor Vehicle and Other Object	452	0.8%	96	0.5%	2	0.6%
Motor Vehicle and Domestic Animal	436	0.8%	102	0.5%	1	0.3%
Overturned in Roadway	407	0.8%	254	1.3%	6	1.9%
Motor Vehicle and Train	27	0.0%	8	0.0%	4	1.3%
Grand Total	54,072	100.0%	19,427	100.0%	308	100.0%

Crashes involving two motor vehicles represented the majority of crashes (73%). Pedestrian-motor vehicle crashes represented 1% of all crashes, but accounted for 13% of fatal crashes resulting in almost a 10-fold increased risk of a fatality. When a vehicle ran off the roadway there was a 4-fold increased risk of a fatality.

Table 1.09 Urban / Rural Location of Crashes, Injury Crashes and Fatal Crashes, 1998

Urban / Rural Location	Crashes		Injury Crashes		Fatal Crashes	
	#	%	#	%	#	%
Rural Area - Up to 5,000	9,521	17.6%	3,136	16.1%	156	50.6%
Small Urban - 5,000 to 49,999	2,406	4.4%	742	3.8%	14	4.5%
Moderate Urban - 50,000 to 199,999	1,279	2.4%	424	2.2%	6	1.9%
Large Urban - 200,000 or More	36,735	67.9%	13,896	71.5%	104	33.8%
Missing	4,131	7.6%	1,229	6.3%	28	9.1%
Grand Total	54,072	100.0%	19,427	100.0%	308	100.0%

Not surprisingly the majority of crashes (68%) occurred in urban areas. However, the majority of fatal crashes (51%) occurred in rural areas. In fact, rural crashes were 5 times more likely to result in a fatality than other crashes.

Table 1.10 Collision Description of Crashes, Injury Crashes and Fatal Crashes, 1998

Collision Description	Crashes		Injury Crashes		Fatal Crashes	
	#	%	#	%	#	%
Rear End	15,318	28.3%	5,752	29.6%	12	3.9%
Broadside	13,293	24.6%	5,841	30.1%	47	15.3%
Other	8,243	15.2%	1,720	8.9%	23	7.5%
Multi-vehicle Other	7,922	14.7%	1,473	7.6%	13	4.2%
Side Swipe	3,431	6.3%	738	3.8%	22	7.1%
Single Vehicle Rollover	3,346	6.2%	2,070	10.7%	105	34.1%
Pedestrian/Bicyclist Crash	1,552	2.9%	1,407	7.2%	50	16.2%
Single Vehicle Fixed Object	533	1.0%	183	0.9%	4	1.3%
Head-on	408	0.8%	232	1.2%	30	9.7%
Single Vehicle Other	26	0.0%	11	0.1%	2	0.6%
Grand Total	54,072	100.0%	19,427	100.0%	308	100.0%

The leading collision types were a rear end (28%) and a broadside (25%). These were also the leading injury crash types. The leading fatal collision type was a single vehicle rollover (34%), followed by pedestrian/bicyclist crashes (16%) and broadsides (15%). Head-on collisions were 15 times more likely to result in a fatality than other collisions. Single vehicle rollovers were 8 times more likely to result in a fatality than other collisions.

Table 1.11 Type of Vehicles Involved in Crashes, Injury Crashes and Fatal Crashes, 1998

Vehicle Type	Crashes		Injury Crashes		Fatal Crashes	
	#	%	#	%	#	%
Passenger Car	56,900	56.2%	21,523	58.0%	211	43.5%
Pickup Truck / Vans	38,502	38.0%	13,377	36.1%	198	40.3%
Large Truck	3,512	3.5%	1,041	2.8%	55	8.9%
Other	1,602	1.6%	598	1.6%	11	46.2%
Motorcycle	601	0.6%	517	1.4%	15	4.6%
School Bus	140	0.1%	37	0.1%	0	0.0%
Grand Total	101,257	100.0%	37,093	100.0%	490	100.0%

The majority of vehicles involved in Utah crashes were passenger cars (56%). While motorcycles were less than 1% of vehicles involved in crashes, they represented nearly 5% of vehicles in fatal crashes. Crashes involving a motorcycle were 5 times more likely to be fatal than crashes involving other vehicles. Crashes involving a large truck were 4 times more likely to be fatal than crashes involving other vehicles.

1998 Crash Violations and Contributing Factors

Table 1.12 Violations for Crashes, Injury Crashes and Fatal Crashes, 1998

Violations	Crashes		Injury Crashes		Fatal Crashes	
	#	%	#	%	#	%
Failure to Yield Right of Way	7,004	22.7%	2,911	24.0%	4	10.5%
Improper Lookout	5,644	18.3%	2,085	17.2%	3	7.9%
Following Too Close	4,522	14.7%	1,638	13.5%	1	2.6%
All Other Moving Violations	2,629	8.5%	1,028	8.5%	4	10.5%
Speeding	2,312	7.5%	857	7.1%	7	18.4%
Red Light	1,542	5.0%	838	6.9%	4	10.5%
Improper Turn	1,367	4.4%	495	4.1%	2	5.3%
Driving Under the Influence	1,363	4.4%	778	6.4%	6	15.8%
Negligent Collision	1,311	4.3%	495	4.1%	1	2.6%
Improper Lane Change	805	2.6%	170	1.4%	0	0.0%
Stop Sign	535	1.7%	303	2.5%	0	0.0%
Improper Passing	436	1.4%	125	1.0%	1	2.6%
Improper Backing	391	1.3%	38	0.3%	0	0.0%
Hit and Run	312	1.0%	94	0.8%	0	0.0%
Wrong Side of Road	263	0.9%	100	0.8%	1	2.6%
Reckless Driving	222	0.7%	114	0.9%	0	0.0%
Improper Start and Stop	131	0.4%	41	0.3%	0	0.0%
Wrong Way on One Way Street	7	0.0%	2	0.0%	0	0.0%
Vehicle Homicide	4	0.0%	0	0.0%	4	10.5%
Grand Total	30,800	100.0%	12,112	100.0%	38	100.0%

Officers at the scene cited 31.4% of drivers involved in a crash for a traffic violation. The leading violation for all crashes was "failure to yield right of way" (23%). The top violations in fatal crashes were "speeding" (18%) and "driving under the influence" (16%). Drivers cited for driving under the influence were 4 times more likely to be involved in a fatal crash than drivers cited for other violations. Drivers cited for speeding were 3 times more likely to be involved in a fatal crash than drivers cited for other violations.

The factors contributing to crashes in 1998 are listed in Table 1.13. These factors were coded by the scene officers for each vehicle involved in the crash. The officer may record no contributing factor or up to two different contributing factors. The leading contributing factors recorded for all crashes and injury crashes were "improper lookout" (24% and 22%), while "speed too fast" (22%) was the leading contributing factor recorded for fatal crashes. If you combined "asleep" and "fatigued" these contributing factors would be the second leading cause of fatal crashes at 7.4% and "driving under the influence", "had been drinking" and "under the influence of drugs" would be the third leading cause at 6.8%.

Table 1.13 Contributing Factors of Crashes, Injury Crashes and Fatal Crashes, 1998

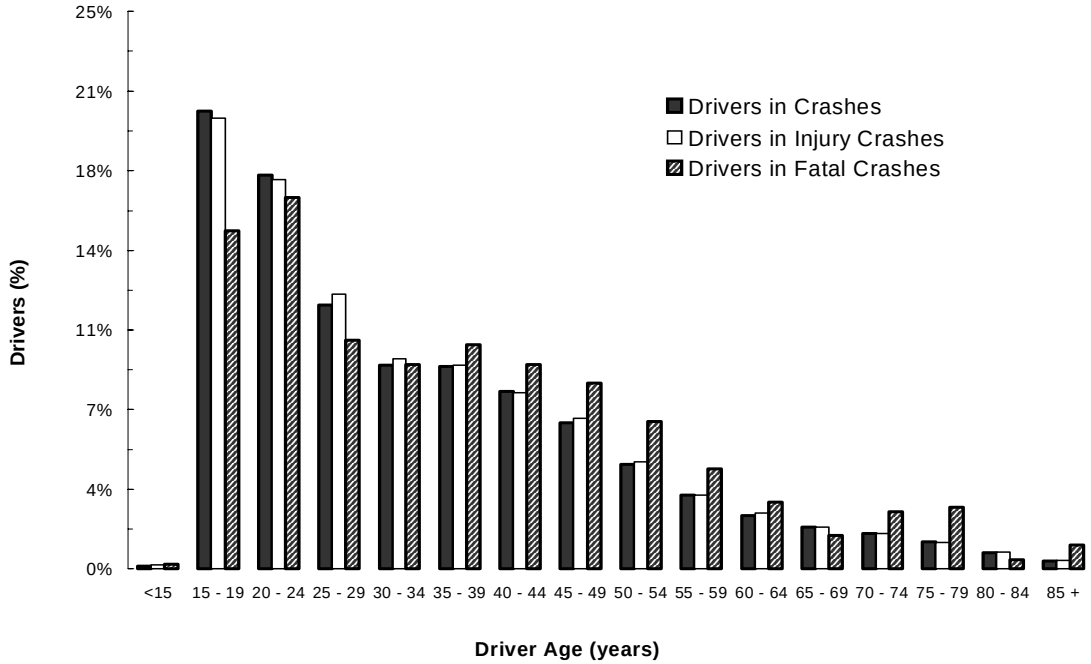
Contributing Factors	Crashes		Injury Crashes		Fatal Crashes	
	#	%	#	%	#	%
Improper Lookout	15,597	23.6%	5,505	22.3%	47	11.0%
Failed to Yield the Right of Way	10,957	16.6%	4,414	17.9%	29	6.8%
Speed Too Fast	7,951	12.0%	3,042	12.3%	93	21.7%
Following Too Closely	7,612	11.5%	2,719	11.0%	4	0.9%
Other Improper Driving	5,421	8.2%	2,032	8.2%	61	14.3%
Improper Turn	2,583	3.9%	785	3.2%	12	2.8%
Hit and Run	2,488	3.8%	676	2.7%	3	0.7%
Disregarded Traffic Signal	2,117	3.2%	1,133	4.6%	9	2.1%
Driving Under the Influence	1,274	1.9%	723	2.9%	12	2.8%
Improper Overtaking	1,260	1.9%	367	1.5%	9	2.1%
Non-Contact Vehicle Involved	1,132	1.7%	376	1.5%	15	3.5%
Drove Left of Center	1,108	1.7%	435	1.8%	41	9.6%
Asleep	859	1.3%	451	1.8%	25	5.8%
Passed Stop Sign	779	1.2%	419	1.7%	5	1.2%
Improper Backing	726	1.1%	55	0.2%	2	0.5%
Had Been Drinking	454	0.7%	253	1.0%	15	3.5%
Other Defective Condition	376	0.6%	114	0.5%	3	0.7%
Brakes Defective	359	0.5%	143	0.6%	2	0.5%
Fatigued	334	0.5%	183	0.7%	7	1.6%
Improper Parking	300	0.5%	80	0.3%	3	0.7%
Tires Defective	272	0.4%	98	0.4%	5	1.2%
Ill	197	0.3%	123	0.5%	2	0.5%
Cargo Loss or Shift	190	0.3%	43	0.2%	2	0.5%
Failed to Signal	171	0.3%	50	0.2%	0	0.0%
Non-collision Fire	155	0.2%	0	0.0%	1	0.2%
Jackknife	143	0.2%	38	0.2%	2	0.5%
Vehicle Rolling in Traffic Lane	121	0.2%	31	0.1%	0	0.0%
Down Hill Runaway	118	0.2%	21	0.1%	1	0.2%
Separation of Units	108	0.2%	14	0.1%	4	0.9%
Wrong Side of Road	103	0.2%	47	0.2%	0	0.0%
Windshield Not Clear	96	0.1%	37	0.2%	0	0.0%
Stolen	95	0.1%	34	0.1%	0	0.0%
Other Lights or Reflecting/Defective	93	0.1%	36	0.1%	4	0.9%
Under the Influence of Drugs	90	0.1%	47	0.2%	2	0.5%
Headlights Insufficient or Out	87	0.1%	39	0.2%	1	0.2%
Towed Vehicle	59	0.1%	13	0.1%	0	0.0%
Headlights Glaring	46	0.1%	12	0.0%	1	0.2%
Steering Mechanism Defective	44	0.1%	21	0.1%	1	0.2%
Immersion	36	0.1%	6	0.0%	1	0.2%
Eyesight Defective Uncorrected	26	0.0%	13	0.1%	0	0.0%
Explosion or Fire	23	0.0%	2	0.0%	0	0.0%
Collision Fire	14	0.0%	7	0.0%	4	0.9%
Wrong Way on One Way Street	10	0.0%	3	0.0%	0	0.0%
Grand Total	65,984	100.0%	24,640	100.0%	428	100.0%

Drivers Involved in 1998 Crashes

Figure 1.07 shows the age of drivers involved in crashes for 1998. The age distribution of drivers involved in all crashes and injury crashes were similar; drivers between the age of 15 to 19 years represented the highest percentage of drivers involved in these crashes. The age distribution of drivers involved in fatal crashes was different; 20 to 24 year old drivers represented the largest percentage of drivers involved in fatal crashes.

Similar trends in the age of drivers involved in crashes are illustrated in Figure 1.08 which shows the crash rate per licensed drivers. The number of licensed drivers was provided by the Utah Drivers License Division. Drivers aged 16 to 18 years experienced high crash and injury crash rates. Drivers aged 19 to 20 years had the highest rates of fatal crashes, followed by drivers aged 16 to 18 years.

Figure 1.07 Age of Drivers Involved in Crashes, Injury Crashes and Fatal Crashes, 1998 (See Table 1.14 for values)

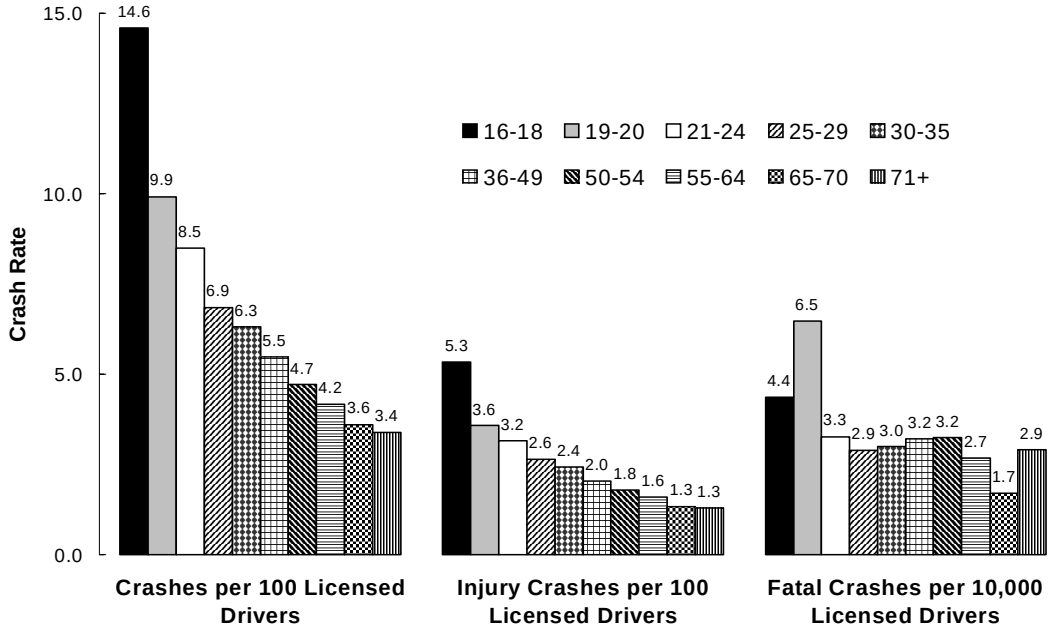


Note: The above graph is based on percentage for the different crash categories. To read the above graph, look at one category across the groups. For example, look at only the white bars (i.e. drivers in injury crashes) from age group to age group. Do not compare the heights of the different crash categories for a specific age group.

Table 1.14 Age of Drivers Involved in Crashes, Injury Crashes and Fatal Crashes, 1998

	Crashes		Injury Crashes		Fatal Crashes	
Driver's Age	**#**	**%**	**#**	**%**	**#**	**%**
<15	124	0.1%	66	0.2%	1	0.2%
15 - 19	19,702	20.1%	7,210	19.8%	71	14.9%
20 - 24	16,960	17.3%	6,228	17.1%	78	16.3%
25 - 29	11,377	11.6%	4,393	12.1%	48	10.0%
30 - 34	8,756	8.9%	3,358	9.2%	43	9.0%
35 - 39	8,727	8.9%	3,261	9.0%	47	9.8%
40 - 44	7,633	7.8%	2,816	7.7%	43	9.0%
45 - 49	6,294	6.4%	2,407	6.6%	39	8.2%
50 - 54	4,501	4.6%	1,711	4.7%	31	6.5%
55 - 59	3,189	3.3%	1,186	3.3%	21	4.4%
60 - 64	2,280	2.3%	897	2.5%	14	2.9%
65 - 69	1,800	1.8%	670	1.8%	7	1.5%
70 - 74	1,523	1.6%	570	1.6%	12	2.5%
75 - 79	1,171	1.2%	425	1.2%	13	2.7%
80 - 84	683	0.7%	270	0.7%	2	0.4%
85 +	322	0.3%	132	0.4%	5	1.0%
Missing	2,917	3.0%	783	2.2%	3	0.6%
Grand Total	97,959	100.0%	36,383	100.0%	478	100.0%

Figure 1.08 Age of Driver by Crash Rate per Licensed Driver, 1998



Males represented 58% of all drivers involved in a crash, and 72% of drivers involved in fatal crashes. Females accounted for 40% of drivers involved in a crash, but they represented a slightly higher percentage of drivers in injury crashes at 43%.

Table 1.15 Gender of Drivers Involved in Crashes, Injury Crashes and Fatal Crashes, 1998

	Crashes		Injury Crashes		Fatal Crashes	
Driver's Gender	**#**	**%**	**#**	**%**	**#**	**%**
Female	38,955	39.8%	15,526	42.7%	137	27.4%
Male	56,990	58.2%	20,399	56.1%	339	71.9%
Missing	2,014	2.1%	458	1.3%	2	0.6%
Grand Total	97,959	100.0%	36,383	100.0%	478	100.0%

Out of State Drivers Involved in Utah 1998 Crashes

Table 1.16 State of Licensure for Drivers Involved in Crashes, Injury Crashes and Fatal Crashes, 1998

Drivers License State	Crashes #	Crashes %	Injury Crashes #	Injury Crashes %	Fatal Crashes #	Fatal Crashes %
Out of State	8,998	9.2%	3,287	9.0%	80	18.9%
Utah	88,780	90.6%	33,038	90.8%	396	81.1%
Missing	181	0.2%	58	0.2%	2	0.0%
Grand Total	97,959	100.0%	36,383	100.0%	478	100.0%

Table 1.16 shows the state of licensure for drivers involved in Utah crashes. While out of state licensed drivers accounted for 9% of drivers involved in crashes, they represented 19% of drivers involved in fatal crashes. This may be due in part to fatigued driving on out-of-state trips. There were several counties that had a disproportional amount of out of state drivers (Table 1.17). Most notably, Kane (43%), San Juan (37%), Daggett (37%), and Grand (37%) had a high proportion of out of state licensed drivers involved in crashes. These drivers may place an undue burden on the residents and medical services in these counties.

Table 1.17 State of Licensure for Drivers by County, 1998

County	Total Drivers	Out of State Drivers #	Out of State Drivers %
Beaver	403	124	30.8%
Box Elder	1,308	235	18.0%
Cache	3,747	405	10.8%
Carbon	579	52	9.0%
Daggett	54	20	37.0%
Davis	7,622	483	6.3%
Duchesne	463	28	6.0%
Emery	404	118	29.2%
Garfield	173	60	34.7%
Grand	326	119	36.5%
Iron	1,471	328	22.3%
Juab	375	68	18.1%
Kane	325	138	42.5%
Millard	503	148	29.4%
Morgan	197	43	21.8%
Piute	63	11	17.5%
Rich	88	16	18.2%
Salt Lake	47,622	2,981	6.3%
San Juan	334	125	37.4%
Sanpete	691	24	3.5%
Sevier	825	243	29.5%
Summit	1,224	292	23.9%
Tooele	1,025	140	13.7%
Uintah	785	59	7.5%
Utah	15,171	1,709	11.3%
Wasatch	691	75	10.9%
Washington	3,051	417	13.7%
Wayne	77	15	19.5%
Weber	8,362	522	6.2%
Grand Total	97,959	8,998	9.2%

Section 2
1998 Crash Participants, Injured Persons and Fatalities

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Crash Injured Persons and Fatalities 1968 - 1998

The trends in injuries and fatalities for the past thirty years are shown in Table 2.01. During this time period over half a million persons have been injured and almost 10,000 people have been killed in a crash.

In 1998, there was a slight decline in the number of people killed or injured in motor vehicle crashes compared to previous years. The injured person rate per 100 million vehicle miles traveled (MVMT) was 148.1 in 1998. This was a 3% decrease from the 1997 rate of 153.1. The lowest fatality rate per 100 MVMT occurred in 1998 at 1.6, which was a slight decrease from 1.8 the previous year.

Table 2.01 Crash Injured Persons and Fatalities, 1968-1998

Year	Million Vehicle Miles	Injuries	Fatalities	Injury Rate per 100 Million Vehicle Miles	Fatality Rate per 100 Million Vehicle Miles
1968	5,539	15,539	289	295.6	5.2
1969	5,802	15,977	308	275.4	5.3
1970	6,108	17,076	335	294.3	5.5
1971	6,544	18,073	337	276.2	5.1
1972	6,969	18,261	382	279.0	5.5
1973	7,274	18,415	361	253.2	5.0
1974	7,457	16,268	228	223.6	3.1
1975	7,942	17,762	274	223.6	3.5
1976	8,420	18,315	254	230.6	3.0
1977	9,054	19,728	360	217.9	4.0
1978	9,826	21,029	376	232.3	3.8
1979	9,811	20,798	328	212.0	3.3
1980	10,645	17,828	335	181.7	3.1
1981	10,733	18,090	364	168.5	3.4
1982	10,947	17,538	296	163.4	2.7
1983	11,228	18,910	283	168.4	2.5
1984	11,642	20,487	315	182.5	2.7
1985	12,035	21,346	303	177.4	2.5
1986	12,253	21,350	312	177.4	2.5
1987	12,679	19,237	297	151.7	2.3
1988	13,263	19,066	297	150.4	2.2
1989	13,915	19,843	303	142.6	2.2
1990	14,646	20,608	272	148.1	1.9
1991	15,390	19,540	271	127.0	1.8
1992	16,263	22,490	269	146.1	1.7
1993	17,055	25,763	303	151.1	1.8
1994	18,080	28,436	343	166.7	1.9
1995	18,786	28,343	325	150.9	1.7
1996	19,433	30,711	328	163.5	1.7
1997	20,408	31,238	366	153.1	1.8
1998	21,237	30,232	350	148.1	1.6

Figures 2.01 and 2.02 reflect the trends in rates of persons injured and killed in crashes per 100 million vehicle miles traveled (MVMT) from 1968 to 1998. The injury rates were highest in the late-sixties and early-seventies. The rate of persons killed has markedly decreased from 5.2 persons killed per 100 MVMT in 1968 to 1.6 persons killed per 100 MVMT in 1998. The biggest decrease in fatalities for one year occurred in 1973 after the implementation of a 55 MPH speed limit.

Figure 2.01 Crash Injured Person Rates per Miles Traveled, 1968 -1998

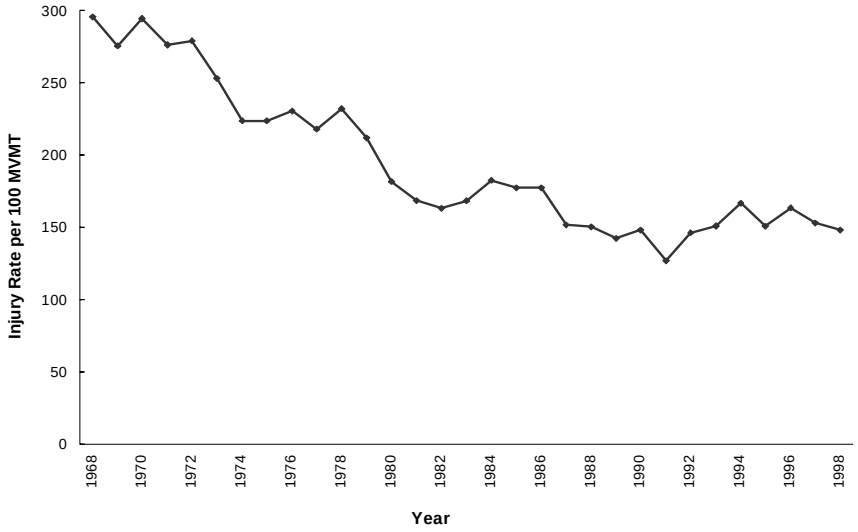
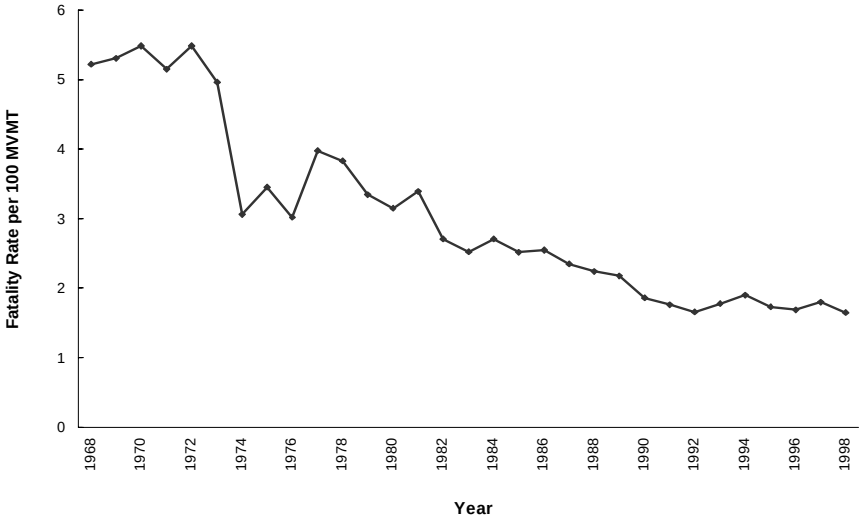
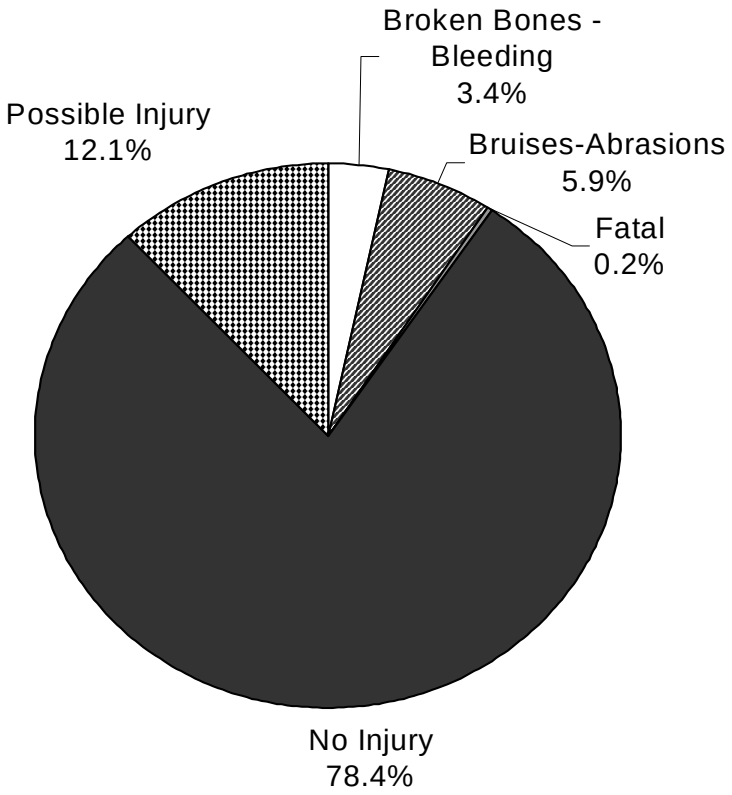


Figure 2.02 Crash Fatality Rates per Miles Traveled, 1968 -1998



1998 Crash Injury Severity

Figure 2.03 Severity of Injuries as Reported by Police, 1998 (n=141,461)



Nearly 80% of all crash participants did not sustain any injury. Fatal crashes represented 1% of all crashes, yet a fatal injury was sustained by 0.2% of all crash participants. These facts indicate that individuals in the same crash have different injury experiences. Many factors influence injury patterns including seatbelt use, seat position, and vehicle safety equipment.

1998 Crash Participants, Injured Persons and Crash Fatalities by County

Figure 2.04 depicts the number of injured persons and fatalities for each county, while Table 2.02 shows the rates of crash participants, injured persons and fatalities for each county. Two different rates are given in Table 2.02 one based on population of the county and the other on the miles traveled in the county. The leading counties for crash participants based on miles traveled were Salt Lake, Utah and Weber. The leading counties for injured persons were Salt Lake, Sanpete and Davis, while the leading three for fatalities were Piute, Wayne and Rich.

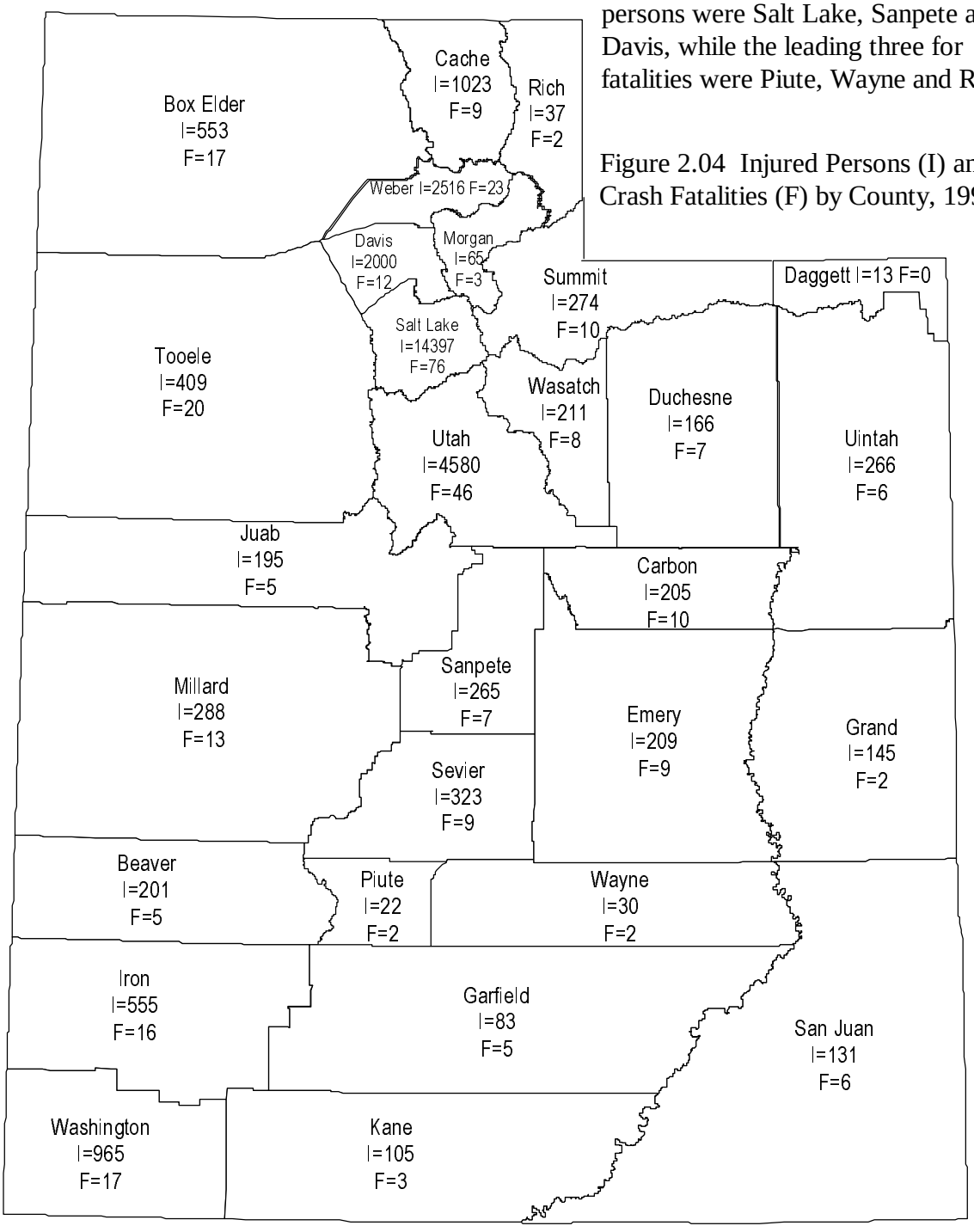


Figure 2.04 Injured Persons (I) and Crash Fatalities (F) by County, 1998

Table 2.02 Crash Participants, Injured Persons and Crash Fatalities by County, 1998

	Crash Participants			Injured Persons			Crash Fatalities		
County	#	Rate per MVMT	Rate Per 10,000 Population	#	Rate per 10 MVMT	Rate Per 10,000 Population	#	Rate per 100 MVMT	Rate Per 10,000 Population
Beaver	722	3.6	1,135.6	201	10.0	316.1	5	2.5	7.9
Box Elder	2,154	2.5	521.4	553	6.4	133.9	17	2.0	4.1
Cache	5,611	7.6	621.7	1,023	1.4	113.4	9	1.2	1.0
Carbon	859	2.6	387.8	205	6.1	92.5	10	3.0	4.5
Daggett	92	4.1	1,104.4	13	0.6	156.1	0	0.0	0.0
Davis	11,528	5.9	505.5	2,000	10.2	87.7	12	0.6	0.5
Duchesne	773	4.2	541.7	166	0.9	116.3	7	3.8	4.9
Emery	663	2.0	599.6	209	6.4	189.0	9	2.7	8.1
Garfield	322	2.5	693.8	83	0.7	178.8	5	4.0	10.8
Grand	537	2.1	539.5	145	5.6	145.7	2	0.8	2.0
Iron	2,492	4.7	782.2	555	1.0	174.2	16	3.0	5.0
Juab	679	2.1	861.3	195	6.1	247.4	5	1.6	6.3
Kane	529	4.4	744.5	105	0.9	147.8	3	2.5	4.2
Millard	940	2.4	751.1	288	7.2	230.1	13	3.3	10.4
Morgan	300	2.6	437.6	65	0.6	94.8	3	2.6	4.4
Piute	84	2.8	519.5	22	7.2	136.1	2	6.6	12.4
Rich	179	4.0	961.8	37	0.8	198.8	2	4.5	10.7
Salt Lake	66,471	9.4	781.8	14,397	20.4	169.3	76	1.1	0.9
San Juan	593	2.2	444.8	131	0.5	98.3	6	2.2	4.5
Sanpete	1,081	4.9	506.3	265	12.0	124.1	7	3.2	3.3
Sevier	1,290	3.6	684.5	323	0.9	171.4	9	2.5	4.8
Summit	1,741	3.0	680.6	274	4.8	107.1	10	1.8	3.9
Tooele	1,525	2.4	447.6	409	0.6	120.0	20	3.2	5.9
Uintah	1,335	4.8	545.1	266	9.5	108.6	6	2.1	2.4
Utah	22,001	8.0	659.1	4,580	1.7	137.2	46	1.7	1.4
Wasatch	1,083	4.9	794.9	211	9.5	154.9	8	3.6	5.9
Washington	4,705	5.5	589.4	965	1.1	120.9	17	2.0	2.1
Wayne	125	3.4	496.0	30	8.1	119.0	2	5.4	7.9
Weber	11,047	7.9	599.3	2,516	1.8	136.5	23	1.6	1.3
Grand Total	141,461	6.7	673.4	30,232	14.2	143.9	350	1.6	1.7

1998 Characteristics of Crash Participants

Table 2.03 contains the injury levels by participants' placement in the crash. Pedestrians involved in a crash were at the greatest risk for a fatal injury. In fact, pedestrians were 25 times more likely than other crash participants to sustain a fatal injury. For occupants, the back seat provided more protection against fatal injury. Front seat passengers (excluding drivers) were 2.4 times more likely than back seat passengers to sustain a fatal injury.

The gender breakdown of crash participants is shown in Table 2.04. Over half of the crash participants were males (55%). Males sustained fatal injuries at a slightly higher rate than females. While female crash participants were more likely to sustain an injury than male crash participants.

Figure 2.05 shows the age of crash participants. The largest proportion (37%) were aged 15 to 24 years. Individuals over the age of 65 years represented a small proportion of crash participants but were 3 times more likely than all other age groups to sustain a fatal injury when involved in a crash.

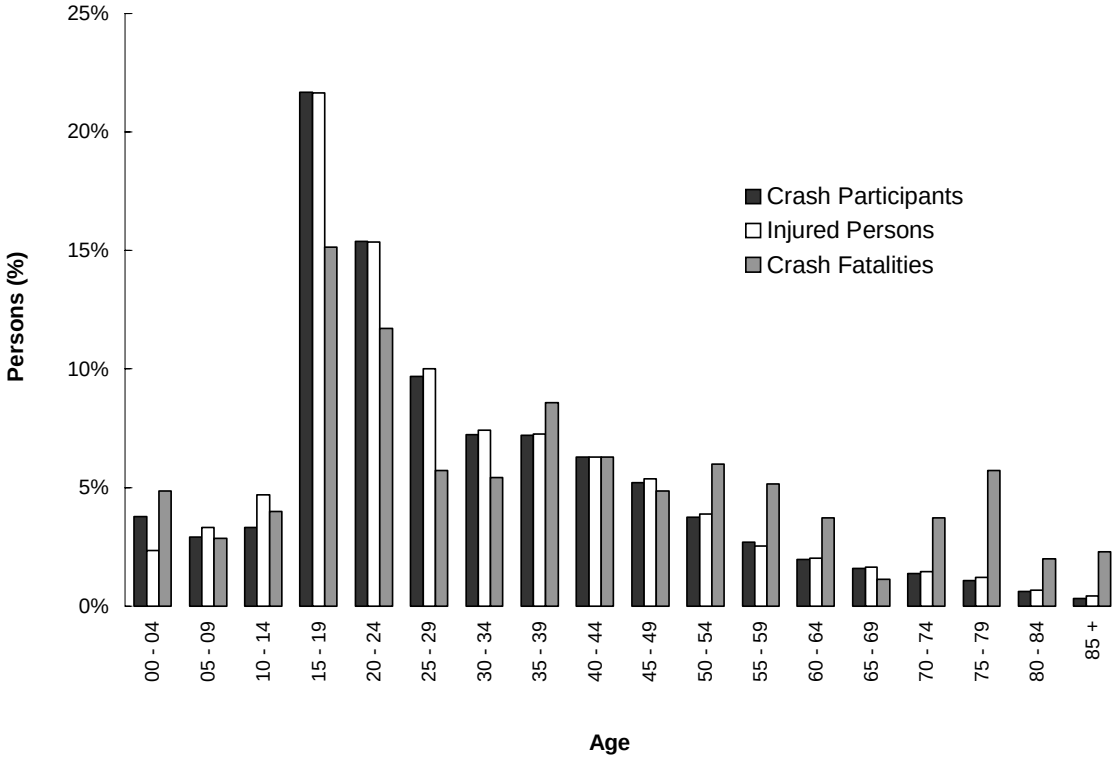
Table 2.03 Injury Severity by Participants' Placement in the Crash, 1998

Participant Placement	Crash Participants		Injured Persons		Crash Fatalities	
	#	%	#	%	#	%
Driver	97,959	69.2%	18,672	61.8%	178	51.6%
Front Seat Passenger	25,187	17.8%	6,682	22.1%	69	24.0%
Back Seat Passenger	16,108	11.4%	3,083	10.2%	45	9.8%
Cargo Area	296	0.2%	103	0.3%	0	0.8%
Pedestrian	851	0.6%	774	2.6%	44	10.7%
Bicyclist	839	0.6%	758	2.5%	9	0.8%
Other	221	0.2%	160	0.5%	5	2.2%
Grand Total	141,461	100.0%	30,232	100.0%	350	100.0%

Table 2.04 Gender of Crash Participants, Injured Persons and Crash Fatalities, 1998

Gender	Crash Participants		Injured Persons		Crash Fatalities	
	#	%	#	%	#	%
Male	77,422	54.7%	14,146	46.8%	215	58.5%
Female	61,732	43.6%	15,976	52.8%	135	41.5%
Missing	2,307	1.6%	110	0.4%	0	0.0%
Grand Total	141,461	100.0%	30,232	100.0%	350	100.0%

Figure 2.05 Age of Crash Participants, Injured Persons and Crash Fatalities, 1998
(See Table 2.05 for values)



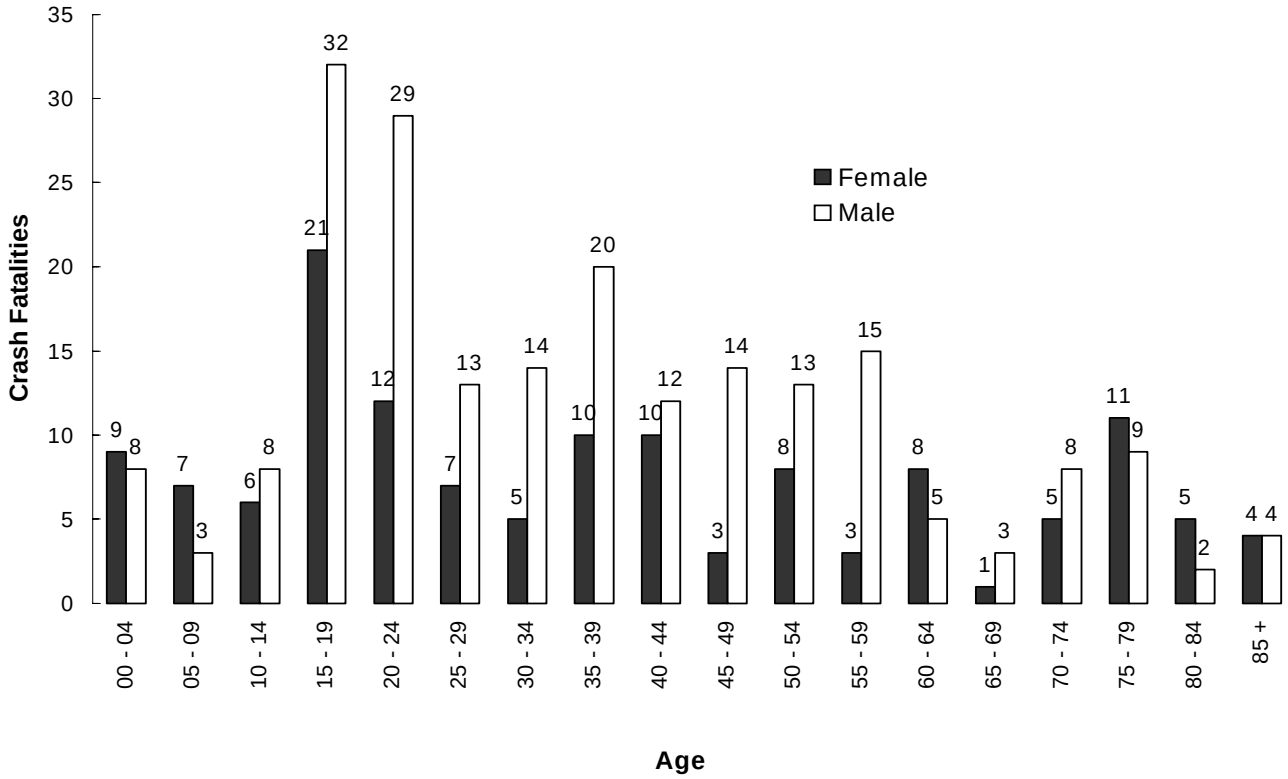
Note: The above graph is based on percentages for the different crash participant categories. To read the above graph, look at one category across the groups. For example, look at only the white bars (i.e. injured persons) from age group to age group. Do not compare the heights of the different crash participant categories for a specific age group.

Table 2.05 Age of Crash Participants, Injured Persons and Crash Fatalities, 1998

	Crash Participants		Injured Persons		Crash Fatalities	
Age	#	%	#	%	#	%
00 - 04	5,326	3.8%	711	2.4%	17	4.9%
05 - 09	4,109	2.9%	1,004	3.3%	10	2.9%
10 - 14	4,693	3.3%	1,424	4.7%	14	4.0%
15 - 19	30,647	21.7%	6,539	21.6%	53	15.1%
20 - 24	21,729	15.4%	4,641	15.4%	41	11.7%
25 - 29	13,688	9.7%	3,031	10.0%	20	5.7%
30 - 34	10,234	7.2%	2,242	7.4%	19	5.4%
35 - 39	10,167	7.2%	2,194	7.3%	30	8.6%
40 - 44	8,876	6.3%	1,901	6.3%	22	6.3%
45 - 49	7,356	5.2%	1,624	5.4%	17	4.9%
50 - 54	5,292	3.7%	1,180	3.9%	21	6.0%
55 - 59	3,804	2.7%	767	2.5%	18	5.1%
60 - 64	2,774	2.0%	615	2.0%	13	3.7%
65 - 69	2,243	1.6%	500	1.7%	4	1.1%
70 - 74	1,944	1.4%	439	1.5%	13	3.7%
75 - 79	1,506	1.1%	366	1.2%	20	5.7%
80 - 84	894	0.6%	209	0.7%	7	2.0%
85 +	461	0.3%	130	0.4%	8	2.3%
Missing	5,718	4.0%	715	2.4%	3	0.9%
Grand Total	141,461	100.0%	30,232	100.0%	350	100.0%

There were 350 crash related fatalities during 1998. Figure 2.06 shows that over a quarter of the fatalities (27%) occurred among those aged 15 -24 years. The largest number of fatalities for both males and females occurred in the 15 -19 year old age group.

Figure 2.06 Age and Gender of Crash Fatalities, 1998



Section 3
1998 Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians

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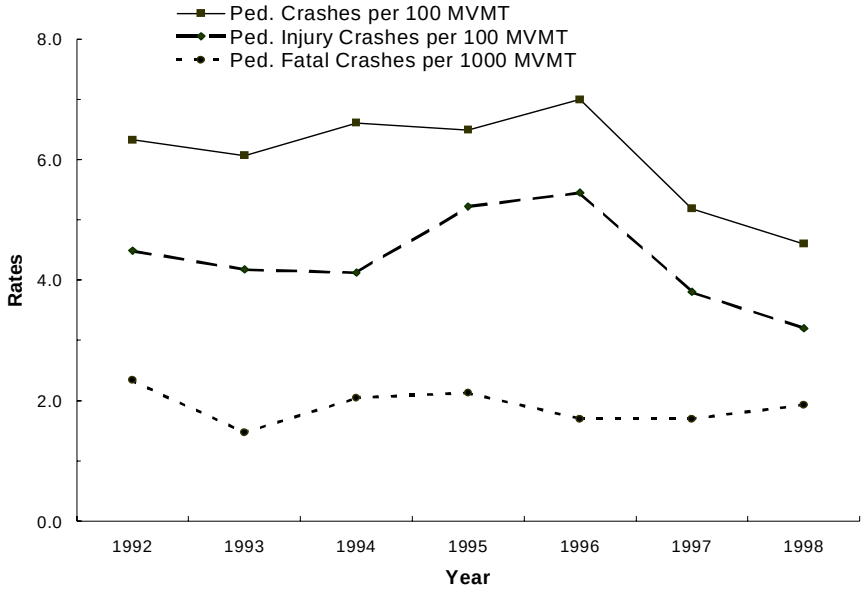
1992 - 1998 Crashes Involving Pedestrians

Table 3.01 and Figure 3.01 show the trends in pedestrian crashes for 1992 - 1998. The highest rate per vehicle miles traveled of pedestrian crashes and pedestrian injury crashes occurred in 1996, while the highest rate of fatal pedestrian crashes occurred in 1992. It is possible that the decrease in reported pedestrian crashes from 1997 - 1998 is due to a change in reporting criteria initiated in 1997 that excluded private property crashes. As a result, pedestrian crashes that occurred in a parking lot, driveway and other private roadways would not be included from 1997 forward.

Table 3.01 Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians, 1992 - 1998

	Ped. Crashes	Rate per 100	Ped. Injury Crashes	Rate per 100	Ped. Fatal Crashes	Rate per 1000
Year	#	MVMT	#	MVMT	#	MVMT
1992	1,029	6.3	730	4.5	38	2.3
1993	1,035	6.1	712	4.2	25	1.5
1994	1,075	6.6	745	4.1	37	2.0
1995	1,108	6.5	981	5.2	40	2.1
1996	1,137	7.0	1,060	5.5	33	1.7
1997	884	5.2	773	3.8	34	1.7
1998	748	4.6	679	3.2	41	1.9

Figure 3.01 Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians, 1992 - 1998



1998 Pedestrian Crash Severity

Figure 3.02 Severity of Pedestrian Motor Vehicle Crashes as Reported by Police, 1998 (n=748)

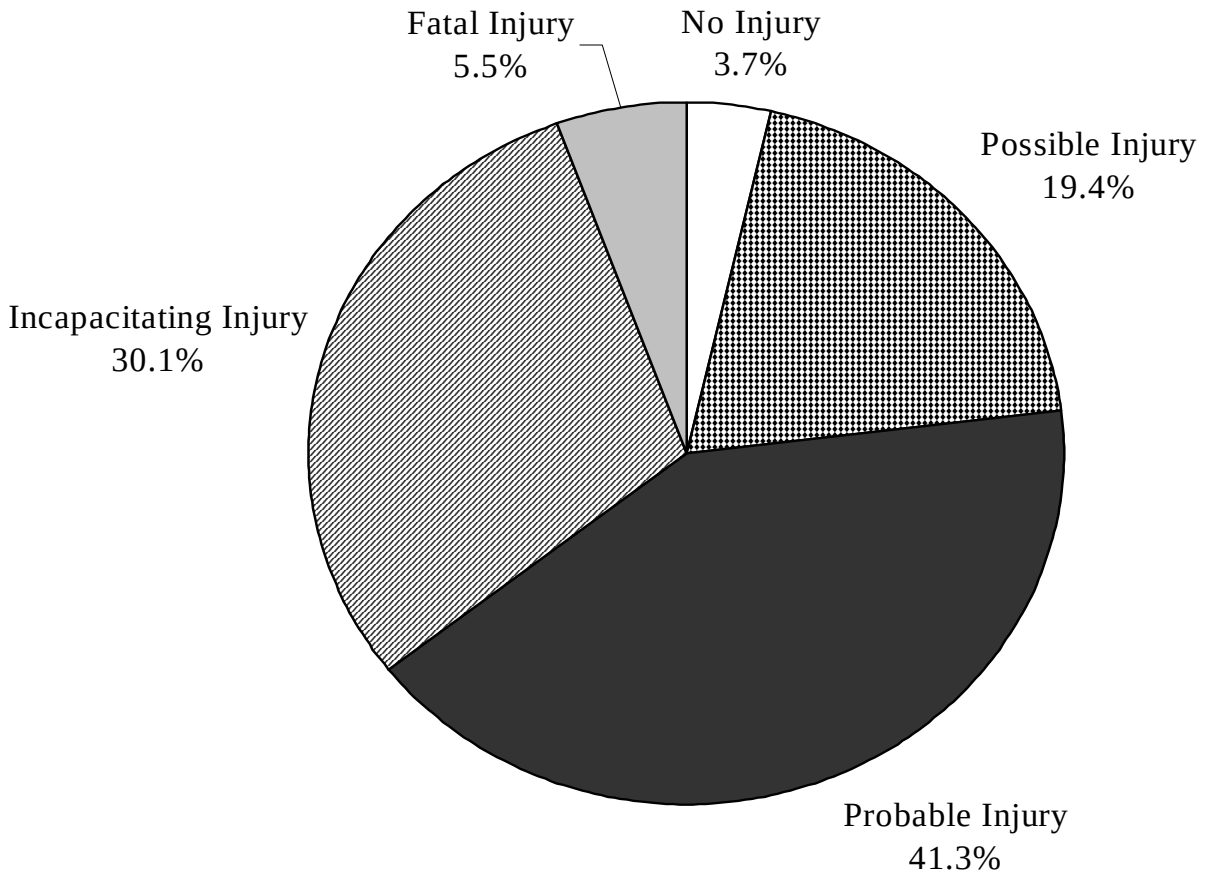


Figure 3.02 shows that the majority of pedestrian crashes (96%) resulted in an injury compared to 37% of all motor vehicle crashes. Moreover, 5.5% of pedestrian crashes resulted in a fatality, compared to 1% of all motor vehicle crashes.

The rates of pedestrian involved crashes, injury crashes and fatal crashes by county are shown in Table 3.02. There are two different rates given, one based on population of the county and another on the miles traveled in the county. The top three counties for pedestrian involved crashes and injury crashes based on miles traveled were Salt Lake, Weber and Utah. The top three counties for fatal crashes per miles traveled were Weber, Utah and Salt Lake.

1998 Pedestrian Crashes by County

Table 3.02 Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians by County, 1998

County	Ped. Crashes #	Rate per 10,000 Population	Rate per 100 MVMT	Ped. Injury Crashes #	Rate per 10,000 Population	Rate per 100 MVMT	Ped. Fatal Crashes #	Rate per 10,000 Population	Rate per 1000 MVMT
Beaver	4	6.3	2.0	4	6.3	2.0	0	0.0	0.0
Box Elder	3	0.7	0.3	3	0.7	0.3	0	0.0	0.0
Cache	16	1.8	2.2	15	1.7	2.0	0	0.0	0.0
Carbon	4	1.8	1.2	4	1.8	1.2	0	0.0	0.0
Daggett	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Davis	43	1.9	2.2	36	1.6	1.8	3	0.1	1.5
Duchesne	2	1.4	1.1	2	1.4	1.1	0	0.0	0.0
Emery	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Garfield	1	2.2	0.8	1	2.2	0.8	0	0.0	0.0
Grand	1	1.0	0.4	1	1.0	0.4	0	0.0	0.0
Iron	7	2.2	1.3	6	1.9	1.1	1	0.3	1.9
Juab	2	0.0	0.6	2	0.0	0.0	0	0.0	0.0
Kane	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Millard	1	0.8	0.3	1	0.8	0.3	0	0.0	0.0
Morgan	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Piute	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Rich	1	0.0	2.2	1	0.0	0.0	0	0.0	0.0
Salt Lake	429	5.0	6.1	391	4.6	5.5	20	0.2	2.8
San Juan	1	0.8	0.4	1	0.8	0.4	0	0.0	0.0
Sanpete	5	2.3	2.3	4	1.9	1.8	0	0.0	0.0
Sevier	5	2.7	1.4	5	2.7	1.4	0	0.0	0.0
Summit	6	2.3	1.1	5	2.0	0.9	1	0.4	1.8
Tooele	5	1.5	0.8	4	1.2	0.6	1	0.3	1.6
Uintah	3	1.2	1.1	3	1.2	1.1	0	0.0	0.0
Utah	124	3.7	4.5	115	3.4	4.2	8	0.2	2.9
Wasatch	3	2.2	1.3	3	2.2	1.3	0	0.0	0.0
Washington	15	1.9	1.8	13	1.6	1.5	1	0.1	1.2
Wayne	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Weber	67	3.6	4.8	59	3.2	4.2	6	0.3	4.3
Statewide	748	3.6	3.5	679	3.2	3.2	41	0.2	1.9

The table below compares pedestrian crashes in 1997 to 1998. While most counties experienced a decrease in pedestrian crashes for 1998, in Utah County the number of fatal pedestrian crashes doubled.

Table 3.03. Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians by County, 1997 - 1998

	Ped. Crashes				Ped. Injury Crashes				Ped. Fatal Crashes			
	1997		1998		1997		1998		1997		1998	
County	#	Rate per 100 MVMT	#	Rate per 100 MVMT	#	Rate per 100 MVMT	#	Rate per 100 MVMT	#	Rate per 1000 MVMT	#	Rate per 1000 MVMT
Beaver	1	0.5	4	2.0	1	0.5	4	2.0	0	0.0	0	0.0
Box Elder	9	1.1	3	0.3	9	1.1	3	0.3	0	0.0	0	0.0
Cache	22	3.2	16	2.2	20	2.9	15	2.0	1	1.4	0	0.0
Carbon	3	1.0	4	1.2	2	0.7	4	1.2	0	0.0	0	0.0
Daggett	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Davis	65	3.5	43	2.2	57	3.1	36	1.8	3	1.6	3	1.5
Duchesne	3	1.7	2	1.1	3	1.7	2	1.1	0	0.0	0	0.0
Emery	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Garfield	1	0.8	1	0.8	1	0.8	1	0.8	0	0.0	0	0.0
Grand	1	0.4	1	0.4	1	0.4	1	0.4	0	0.0	0	0.0
Iron	7	1.4	7	1.3	7	1.4	6	1.1	0	0.0	1	1.9
Juab	0	0.0	2	0.6	0	0.0	2	0.6	0	0.0	0	0.0
Kane	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Millard	3	0.8	1	0.3	2	0.5	1	0.3	1	2.7	0	0.0
Morgan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Piute	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Rich	0	0.0	1	2.2	0	0.0	1	2.2	0	0.0	0	0.0
Salt Lake	463	6.7	429	6.1	423	6.1	391	5.5	20	2.9	20	2.8
San Juan	6	2.3	1	0.4	5	1.9	1	0.4	0	0.0	0	0.0
Sanpete	6	2.7	5	2.3	6	2.7	4	1.8	0	0.0	0	0.0
Sevier	6	1.8	5	1.4	4	1.2	5	1.4	1	3.0	0	0.0
Summit	4	0.7	6	1.1	3	0.6	5	0.9	0	0.0	1	1.8
Tooele	5	0.9	5	0.8	5	0.9	4	0.6	0	0.0	1	1.6
Uintah	6	2.2	3	1.1	6	2.2	3	1.1	0	0.0	0	0.0
Utah	130	4.9	124	4.5	124	4.7	115	4.2	4	1.5	8	2.9
Wasatch	4	1.9	3	1.3	3	1.4	3	1.3	0	0.0	0	0.0
Washington	19	2.4	15	1.8	19	2.4	13	1.5	0	0.0	1	1.2
Wayne	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Weber	78	5.8	67	4.8	70	5.2	59	4.2	4	3.0	6	4.3
Missing	2		0		2				0		0	
Statewide	844	4.1	748	3.5	773	3.8	679	3.2	34	1.7	41	1.9

1998 Pedestrian Crash Times

Table 3.04 shows that pedestrian crashes and pedestrian injury crashes peaked during the late afternoon (3 p.m. to 5 p.m.). Fatal pedestrian crashes occurred most often in the evening from 6 p.m. to 10 p.m. and again in the morning hour at 6 a.m. (Figure 3.03).

Fall months (September and October) as well as March and December had high rates of pedestrian crashes and pedestrian injury crashes (Table 3.05). Most of fatal pedestrian crashes (49%) occurred between Memorial Day and Labor Day. The rate of fatal pedestrian crashes per day between Memorial Day and Labor Day was 0.18 which is almost double the yearly rate of 0.11.

Table 3.04 Hour of Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians, 1998

	Ped. Crashes		Ped. Injury Crashes		Ped. Fatal Crashes	
Hour	**#**	**%**	**#**	**%**	**#**	**%**
12 a.m.	3	0.4%	2	0.3%	1	2.4%
1 a.m.	10	1.3%	9	1.3%	1	2.4%
2 a.m.	2	0.3%	2	0.3%	0	0.0%
3 a.m.	0	0.0%	0	0.0%	0	0.0%
4 a.m.	1	0.1%	1	0.1%	0	0.0%
5 a.m.	4	0.5%	3	0.4%	1	2.4%
6 a.m.	24	3.2%	20	2.9%	4	9.8%
7 a.m.	42	5.6%	39	5.7%	2	4.9%
8 a.m.	24	3.2%	22	3.2%	2	4.9%
9 a.m.	18	2.4%	18	2.7%	0	0.0%
10 a.m.	25	3.3%	23	3.4%	1	2.4%
11 a.m.	23	3.1%	22	3.2%	1	2.4%
12 p.m.	39	5.2%	37	5.4%	2	4.9%
1 p.m.	35	4.7%	28	4.1%	4	9.8%
2 p.m.	42	5.6%	39	5.7%	0	0.0%
3 p.m.	81	10.8%	76	11.2%	1	2.4%
4 p.m.	48	6.4%	48	7.1%	0	0.0%
5 p.m.	69	9.2%	66	9.7%	0	0.0%
6 p.m.	66	8.8%	57	8.4%	5	12.2%
7 p.m.	48	6.4%	43	6.3%	3	7.3%
8 p.m.	38	5.1%	36	5.3%	2	4.9%
9 p.m.	42	5.6%	34	5.0%	5	12.2%
10 p.m.	45	6.0%	38	5.6%	4	9.8%
11 p.m.	19	2.5%	16	2.4%	2	4.9%
Grand Total	748	100.0%	679	100.0%	41	100.0%

Figure 3.03 Hour of Injury Crashes and Fatal Crashes Involving Pedestrians, 1998 (See Table 3.04 for values)

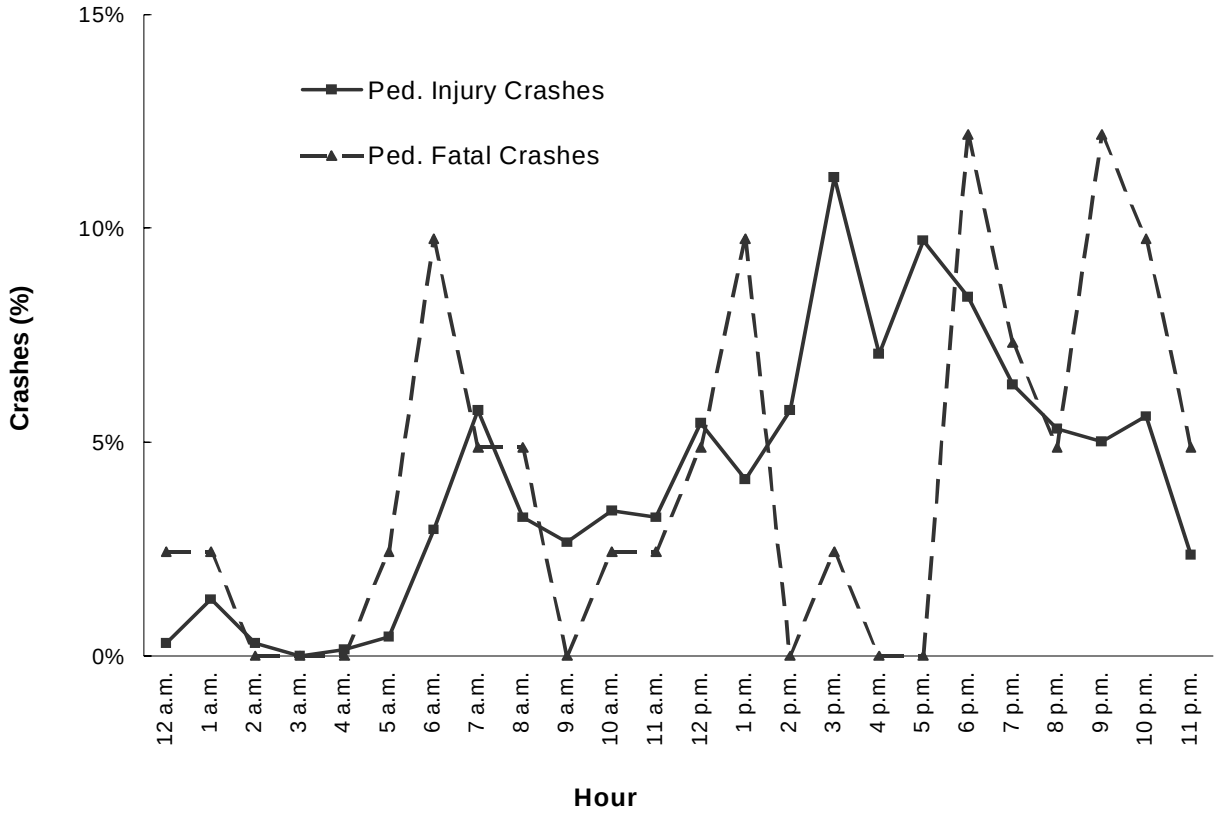
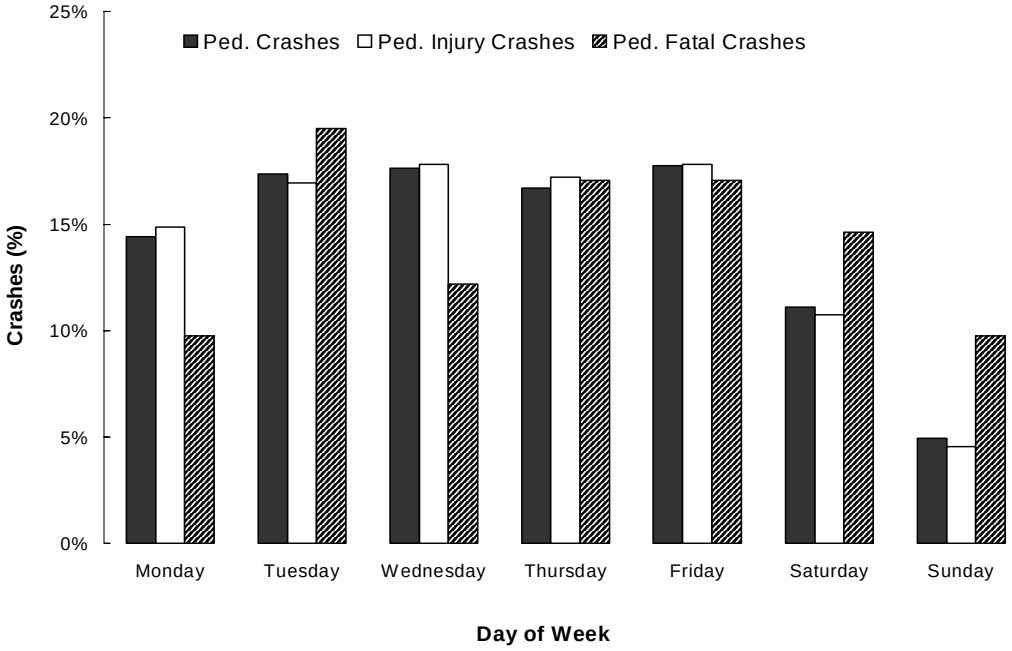


Table 3.05 Month of Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians, 1998

	Ped. Crashes		Ped. Injury Crashes		Ped. Fatal Crashes	
Crash Month	#	Rate per Day	#	Rate per Day	#	Rate per Day
January	64	2.1	57	1.8	4	0.1
February	56	2.0	49	1.8	4	0.1
March	76	2.5	69	2.2	3	0.1
April	52	1.7	50	1.7	1	0.0
May	55	1.8	50	1.6	4	0.1
June	49	1.6	45	1.5	3	0.1
July	61	2.0	49	1.6	9	0.3
August	56	1.8	53	1.7	1	0.0
September	73	2.4	67	2.2	5	0.2
October	78	2.5	72	2.3	3	0.1
November	53	1.8	49	1.6	2	0.1
December	75	2.4	69	2.2	2	0.1
Grand Total	748	2.0	679	1.9	41	0.1

The highest percentage of pedestrian crashes and pedestrian injury crashes occurred on Wednesday and Friday. Fatal pedestrian crashes occurred most often on Tuesday. Although Sundays accounted for the smallest proportion of pedestrian crashes, pedestrian crashes occurring on that day were 2 times more likely to be fatal compared to other days of the week.

Figure 3.04 Day of Week for Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians, 1998 (See Table 3.06 for values)



Note: The above graph is based on percentage for the different crash categories. To read the above graph, look at one category across the groups. For example, look at only the white bars (i.e. pedestrian injury crashes) from day to day. Do not compare the heights of the different crash categories for a specific day.

Table 3.06 Day of Week for Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians, 1998

	Ped. Crashes		Ped. Injury Crashes		Ped. Fatal Crashes	
Day of Week	#	%	#	%	#	%
Monday	108	14.4%	101	14.9%	4	9.8%
Tuesday	130	17.4%	115	16.9%	8	19.5%
Wednesday	132	17.6%	121	17.8%	5	12.2%
Thursday	125	16.7%	117	17.2%	7	17.1%
Friday	133	17.8%	121	17.8%	7	17.1%
Saturday	83	11.1%	73	10.8%	6	14.6%
Sunday	37	4.9%	31	4.6%	4	9.8%
Grand Total	748	100.0%	679	100.0%	41	100.0%

1998 Pedestrian Crash Characteristics

The majority of pedestrian crashes occurred in urban areas (Table 3.07). While rural and small urban areas experienced a small number of pedestrian crashes, these areas were 3 times more likely to have a fatal pedestrian crash than moderate and large urban areas.

Table 3.08 shows that the largest percentage of vehicles involved in pedestrian crashes, and injury crashes were passenger cars, while pickup trucks and vans were involved in the largest percentage of fatal pedestrian crashes. School buses were involved in 2 pedestrian crash resulting in 2 injured pedestrians but no fatalities. Large trucks were involved in 14 pedestrian crashes resulting in 12 injured pedestrians and 2 fatalities.

Table 3.07 Urban / Rural Location of Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians, 1998

	Ped. Crashes		Ped. Injury Crashes		Ped. Fatal Crashes	
Urban / Rural Location	**#**	**%**	**#**	**%**	**#**	**%**
Rural Area - Up to 5,000	44	5.9%	38	5.6%	6	13.6%
Small Urban - 5,000 to 49,999	28	3.7%	24	3.5%	3	6.8%
Moderate Urban - 50,000 to 199,999	13	1.7%	12	1.8%	0	0.0%
Large Urban - 200,000 or More	584	78.1%	534	78.6%	26	59.1%
Missing	79	10.6%	71	10.5%	9	20.5%
Grand Total	748	100.0%	679	100.0%	44	100.0%

Table 3.08 Type of Vehicles Involved in Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians, 1998

	Ped. Crashes		Ped. Injury Crashes		Ped. Fatal Crashes	
Vehicle Type	**#**	**%**	**#**	**%**	**#**	**%**
Passenger Car	462	59.0%	426	60.6%	14	32.6%
Pickup Truck / Vans	268	34.2%	228	32.4%	26	60.5%
Unknown	27	3.4%	26	3.7%	1	2.3%
Large Truck	14	1.8%	12	1.7%	2	4.7%
Other	7	0.9%	6	0.9%	0	0.0%
Motorcycle	3	0.4%	3	0.4%	0	0.0%
School Bus	2	0.3%	2	0.3%	0	0.0%
Grand Total	783	100.0%	703	100.0%	43	100.0%

Note: More than one vehicle may be involved in a pedestrian crash.
Unknown vehicles are "hit and run" vehicles.

1998 Pedestrian Crash Violations and Contributing Factors

Table 3.09 Violations for Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians, 1998

Violations	Ped. Crashes		Ped. Injury Crashes		Ped. Fatal Crashes	
	#	%	#	%	#	%
Failure to Yield Right of Way	83	52.2%	82	54.7%	1	33.3%
Improper Lookout	25	15.7%	22	14.7%	1	33.3%
Hit and Run	11	6.9%	9	6.0%	0	0.0%
Driving Under the Influence	7	4.4%	7	4.7%	0	0.0%
All Other Moving Violations	6	3.8%	6	4.0%	0	0.0%
Negligent Collision	6	3.8%	6	4.0%	0	0.0%
Reckless Driving	5	3.1%	5	3.3%	0	0.0%
Improper Passing	3	1.9%	2	1.3%	0	0.0%
Stop Sign	3	1.9%	3	2.0%	0	0.0%
Improper Backing	2	1.3%	2	1.3%	0	0.0%
Speeding	2	1.3%	2	1.3%	0	0.0%
Wrong Side of Road	2	1.3%	2	1.3%	0	0.0%
Improper Lane Change	1	0.6%	0	0.0%	0	0.0%
Improper Start and Stop	1	0.6%	1	0.7%	0	0.0%
Improper Turn	1	0.6%	1	0.7%	0	0.0%
Vehicle Homicide	1	0.6%	0	0.0%	1	33.3%
Grand Total	159	100.0%	150	100.0%	3	100.0%

There were 761 drivers involved in pedestrian crashes, of which 159 (21%) were cited for a traffic violation. Over half (52%) of the violations were for "failure to yield right of way". Only 7% of drivers involved in fatal pedestrian crashes received a citation at the crash scene.

The factors contributing to pedestrian crashes are listed in Table 3.10. These factors were coded by the officers at the scene for vehicles involved in the crash. The officer may record no contributing factor or up to two different contributing factors. The primary contributing factor recorded for all types of pedestrian crashes was "improper lookout" followed by "failed to yield right of way". Alcohol and other drugs appear to be an important contributing factor in fatal pedestrian crashes. While "DUI", "had been drinking" and "under the influence of drugs" account for 2% of contributing factors in all pedestrian crashes, these factors accounted for 12% in fatal pedestrian crashes.

Table 3.10 Contributing Factors in Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians, 1998

Contributing Factors	Ped. Crashes #	Ped. Crashes %	Ped. Injury Crashes #	Ped. Injury Crashes %	Ped. Fatal Crashes #	Ped. Fatal Crashes %
Improper Lookout	193	35.1%	171	33.7%	7	41.2%
Failed to Yield the Right of Way	138	25.1%	134	26.4%	3	17.6%
Hit and Run	95	17.3%	91	17.9%	2	11.8%
Other Improper Driving	37	6.7%	35	6.9%	0	0.0%
Speed Too Fast	12	2.2%	10	2.0%	2	11.8%
Improper Overtaking	9	1.6%	7	1.4%	0	0.0%
Disregarded Traffic Signal	7	1.3%	7	1.4%	0	0.0%
Driving Under the Influence	7	1.3%	6	1.2%	1	5.9%
Non-Contact Vehicle Involved	7	1.3%	6	1.2%	1	5.9%
Windshield Not Clear	7	1.3%	7	1.4%	0	0.0%
Following Too Closely	6	1.1%	3	0.6%	0	0.0%
Improper Backing	5	0.9%	4	0.8%	0	0.0%
Improper Turn	4	0.7%	4	0.8%	0	0.0%
Drove Left of Center	3	0.5%	3	0.6%	0	0.0%
Improper Parking	3	0.5%	3	0.6%	0	0.0%
Had Been Drinking	2	0.4%	1	0.2%	1	5.9%
Headlights Glaring	2	0.4%	2	0.4%	0	0.0%
Other Defective Condition	2	0.4%	2	0.4%	0	0.0%
Under the Influence of Drugs	2	0.4%	2	0.4%	0	0.0%
Vehicle Rolling in Traffic Lane	2	0.4%	2	0.4%	0	0.0%
Asleep	1	0.2%	1	0.2%	0	0.0%
Brakes Defective	1	0.2%	1	0.2%	0	0.0%
Down Hill Runaway	1	0.2%	1	0.2%	0	0.0%
Failed to Signal	1	0.2%	1	0.2%	0	0.0%
Headlights Insufficient or Out	1	0.2%	1	0.2%	0	0.0%
Passed Stop Sign	1	0.2%	1	0.2%	0	0.0%
Wrong Side of Road	1	0.2%	1	0.2%	0	0.0%
Grand Total	550	100.0%	507	100.0%	17	100.0%

1998 Drivers Involved in Pedestrian Crashes

Table 3.11 shows that drivers between the ages of 15 to 29 years represented the greatest percentage (44%) of drivers involved in a pedestrian crash. The largest percentage (23%) of drivers involved in fatal pedestrian crashes were in the age groups 30 to 34 years.

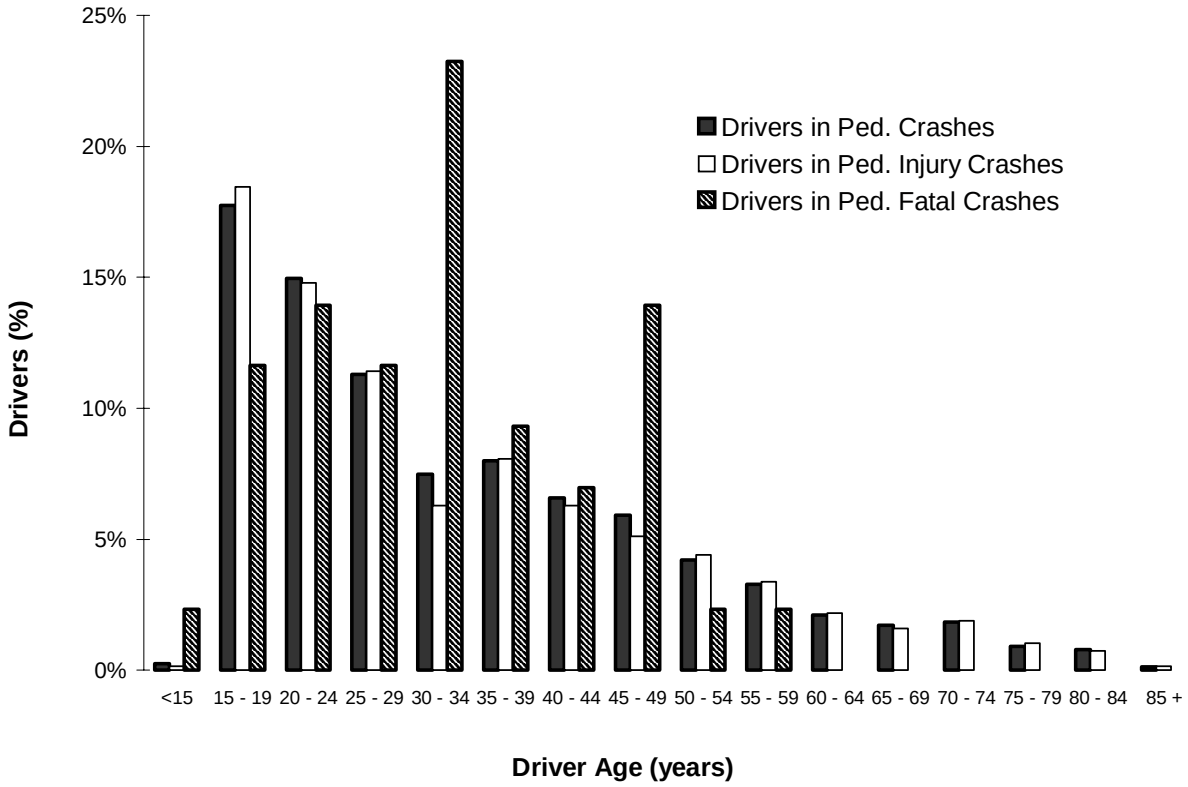
Over half (57%) of drivers involved in pedestrian crashes were male (Table 3.12). Male drivers represented a large percentage (72%) of drivers involved in fatal pedestrian crashes.

Table 3.11 Age of Drivers in Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians, 1998

	Ped. Crashes		Ped. Injury Crashes		Ped. Fatal Crashes	
Driver's Age	# Drivers	%	# Drivers	%	# Drivers	%
<15	2	0.3%	1	0.1%	1	2.3%
15 - 19	135	17.7%	126	18.4%	5	11.6%
20 - 24	114	15.0%	101	14.8%	6	14.0%
25 - 29	86	11.3%	78	11.4%	5	11.6%
30 - 34	57	7.5%	43	6.3%	10	23.3%
35 - 39	61	8.0%	55	8.1%	4	9.3%
40 - 44	50	6.6%	43	6.3%	3	7.0%
45 - 49	45	5.9%	35	5.1%	6	14.0%
50 - 54	32	4.2%	30	4.4%	1	2.3%
55 - 59	25	3.3%	23	3.4%	1	2.3%
60 - 64	16	2.1%	15	2.2%	0	0.0%
65 - 69	13	1.7%	11	1.6%	0	0.0%
70 - 74	14	1.8%	13	1.9%	0	0.0%
75 - 79	7	0.9%	7	1.0%	0	0.0%
80 - 84	6	0.8%	5	0.7%	0	0.0%
85 +	1	0.1%	1	0.1%	0	0.0%
Missing	97	12.7%	96	14.1%	1	2.3%
Grand Total	761	100.0%	683	100.0%	43	100.0%

Note: More than one driver may be involved in a pedestrian crash and driver information may be missing (e.g. a hit and run).

Figure 3.05 Age of Drivers in Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians, 1998 (See Table 3.11 for values)



Note: The above graph is based on percentage for the different crash categories. To read the above graph, look at one category across the groups. For example, look at only the white bars (i.e. drivers of injury crashes) from age group to age group. Do not compare the heights of the different crash categories for a specific age group.

Table 3.12 Gender of Drivers in Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians, 1998

	Ped. Crashes		Ped. Injury Crashes		Ped. Fatal Crashes	
Driver's Gender	**# Drivers**	**%**	**# Drivers**	**%**	**# Drivers**	**%**
Female	272	35.7%	246	36.0%	11	25.6%
Male	435	57.2%	384	56.2%	31	72.1%
Missing	54	7.1%	53	7.8%	1	2.3%
Grand Total	761	100.0%	683	100.0%	43	100.0%

Note: More than one driver may be involved in a pedestrian crash and driver information may be missing (e.g., a hit and run).

1998 Pedestrian Injury Severity

Figure 3.06 Pedestrian Injury Severity as Reported by Police, 1998 (n=851)

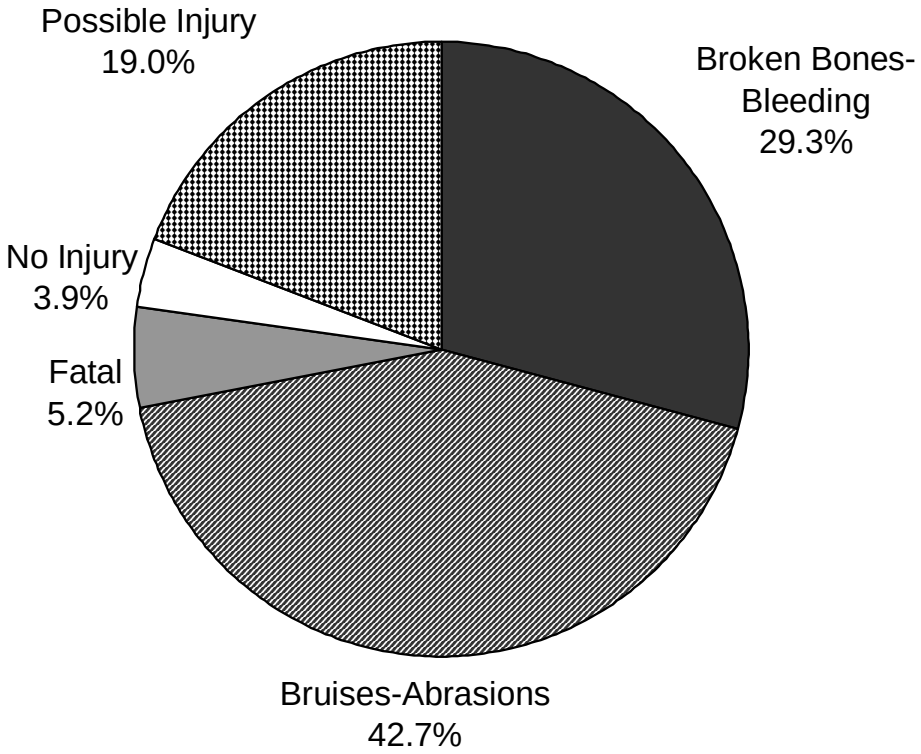


Figure 3.06 shows that 96% of pedestrians involved in a crash sustained an injury compared to 22% of all motor vehicle crash participants. The percentage of pedestrian fatalities (5%) was higher than the percentage for all motor vehicle crash participants (0.2%).

There were 851 pedestrians involved in recorded crashes during 1998. This is approximately 12% less than the number of recorded pedestrians involved in crashes during 1997. Table 3.13 shows the number of pedestrians, injured pedestrians and pedestrians killed in motor vehicle crashes by county. Most of the pedestrian crashes occurred in the Wasatch Front. Salt Lake County had 48% of the pedestrian fatalities and 56% of all pedestrians involved in crashes within the state. Following Salt Lake, the majority of pedestrians were hit, injured or killed in Utah (17%), Weber (8%) and Davis (6%) counties.

1998 Pedestrians by County

Table 3.13 Pedestrians, Injured Pedestrians and Pedestrian Fatalities by County, 1998

	Pedestrians			Injured Pedestrians			Pedestrian Fatalities		
County	#	Rate per 100 MVMT	Rate Per 10,000 Population	#	Rate per 100 MVMT	Rate Per 10,000 Population	#	Rate per 1000 MVMT	Rate Per 10,000 Population
Beaver	4	2.0	6.3	4	2.0	6.3	0	0.0	0.0
Box Elder	5	0.6	1.2	5	0.6	1.2	0	0.0	0.0
Cache	20	2.7	2.2	19	2.6	2.1	0	0.0	0.0
Carbon	4	1.2	1.8	4	1.2	1.8	0	0.0	0.0
Daggett	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Davis	47	2.4	2.1	43	2.2	1.9	3	1.5	0.1
Duchesne	2	1.1	1.4	2	1.1	1.4	0	0.0	0.0
Emery	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Garfield	1	0.8	2.2	1	0.8	2.2	0	0.0	0.0
Grand	2	0.8	2.0	2	0.8	2.0	0	0.0	0.0
Iron	9	1.7	2.8	8	1.5	2.5	1	1.9	0.3
Juab	2	0.6	2.5	2	0.6	2.5	0	0.0	0.0
Kane	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Millard	1	0.3	0.8	1	0.3	0.8	0	0.0	0.0
Morgan	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Piute	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Rich	1	2.2	5.4	1	2.2	5.4	0	0.0	0.0
Salt Lake	478	6.8	5.6	434	6.1	5.1	21	3.0	0.2
San Juan	2	0.7	1.5	2	0.7	1.5	0	0.0	0.0
Sanpete	9	4.1	4.2	8	3.6	3.7	1	4.5	0.5
Sevier	6	1.7	3.2	5	1.4	2.7	1	2.8	0.5
Summit	12	2.1	4.7	10	1.8	3.9	1	1.8	0.4
Tooele	5	0.8	1.5	4	0.6	1.2	1	1.6	0.3
Uintah	3	1.1	1.2	3	1.1	1.2	0	0.0	0.0
Utah	142	5.2	4.3	133	4.8	4.0	8	2.9	0.2
Wasatch	4	1.8	2.9	4	1.8	2.9	0	0.0	0.0
Washington	21	2.5	2.6	17	2.0	2.1	1	1.2	0.1
Wayne	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Weber	71	5.1	3.9	62	4.4	3.4	6	4.3	0.3
Statewide	851	4.0	4.1	774	3.6	3.7	44	2.1	0.2

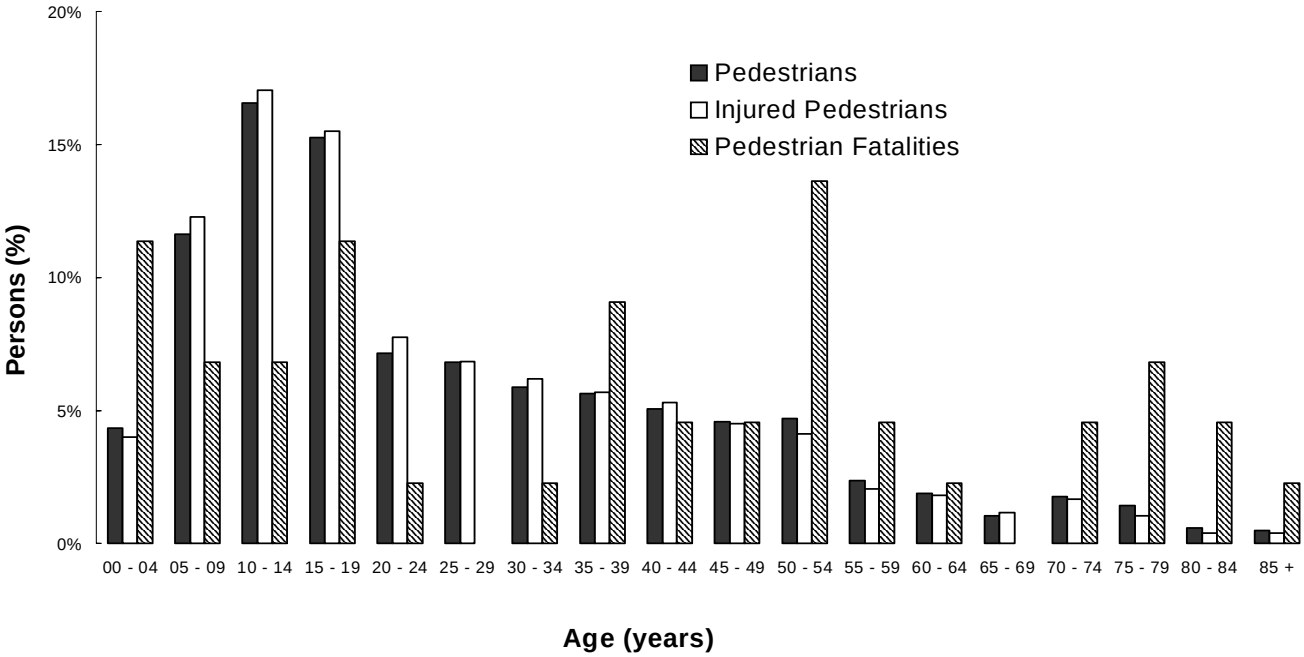
1998 Pedestrian Characteristics

Almost half (48%) of pedestrians involved in crashes were under 20 years of age. This same age group accounted for a third (36%) of the fatalities. While 5% of pedestrians involved in crashes were over the age of 65 years old, this age group accounted for 5% of injured pedestrians and 18% of the fatalities (Figure 3.07).

Table 3.15 shows the gender of pedestrians involved in crashes. The majority of the pedestrians involved in crashes were male (60%). This group represented an even larger percentage of pedestrian fatalities (66%).

The actions of the pedestrian prior to the crash are shown in Table 3.16. The leading pedestrian actions prior to the crash occurrence were "crossing the roadway not at an intersection" (23%), and "crossing the roadway at intersection with no signal" (14%). "Crossing the roadway not at an intersection" (23%), and "crossing the roadway at intersection with no signal" (15%) were also the leading actions of pedestrians injured in a crash. The primary pedestrian actions prior to a fatality were "crossing not at an intersection" (46%) , "other action in roadway" (11%), and "walking in roadway with traffic" (11%).

Figure 3.07 Age of Pedestrians, Injured Pedestrians and Pedestrian Fatalities, 1998 (See Table 3.14 for values)



Note: The above graph is based on percentage for the different injury categories. To read the above graph, look at one category across the groups. For example, look at only the white bars (i.e. injured pedestrians) from age group to age group. Do not compare the heights of the different categories for a specific age group.

Table 3.14 Age of Pedestrians, Injured Pedestrians and Pedestrian Fatalities, 1998

Age	Pedestrians #	Pedestrians %	Injured Pedestrians #	Injured Pedestrians %	Pedestrian Fatalities #	Pedestrian Fatalities %
00 - 04	37	4.3%	31	4.0%	5	11.4%
05 - 09	99	11.6%	95	12.3%	3	6.8%
10 - 14	141	16.6%	132	17.1%	3	6.8%
15 - 19	130	15.3%	120	15.5%	5	11.4%
20 - 24	61	7.2%	60	7.8%	1	2.3%
25 - 29	58	6.8%	53	6.8%	0	0.0%
30 - 34	50	5.9%	48	6.2%	1	2.3%
35 - 39	48	5.6%	44	5.7%	4	9.1%
40 - 44	43	5.1%	41	5.3%	2	4.5%
45 - 49	39	4.6%	35	4.5%	2	4.5%
50 - 54	40	4.7%	32	4.1%	6	13.6%
55 - 59	20	2.4%	16	2.1%	2	4.5%
60 - 64	16	1.9%	14	1.8%	1	2.3%
65 - 69	9	1.1%	9	1.2%	0	0.0%
70 - 74	15	1.8%	13	1.7%	2	4.5%
75 - 79	12	1.4%	8	1.0%	3	6.8%
80 - 84	5	0.6%	3	0.4%	2	4.5%
85 +	4	0.5%	3	0.4%	1	2.3%
Missing	24	2.8%	17	2.2%	1	2.3%
Grand Total	851	100.0%	774	100.0%	44	100.0%

Table 3.15 Gender of Pedestrians, Injured Pedestrians and Pedestrian Fatalities, 1998

Gender	Pedestrians #	Pedestrians %	Injured Pedestrians #	Injured Pedestrians %	Pedestrian Fatalities #	Pedestrian Fatalities %
Male	507	59.6%	461	59.6%	29	65.9%
Female	338	39.7%	309	39.9%	15	34.1%
Missing	6	0.7%	4	0.5%	0	0.0%
Grand Total	851	100.0%	774	100.0%	44	100.0%

Table 3.16 Pedestrian Action Prior to Crash, 1998

Pedestrian Action Prior to Crash	Pedestrians #	Pedestrians %	Injured Pedestrians #	Injured Pedestrians %	Pedestrian Fatalities #	Pedestrian Fatalities %
Crossing Not at Intersection	198	23.3%	178	23.0%	20	45.5%
Crossing Intersection No Signal	117	13.7%	115	14.9%	2	4.5%
Crossing Intersection with Signal	114	13.4%	114	14.7%	0	0.0%
Not Stated	70	8.2%	37	4.8%	0	0.0%
Crossing Intersection Against Signal	65	7.6%	63	8.1%	2	4.5%
Other Action in Roadway	51	6.0%	46	5.9%	5	11.4%
Coming from Behind Parked Cars	35	4.1%	32	4.1%	3	6.8%
Not in Roadway	28	3.3%	28	3.6%	0	0.0%
Other Standing in Roadway	25	2.9%	24	3.1%	1	2.3%
Walking in Roadway with Traffic	23	2.7%	18	2.3%	5	11.4%
Other Working in Roadway	18	2.1%	18	2.3%	0	0.0%
Walking To or From School	18	2.1%	18	2.3%	0	0.0%
Playing in Roadway	14	1.6%	12	1.6%	2	4.5%
Walking in Roadway Against Traffic	13	1.5%	12	1.6%	1	2.3%
Walking on Sidewalk	12	1.4%	12	1.6%	0	0.0%
Pushing-Working on Veh in Roadway	9	1.1%	7	0.9%	2	4.5%
Hitching on Vehicle	8	0.9%	8	1.0%	0	0.0%
Crossing Intersection Diagonally	6	0.7%	6	0.8%	0	0.0%
Getting On or Off Bus	6	0.7%	6	0.8%	0	0.0%
Riding in Roadway With Traffic	6	0.7%	6	0.8%	0	0.0%
Riding in Roadway Against Traffic	5	0.6%	5	0.6%	0	0.0%
Getting On or Off Other Vehicle	4	0.5%	4	0.5%	0	0.0%
Riding on Sidewalk	3	0.4%	3	0.4%	0	0.0%
Standing on Crosswalk Median Island	2	0.2%	2	0.3%	0	0.0%
Lying on Roadway	1	0.1%	0	0.0%	1	2.3%
Grand Total	851	100.0%	774	100.0%	44	100.0%

Alcohol and Other Drugs:

There were a total of 8 pedestrian fatalities that were alcohol and other drugs related. Of these, 7 were pedestrians impaired by alcohol and other drugs and one motor vehicle driver was impaired by alcohol and other drugs.

There were 44 pedestrian fatalities in 1998. The age group and gender with the most fatalities were males aged 0 to 4, 15 to 19, and 50 to 54 years. The largest number of female pedestrian fatalities were in the 10 to 14, 50 to 54, and 75 to 79 year age groups (Table 3.17).

Table 3.17 Age and Gender of Pedestrian Fatalities, 1998

	Males		Females	
Age	**#**	**%**	**#**	**%**
00 - 04	4	13.8%	1	6.7%
05 - 09	2	6.9%	1	6.7%
10 - 14	1	3.4%	2	13.3%
15 - 19	4	13.8%	1	6.7%
20 - 24	1	3.4%	0	0.0%
25 - 29	0	0.0%	0	0.0%
30 - 34	1	3.4%	0	0.0%
35 - 39	3	10.3%	1	6.7%
40 - 44	1	3.4%	1	6.7%
45 - 49	1	3.4%	1	6.7%
50 - 54	4	13.8%	2	13.3%
55 - 59	1	3.4%	1	6.7%
60 - 64	0	0.0%	1	6.7%
65 - 69	0	0.0%	0	0.0%
70 - 74	2	6.9%	0	0.0%
75 - 79	1	3.4%	2	13.3%
80 - 84	2	6.9%	0	0.0%
85 +	0	0.0%	1	6.7%
Missing	1	3.4%	0	0.0%
Grand Total	29	100.0%	15	100.0%

Section 4
1998 Bicyclist-Motor Vehicle Crashes, Injury Crashes and Fatal Crashes

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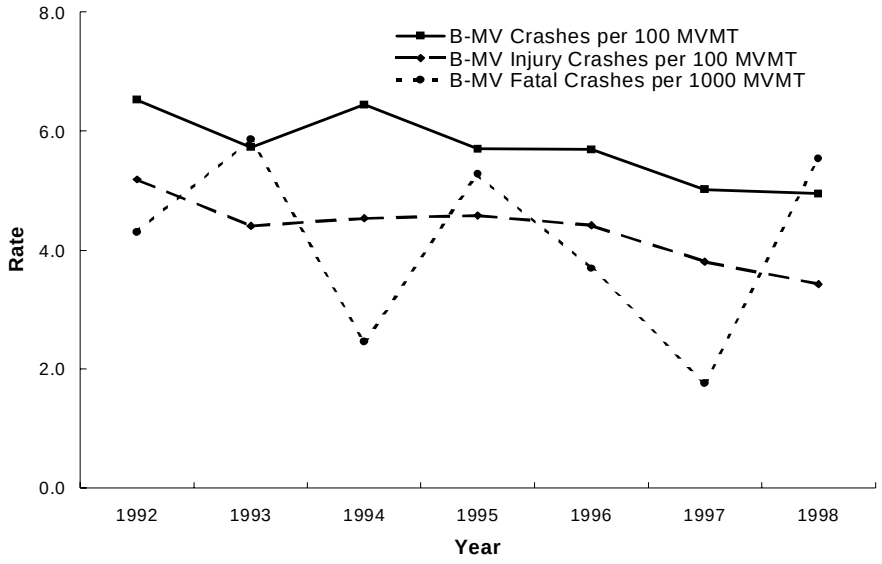
1992 - 1998 Bicyclist-Motor Vehicle Crashes

Table 4.01 and Figure 4.01 shows the trends in bicyclist-motor vehicle (B-MV) crashes for 1992 - 1998. The rates of bicyclist-motor vehicle crashes and injury crashes have decreased steadily since 1992, while fatal crashes varied year to year. The highest rate of bicyclist-motor vehicle crashes and injury crashes occurred in 1992, while the highest rate of fatal bicyclist-motor vehicle crashes occurred in 1993. The small number of bicyclist-motor vehicle fatal crashes makes it hard to compare increases and decreases from year to year.

Table 4.01 Bicyclist-Motor Vehicle (B-MV) Crashes, Injury Crashes and Fatal Crashes, 1992 - 1998

	B-MV Crashes		B-MV Injury Crashes		B-MV Fatal Crashes	
Year	#	Rate per 100 MVMT	#	Rate per 100 MVMT	#	Rate per 1000 MVMT
1992	1,061	6.5	843	5.2	7	4.3
1993	977	5.7	751	4.4	10	5.9
1994	1,047	6.4	819	4.5	4	2.5
1995	972	5.7	860	4.6	9	5.3
1996	925	5.7	858	4.4	6	3.7
1997	855	5.0	778	3.8	3	1.8
1998	804	4.9	728	3.4	9	5.5

Figure 4.01 Bicyclist-Motor Vehicle (B-MV) Crashes, Injury Crashes and Fatal Crashes, 1992 - 1998



1998 Bicyclist-Motor Vehicle Crash Severity

Figure 4.02 Severity of Bicyclist-Motor Vehicle Crashes as Reported by Police, 1998 (n=804)

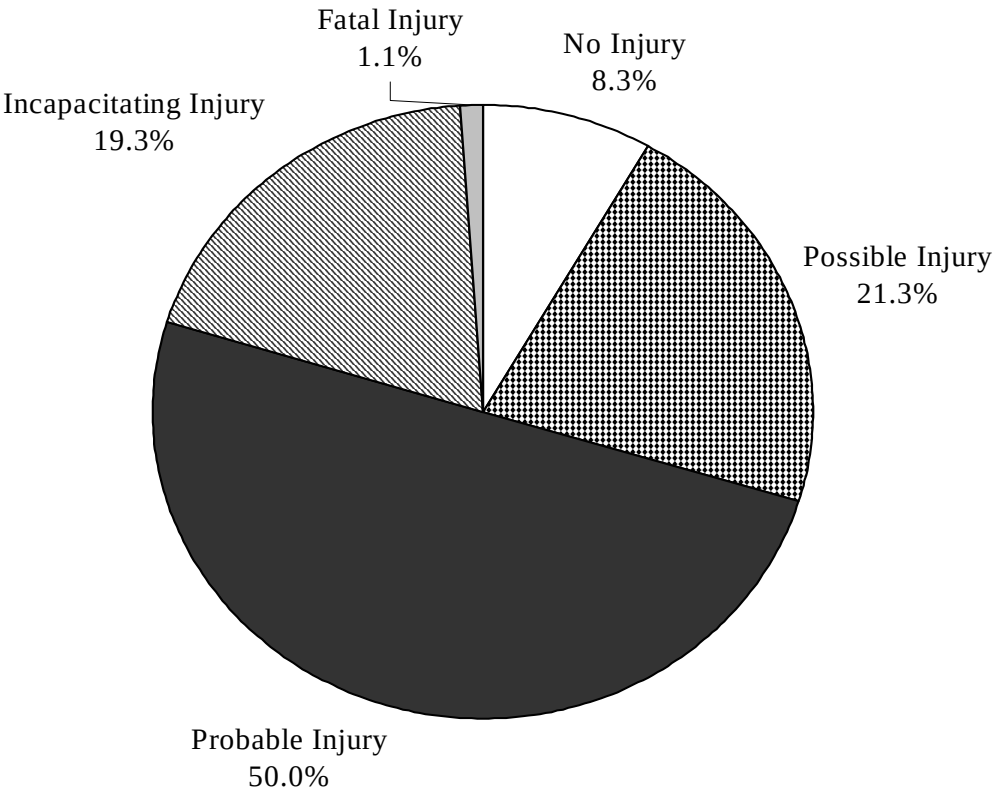


Figure 4.02 shows the breakdown of bicyclist-motor vehicle crash severity. Almost all bicyclist-motor vehicle crashes resulted in an injury (92%) compared to 37% of all motor vehicle crashes. However, bicyclist-motor vehicle crashes resulted in similar percentage (1%) of a death compared to all motor vehicle crashes.

The rates of bicycle involved crashes, injury crashes and fatal crashes by county are shown in Table 4.02. There are two different rates given, one based on population of the county and another on the miles traveled in the county. The top three counties for bicyclist involved crashes and injury crashes based on miles traveled were Utah, Salt Lake, and Cache. The majority of the fatal bicyclist-motor vehicle crashes based on miles traveled occurred in Salt Lake, and Washington counties.

1998 Bicyclist-Motor Vehicle Crashes by County

Table 4.02 Bicyclist-Motor Vehicle (B-MV) Crashes, Injury Crashes and Fatal Crashes by County, 1998

	B-MV Crashes			B-MV Injury Crashes			B-MV Fatal Crashes		
County	#	Rate per 10,000 Population	Rate per 100 MVMT	#	Rate per 10,000 Population	Rate per 100 MVMT	#	Rate per 100,000 Population	Rate per 10,000 MVMT
Beaver	3	4.7	1.5	3	4.7	1.5	0	0.0	0.0
Box Elder	10	2.4	1.2	9	2.2	1.0	1	2.4	11.6
Cache	39	4.3	5.3	36	4.0	4.9	0	0.0	0.0
Carbon	5	2.3	1.5	4	1.8	1.2	1	4.5	29.8
Daggett	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Davis	45	2.0	2.3	41	1.8	2.1	1	0.4	5.1
Duchesne	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Emery	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Garfield	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Grand	6	6.0	2.3	6	6.0	2.3	0	0.0	0.0
Iron	5	1.6	0.9	5	1.6	0.9	0	0.0	0.0
Juab	2	2.5	0.6	1	1.3	0.3	1	12.7	31.3
Kane	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Millard	3	2.4	0.8	2	1.6	0.5	0	0.0	0.0
Morgan	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Piute	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Rich	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Salt Lake	414	4.9	5.9	367	4.3	5.2	3	0.4	4.2
San Juan	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Sanpete	1	0.5	0.5	0	0.0	0.0	0	0.0	0.0
Sevier	2	1.1	0.6	2	1.1	0.6	0	0.0	0.0
Summit	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Tooele	1	0.3	0.2	1	0.3	0.2	0	0.0	0.0
Uintah	6	2.4	2.1	6	2.4	2.1	0	0.0	0.0
Utah	166	5.0	6.0	158	4.7	5.7	0	0.0	0.0
Wasatch	3	2.2	1.3	2	1.5	0.9	0	0.0	0.0
Washington	28	3.5	3.3	25	3.1	2.9	2	2.5	23.5
Wayne	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Weber	65	3.5	4.6	60	3.3	4.3	0	0.0	0.0
Statewide	804	3.8	3.8	728	3.5	3.4	9	0.4	4.2

The table below compares the rates of bicyclist-motor vehicle crashes in 1998 to 1997 by county. Most counties experienced only slight changes in bicyclist-motor vehicle crashes and injury crashes from 1997 to 1998. Several counties experienced a large increase in the rate of fatal bicyclist-motor vehicle crashes from 1997 to 1998, but the numbers of fatal crashes were too small to make any valid comparisons.

Table 4.03. Bicyclist-Motor Vehicle (B-MV) Crashes, Injury Crashes and Fatal Crashes by County, 1997 - 1998

	B-MV Crashes				B-MV Injury Crashes				B-MV Fatal Crashes			
	1997		1998		1997		1998		1997		1998	
County	#	Rate per 100 MVMT	#	Rate per 100 MVMT	#	Rate per 100 MVMT	#	Rate per 100 MVMT	#	Rate per 10000 MVMT	#	Rate per 10000 MVMT
Beaver	0	0.0	3	1.5	0	0.0	3	1.5	0	0.0	0	0.0
Box Elder	2	0.2	10	1.2	2	0.2	9	1.0	0	0.0	1	11.6
Cache	35	5.0	39	5.3	34	4.9	36	4.9	0	0.0	0	0.0
Carbon	2	0.7	5	1.5	2	0.7	4	1.2	0	0.0	1	29.8
Daggett	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Davis	67	3.6	45	2.3	65	3.5	41	2.1	1	5.4	1	5.1
Duchesne	2	1.1	0	0.0	2	1.1	0	0.0	0	0.0	0	0.0
Emery	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Garfield	3	2.5	0	0.0	3	2.5	0	0.0	0	0.0	0	0.0
Grand	7	2.9	6	2.3	7	2.9	6	2.3	0	0.0	0	0.0
Iron	9	1.8	5	0.9	7	1.4	5	0.9	0	0.0	0	0.0
Juab	0	0.0	2	0.6	0	0.0	1	0.3	0	0.0	1	31.3
Kane	2	1.7	0	0.0	2	1.7	0	0.0	0	0.0	0	0.0
Millard	5	1.3	3	0.8	5	1.3	2	0.5	0	0.0	0	0.0
Morgan	2	1.9	0	0.0	1	1.0	0	0.0	0	0.0	0	0.0
Piute	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Rich	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Salt Lake	398	5.7	414	5.9	350	5.0	367	5.2	1	1.4	3	4.2
San Juan	2	0.8	0	0.0	2	0.8	0	0.0	0	0.0	0	0.0
Sanpete	2	0.9	1	0.5	2	0.9	0	0.0	0	0.0	0	0.0
Sevier	3	0.9	2	0.6	3	0.9	2	0.6	0	0.0	0	0.0
Summit	4	0.7	0	0.0	4	0.7	0	0.0	0	0.0	0	0.0
Tooele	0	0.0	1	0.2	0	0.0	1	0.2	0	0.0	0	0.0
Uintah	7	2.6	6	2.1	5	1.8	6	2.1	0	0.0	0	0.0
Utah	211	8.0	166	6.0	195	7.4	158	5.7	1	3.8	0	0.0
Wasatch	0	0.0	3	1.3	0	0.0	2	0.9	0	0.0	0	0.0
Washington	30	3.7	28	3.3	27	3.3	25	2.9	0	0.0	2	23.5
Wayne	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Weber	57	4.2	65	4.6	56	4.1	60	4.3	0	0.0	0	0.0
Missing	5		0		4				0			
Statewide	844	4.1	804	3.8	773	3.8	728	3.4	3	1.5	9	4.2

1998 Bicyclist-Motor Vehicle Crash Times

Table 4.04 and Figure 4.03 shows that bicyclist-motor vehicle crashes and injury crashes peaked during the late afternoon and early evening hours (3 p.m. to 6 p.m.). Most of the fatal bicyclist-motor vehicle crashes occurred in the late afternoon (2 p.m. to 4 p.m.).

Summer months (June through August) had the largest rates of bicyclist-motor vehicle crashes, injury crashes and fatal crashes per day (Table 4.05).

Table 4.04 Hour of Bicyclist-Motor Vehicle (B-MV) Crashes, Injury Crashes and Fatal Crashes 1998

	B-MV Crashes		B-MV Injury Crashes		B-MV Fatal Crashes	
Hour	**#**	**%**	**#**	**%**	**#**	**%**
12 a.m.	4	0.5%	4	0.5%	0	0.0%
1 a.m.	1	0.1%	1	0.1%	0	0.0%
2 a.m.	2	0.2%	1	0.1%	0	0.0%
3 a.m.	1	0.1%	0	0.0%	1	11.1%
4 a.m.	0	0.0%	0	0.0%	0	0.0%
5 a.m.	5	0.6%	5	0.7%	0	0.0%
6 a.m.	12	1.5%	10	1.4%	1	11.1%
7 a.m.	26	3.2%	24	3.3%	0	0.0%
8 a.m.	40	5.0%	37	5.1%	0	0.0%
9 a.m.	20	2.5%	15	2.1%	1	11.1%
10 a.m.	41	5.1%	34	4.7%	1	11.1%
11 a.m.	34	4.2%	32	4.4%	0	0.0%
12 p.m.	42	5.2%	37	5.1%	0	0.0%
1 p.m.	41	5.1%	40	5.5%	0	0.0%
2 p.m.	61	7.6%	54	7.4%	1	11.1%
3 p.m.	69	8.6%	63	8.7%	2	22.2%
4 p.m.	87	10.8%	80	11.0%	1	11.1%
5 p.m.	90	11.2%	84	11.5%	0	0.0%
6 p.m.	74	9.2%	66	9.1%	0	0.0%
7 p.m.	60	7.5%	57	7.8%	0	0.0%
8 p.m.	33	4.1%	27	3.7%	0	0.0%
9 p.m.	27	3.4%	26	3.6%	0	0.0%
10 p.m.	20	2.5%	19	2.6%	0	0.0%
11 p.m.	14	1.7%	12	1.6%	1	11.1%
Grand Total	804	100.0%	728	100.0%	9	100.0%

Figure 4.03 Hour of Bicyclist-Motor Vehicle (B-MV) Injury Crashes and Fatal Crashes, 1998 (See Table 4.04 for values)

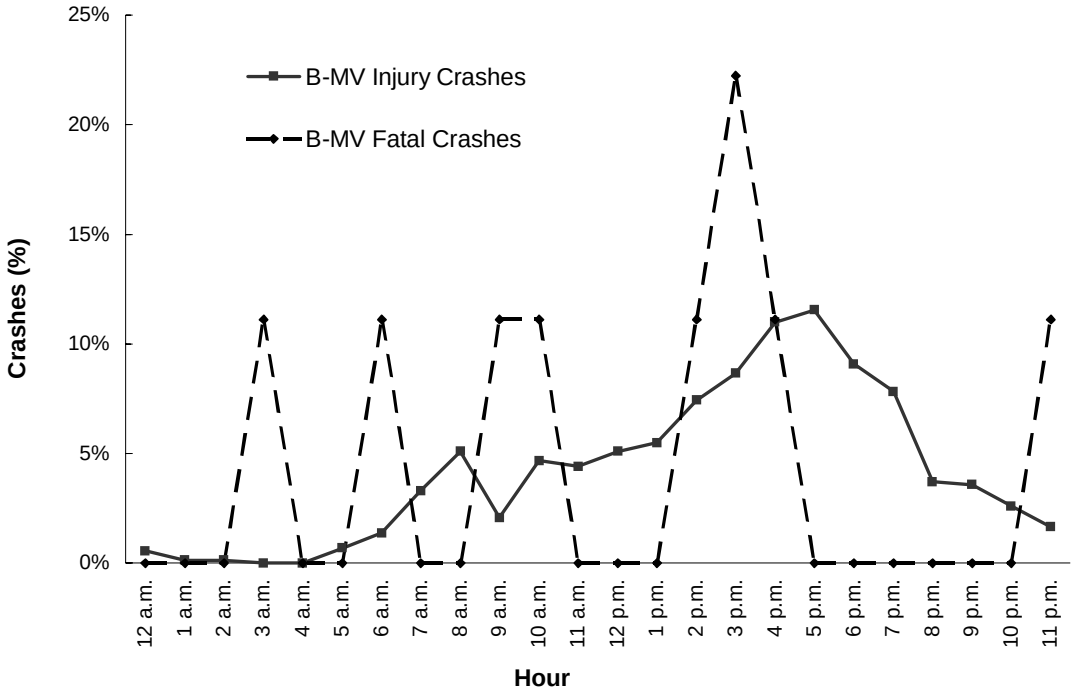
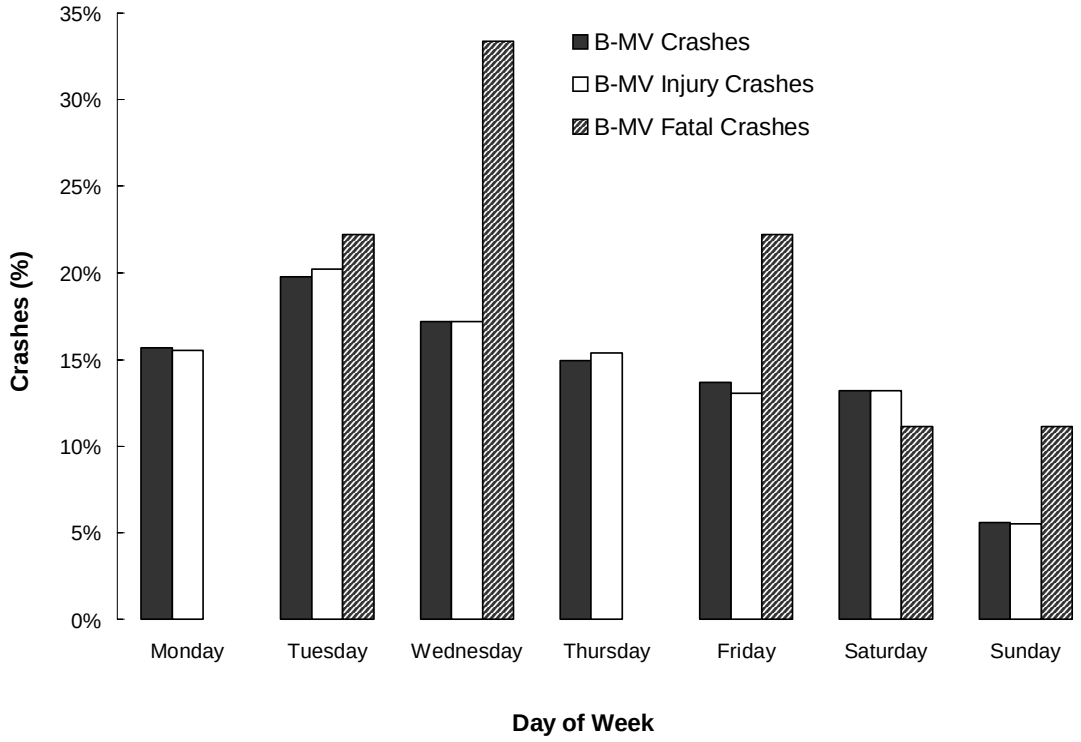


Table 4.05 Month of Bicyclist-Motor Vehicle (B-MV) Crashes, Injury Crashes and Fatal Crashes, 1998

	B-MV Crashes		B-MV Injury Crashes		B-MV Fatal Crashes	
Crash Month	#	Rate per Day	#	Rate per Day	#	Rate per Day
January	37	1.2	32	1.0	2	0.1
February	26	0.9	19	0.7	1	0.0
March	49	1.6	45	1.5	0	0.0
April	65	2.2	59	2.0	0	0.0
May	61	2.0	53	1.7	0	0.0
June	102	3.4	96	3.2	0	0.0
July	135	4.4	119	3.8	2	0.1
August	106	3.4	95	3.1	3	0.1
September	100	3.3	92	3.1	0	0.0
October	70	2.3	66	2.1	1	0.0
November	32	1.1	31	1.0	0	0.0
December	21	0.7	21	0.7	0	0.0
Grand Total	804	2.2	728	2.0	9	0.0

The highest percentage of bicyclist-motor vehicle crashes and injury crashes occurred on Tuesday while the lowest number occurred on Sunday (Figure 4.04). One-third of fatal bicyclist-motor vehicle crashes occurred on Wednesday.

Figure 4.04 Day of Week for Bicyclist-Motor Vehicle (B-MV) Crashes, Injury Crashes and



Note: The above graph is based on percentage for the different crash categories. To read the above graph, look at one category across the groups. For example, look at only the white bars (i.e. bicyclist-motor vehicle injury crashes) from day to day. Do not compare the heights of the different crash categories for a specific day.

Table 4.06 Day of Week for Bicyclist-Motor Vehicle (B-MV) Crashes, Injury Crashes and Fatal Crashes, 1998

	B-MV Crashes		B-MV Injury Crashes		B-MV Fatal Crashes	
Day of Week	**#**	**%**	**#**	**%**	**#**	**%**
Monday	126	15.7%	113	15.5%	0	0.0%
Tuesday	159	19.8%	147	20.2%	2	22.2%
Wednesday	138	17.2%	125	17.2%	3	33.3%
Thursday	120	14.9%	112	15.4%	0	0.0%
Friday	110	13.7%	95	13.0%	2	22.2%
Saturday	106	13.2%	96	13.2%	1	11.1%
Sunday	45	5.6%	40	5.5%	1	11.1%
Grand Total	804	100.0%	728	100.0%	9	100.0%

1998 Bicyclist-Motor Vehicle Crash Characteristics

The majority of bicyclist-motor vehicle crashes, injury crashes and fatal crashes occurred in urban areas (Table 4.07). Passenger cars were involved in over half (61%) of bicyclist-motor vehicle crashes and injury crashes. For fatal crashes, passenger cars and pickup trucks/ vans were involved in over half (67%) of the crashes.

Table 4.07 Urban / Rural Location of Bicyclist-Motor Vehicle (B-MV) Crashes, Injury Crashes and Fatal Crashes, 1998

Urban / Rural Location	B-MV Crashes		B-MV Injury Crashes		B-MV Fatal Crashes	
	#	%	#	%	#	%
Rural Area - Up to 5,000	38	4.7%	34	4.7%	2	22.2%
Small Urban - 5,000 to 49,999	44	5.5%	41	5.6%	2	22.2%
Moderate Urban - 50,000 to 199,999	25	3.1%	23	3.2%	0	0.0%
Large Urban - 200,000 or More	625	77.7%	567	77.9%	4	44.4%
Missing	72	9.0%	63	8.7%	1	11.1%
Grand Total	804	100.0%	728	100.0%	9	100.0%

Table 4.08 Type of Vehicles Involved in Bicyclist-Motor Vehicle (B-MV) Crashes, Injury Crashes and Fatal Crashes, 1998

Vehicle Type	B-MV Crashes		B-MV Injury Crashes		B-MV Fatal Crashes	
	#	%	#	%	#	%
Passenger Car	499	61.4%	449	61.2%	3	33.3%
Pickup Truck / Vans	285	35.1%	262	35.7%	3	33.3%
Unknown	15	1.8%	12	1.6%	0	0.0%
Large Truck	9	1.1%	8	1.1%	1	11.1%
Other	5	0.6%	3	0.4%	2	22.2%
Motorcycle	0	0.0%	0	0.0%	0	0.0%
School Bus	0	0.0%	0	0.0%	0	0.0%
Grand Total	813	100.0%	734	100.0%	9	100.0%

Note: More than one vehicle may be involved in a bicyclist- motor vehicle crash. Unknown vehicles are 'hit and run' vehicles.

1998 Bicyclist-Motor Vehicle Crash Violations and Contributing Factors

Table 4.09 Violations for Bicyclist-Motor Vehicle (B-MV) Crashes, Injury Crashes and Fatal Crashes, 1998

Violations	B-MV Crashes		B-MV Injury Crashes		B-MV Fatal Crashes	
	#	%	#	%	#	%
Failure to Yield Right of Way	77	50.0%	75	51.7%	1	100.0%
Improper Lookout	39	25.3%	37	25.5%	0	0.0%
Hit and Run	7	4.5%	7	4.8%	0	0.0%
Driving Under the Influence	6	3.9%	6	4.1%	0	0.0%
Improper Turn	4	2.6%	3	2.1%	0	0.0%
Red Light	4	2.6%	3	2.1%	0	0.0%
Speeding	4	2.6%	1	0.7%	0	0.0%
Negligent Collision	3	1.9%	3	2.1%	0	0.0%
All Other Moving Violations	2	1.3%	2	1.4%	0	0.0%
Reckless Driving	2	1.3%	2	1.4%	0	0.0%
Following Too Close	1	0.6%	1	0.7%	0	0.0%
Improper Backing	1	0.6%	1	0.7%	0	0.0%
Improper Passing	1	0.6%	1	0.7%	0	0.0%
Improper Start and Stop	1	0.6%	1	0.7%	0	0.0%
Stop Sign	1	0.6%	1	0.7%	0	0.0%
Wrong Side of Road	1	0.6%	1	0.7%	0	0.0%
Grand Total	154	100.0%	145	100.0%	1	100.0%

Law enforcement officers at the scene cited 19% of drivers involved in a bicyclist-motor vehicle crash for a traffic violation. The leading violation was "failure to yield right of way" (50%). Six of the drivers involved in bicycle crashes were cited for a "DUI". One of the drivers involved in fatal bicycle crashes received a citation.

The factors contributing to bicycle-motor vehicle crashes are listed in Table 4.10. These factors were coded by the law officers at the scene for motor vehicles involved in the crash. The officer may record no contributing factor or up to two different contributing factors. The primary contributing factors recorded for bicyclist-motor vehicle crashes and injury crashes were "improper lookout" (43%), "failure to yield right of way" (31%), and "hit and run" (10%). "DUI" and "had been drinking" accounted for 1% of contributing factors in bicyclist-motor vehicle crashes and injury crashes. No contributing factors were recorded for fatal bicyclist-motor vehicle crashes.

Table 4.10 Contributing Factors of Bicyclist-Motor Vehicle (B-MV) Crashes and Injury Crashes, 1998

Contributing Factors	B-MV Crashes		B-MV Injury Crashes	
	#	%	#	%
Improper Lookout	225	43.0%	204	42.7%
Failed to Yield the Right of Way	160	30.6%	154	32.2%
Hit and Run	53	10.1%	47	9.8%
Speed Too Fast	17	3.3%	13	2.7%
Other Improper Driving	14	2.7%	13	2.7%
Disregarded Traffic Signal	10	1.9%	8	1.7%
Improper Turn	9	1.7%	8	1.7%
Drove Left of Center	5	1.0%	5	1.0%
Passed Stop Sign	5	1.0%	4	0.8%
Driving Under the Influence	4	0.8%	4	0.8%
Had Been Drinking	2	0.4%	2	0.4%
Improper Backing	2	0.4%	1	0.2%
Improper Overtaking	2	0.4%	2	0.4%
Improper Parking	2	0.4%	2	0.4%
Non-Contact Vehicle Involved	2	0.4%	1	0.2%
Other Defective Condition	2	0.4%	2	0.4%
Asleep	1	0.2%	1	0.2%
Brakes Defective	1	0.2%	1	0.2%
Explosion or Fire	1	0.2%	0	0.0%
Eyesight Defective Uncorrected	1	0.2%	1	0.2%
Failed to Signal	1	0.2%	1	0.2%
Following Too Closely	1	0.2%	1	0.2%
Headlights Glaring	1	0.2%	1	0.2%
Windshield Not Clear	1	0.2%	1	0.2%
Wrong Side of Road	1	0.2%	1	0.2%
Grand Total	523	100.0%	478	100.0%

1998 Drivers Involved in Bicyclist-Motor Vehicle Crashes

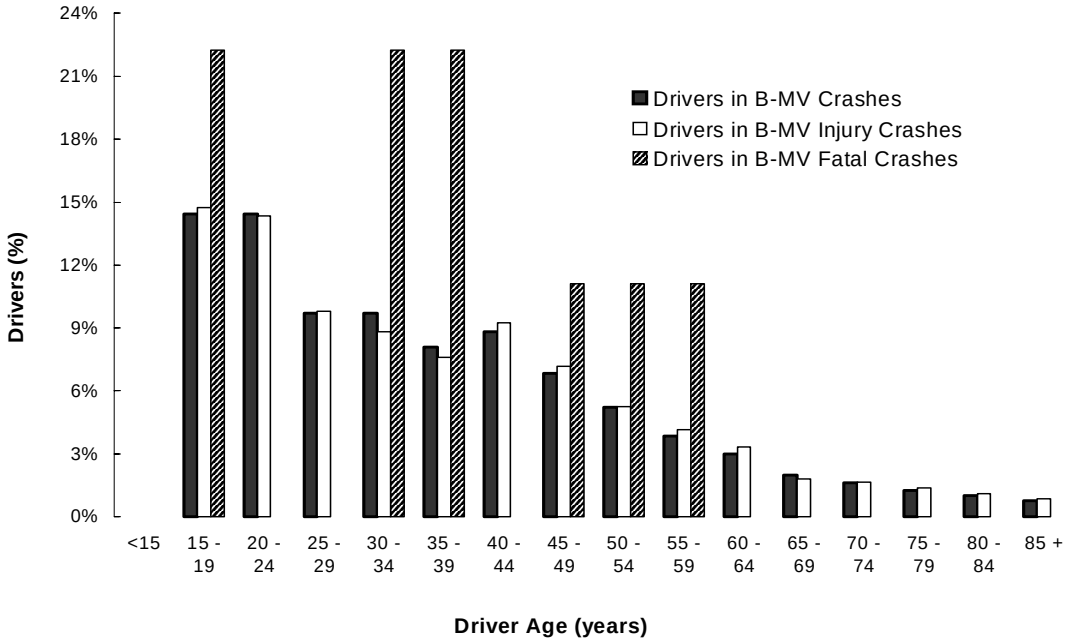
Drivers between the ages of 15 to 24 years represented the greatest percentage of motor vehicle drivers (29%) involved in a bicyclist-motor vehicle crash. While drivers aged 30 to 39 years accounted for the largest percentage of drivers (44%) involved in fatal bicyclist-motor vehicle crashes (Table 4.11). Table 4.12 shows that half (52%) of motor vehicle drivers involved in bicycle-motor vehicle crashes were male, slightly smaller than the percentage of all motor vehicle crashes involving a male driver (58%).

Table 4.11 Age of Drivers Involved in Bicyclist-Motor Vehicle (B-MV) Crashes, Injury Crashes and Fatal Crashes, 1998

	B-MV Crashes		B-MV Injury Crashes		B-MV Fatal Crashes	
Driver's Age	**# Drivers**	**%**	**# Drivers**	**%**	**# Drivers**	**%**
<15	0	0.0%	0	0.0%	0	0.0%
15 - 19	116	14.4%	107	14.7%	2	22.2%
20 - 24	116	14.4%	104	14.3%	0	0.0%
25 - 29	78	9.7%	71	9.8%	0	0.0%
30 - 34	78	9.7%	64	8.8%	2	22.2%
35 - 39	65	8.1%	55	7.6%	2	22.2%
40 - 44	71	8.8%	67	9.2%	0	0.0%
45 - 49	55	6.8%	52	7.2%	1	11.1%
50 - 54	42	5.2%	38	5.2%	1	11.1%
55 - 59	31	3.9%	30	4.1%	1	11.1%
60 - 64	24	3.0%	24	3.3%	0	0.0%
65 - 69	16	2.0%	13	1.8%	0	0.0%
70 - 74	13	1.6%	12	1.7%	0	0.0%
75 - 79	10	1.2%	10	1.4%	0	0.0%
80 - 84	8	1.0%	8	1.1%	0	0.0%
85 +	6	0.7%	6	0.8%	0	0.0%
Missing	76	9.4%	65	9.0%	0	0.0%
Grand Total	805	100.0%	726	100.0%	9	100.0%

Note: More than one driver may be involved in bicyclist-motor vehicle crashes and driver information may be missing (e.g. a hit and run).

Figure 4.05 Age of Drivers Involved in Bicyclist-Motor Vehicle (B-MV) Crashes, Injury Crashes and Fatal Crashes, 1998 (See Table 4.11 for values)



Note: The above graph is based on percentage for the different crash categories. To read the above graph, look at one category across the groups. For example, look at only the white bars (i.e. drivers in bicyclist-motor vehicle injury crashes) from age group to age group. Do not compare the heights of the different crash categories for a specific age group.

Table 4.12 Gender of Drivers Involved in Bicyclist-Motor Vehicle (B-MV) Crashes, Injury Crashes and Fatal Crashes, 1998

	B-MV Crashes		B-MV Injury Crashes		B-MV Fatal Crashes	
Driver's Gender	**# Drivers**	**%**	**# Drivers**	**%**	**# Drivers**	**%**
Female	338	42.0%	306	42.1%	2	22.2%
Male	417	51.8%	376	51.8%	7	77.8%
Missing	50	6.2%	44	6.1%	0	0.0%
Grand Total	805	100.0%	726	100.0%	9	100.0%

1998 Bicyclist Injury Severity

Figure 4.06 Bicyclist Injury Severity as Reported by Police, 1998 (n=839)

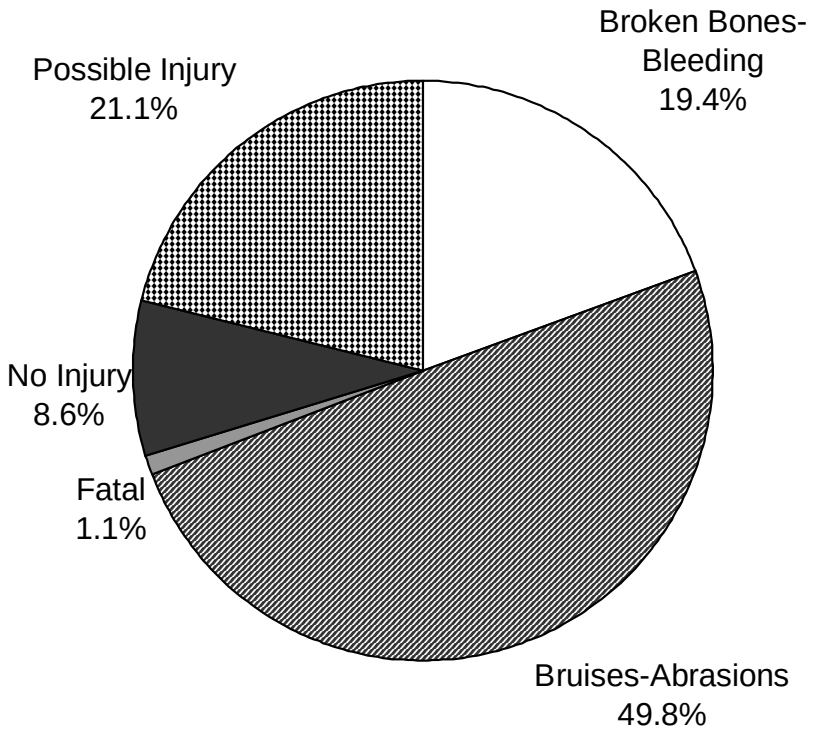


Figure 4.06 shows that the majority of bicyclists sustained an injury (91%) compared to 22% of all motor vehicle crash participants. The percentage of bicyclist fatalities (1%) was higher than for all motor vehicle crash participants (0.2%). There were 9 bicyclists killed on Utah public roadways in 1998, compared to 3 bicyclists killed during 1997.

Table 4.13 shows the number of bicyclists, injured bicyclists and bicyclist fatalities involved in motor vehicle crashes by county. While most of bicyclists were involved in crashes occurring in Salt Lake County, this county did not have the highest rates per vehicle miles traveled. The leading county for bicyclists and injured bicyclists involved in a motor vehicle crash per miles traveled was Utah County.

1998 Bicyclists by County

Table 4.13 Bicyclists, Injured Bicyclists and Bicyclist Fatalities by County, 1998

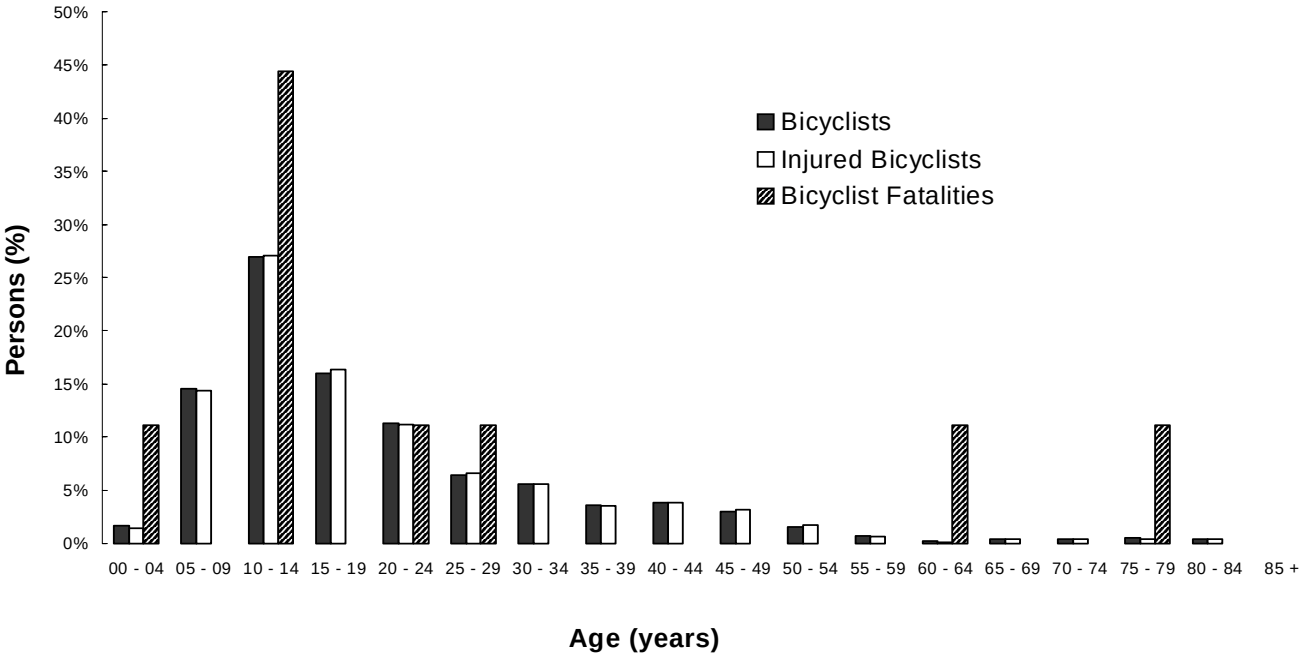
	Bicyclists			Injured Bicyclists			Bicyclist Fatalities		
County	#	Rate per 100 MVMT	Rate Per 10,000 Population	#	Rate per 100 MVMT	Rate Per 10,000 Population	#	Rate per 10,000 MVMT	Rate Per 100,000 Population
Beaver	3	1.5	4.7	3	1.5	4.7	0	0.0	0.0
Box Elder	10	1.2	2.4	9	1.0	2.2	1	11.6	2.4
Cache	39	5.3	4.3	37	5.0	4.1	0	0.0	0.0
Carbon	5	1.5	2.3	4	1.2	1.8	1	29.8	4.5
Daggett	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Davis	46	2.3	2.0	41	2.1	1.8	1	5.1	0.4
Duchesne	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Emery	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Garfield	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Grand	7	2.7	7.0	6	2.3	6.0	0	0.0	0.0
Iron	5	0.9	1.6	5	0.9	1.6	0	0.0	0.0
Juab	2	0.6	2.5	1	0.3	1.3	1	31.3	12.7
Kane	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Millard	3	0.8	2.4	2	0.5	1.6	0	0.0	0.0
Morgan	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Piute	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Rich	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Salt Lake	433	6.1	5.1	382	5.4	4.5	3	4.2	0.4
San Juan	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Sanpete	1	0.5	0.5	1	0.5	0.5	0	0.0	0.0
Sevier	2	0.6	1.1	2	0.6	1.1	0	0.0	0.0
Summit	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Tooele	1	0.2	0.3	1	0.2	0.3	0	0.0	0.0
Uintah	6	2.1	2.4	6	2.1	2.4	0	0.0	0.0
Utah	173	6.3	5.2	165	6.0	4.9	0	0.0	0.0
Wasatch	4	1.8	2.9	2	0.9	1.5	0	0.0	0.0
Washington	28	3.3	3.5	25	2.9	3.1	2	23.5	2.5
Wayne	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Weber	71	5.1	3.9	66	4.7	3.6	0	0.0	0.0
Statewide	839	4.0	4.0	758	3.6	3.6	9	4.2	0.4

1998 Bicyclist Characteristics

Figure 4.07 shows that most bicyclists and injured bicyclists involved in a crash (57%) were between the ages of 5 to 19 years. This same age group represented almost half (44%) of the fatalities. The majority of the bicyclists involved in crashes and almost two-thirds of the bicyclist fatalities were male (Table 4.15).

The actions of the bicyclist prior to the crash are shown in Table 4.16. The leading bicyclists and injured bicyclists actions prior to crash were "riding in roadway with traffic" (21%) and "crossing at intersection with signal" (17%). For the bicyclist who died, almost half (44%) of the actions prior to the crash were "riding in roadway with traffic" .

Figure 4.07 Age of Bicyclists, Injured Bicyclists and Bicyclist Fatalities Involved in a Crash, 1998 (See Table 4.14 for values)



Note: The above graph is based on percentage for the different injury categories. To read the above graph, look at one category across the groups. For example, look at only the white bars (i.e. injured bicyclist) from age group to age group. Do not compare the heights of the different injury categories for a specific age group.

Table 4.14 Age of Bicyclists, Injured Bicyclists and Bicyclist Fatalities, 1998

Age	Bicyclists		Injured Bicyclists		Bicyclist Fatalities	
	#	%	#	%	#	%
00 - 04	14	1.7%	11	1.5%	1	11.1%
05 - 09	122	14.5%	109	14.4%	0	0.0%
10 - 14	226	26.9%	205	27.0%	4	44.4%
15 - 19	134	16.0%	124	16.4%	0	0.0%
20 - 24	95	11.3%	85	11.2%	1	11.1%
25 - 29	54	6.4%	50	6.6%	1	11.1%
30 - 34	47	5.6%	42	5.5%	0	0.0%
35 - 39	30	3.6%	27	3.6%	0	0.0%
40 - 44	32	3.8%	29	3.8%	0	0.0%
45 - 49	25	3.0%	24	3.2%	0	0.0%
50 - 54	13	1.5%	13	1.7%	0	0.0%
55 - 59	6	0.7%	5	0.7%	0	0.0%
60 - 64	2	0.2%	1	0.1%	1	11.1%
65 - 69	3	0.4%	3	0.4%	0	0.0%
70 - 74	3	0.4%	3	0.4%	0	0.0%
75 - 79	4	0.5%	3	0.4%	1	11.1%
80 - 84	3	0.4%	3	0.4%	0	0.0%
85 +	0	0.0%	0	0.0%	0	0.0%
Missing	26	3.1%	21	2.8%	0	0.0%
Grand Total	839	100.0%	758	100.0%	9	100.0%

Table 4.15 Gender of Bicyclists, Injured Bicyclists and Bicyclist Fatalities, 1998

Gender	Bicyclists		Injured Bicyclists		Bicyclist Fatalities	
	#	%	#	%	#	%
Male	700	83.4%	633	83.5%	6	66.7%
Female	136	16.2%	124	16.4%	3	33.3%
Missing	3	0.4%	1	0.1%	0	0.0%
Grand Total	839	100.0%	758	100.0%	9	100.0%

Table 4.16 Bicyclist Action Prior to Crash, 1998

Bicyclist Action Prior to Crash	Bicyclists		Injured Bicyclists		Bicyclist Fatalities	
	#	%	#	%	#	%
Riding in Roadway With Traffic	172	21.0%	158	21.3%	4	44.4%
Crossing Intersection with Signal	144	17.6%	129	17.4%	0	0.0%
Crossing Intersection No Signal	134	16.4%	116	15.7%	0	0.0%
Riding in Roadway Against Traffic	117	14.3%	110	14.8%	0	0.0%
Crossing Intersection Against Signal	70	8.6%	65	8.8%	0	0.0%
Riding on Sidewalk	64	7.8%	58	7.8%	1	11.1%
Crossing Not at Intersection	57	7.0%	52	7.0%	2	22.2%
Other in Roadway	16	2.0%	16	2.2%	0	0.0%
Coming from Behind Parked Cars	13	1.6%	10	1.3%	0	0.0%
Not Stated	13	1.6%	12	1.6%	0	0.0%
Playing in Roadway	8	1.0%	7	0.9%	1	11.1%
Crossing Intersection Diagonally	5	0.6%	3	0.4%	1	11.1%
Walking on Sidewalk	2	0.2%	2	0.3%	0	0.0%
Hitching on Vehicle	1	0.1%	1	0.1%	0	0.0%
Not in Roadway	1	0.1%	1	0.1%	0	0.0%
Walking To or From School	1	0.1%	1	0.1%	0	0.0%
Grand Total	818	100.0%	741	100.0%	9	100.0%

Alcohol and Other Drugs:

Of the 9 bicyclist fatalities, 1 was impaired by alcohol or other drugs. No impaired motor vehicle drivers were involved in fatal bicyclist-motor vehicle crashes.

Bicyclists and Helmet

Helmet was not coded consistently at the time-of-crash for bicyclists and cannot be reported with accuracy. As a result, it is not included in this summary.

Section 5
1998 Motorcycle Crashes, Injury Crashes and Fatal Crashes

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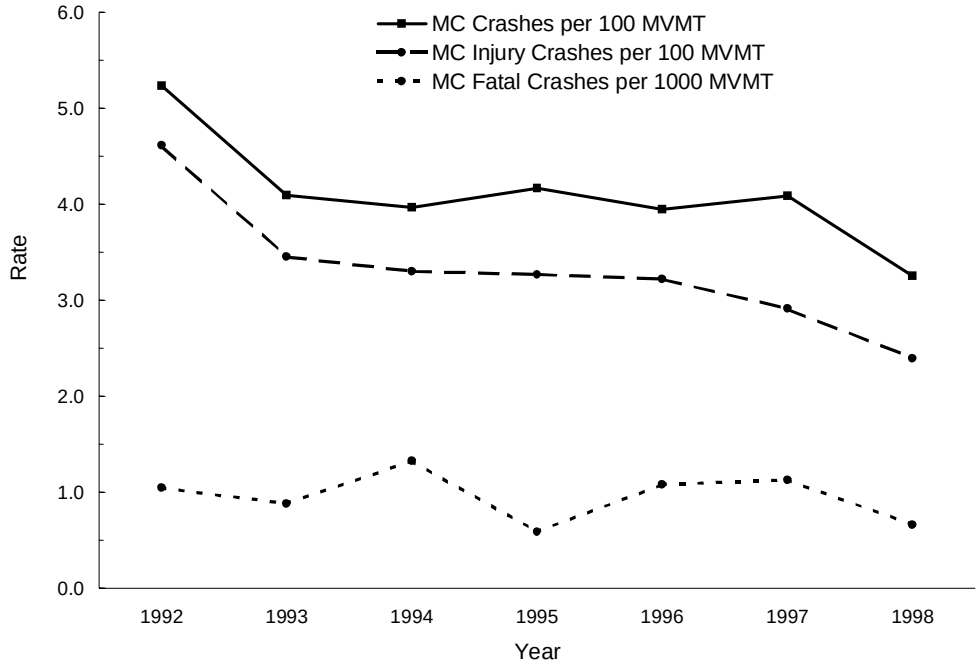
1992 - 1998 Motorcycle Crashes

The trends in motorcycle crashes from 1992 - 1998 are shown in Table 5.01 and Figure 5.01. Motorcycle crashes and injury crashes have been declining since 1992, while motorcycle fatal crashes have varied from year to year. In 1998, there was a 15% decrease in motorcycle crashes and a 14% decrease in motorcycle injury crashes. The small number of motorcycle fatal crashes makes it hard to compare increases and decreases from year to year.

Table 5.01 Motorcycle (MC) Crashes, Injury Crashes and Fatal Crashes, 1992-1998

	MC Crashes		MC Injury Crashes		MC Fatal Crashes	
Year	#	Rate per 100 MVMT	#	Rate per 100 MVMT	#	Rate per 1000 MVMT
1992	851	5.2	751	4.6	17	1.0
1993	698	4.1	589	3.5	15	0.9
1994	717	4.0	597	3.3	24	1.3
1995	711	4.2	614	3.3	11	0.6
1996	713	3.9	626	3.2	21	1.1
1997	697	4.1	594	2.9	23	1.1
1998	589	3.3	509	2.4	14	0.7

Figure 5.01 Motorcycle Crashes, Injury Crashes and Fatal Crashes, 1992-1998



1998 Motorcycle Crash Severity

Figure 5.02 Severity of Motorcycle Crashes as Reported by Police, 1998 (n=589)

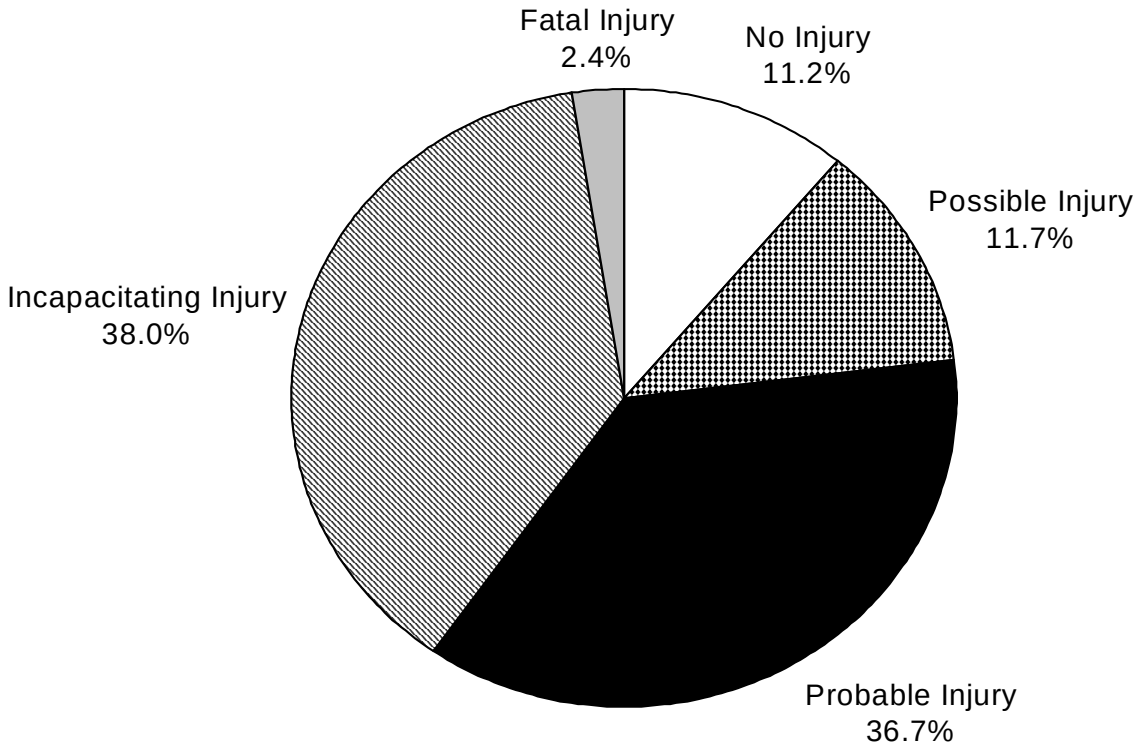


Figure 5.02 shows the breakdown of motorcycle crash severity. The majority of motorcycle crashes resulted in an injury (89%) compared to 37% of all motor vehicle crashes. Two percent (2%) of motorcycle crashes resulted in a fatality; double the percentage for all motor vehicle crashes (1%).

The rates of motorcycle crashes, injury crashes and fatal crashes for each county are shown in Table 5.02. The top three counties for motorcycle crashes and motorcycle injury crashes based on miles traveled were Daggett, Morgan and Washington. The top three counties for fatal motorcycle crashes based on miles traveled were Piute, Summit, and Carbon.

1998 Motorcycle Crashes by County

Table 5.02 Motorcycle (MC) Crashes, Injury Crashes and Fatal Crashes by County, 1998

County	MC Crashes #	MC Crashes Rate per 10,000 Population	MC Crashes Rate per 100 MVMT	MC Injury Crashes #	MC Injury Crashes Rate per 10,000 Population	MC Injury Crashes Rate per 100 MVMT	MC Fatal Crashes #	MC Fatal Crashes Rate per 10,000 Population	MC Fatal Crashes Rate per 1000 MVMT
Beaver	2	3.1	1.0	2	3.1	1.0	0	0.0	0.0
Box Elder	11	2.7	1.3	10	2.4	1.2	1	0.2	1.2
Cache	32	3.5	4.3	27	3.0	3.6	0	0.0	0.0
Carbon	6	2.7	1.8	5	2.3	1.5	1	0.5	3.0
Daggett	3	36.0	13.3	2	24.0	8.9	0	0.0	0.0
Davis	42	1.8	2.1	38	1.7	1.9	0	0.0	0.0
Duchesne	1	0.7	0.5	1	0.7	0.5	0	0.0	0.0
Emery	3	2.7	0.9	2	1.8	0.6	0	0.0	0.0
Garfield	5	10.8	4.0	5	10.8	4.0	0	0.0	0.0
Grand	8	8.0	3.1	8	8.0	3.1	0	0.0	0.0
Iron	12	3.8	2.2	11	3.5	2.1	0	0.0	0.0
Juab	1	1.3	0.3	1	1.3	0.3	0	0.0	0.0
Kane	4	5.6	3.3	4	5.6	3.3	0	0.0	0.0
Millard	7	5.6	1.8	6	4.8	1.5	1	0.8	2.5
Morgan	6	8.8	5.3	6	8.8	5.3	0	0.0	0.0
Piute	1	6.2	3.3	0	0.0	0.0	1	6.2	32.9
Rich	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Salt Lake	219	2.6	3.1	180	2.1	2.5	5	0.1	0.7
San Juan	3	2.3	1.1	3	2.3	1.1	0	0.0	0.0
Sanpete	6	2.8	2.7	5	2.3	2.3	0	0.0	0.0
Sevier	8	4.2	2.3	7	3.7	2.0	1	0.5	2.8
Summit	6	2.3	1.1	3	1.2	0.5	2	0.8	3.5
Tooele	8	2.3	1.3	7	2.1	1.1	1	0.3	1.6
Uintah	11	4.5	3.9	11	4.5	3.9	0	0.0	0.0
Utah	107	3.2	3.9	96	2.9	3.5	1	0.0	0.4
Wasatch	3	2.2	1.3	3	2.2	1.3	0	0.0	0.0
Washington	40	5.0	4.7	36	4.5	4.2	0	0.0	0.0
Wayne	1	4.0	2.7	1	4.0	2.7	0	0.0	0.0
Weber	45	2.4	3.2	37	2.0	2.6	1	0.1	0.7
Statewide	601	2.9	2.8	517	2.5	2.4	15	0.1	0.7

1998 Motorcycle Crash Times

Motorcycle crashes and injury crashes followed the same time pattern, peaking between 4 p.m. and 6 p.m. The highest proportion of fatal motorcycle crashes occurred at 6 p.m. (Table 5.03).

Table 5.04 shows the number of motorcycle crashes and the rate of motorcycle crashes per day for each month. July and August had the highest rate of motorcycle crashes, injury crashes and fatal crashes per day. Very few motorcycle crashes occurred in the winter months probably due to the decrease of individuals riding motorcycles in these months.

Table 5.03 Hour of Motorcycle (MC) Crashes, Injury Crashes and Fatal Crashes, 1998

	MC Crashes		MC Injury Crashes		MC Fatal Crashes	
Hour	**#**	**%**	**#**	**%**	**#**	**%**
12 a.m.	13	2.2%	11	2.2%	1	7.1%
1 a.m.	4	0.7%	2	0.4%	1	7.1%
2 a.m.	5	0.8%	5	1.0%	0	0.0%
3 a.m.	0	0.0%	0	0.0%	0	0.0%
4 a.m.	2	0.3%	2	0.4%	0	0.0%
5 a.m.	2	0.3%	2	0.4%	0	0.0%
6 a.m.	12	2.0%	8	1.6%	0	0.0%
7 a.m.	16	2.7%	13	2.6%	1	7.1%
8 a.m.	14	2.4%	11	2.2%	0	0.0%
9 a.m.	9	1.5%	8	1.6%	0	0.0%
10 a.m.	22	3.7%	20	3.9%	0	0.0%
11 a.m.	30	5.1%	25	4.9%	0	0.0%
12 p.m.	35	5.9%	31	6.1%	2	14.3%
1 p.m.	37	6.3%	34	6.7%	1	7.1%
2 p.m.	35	5.9%	28	5.5%	1	7.1%
3 p.m.	49	8.3%	41	8.1%	1	7.1%
4 p.m.	52	8.8%	42	8.3%	0	0.0%
5 p.m.	54	9.2%	52	10.2%	0	0.0%
6 p.m.	52	8.8%	46	9.0%	3	21.4%
7 p.m.	31	5.3%	28	5.5%	0	0.0%
8 p.m.	28	4.8%	26	5.1%	2	14.3%
9 p.m.	40	6.8%	37	7.3%	1	7.1%
10 p.m.	27	4.6%	21	4.1%	0	0.0%
11 p.m.	20	3.4%	16	3.1%	0	0.0%
Grand Total	589	100.0%	509	100.0%	14	100.0%

Figure 5.03 Hour of Motorcycle (MC) Injury Crashes and Fatal Crashes, 1998 (See Table 5.03 for values)

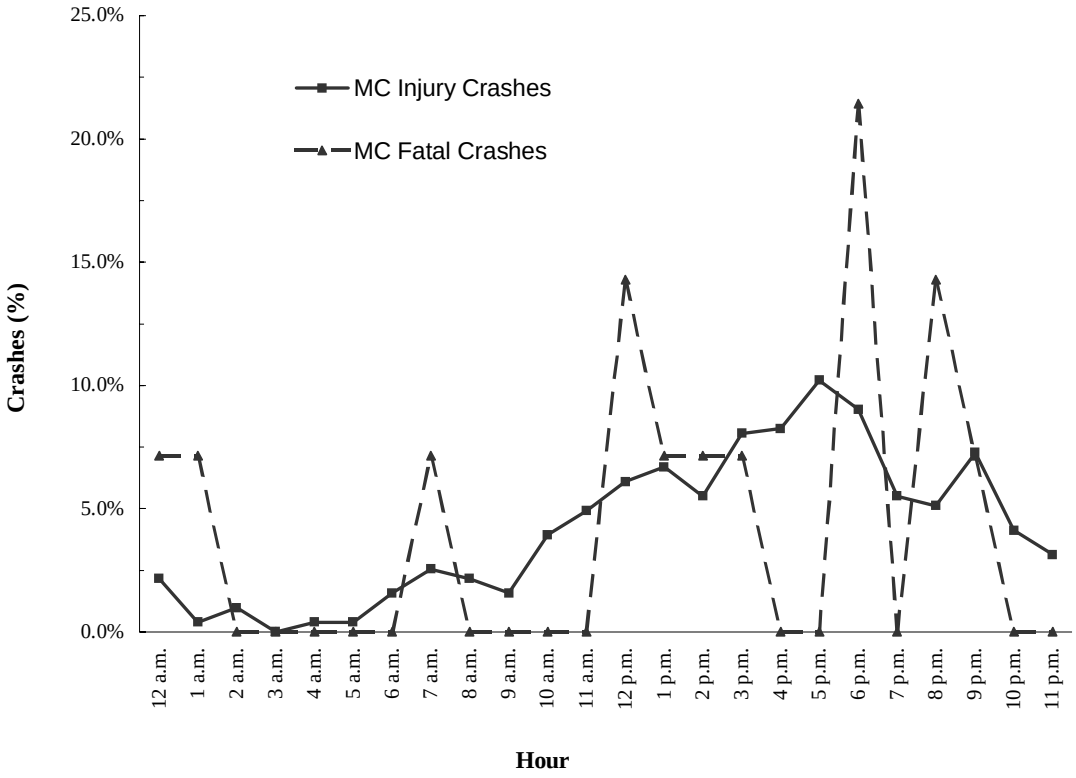
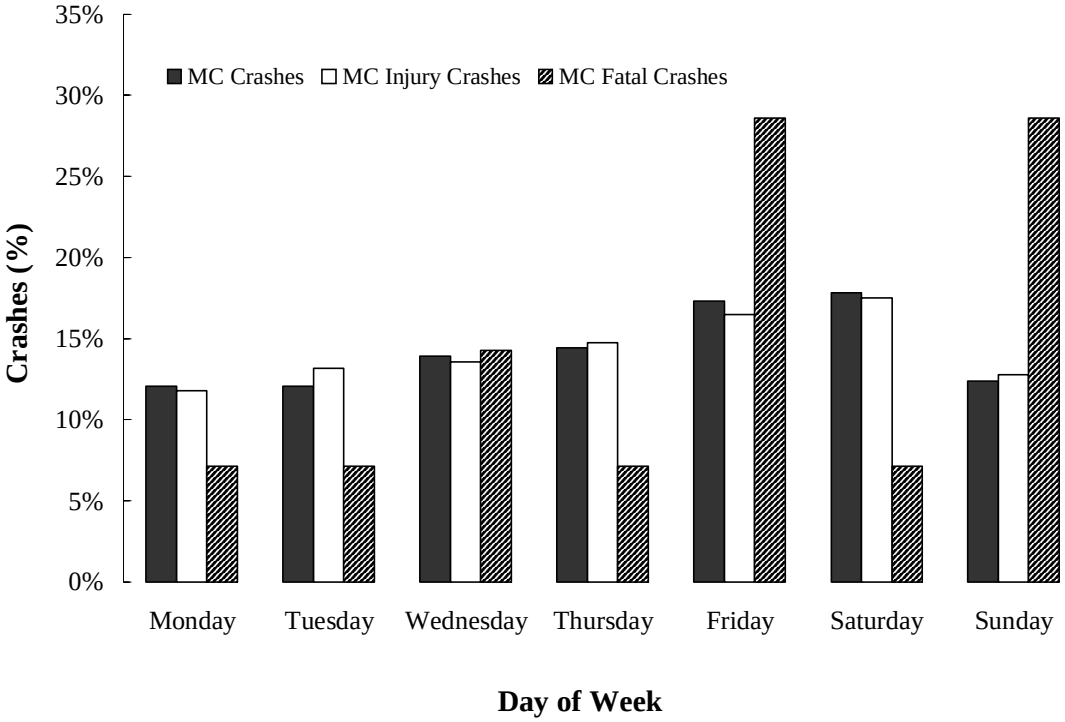


Table 5.04 Month of Motorcycle (MC) Crashes, Injury Crashes and Fatal Crashes, 1998

Crash Month	MC Crashes #	MC Crashes Rate per Day	MC Injury Crashes #	MC Injury Crashes Rate per Day	MC Fatal Crashes #	MC Fatal Crashes Rate per Day
January	8	0.3	6	0.2	0	0.0
February	9	0.3	8	0.3	0	0.0
March	28	0.9	23	0.7	0	0.0
April	40	1.3	34	1.1	1	0.0
May	84	2.7	75	2.4	3	0.1
June	78	2.6	68	2.3	0	0.0
July	94	3.0	81	2.6	6	0.2
August	94	3.0	87	2.8	2	0.1
September	77	2.6	70	2.3	1	0.0
October	38	1.2	31	1.0	1	0.0
November	28	0.9	19	0.6	0	0.0
December	11	0.4	7	0.2	0	0.0
Grand Total	589	1.6	509	1.4	14	0.0

The largest number of motorcycle crashes and motorcycle injury crashes occurred on Friday and Saturday (Figure 5.04 and Table 5.04). Fatal motorcycle crashes most frequently occurred on Friday and Sunday accounting for 57% of all fatal motorcycle crashes. In fact, motorcycle crashes on Sunday were 3 times more likely to be a fatal crash than motorcycle crashes occurring on other days.

Figure 5.04 Day of Week for Motorcycle (MC) Crashes, Injury Crashes and Fatal Crashes, 1998 (See Table 5.05 for values)



Note: The above graph is based on percentage for the different crash categories. To read the above graph, look at one category across the groups. For example, look at only the white bars (i.e. motorcycle injury crashes) from day to day. Do not compare the heights of the different crash categories for a specific day.

Table 5.05 Day of Week for Motorcycle (MC) Crashes, Injury Crashes and Fatal Crashes, 1998

	MC Crashes		MC Injury Crashes		MC Fatal Crashes	
Day of Week	**#**	**%**	**#**	**%**	**#**	**%**
Monday	71	12.1%	60	11.8%	1	7.1%
Tuesday	71	12.1%	67	13.2%	1	7.1%
Wednesday	82	13.9%	69	13.6%	2	14.3%
Thursday	85	14.4%	75	14.7%	1	7.1%
Friday	102	17.3%	84	16.5%	4	28.6%
Saturday	105	17.8%	89	17.5%	1	7.1%
Sunday	73	12.4%	65	12.8%	4	28.6%
Grand Total	589	100.0%	509	100.0%	14	100.0%

1998 Motorcycle Crash Characteristics

Table 5.06 Types of Crashes, Injury Crashes and Fatal Crashes Involving Motorcycles (MC), 1998

Crash Type	MC Crashes #	MC Crashes %	MC Injury Crashes #	MC Injury Crashes %	MC Fatal Crashes #	MC Fatal Crashes %
Two Motor Vehicles	308	52.3%	247	48.5%	6	42.9%
Overturned in Roadway	85	14.4%	84	16.5%	0	0.0%
Ran Off Roadway - To the Right	64	10.9%	53	10.4%	7	50.0%
Other Non-Collision	47	8.0%	47	9.2%	0	0.0%
Ran Off Roadway - To the Left	28	4.8%	25	4.9%	1	7.1%
Motor Vehicle and Fixed Object	21	3.6%	20	3.9%	0	0.0%
Motor Vehicle and Wild Animal	13	2.2%	10	2.0%	0	0.0%
Motor Vehicle and Other Object	10	1.7%	10	2.0%	0	0.0%
Motor Vehicle and Domestic Animal	7	1.2%	7	1.4%	0	0.0%
Motor Vehicle and Pedestrian	3	0.5%	3	0.6%	0	0.0%
Ran Off Roadway Through Median	2	0.3%	2	0.4%	0	0.0%
Motor Vehicle and Train	1	0.2%	1	0.2%	0	0.0%
Grand Total	589	100.0%	509	100.0%	14	100.0%

Table 5.06 shows that crashes involving another motor vehicle represented the majority of motorcycle crashes (52%). Over half (57%) of fatal motorcycle crashes were "ran off the roadway".

Following the same pattern as motor vehicle crashes, the majority of motorcycle crashes (58%) occurred in large urban areas (Table 5.07). However, the largest percentage of fatal motorcycle crashes (79%) occur in rural areas. Rural motorcycle crashes were 13 times more likely to result in a fatality compared to motorcycle crashes in other areas.

Table 5.08 shows that the leading collisions for motorcycles were single vehicle rollovers (35%) and broadsides (27%). These were also the leading injury motorcycle collision types at 39% and 27%, respectively. Half (50%) of fatal motorcycle crashes were single vehicle rollovers.

Table 5.07 Urban / Rural Location of Motorcycle (MC) Crashes, Injury Crashes and Fatal Crashes, 1998

Urban / Rural Location	MC Crashes		MC Injury Crashes		MC Fatal Crashes	
	#	%	#	%	#	%
Rural Area - Up to 5,000	140	23.8%	123	24.2%	11	78.6%
Small Urban - 5,000 to 49,999	39	6.6%	33	6.5%	1	7.1%
Moderate Urban - 50,000 to 199,999	19	3.2%	14	2.8%	0	0.0%
Large Urban - 200,000 or More	340	57.7%	287	56.4%	2	14.3%
Missing	51	8.7%	52	10.2%	0	0.0%
Grand Total	589	91.3%	509	89.8%	14	100.0%

Table 5.08 Collision Description of Motorcycle (MC) Crashes, Injury Crashes and Fatal Crashes, 1998

Collision Description	MC Crashes		MC Injury Crashes		MC Fatal Crashes	
	#	%	#	%	#	%
Single Vehicle Rollover	208	35.3%	196	38.5%	7	50.0%
Broadside	158	26.8%	136	26.7%	1	7.1%
Rear End	77	13.1%	61	12.0%	1	7.1%
Multi-vehicle Other	66	11.2%	47	9.2%	2	14.3%
Other	47	8.0%	41	8.1%	0	0.0%
Side Swipe	24	4.1%	20	3.9%	2	14.3%
Head-on	4	0.7%	3	0.6%	1	7.1%
Pedestrian/Bicyclist Crash	3	0.5%	3	0.6%	0	0.0%
Single Vehicle Fixed Object	2	0.3%	2	0.4%	0	0.0%
Grand Total	589	100.0%	509	100.0%	14	100.0%

1998 Motorcycle Crash Violations and Contributing Factors

Twenty-four percent (24%) of motorcycle drivers involved in crashes received a citation (Table 5.09). The leading violations cited were "speeding" (15%), and "DUI" (14%). Citations were not given to motorcyclists involved in a fatal crash.

Table 5.10 shows that the leading contributing factor for all motorcycle crashes was "speed too fast" accounting for approximately a third of all contributing factors. The contributing factors "driving under the influence", "had been drinking" and "under the influence of drugs" accounted for 7% of motorcycle crashes and 14% of the fatal motorcycle crashes.

Table 5.09 Violations for Motorcycle (MC) Crashes and Injury Crashes, 1998

	MC Crashes		MC Injury Crashes	
Violations	**#**	**%**	**#**	**%**
Speeding	21	14.9%	19	15.1%
All Other Moving Violations	19	13.5%	19	15.1%
Driving Under the Influence	19	13.5%	18	14.3%
Negligent Collision	10	7.1%	10	7.9%
Failure to Yield Right of Way	7	5.0%	6	4.8%
Wrong Side of Road	7	5.0%	5	4.0%
Improper Lookout	6	4.3%	4	3.2%
Following Too Close	4	2.8%	4	3.2%
Reckless Driving	4	2.8%	4	3.2%
Improper Lane Change	1	0.7%	1	0.8%
Improper Turn	1	0.7%	0	0.0%
Grand Total	141	100.0%	126	100.0%

Table 5.10 Contributing Factors of Motorcycle Crashes, Injury Crashes and Fatal Crashes, 1998

Contributing Factors	MC Crashes		MC Injury Crashes		MC Fatal Crashes	
	#	%	#	%	#	%
Speed Too Fast	127	29.5%	118	30.6%	7	31.8%
Other Improper Driving	85	19.8%	83	21.6%	1	4.5%
Improper Lookout	66	15.3%	56	14.5%	3	13.6%
Failed to Yield the Right of Way	23	5.3%	18	4.7%	1	4.5%
Following Too Closely	18	4.2%	16	4.2%	0	0.0%
Driving Under the Influence	17	4.0%	17	4.4%	0	0.0%
Drove Left of Center	13	3.0%	9	2.3%	1	4.5%
Had Been Drinking	13	3.0%	10	2.6%	3	13.6%
Improper Overtaking	11	2.6%	9	2.3%	2	9.1%
Non-Contact Vehicle Involved	11	2.6%	11	2.9%	0	0.0%
Improper Turn	7	1.6%	6	1.6%	1	4.5%
Disregarded Traffic Signal	6	1.4%	6	1.6%	0	0.0%
Tires Defective	5	1.2%	5	1.3%	0	0.0%
Fatigued	4	0.9%	3	0.8%	1	4.5%
Hit and Run	4	0.9%	2	0.5%	0	0.0%
Other Defective Condition	4	0.9%	4	1.0%	0	0.0%
Passed Stop Sign	4	0.9%	3	0.8%	0	0.0%
Headlights Insufficient or Out	3	0.7%	2	0.5%	1	4.5%
Asleep	2	0.5%	1	0.3%	0	0.0%
Brakes Defective	2	0.5%	2	0.5%	0	0.0%
Other Lights or Reflecting/Defective	2	0.5%	1	0.3%	1	4.5%
Down Hill Runaway	1	0.2%	1	0.3%	0	0.0%
Headlights Glaring	1	0.2%	1	0.3%	0	0.0%
Under the Influence of Drugs	1	0.2%	1	0.3%	0	0.0%
Grand Total	430	100.0%	385	100.0%	22	100.0%

1998 Motorcycle Drivers Involved in Crashes

Over half (59%) of the motorcycle drivers involved in crashes were under the age of 30 years (Table 5.11). The age of motorcycle drivers involved in crashes and injury crashes was highest for younger drivers (20-24 years) and decreased with increasing age. The ages of the motorcycle drivers involved in fatal crashes showed no clear pattern, due in part to the small number of fatal motorcycle crashes.

Most motorcycle drivers (94%) involved in crashes were male (Table 5.12). This does not necessarily indicate that male motorcycle drivers are at a greater risk for a crash but may reflect the higher proportion of male motorcycle drivers in Utah.

In order to drive a motorcycle on public roads in the state of Utah, a person must pass both written and on-motorcycle riding tests which allows them to obtain an "M" class driver license (an endorsement on the regular "D" license).

Table 5.11 Age of Motorcycle (MC) Drivers Involved in Crashes, Injury Crashes and Fatal Crashes, 1998

	MC Crashes		MC Injury Crashes		MC Fatal Crashes	
Driver's Age	**# Drivers**	**%**	**# Drivers**	**%**	**# Drivers**	**%**
<15	10	1.7%	10	1.9%	0	0.0%
15 - 19	119	20.1%	109	21.2%	1	6.7%
20 - 24	136	22.9%	114	22.1%	3	20.0%
25 - 29	83	14.0%	70	13.6%	2	13.3%
30 - 34	45	7.6%	41	8.0%	1	6.7%
35 - 39	44	7.4%	38	7.4%	3	20.0%
40 - 44	49	8.3%	40	7.8%	1	6.7%
45 - 49	39	6.6%	37	7.2%	2	13.3%
50 - 54	32	5.4%	28	5.4%	1	6.7%
55 - 59	13	2.2%	13	2.5%	0	0.0%
60 - 64	11	1.9%	10	1.9%	0	0.0%
65 - 69	2	0.3%	2	0.4%	0	0.0%
70 - 74	4	0.7%	0	0.0%	1	6.7%
75 - 79	2	0.3%	1	0.2%	0	0.0%
Missing	4	0.7%	2	0.4%	0	0.0%
Grand Total	593	100.0%	515	100.0%	15	100.0%

Figure 5.05 Age of Motorcycle Drivers Involved in Crashes, Injury Crashes and Fatal Crashes, 1998 (See Table 5.11 for values)

Note: The above graph is based on percentage for the different crash categories. To read the above graph, look at one category across the groups. For example, look at only the white bars (i.e. drivers in motorcycle injury crashes) from age group to age group. Do not compare the heights of the different crash categories for a specific age group.

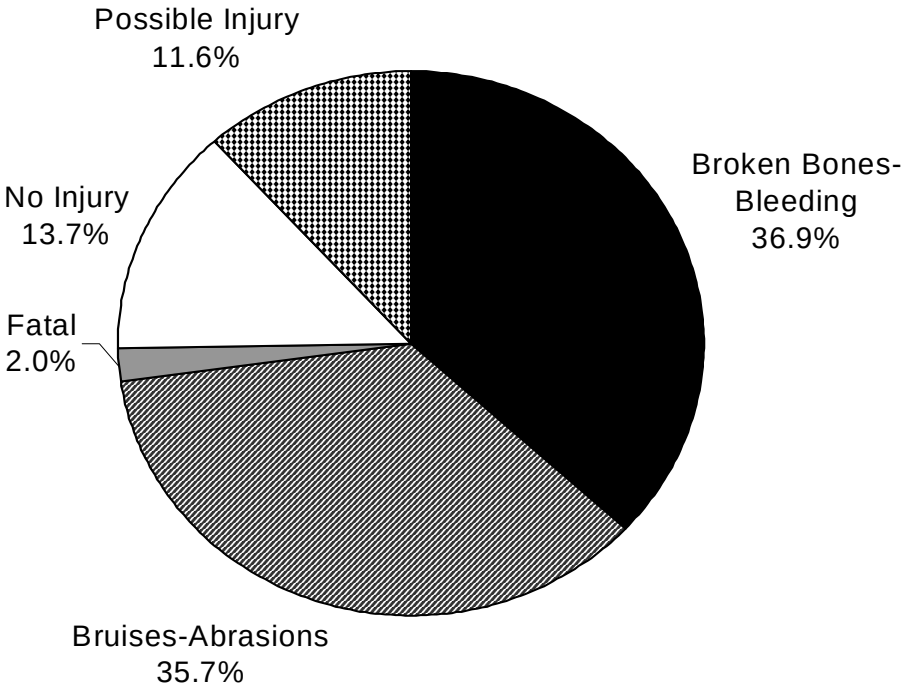
Table 5.12 Gender of Motorcycle (MC) Drivers Involved in Crashes, Injury Crashes and Fatal Crashes, 1998

	MC Crashes		MC Injury Crashes		MC Fatal Crashes	
Driver's Gender	**# Drivers**	**%**	**# Drivers**	**%**	**# Drivers**	**%**
Female	33	5.6%	27	5.2%	1	6.7%
Male	558	94.1%	486	94.4%	14	93.3%
Missing	2	0.3%	2	0.4%	0	0.0%
Grand Total	593	100.0%	515	100.0%	15	100.0%

1998 Motorcyclist Injury Severity

Motorcycle riders are more frequently injured in crashes compared to occupants of other motor vehicles. Over 86% of motorcyclists were injured in a crash compared to 22% of all motor vehicle crash participants. A fatal injury was sustained by 2% of motorcyclist compared to 0.2% of all motor vehicle crash participants.

Figure 5.06 Motorcyclist Injury Severity as Reported by Police, 1998 (n=691)



1998 Motorcyclists by County

Table 5.13 shows that while Salt Lake County has the largest number of total motorcyclists, injured motorcyclists and motorcyclists killed in crashes, the county with the highest rate per population of motorcyclists in crashes was Daggett County. Piute County had the highest rate per population of motorcyclist fatalities, followed by Millard and Summit.

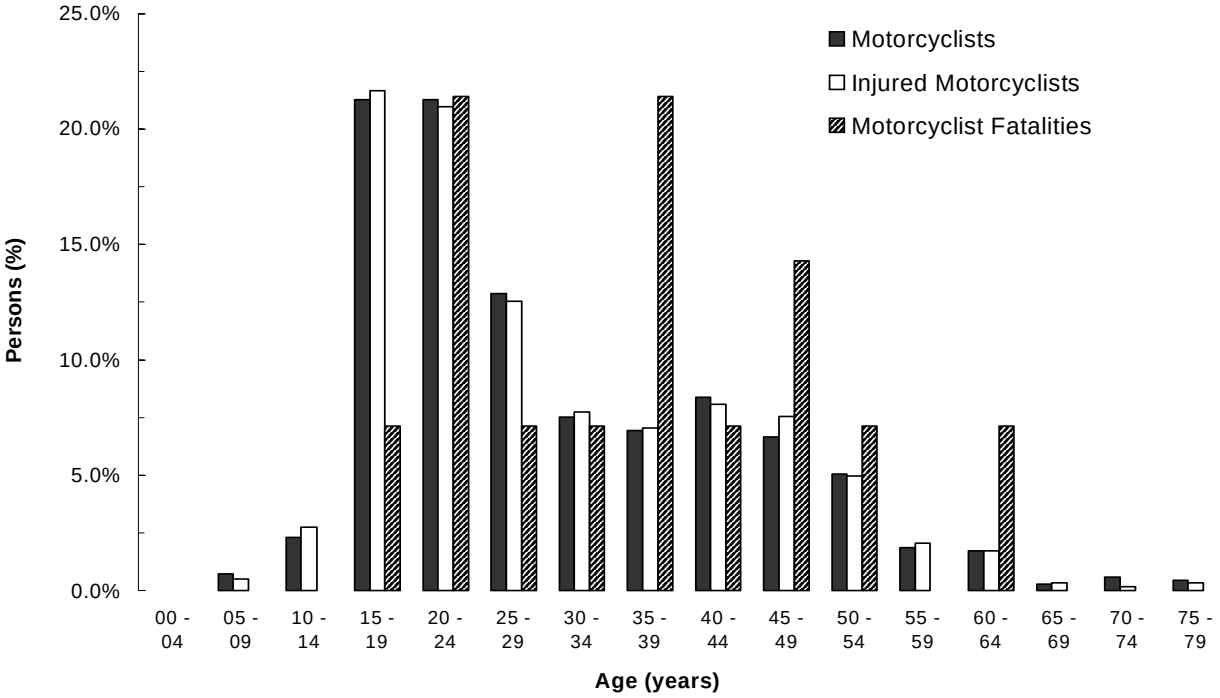
Table 5.13 Motorcyclists, Injured Motorcyclists and Motorcyclist Fatalities by County, 1998

	Motorcyclists		Injured Motorcyclists		Motorcyclist Fatalities	
County	#	Rate Per 100,000 Population	#	Rate Per 100,000 Population	#	Rate Per 100,000 Population
Beaver	2	31.5	2	31.5	0	0.0
Box Elder	13	31.5	12	29.0	1	2.4
Cache	37	41.0	32	35.5	0	0.0
Carbon	8	36.1	7	31.6	1	4.5
Daggett	4	480.2	3	360.1	0	0.0
Davis	51	22.4	43	18.9	0	0.0
Duchesne	1	7.0	1	7.0	0	0.0
Emery	3	27.1	2	18.1	0	0.0
Garfield	6	129.3	6	129.3	0	0.0
Grand	8	80.4	7	70.3	0	0.0
Iron	13	40.8	12	37.7	0	0.0
Juab	1	12.7	1	12.7	0	0.0
Kane	4	56.3	4	56.3	0	0.0
Millard	9	71.9	8	63.9	1	8.0
Morgan	7	102.1	6	87.5	0	0.0
Piute	1	61.8	0	0.0	1	61.8
Rich	0	0.0	0	0.0	0	0.0
Salt Lake	245	28.8	196	23.1	4	0.5
San Juan	6	45.0	5	37.5	0	0.0
Sanpete	7	32.8	6	28.1	0	0.0
Sevier	9	47.8	8	42.4	1	5.3
Summit	7	27.4	5	19.5	2	7.8
Tooele	9	26.4	8	23.5	1	2.9
Uintah	15	61.2	15	61.2	0	0.0
Utah	117	35.0	103	30.9	1	0.3
Wasatch	3	22.0	3	22.0	0	0.0
Washington	48	60.1	39	48.9	0	0.0
Wayne	1	39.7	1	39.7	0	0.0
Weber	56	30.4	47	25.5	1	0.5
Statewide	691	32.9	582	27.7	14	0.7

1998 Motorcyclist Characteristics

The largest number of motorcyclists and injured motorcyclists were aged 15 to 24 years (Figure 5.07). Motorcycle crash fatalities occurred most often in the 20 to 24 and 35 to 39 year age groups. Table 5.15 shows that the majority (85%) of motorcycle crash participants and 86% of the motorcycle fatalities were male.

Figure 5.07 Age of Motorcyclists, Injured Motorcyclists and Motorcyclist Fatalities, 1998 (See Table 5.14 for values)



Note: The above graph is based on percentage for the different injury categories. To read the above graph, look at one category across the groups. For example, look at only the white bars (i.e. injured motorcyclist) from age group to age group. Do not compare the heights of the different injury categories for a specific age group.

Table 5.14 Age of Motorcyclists, Injured Motorcyclists and Motorcyclist Fatalities, 1998

Age	Motorcyclists #	Motorcyclists %	Injured Motorcyclists #	Injured Motorcyclists %	Motorcyclist Fatalities #	Motorcyclist Fatalities %
00 - 04	0	0.0%	0	0.0%	0	0.0%
05 - 09	5	0.7%	3	0.5%	0	0.0%
10 - 14	16	2.3%	16	2.7%	0	0.0%
15 - 19	147	21.3%	126	21.6%	1	7.1%
20 - 24	147	21.3%	122	21.0%	3	21.4%
25 - 29	89	12.9%	73	12.5%	1	7.1%
30 - 34	52	7.5%	45	7.7%	1	7.1%
35 - 39	48	6.9%	41	7.0%	3	21.4%
40 - 44	58	8.4%	47	8.1%	1	7.1%
45 - 49	46	6.7%	44	7.6%	2	14.3%
50 - 54	35	5.1%	29	5.0%	1	7.1%
55 - 59	13	1.9%	12	2.1%	0	0.0%
60 - 64	12	1.7%	10	1.7%	1	7.1%
65 - 69	2	0.3%	2	0.3%	0	0.0%
70 - 74	4	0.6%	1	0.2%	0	0.0%
75 - 79	3	0.4%	2	0.3%	0	0.0%
Missing	14	2.0%	9	1.5%	0	0.0%
Grand Total	691	100.0%	582	100.0%	14	100.0%

Table 5.15 Gender of Motorcyclists, Injured Motorcyclists and Motorcyclist Fatalities, 1998

Gender	Motorcylists #	Motorcylists %	Injured Motorcylists #	Injured Motorcylists %	Motorcyclist Fatalities #	Motorcyclist Fatalities %
Male	585	84.7%	496	85.2%	12	85.7%
Female	103	14.9%	84	14.4%	2	14.3%
Missing	3	0.4%	2	0.3%	0	0.0%
Grand Total	691	100.0%	582	100.0%	14	100.0%

Examination of the crash placement (driver vs passenger) shows that drivers accounted for over two-thirds (86%) of all injured motorcyclists (Table 5.16). Motorcycle drivers were 2 times more likely to be killed than motorcycle passengers. In addition, there were 4 pedestrians involved in motorcycle crashes; all 4 sustained non-fatal injuries.

Only 25% of motorcycle drivers and passengers involved in crashes wore a helmet (Table 5.17). The percentage of helmet use was similar for those who were injured or killed (27% and 29%). Utah law states that anyone under the age of 18 years riding a motorcycle either as the driver or as a passenger must wear a helmet approved by the Department of Public Safety.

Table 5.16 Crash Placement of Motorcyclists, Injured Motorcyclists, and Motorcyclist Fatalities, 1998

	Motorcylists		Injured Motorcyclists		Motorcyclist Fatalities	
Crash Placement	**#**	**%**	**#**	**%**	**#**	**%**
Driver	593	85.8%	500	85.9%	13	92.9%
Passenger	98	14.2%	82	14.1%	1	7.1%
Grand Total	691	100.0%	582	100.0%	14	100.0%

Table 5.17 Helmet Use by Motorcyclists Involved in Crashes, 1998

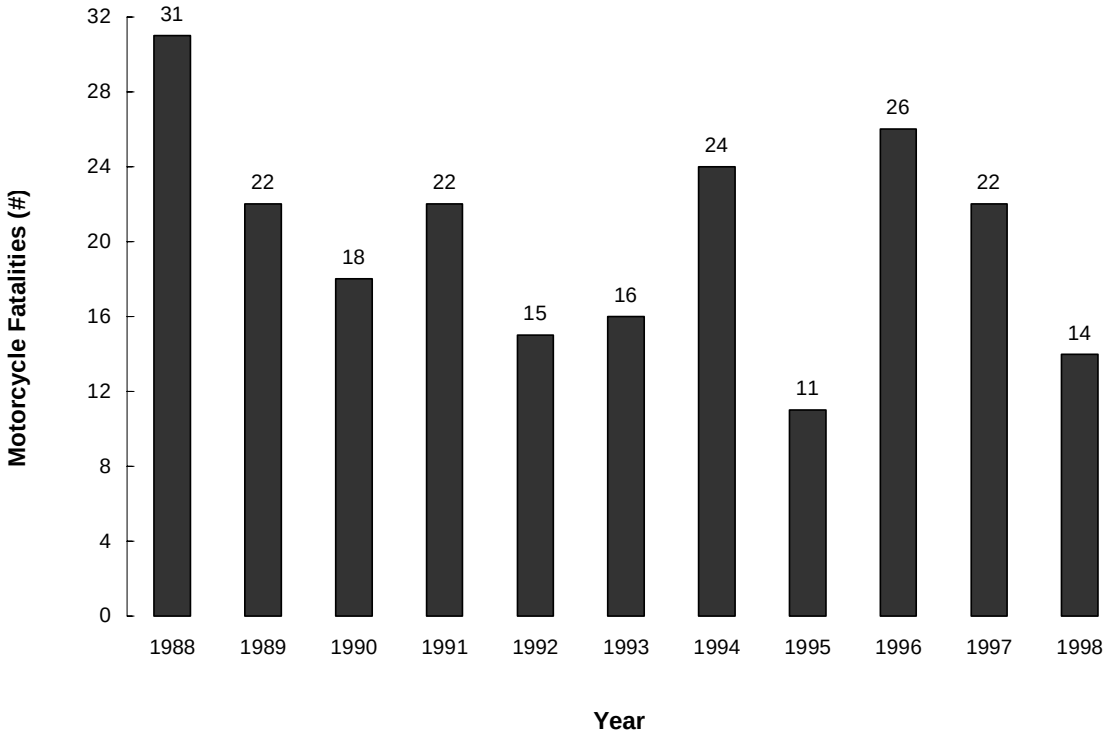
	Motorcyclists		Injured Motorcylists		Motorcyclist Fatalities	
Helmet	**#**	**%**	**#**	**%**	**#**	**%**
Used	174	25.2%	158	27.1%	4	28.6%
Not Used / Unknown	517	74.8%	424	72.9%	10	71.4%
Grand Total	691	100.0%	582	100.0%	14	100.0%

Alcohol and Other Drugs:

Of the 14 motorcycle fatal crashes, 3 involved alcohol and other drug use by the motorcycle driver.

In 1998, there were 14 motorcycle crash fatalities, a 36% decrease from 1997. For the past 10 years the number of motorcyclist fatalities has fluctuated each year. The low occurred in 1995 with 11 fatalities and the high was in 1988 with 31 fatalities (Figure 5.08).

Figure 5.08 Motorcyclist Crash Fatalities, 1988 - 1998



Section 6
1998 Crashes, Injury Crashes and Fatal Crashes Involving Teenage Drivers

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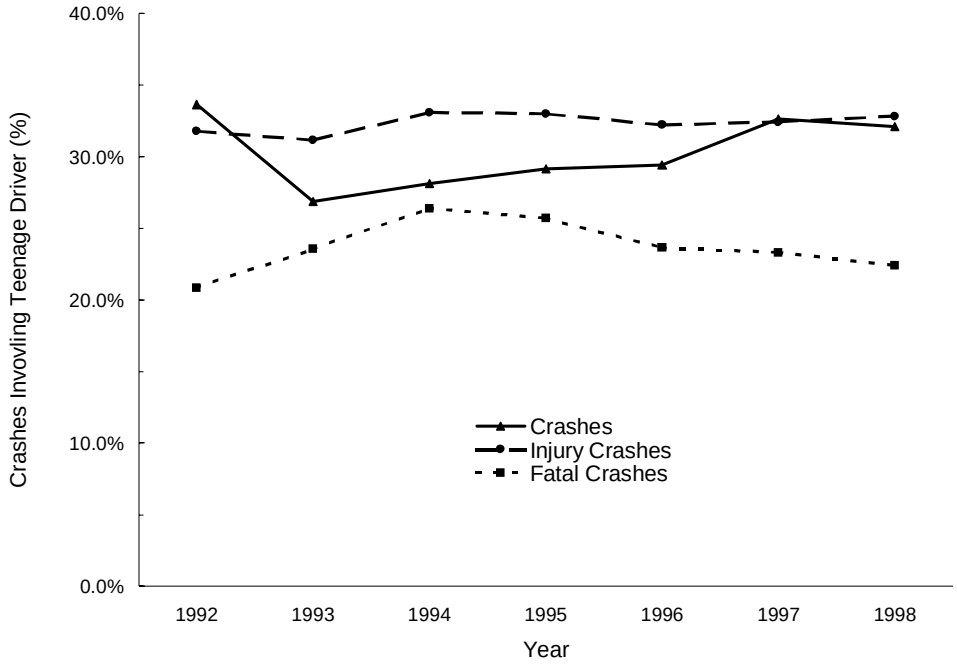
1992 - 1998 Teenage Driver Crashes

Teenage drivers aged 15 to 19 years are a special concern because of their high crash rates and lack of driving experience. Table 6.01 and Figure 6.01 show that approximately a third of all crashes involved teenage drivers. The largest percentage of crashes involving teenage drivers occurred in 1992, while the largest proportion of injury crashes and fatal crashes occurred in 1994.

Table 6.01 Teenage Driver Crashes, Injury Crashes and Fatal Crashes, 1992 - 1998

	Crashes			Injury Crashes			Fatal Crashes		
Year	All Crashes	Teenage Drivers	Percent Involving Teenage Drivers	All Injury Crashes	Teenage Drivers	Percent Involving Teenage Drivers	All Fatal Crashes	Teenage Drivers	Percent Involving Teenage Drivers
1992	40,660	13,681	33.6%	15,665	4,979	31.8%	235	49	20.9%
1993	55,704	14,972	26.9%	17,088	5,324	31.2%	259	61	23.6%
1994	59,272	16,688	28.2%	18,726	6,197	33.1%	303	80	26.4%
1995	57,644	16,808	29.2%	19,828	6,542	33.0%	284	73	25.7%
1996	61,505	18,100	29.4%	20,988	6,764	32.2%	292	69	23.6%
1997	54,952	17,941	32.6%	21,131	6,851	32.4%	309	72	23.3%
1998	54,072	17,362	32.1%	19,427	6,377	32.8%	308	69	22.4%

Figure 6.01 Teenage Driver Crashes, Injury Crashes and Fatal Crashes, 1992 - 1998

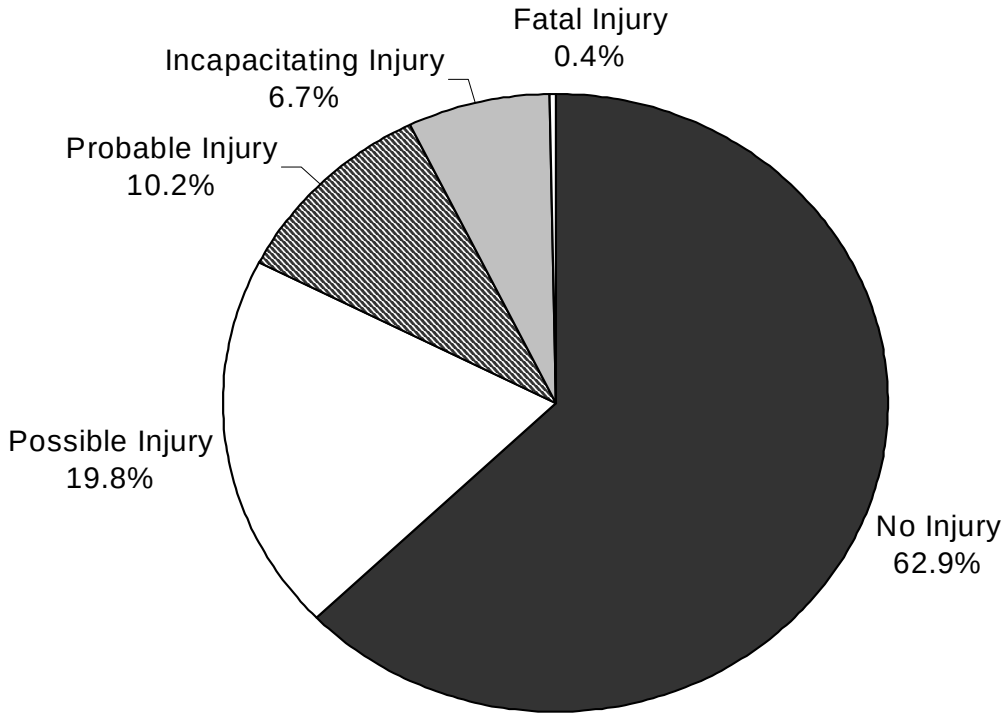


1998 Teenage Driver Crash Severity

Figure 6.02 shows the crash severity of teenage driver crashes. Similar to all motor vehicle crashes, 37% of teenage driver crashes resulted in some level of injury. Fatal crashes were lower among teenage driver crashes (0.4%) compared to all motor vehicle crashes at 0.6%.

The number of total crashes, the number of teenage driver crashes and the percent of crashes that involved a teenage driver by county are shown in Table 6.02. Davis, Cache and Washington counties had the highest percentage of crashes that involved a teenage driver. The leading percentage of teenage driver injury crashes occurred in Wayne, Uintah, and Davis counties. The counties with the greatest percentage of teenage driver fatal crashes were Uintah and Rich.

Figure 6.02 Severity of Teenage Driver Crashes as Reported by Police, 1998 (n=17,362)



1998 Teenage Driver Crashes by County

Table 6.02 Teenage Driver Crashes, Injury Crashes and Fatal Crashes by County, 1998

County	Crashes			Injury Crashes			Fatal Crashes		
	All Crashes	Teenage Drivers	Percent Involving Teenage Drivers	All Injury Crashes	Teenage Drivers	Percent Involving Teenage Drivers	All Fatal Crashes	Teenage Drivers	Percent Involving Teenage Drivers
Beaver	315	75	23.8%	110	30	27.3%	3	0	0.0%
Box Elder	931	262	28.1%	328	104	31.7%	16	2	12.5%
Cache	2,047	792	38.7%	645	251	38.9%	9	3	33.3%
Carbon	388	130	33.5%	122	41	33.6%	9	2	22.2%
Daggett	50	6	12.0%	8	1	12.5%	0	0	0.0%
Davis	4,035	1,607	39.8%	1,293	538	41.6%	10	3	30.0%
Duchesne	358	103	28.8%	116	38	32.8%	6	1	16.7%
Emery	328	81	24.7%	117	34	29.1%	6	2	33.3%
Garfield	147	24	16.3%	52	10	19.2%	5	0	0.0%
Grand	244	50	20.5%	93	15	16.1%	2	0	0.0%
Iron	961	298	31.0%	326	98	30.1%	13	5	0.0%
Juab	305	65	21.3%	110	30	27.3%	5	1	20.0%
Kane	258	47	18.2%	67	15	22.4%	3	1	33.3%
Millard	416	107	25.7%	165	50	30.3%	10	0	0.0%
Morgan	157	46	29.3%	47	16	34.0%	2	0	0.0%
Piute	62	10	16.1%	16	5	31.3%	2	0	0.0%
Rich	66	15	22.7%	23	7	30.4%	2	1	50.0%
Salt Lake	24,770	7,417	29.9%	9,444	2,867	30.4%	71	14	19.7%
San Juan	285	34	11.9%	95	14	14.7%	6	0	0.0%
Sanpete	471	159	33.8%	160	65	40.6%	5	1	20.0%
Sevier	638	143	22.4%	216	55	25.5%	9	2	22.2%
Summit	841	168	20.0%	187	40	21.4%	9	1	11.1%
Tooele	701	177	25.2%	240	49	20.4%	17	5	29.4%
Uintah	513	196	38.2%	149	62	41.6%	5	3	60.0%
Utah	8,202	2,977	36.3%	2,967	1,116	37.6%	38	12	31.6%
Wasatch	487	106	21.8%	130	33	25.4%	7	1	14.3%
Washington	1,690	651	38.5%	575	213	37.0%	16	3	18.8%
Wayne	67	21	31.3%	19	9	47.4%	2	0	0.0%
Weber	4,339	1,595	36.8%	1,607	571	35.5%	20	6	10.0%
Statewide	54,072	17,362	32.1%	19,427	6,377	32.8%	308	69	20.0%

1998 Teenage Driver Crash Times

Table 6.03 shows that crashes involving teenage drivers were highest from 2 p.m. to 5 p.m. (after school hours) with a slight peak at 7 a.m. (travelling to school). Fatal teenage driver crashes peaked at 4 p.m.

The leading months for teenage driver crashes were September, October, and December (Table 6.04). July, September and December had the highest rates of teenage driver injury crashes. The highest rate per day of teenage driver fatal crashes occurred in July, August and November.

Table 6.03 Hour of Teenage Driver Crashes, Injury Crashes and Fatal Crashes, 1998

	Crashes		Injury Crashes		Fatal Crashes	
Hour	#	%	#	%	#	%
12 a.m.	275	1.6%	119	1.9%	0	0.0%
1 a.m.	166	1.0%	63	1.0%	2	2.9%
2 a.m.	122	0.7%	58	0.9%	0	0.0%
3 a.m.	73	0.4%	25	0.4%	2	2.9%
4 a.m.	58	0.3%	25	0.4%	0	0.0%
5 a.m.	76	0.4%	28	0.4%	1	1.4%
6 a.m.	207	1.2%	83	1.3%	2	2.9%
7 a.m.	836	4.8%	277	4.3%	4	5.8%
8 a.m.	567	3.3%	196	3.1%	1	1.4%
9 a.m.	458	2.6%	169	2.7%	3	4.3%
10 a.m.	535	3.1%	207	3.2%	0	0.0%
11 a.m.	761	4.4%	244	3.8%	2	2.9%
12 p.m.	1,022	5.9%	388	6.1%	0	0.0%
1 p.m.	1,004	5.8%	386	6.1%	6	8.7%
2 p.m.	1,342	7.7%	527	8.3%	3	4.3%
3 p.m.	1,559	9.0%	545	8.5%	6	8.7%
4 p.m.	1,602	9.2%	536	8.4%	9	13.0%
5 p.m.	1,696	9.8%	621	9.7%	3	4.3%
6 p.m.	1,384	8.0%	509	8.0%	4	5.8%
7 p.m.	1,019	5.9%	388	6.1%	5	7.2%
8 p.m.	776	4.5%	293	4.6%	6	8.7%
9 p.m.	763	4.4%	283	4.4%	5	7.2%
10 p.m.	621	3.6%	238	3.7%	3	4.3%
11 p.m.	440	2.5%	169	2.7%	2	2.9%
Grand Total	17,362	100.0%	6,377	100.0%	69	100.0%

Figure 6.03 Hour of Teenage Driver Injury Crashes and Fatal Crashes, 1998 (See Table 6.03 for values)

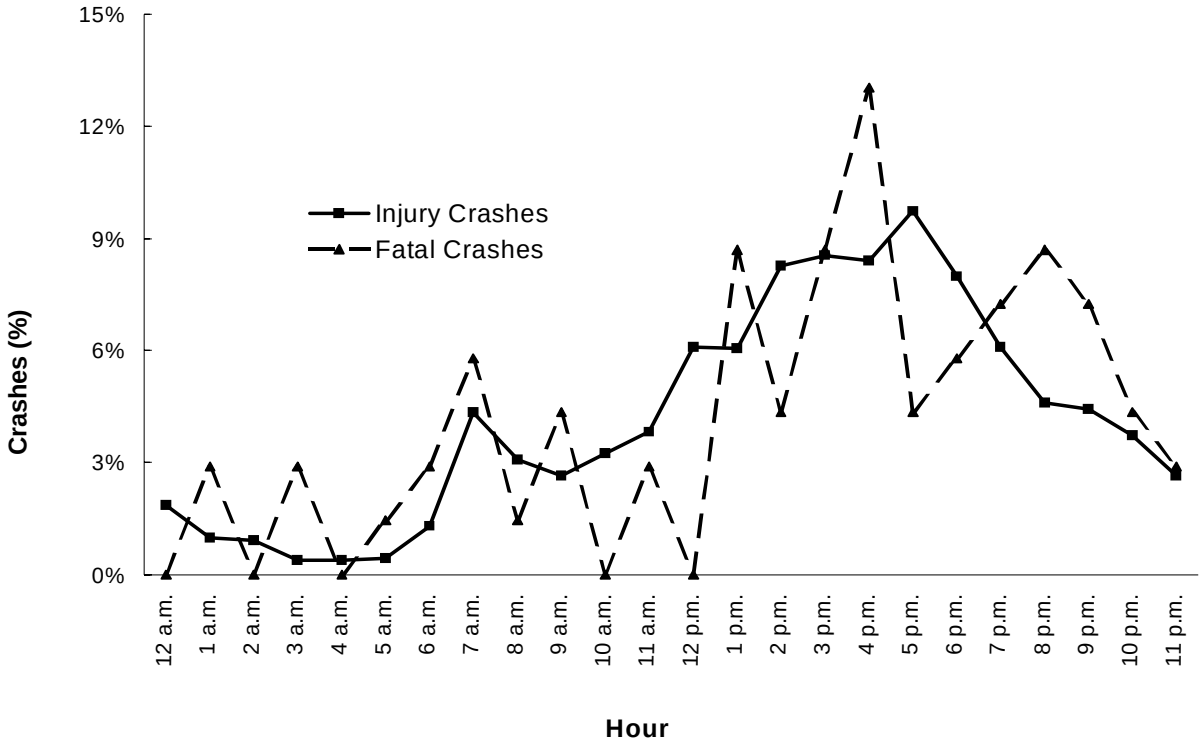
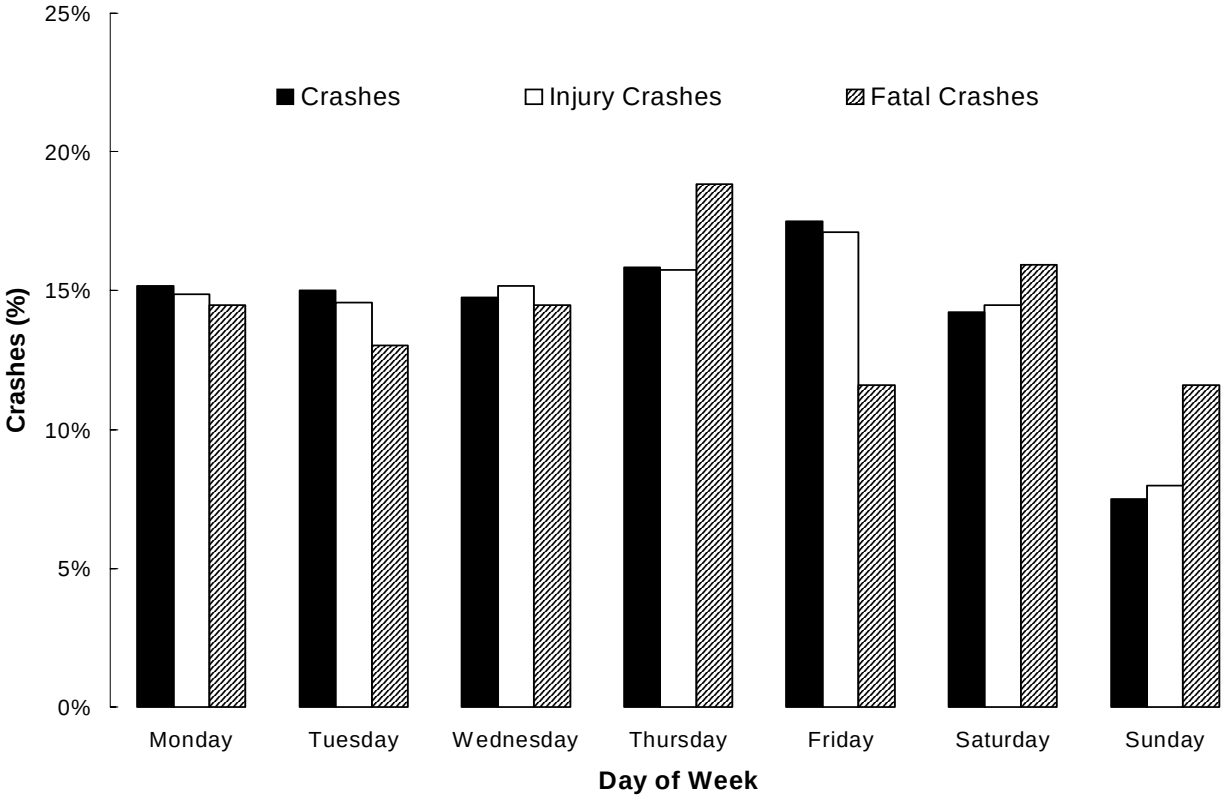


Table 6.04 Month of Teenage Driver Crashes, Injury Crashes and Fatal Crashes, 1998

Month	Crashes #	Crashes Rate Per Day	Injury Crashes #	Injury Crashes Rate Per Day	Fatal Crashes #	Fatal Crashes Rate Per Day
January	1,366	44.1	447	14.4	6	0.2
February	1,367	48.8	458	16.4	3	0.1
March	1,308	42.2	490	15.8	4	0.1
April	1,344	44.8	500	16.7	4	0.1
May	1,355	43.7	533	17.2	3	0.1
June	1,382	46.1	528	17.6	6	0.2
July	1,425	46.0	581	18.7	8	0.3
August	1,457	47.0	570	18.4	10	0.3
September	1,553	51.8	604	20.1	6	0.2
October	1,566	50.5	565	18.2	6	0.2
November	1,441	48.0	523	17.4	8	0.3
December	1,798	58.0	578	18.6	5	0.2
Grand Total	17,362	47.6	6,377	17.5	69	0.2

The least amount of teenage driver crashes occurred on Sunday and the largest amount of crashes occurred on Thursday and Friday (Figure 6.04).

Figure 6.04 Day of Week for Teenage Driver Crashes, Injury Crashes and Fatal Crashes, 1998 (See Table 6.05 for values)



Note: The above graph is based on percentage for the different crash categories. To read the above graph, look at one category across the groups. For example, look at only the white bars (i.e. injury crashes) from day to day. Do not compare the heights of the different crash categories for a specific day.

Table 6.05 Day of Week for Teenage Driver Crashes, Injury Crashes and Fatal Crashes, 1998

	Crashes		Injury Crashes		Fatal Crashes	
Day of Week	#	%	#	%	#	%
Monday	2,634	15.2%	949	14.9%	10	14.5%
Tuesday	2,607	15.0%	930	14.6%	9	13.0%
Wednesday	2,561	14.8%	968	15.2%	10	14.5%
Thursday	2,751	15.8%	1,004	15.7%	13	18.8%
Friday	3,037	17.5%	1,092	17.1%	8	11.6%
Saturday	2,470	14.2%	924	14.5%	11	15.9%
Sunday	1,302	7.5%	510	8.0%	8	11.6%
Grand Total	17,362	100.0%	6,377	100.0%	69	100.0%

1998 Teenage Driver Crash Violations and Contributing Factors

Table 6.06 Violations for Teenage Driver Crashes, Injury Crashes and Fatal Crashes, 1998

Violation	Crashes		Injury Crashes		Fatal Crashes	
	#	%	#	%	#	%
Failure to Yield Right of Way	1,983	23.9%	810	25.7%	1	11.1%
Improper Lookout	1,685	20.3%	600	19.1%	1	11.1%
Following Too Close	1,238	14.9%	422	13.4%	0	0.0%
All Other Moving Violations	730	8.8%	301	9.6%	1	11.1%
Speeding	648	7.8%	230	7.3%	2	22.2%
Negligent Collision	411	5.0%	155	4.9%	0	0.0%
Red Light	354	4.3%	194	6.2%	2	22.2%
Improper Turn	349	4.2%	122	3.9%	0	0.0%
Improper Lane Change	177	2.1%	34	1.1%	0	0.0%
Stop Sign	144	1.7%	75	2.4%	0	0.0%
Reckless Driving	118	1.4%	61	1.9%	0	0.0%
Improper Passing	103	1.2%	32	1.0%	0	0.0%
Improper Backing	94	1.1%	11	0.3%	0	0.0%
Driving Under the Influence	85	1.0%	48	1.5%	1	11.1%
Wrong Side of Road	81	1.0%	26	0.8%	0	0.0%
Hit and Run	66	0.8%	15	0.5%	0	0.0%
Improper Start and Stop	31	0.4%	9	0.3%	0	0.0%
Wrong Way on One Way Street	1	0.0%	1	0.0%	0	0.0%
Vehicle Homicide	1	0.0%	0	0.0%	1	11.1%
Grand Total	8,299	100.0%	3,146	100.0%	9	100.0%

Almost half (42.1%) of all teenage drivers involved in a crash received a citation for a violation compared to 34.1% of all drivers involved in a crash (Table 6.06). The leading teenage driver citations were "failure to yield right of way", "improper lookout" and "following too close".

Table 6.07 contains the contributing factors for teenage driver crashes. These factors were coded by the scene officers for each vehicle involved in the crash. The officer may record no contributing factor or up to two different contributing factors. The leading factors for crashes and injury crashes were "improper lookout", "failed to yield right of way" and "speed too fast". "Disregarded traffic signal" was the leading factor in fatal teenage driver crashes. Less than 2% of teenage driver crashes' contributing factors were "had been drinking", "under the influence of drugs", and "DUI".

Alcohol and Other Drugs:

Of the 69 fatal teenage driver crashes, 6 involved a teenage driver impaired by alcohol or other drugs and resulted in 7 fatalities.

Table 6.07 Contributing Factors of Teenage Driver Crashes, Injury Crashes and Fatal Crashes, 1998

	Crashes		Injury Crashes		Fatal Crashes	
Contributing Factor	**#**	**%**	**#**	**%**	**#**	**%**
Improper Lookout	4,105	25.8%	1,472	24.4%	6	8.3%
Failed to Yield the Right of Way	2,951	18.6%	1,176	19.5%	5	6.9%
Speed Too Fast	2,176	13.7%	805	13.4%	17	23.6%
Following Too Closely	1,900	11.9%	661	11.0%	0	0.0%
Other Improper Driving	1,329	8.4%	527	8.7%	14	19.4%
Improper Turn	628	3.9%	212	3.5%	1	1.4%
Disregarded Traffic Signal	454	2.9%	250	4.1%	24	33.3%
Drove Left of Center	303	1.9%	117	1.9%	8	11.1%
Improper Overtaking	280	1.8%	87	1.4%	6	8.3%
Asleep	234	1.5%	118	2.0%	2	2.8%
Passed Stop Sign	203	1.3%	113	1.9%	2	2.8%
Non-Contact Vehicle Involved	175	1.1%	66	1.1%	1	1.4%
Improper Backing	165	1.0%	16	0.3%	0	0.0%
Hit and Run	157	1.0%	47	0.8%	0	0.0%
Driving Under the Influence	117	0.7%	70	1.2%	0	0.0%
Brakes Defective	98	0.6%	37	0.6%	2	2.8%
Other Defective Condition	71	0.4%	33	0.5%	1	1.4%
Tires Defective	68	0.4%	25	0.4%	0	0.0%
Fatigued	65	0.4%	41	0.7%	5	6.9%
Had Been Drinking	62	0.4%	34	0.6%	0	0.0%
Failed to Signal	41	0.3%	15	0.2%	0	0.0%
Windshield Not Clear	36	0.2%	11	0.2%	0	0.0%
Improper Parking	35	0.2%	13	0.2%	1	1.4%
Headlights Insufficient or Out	32	0.2%	12	0.2%	0	0.0%
Non-collision Fire	27	0.2%	0	0.0%	0	0.0%
Wrong Side of Road	22	0.1%	6	0.1%	0	0.0%
Stolen	19	0.1%	9	0.1%	0	0.0%
Steering Mechanism Defective	18	0.1%	8	0.1%	17	23.6%
Ill	16	0.1%	10	0.2%	0	0.0%
Under the Influence of Drugs	16	0.1%	8	0.1%	0	0.0%
Cargo Loss or Shift	13	0.1%	3	0.0%	0	0.0%
Other Lights or Reflecting/Defective	13	0.1%	2	0.0%	14	19.4%
Headlights Glaring	12	0.1%	2	0.0%	0	0.0%
Immersion	10	0.1%	1	0.0%	0	0.0%
Vehicle Rolling in Traffic Lane	10	0.1%	4	0.1%	0	0.0%
Eyesight Defective Uncorrected	8	0.1%	3	0.0%	0	0.0%
Jackknife	7	0.0%	2	0.0%	0	0.0%
Separation of Units	7	0.0%	2	0.0%	2	2.8%
Down Hill Runaway	5	0.0%	2	0.0%	0	0.0%
Towed Vehicle	5	0.0%	2	0.0%	0	0.0%
Collision Fire	4	0.0%	2	0.0%	0	0.0%
Explosion or Fire	4	0.0%	0	0.0%	8	11.1%
Wrong Way on One Way Street	2	0.0%	1	0.0%	0	0.0%
Grand Total	15,903	100.0%	6,025	100.0%	72	100.0%

1998 Teenage Driver Crash Characteristics

Over half (62%) of all teenage driver crashes and injury crashes (68%) were a rear-end collision or a broadside collision. For fatal teenage driver crashes broadside and single vehicle rollover collisions were the leading collision types. Head-on collisions involving teenage drivers were particularly fatal; this collision type was 22 times more likely to result in a fatality than other collision types. Single vehicle rollovers involving teenage drivers are also dangerous; this collision type was 8 times more likely to result in at least one fatality than other collision types.

Table 6.08 Collision Description of Teenage Driver Crashes, Injury Crashes and Fatal Crashes, 1998

Collision Description	Crashes		Injury Crashes		Fatal Crashes	
	#	%	#	%	#	%
Rear End	5,524	31.8%	2,044	32.1%	5	7.2%
Broadside	5,186	29.9%	2,270	35.6%	17	24.6%
Multi-vehicle Other	2,526	14.5%	518	8.1%	3	4.3%
Other	1,743	10.0%	450	7.1%	4	5.8%
Side Swipe	1,004	5.8%	221	3.5%	6	8.7%
Single Vehicle Rollover	828	4.8%	511	8.0%	16	23.2%
Pedestrian/Bicyclist Crash	251	1.4%	233	3.7%	7	10.1%
Single Vehicle Fixed Object	152	0.9%	46	0.7%	1	1.4%
Head-on	143	0.8%	82	1.3%	10	14.5%
Single Vehicle Other	5	0.0%	2	0.0%	0	0.0%
Grand Total	17,362	100.0%	6,377	100.0%	69	100.0%

1998 Teenage Driver Characteristics

Slightly more than half (54%) of teenage drivers involved in crashes were male. The majority of teenage drivers (87%) reported wearing a seatbelt.

Figure 6.05 Gender of Teenage Drivers Involved in Crashes, 1998 (n=19,702)

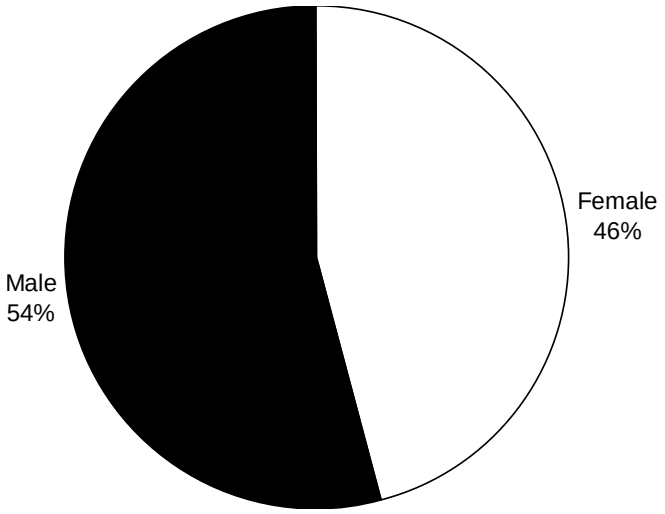
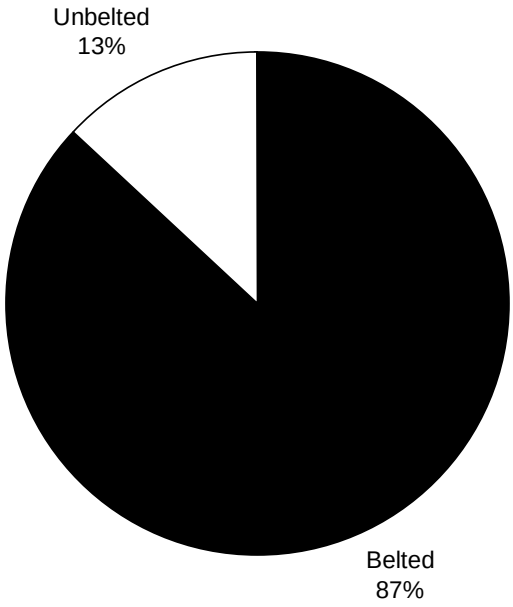


Figure 6.06 Seatbelt Use of Teenage Drivers Involved in Crashes, 1998 (n=17,870)



Note: Seatbelt use was not reported for motorcyclist and where usage was unknown.

1998 Injury Severity of Occupants in Vehicles of Teenage Drivers

Figure 6.07 Injury Severity of Occupants (including drivers) in Vehicles of Teenage Drivers as Reported by Police, 1998 (n=30,621)

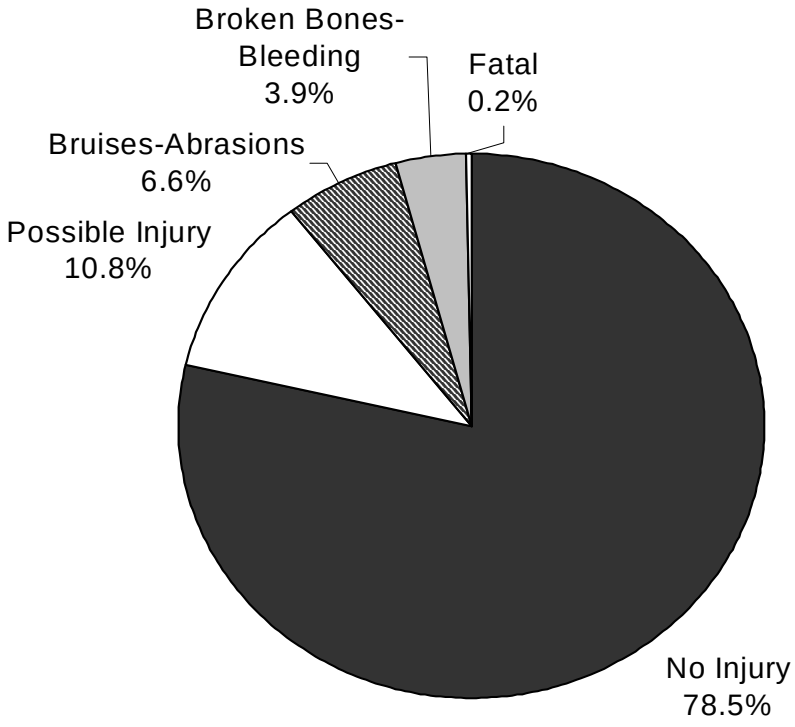


Figure 6.07 shows the injury severity of crash participants (including drivers) in a teenage driver's vehicle. Twenty-one percent (21%) of these occupants sustained an injury compared to all motor vehicle crash participants at 22%. The teenage driver occupants' fatality percentage (0.2%) was similar to the fatality percentage of all motor vehicle crash participants (0.2%).

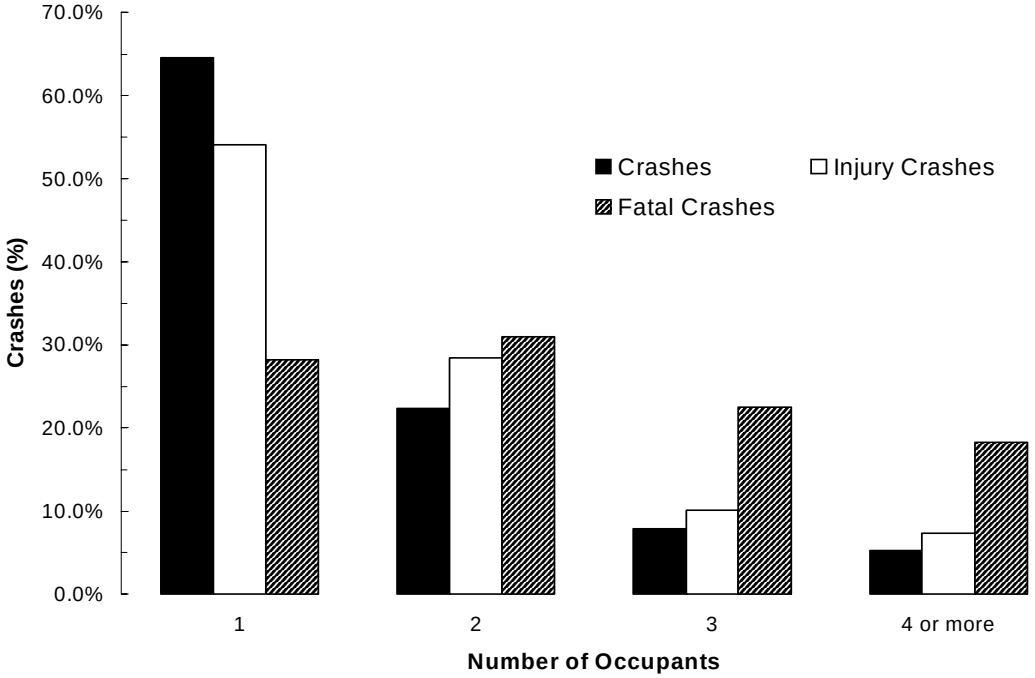
1998 Occupants in Vehicles of Teenage Drivers

Table 6.09 shows the number of occupants (including drivers) in a teenage drivers' vehicle by crash severity. In approximately two-thirds (65%) of teenage driver crashes the driver was the only one in the vehicle. As the number of occupants increased, the percentage of fatal crashes also increased. Crashes where the teenage driven vehicle contained 4 or more occupants were 4 times more likely to be fatal than crashes involving teenage driven vehicles with fewer occupants.

Table 6.09 Number of Occupants (including drivers) in Teenage Drivers' Vehicle, 1998

	Crashes		Injury Crashes		Fatal Crashes	
Number of Occupants	#	%	#	%	#	%
1	12,715	64.5%	3,900	54.1%	20	28.2%
2	4,403	22.3%	2,052	28.5%	22	31.0%
3	1,548	7.9%	726	10.1%	16	22.5%
4 or more	1,036	5.3%	532	7.4%	13	18.3%
Grand Total	19,702	100.0%	7,210	100.0%	71	100.0%

Figure 6.08 Number of Occupants (including drivers) in Teenage Drivers' Vehicle, 1998



Note: There may be more than one teenage driver involved in a crash.

The age and gender of crash participants (including drivers) in the young drivers' vehicles is shown in Table 6.10. The percentage of males and females involved in each crash severity was similar. Not surprising, the age of most occupants in teenage driver crashes were between the ages of 15 to 19 years.

Table 6.10 Age and Gender of Occupants (including drivers) in Vehicles of Teenage Drivers by Injury Severity, 1998

	Crash Participants				Injured Persons				Fatalities			
	Male		Female		Male		Female		Male		Female	
Age	#	%	#	%	#	%	#	%	#	%	#	%
00 - 04	182	1.1%	167	1.2%	29	1.0%	33	0.9%	0	0.0%	0	0.0%
05 - 09	161	1.0%	133	0.9%	59	2.0%	39	1.1%	0	0.0%	3	11.1%
10 - 14	500	3.1%	562	3.9%	161	5.6%	193	5.3%	3	8.8%	1	3.7%
15 - 19	14,292	87.9%	12,552	87.7%	2,342	80.9%	3,051	84.1%	25	73.5%	19	70.4%
20 - 24	521	3.2%	283	2.0%	147	5.1%	88	2.4%	2	5.9%	1	3.7%
25 - 29	94	0.6%	47	0.3%	35	1.2%	20	0.6%	0	0.0%	0	0.0%
30 - 34	40	0.2%	31	0.2%	8	0.3%	15	0.4%	0	0.0%	0	0.0%
35 - 39	32	0.2%	67	0.5%	15	0.5%	31	0.9%	1	2.9%	1	3.7%
40 - 44	53	0.3%	80	0.6%	10	0.3%	28	0.8%	0	0.0%	0	0.0%
45 - 49	46	0.3%	65	0.5%	21	0.7%	34	0.9%	0	0.0%	0	0.0%
50 - 54	20	0.1%	37	0.3%	8	0.3%	15	0.4%	0	0.0%	1	3.7%
55 - 59	16	0.1%	19	0.1%	5	0.2%	8	0.2%	0	0.0%	0	0.0%
60 - 64	8	0.0%	8	0.1%	4	0.1%	5	0.1%	1	2.9%	0	0.0%
65 - 69	2	0.0%	6	0.0%	0	0.0%	2	0.1%	0	0.0%	0	0.0%
70 - 74	7	0.0%	5	0.0%	3	0.1%	2	0.1%	1	2.9%	0	0.0%
75 - 79	2	0.0%	5	0.0%	0	0.0%	1	0.0%	1	2.9%	0	0.0%
80 - 84	1	0.0%	5	0.0%	1	0.0%	3	0.1%	0	0.0%	0	0.0%
85 +	1	0.0%	2	0.0%	1	0.0%	0	0.0%	0	0.0%	1	3.7%
Missing	282	1.7%	243	1.7%	46	1.6%	60	1.7%	0	0.0%	0	0.0%
Grand Total	16,260	100.0%	14,317	100.0%	2,895	100.0%	3,628	100.0%	34	100.0%	27	100.0%

Note: There were persons involved in teenage driver crashes that did not have age and gender information recorded.

Graduated Licensing Law

In 1998 a new law, graduated licensing, was enacted to address the concern of teenage driving and crashes. Graduated licensing regulations are in place for new drivers under the age of 18 years and not previously licensed in another state. First-time teenage drivers who apply for a drivers license must complete the following three steps to obtain a drivers license.

⇒ **Step 1.** Obtain an instruction permits, which allows driving with a certified driving instructor, complete a driver education course and pass a written exam.
⇒ **Step 2.** After reaching age 15 years 9 months, obtain a practice permit which requires driving with a parent, guardian, or licensed over -21 years-old spouse and complete 30 hours of behind-the-wheel driving (at least 10 hours after dark).
⇒ **Step 3.** Complete a driving test (or tests) and obtain a provisional (under 21 years) "D" (passenger vehicle), or "M" (passenger vehicle plus motorcycle) license. The provisional license shows "under 21" and has a distinctive color, and allows a lower threshold of points / citations before sanctioning compared to regular licenses.

Additionally, anyone under the age of 17 years may not drive from midnight to 5:00 a.m. except; 1) with an over-21 years-old licensed driver; 2) for employment, or going to or from employment; 3) going to or from a religious or a school activity; 4) in a supervised agricultural operation; or 5) in an emergency.

Section 7
1998 Alcohol and Other Drug-Related Crashes, Injury Crashes and Fatal Crashes

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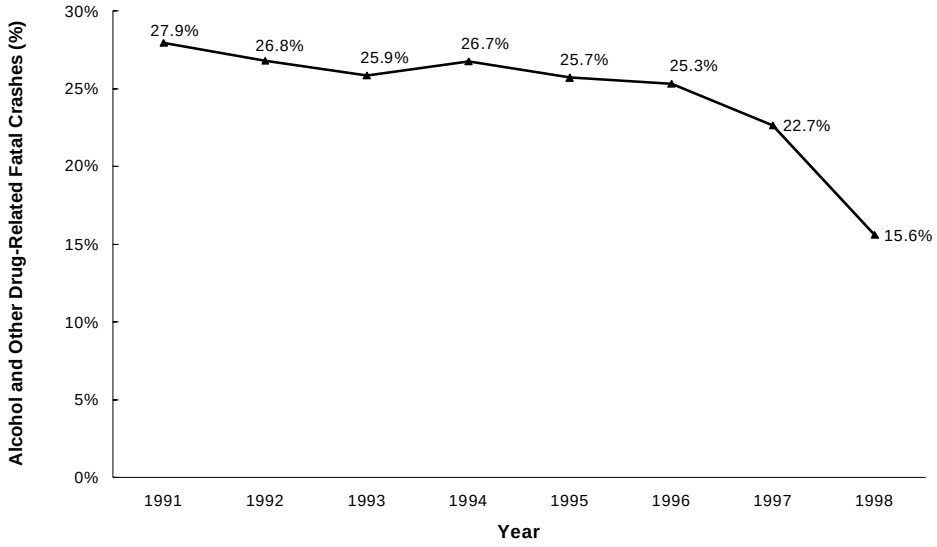
1991-1998 Alcohol and Other Drug-Related Fatal Crashes and Fatalities

For the past eight years, the percentage of alcohol and other drug-related fatal motor vehicle crashes and fatalities has been slowly decreasing from a high of almost 30% to a low of 16%. In 1998, the percentage dropped to an all time low of 16% (Table 7.01). In fact, in 1998 there was nearly a 31% decrease in fatal alcohol and other drug-related crashes and a 44% decrease in alcohol and other drug-related crash fatalities from the previous year. This reduction in alcohol and other drug-related crashes may be due to several factors including, increased DUI legislation and public education campaigns. In addition, there was a decrease in frequency of alcohol and other drug testing conducted by law enforcement officers in 1998; of the 478 drivers involved in fatal crashes, 150 (31.4%) were not tested for alcohol or other drugs, this is almost a 10% increase from 1997.

Table 7.01 Alcohol and Other Drug-Related (A/D) Fatal Crashes and Fatalities, 1991 - 1998

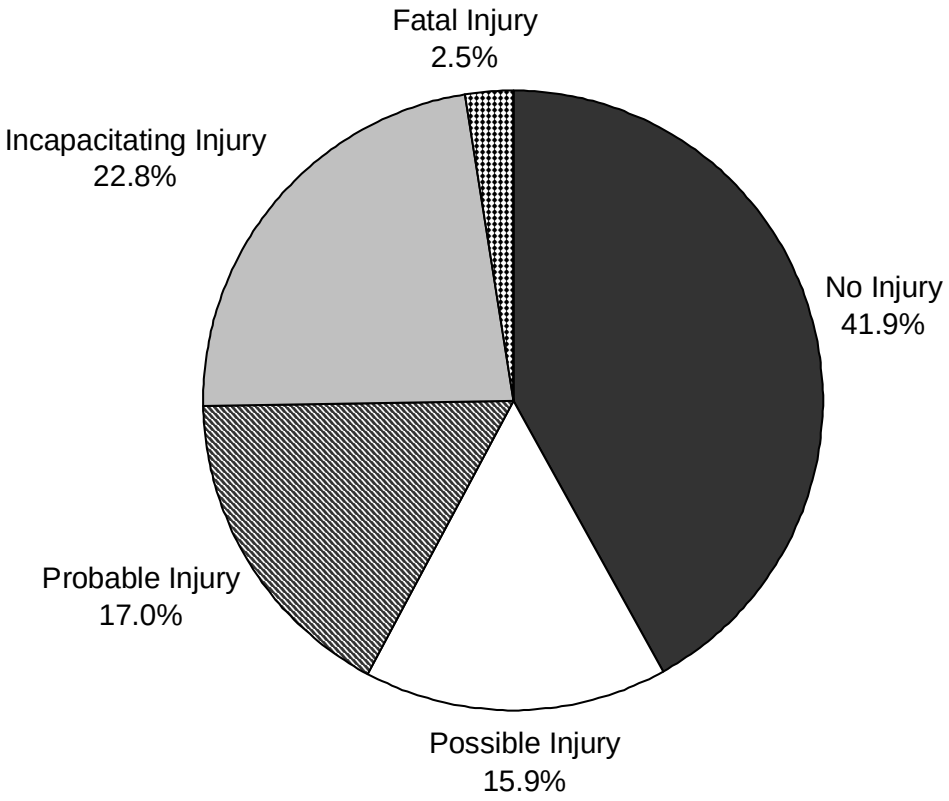
	Fatal Crashes			Fatalities		
Year	Total Number	Number A/D	Percentage A/D	Total Number	Number A/D	Percentage A/D
1991	229	64	27.9%	270	76	28.1%
1992	235	63	26.8%	269	69	25.7%
1993	263	68	25.9%	303	74	24.4%
1994	303	81	26.7%	343	94	27.4%
1995	284	73	25.7%	325	84	25.8%
1996	292	74	25.3%	328	86	26.2%
1997	309	70	22.7%	366	88	24.0%
1998	308	48	15.6%	350	49	14.0%

Figure 7.01 Alcohol and Other Drug-Related Fatal Crashes, 1991 - 1998



1998 Alcohol and Other Drug-Related Crash Severity

Figure 7.02 Severity of Alcohol and Other Drug-Related Crashes as Reported by Police, 1998 (n=1,909)



Over half (58%) of alcohol and other drug-related crashes resulted in at least one injury compared to 37% of all motor vehicle crashes (Figure 7.02). Three percent (3%) of the alcohol and drug-related crashes resulted in a fatality compared to 1% of all motor vehicle crashes.

Table 7.02 shows the number of alcohol and other drug-related crashes by county. The leading counties for alcohol and other drug-related crashes per miles traveled were Duchesne, Daggett, and Weber. Duchesne, Daggett, and Wayne had the highest rates for alcohol and other drug-related injury crashes per miles traveled. The highest rates for alcohol and other drug-related fatal crashes per miles traveled were in Wayne, Kane, and Uintah counties.

1998 Alcohol and Other Drug-Related Crashes by County

Table 7.02 Alcohol and Other Drug-Related (A/D) Crashes, Injury Crashes and Fatal Crashes by County, 1998

	A/D Crashes			A/D Injury Crashes			A/D Fatal Crashes		
County	#	Rate per 10,000 Population	Rate per 100 MVMT	#	Rate per 10,000 Population	Rate per 100 MVMT	#	Rate per 10,000 Population	Rate per 100 MVMT
Beaver	11	17.30	5.48	5	7.86	2.49	1	1.57	0.50
Box Elder	31	7.50	3.61	18	4.36	2.10	0	0.00	0.00
Cache	50	5.54	6.75	31	3.43	4.18	1	0.11	0.13
Carbon	26	11.74	7.74	12	5.42	3.57	2	0.90	0.60
Daggett	3	36.01	13.28	2	24.01	8.85	0	0.00	0.00
Davis	85	3.73	4.34	37	1.62	1.89	1	0.04	0.05
Duchesne	31	21.73	17.02	19	13.32	10.43	1	0.70	0.55
Emery	16	14.47	4.88	12	10.85	3.66	1	0.90	0.31
Garfield	6	12.93	4.75	6	12.93	4.75	0	0.00	0.00
Grand	26	26.12	9.98	11	11.05	4.22	1	1.00	0.38
Iron	34	10.67	6.36	19	5.96	3.56	1	0.31	0.19
Juab	14	17.76	4.38	12	15.22	3.76	0	0.00	0.00
Kane	11	15.48	9.12	5	7.04	4.14	2	2.81	1.66
Millard	13	10.39	3.27	10	7.99	2.51	0	0.00	0.00
Morgan	6	8.75	5.28	5	7.29	4.40	0	0.00	0.00
Piute	3	18.55	9.86	2	12.37	6.57	0	0.00	0.00
Rich	3	16.12	6.70	3	16.12	6.70	0	0.00	0.00
Salt Lake	845	9.94	11.95	471	5.54	6.66	10	0.12	0.14
San Juan	16	12.00	5.91	10	7.50	3.69	1	0.75	0.37
Sanpete	21	9.84	9.48	10	4.68	4.52	1	0.47	0.45
Sevier	25	13.26	7.06	14	7.43	3.95	1	0.53	0.28
Summit	45	17.59	7.88	17	6.65	2.98	0	0.00	0.00
Tooele	64	18.78	10.17	41	12.03	6.52	4	1.17	0.64
Uintah	30	12.25	10.75	20	8.17	7.17	2	0.82	0.72
Utah	233	6.98	8.46	132	3.95	4.79	7	0.21	0.25
Wasatch	19	13.94	8.54	11	8.07	4.94	1	0.73	0.45
Washington	57	7.14	6.70	28	3.51	3.29	5	0.63	0.59
Wayne	4	15.87	10.76	3	11.90	8.07	1	3.97	2.69
Weber	181	9.82	12.90	96	5.21	6.84	4	0.22	0.29
Statewide	1,909	9.09	8.99	1,062	5.06	5.00	48	0.23	0.23

1998 Alcohol and Other Drug-Related Crash Times

Alcohol and other drug-related crashes and injury crashes followed the same time pattern, peaking during the late evening and early morning hours (9 p.m. to 1 a.m.). Fatal alcohol and other drug-related crashes followed a slightly different pattern; most of these crashes occurred in the evening with another peak at 1 a.m.

Table 7.04 shows the number and rate per day of alcohol and other drug-related crashes for each month. The rates remained similar from month to month. The highest percentage of alcohol and other drug-related crashes occurred in July and August for crashes, injury crashes and fatal crashes.

Table 7.03 Hour of Alcohol and Other Drug-Related (A/D) Crashes, Injury Crashes and Fatal Crashes, 1998

	A/D Crashes		A/D Injury Crashes		A/D Fatal Crashes	
Hour	#	%	#	%	#	%
12 a.m.	132	6.9%	73	6.9%	2	4.2%
1 a.m.	166	8.7%	91	8.6%	5	10.4%
2 a.m.	114	6.0%	68	6.4%	0	0.0%
3 a.m.	55	2.9%	34	3.2%	0	0.0%
4 a.m.	40	2.1%	24	2.3%	0	0.0%
5 a.m.	29	1.5%	16	1.5%	0	0.0%
6 a.m.	33	1.7%	13	1.2%	2	4.2%
7 a.m.	41	2.1%	30	2.8%	1	2.1%
8 a.m.	11	0.6%	7	0.7%	0	0.0%
9 a.m.	23	1.2%	14	1.3%	1	2.1%
10 a.m.	27	1.4%	11	1.0%	1	2.1%
11 a.m.	37	1.9%	20	1.9%	2	4.2%
12 p.m.	39	2.0%	24	2.3%	2	4.2%
1 p.m.	54	2.8%	25	2.4%	4	8.3%
2 p.m.	37	1.9%	20	1.9%	1	2.1%
3 p.m.	78	4.1%	39	3.7%	1	2.1%
4 p.m.	87	4.6%	52	4.9%	0	0.0%
5 p.m.	101	5.3%	53	5.0%	2	4.2%
6 p.m.	121	6.3%	68	6.4%	3	6.3%
7 p.m.	128	6.7%	62	5.8%	4	8.3%
8 p.m.	113	5.9%	62	5.8%	4	8.3%
9 p.m.	142	7.4%	82	7.7%	3	6.3%
10 p.m.	141	7.4%	78	7.3%	7	14.6%
11 p.m.	160	8.4%	96	9.0%	3	6.3%
Grand Total	1,909	100.0%	1,062	100.0%	48	100.0%

Figure 7.03 Hour of Alcohol and Other Drug-Related (A/D) Injury Crashes and Fatal Crashes, 1998 (See Table 7.03 for values)

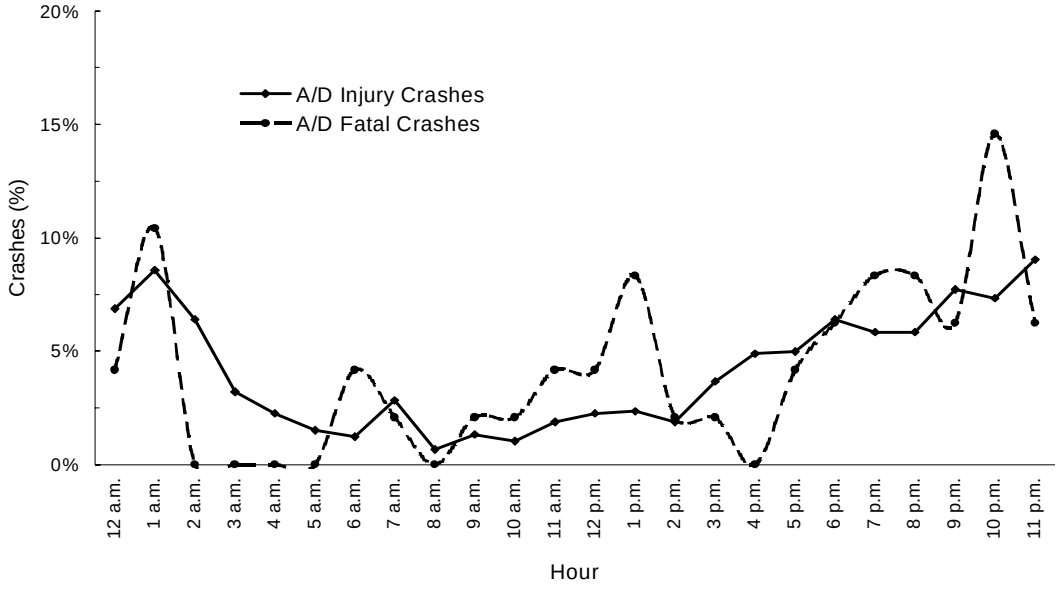
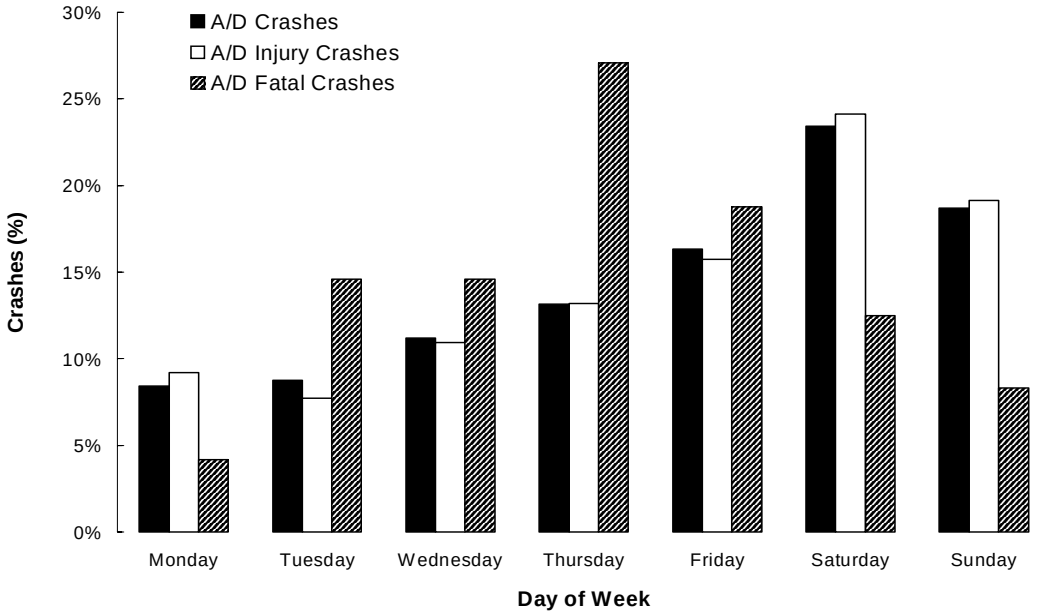


Table 7.04 Month of Alcohol and Other Drug-Related (A/D) Crashes, Injury Crashes and Fatal Crashes, 1998

	A/D Crashes		A/D Injury Crashes		A/D Fatal Crashes	
Month	#	Rate per Day	#	Rate per Day	#	Rate per Day
January	163	5.26	92	2.97	4	0.13
February	153	5.46	83	2.96	3	0.11
March	137	4.42	70	2.26	1	0.03
April	132	4.40	68	2.27	4	0.13
May	165	5.32	103	3.32	4	0.13
June	136	4.53	83	2.77	2	0.07
July	191	6.16	114	3.68	5	0.16
August	178	5.74	104	3.35	6	0.19
September	144	4.80	83	2.77	6	0.20
October	170	5.48	83	2.68	5	0.16
November	163	5.43	88	2.93	4	0.13
December	177	5.71	91	2.94	4	0.13
Grand Total	1,909	5.23	1,062	2.91	48	0.13

Over half of the alcohol and other drug-related crashes (58%) and injury crashes (59%) occurred on Friday, Saturday and Sunday. For alcohol and other drug-related fatal crashes, almost half (46%) occurred on Thursday and Friday.

Figure 7.04 Day of Week for Alcohol and Other Drug-Related (A/D) Crashes, Injury Crashes and Fatal Crashes, 1998 (See Table 7.05 for values)



Note: The above graph is based on percentage for the different crash categories. To read the above graph, look at one category across the groups. For example, look at only the white bars (i.e. alcohol and other drug-related injury crashes) from day to day. Do not compare the heights of the different crash categories for a specific day.

Table 7.05 Day of Week for Alcohol and Other Drug-Related (A/D) Crashes, Injury Crashes and Fatal Crashes, 1998

	A/D Crashes		A/D Injury Crashes		A/D Fatal Crashes	
Day of Week	**#**	**%**	**#**	**%**	**#**	**%**
Monday	161	8.4%	98	9.2%	2	4.2%
Tuesday	167	8.7%	82	7.7%	7	14.6%
Wednesday	214	11.2%	116	10.9%	7	14.6%
Thursday	251	13.1%	140	13.2%	13	27.1%
Friday	312	16.3%	167	15.7%	9	18.8%
Saturday	447	23.4%	256	24.1%	6	12.5%
Sunday	357	18.7%	203	19.1%	4	8.3%
Grand Total	1,909	100.0%	1,062	100.0%	48	100.0%

1998 Impaired Drivers Involved in Alcohol and Other Drug-Related Crashes

Male drivers were involved in over two-thirds (80%) of alcohol and other drug-related crashes. The largest number of alcohol and other drug-related crashes and injury crashes involved male drivers in the age range of 20 to 24 years. The age group 35 to 39 years had the largest number of female drivers involved in alcohol and other drug-related crashes and injury crashes. Male drivers aged 20 to 24 years represented the greatest number of drivers involved in alcohol and other drug-related fatal crashes. Of the impaired drivers, 260 (14%) were under the age of 21 years.

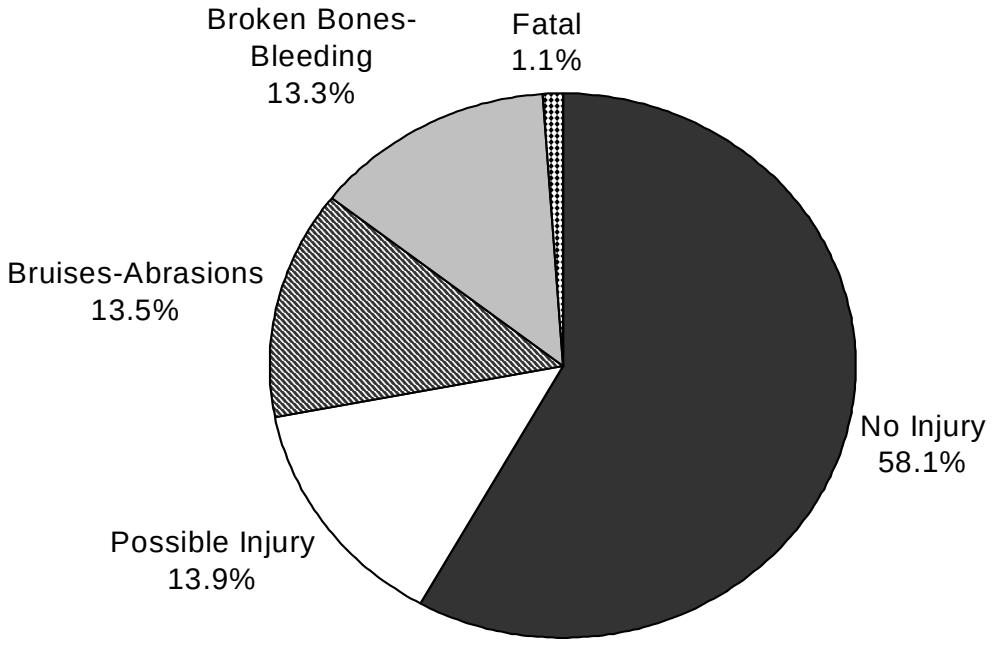
Table 7.06 Gender and Age of Impaired Drivers Involved in Alcohol and Other Drug-Related (A/D) Crashes, Injury Crashes and Fatal Crashes, 1998

	A/D Crashes				A/D Injury Crashes				A/D Fatal Crashes			
	Male Drivers		Female Drivers		Male Drivers		Female Drivers		Male Drivers		Female Drivers	
Age	#	%	#	%	#	%	#	%	#	%	#	%
<15	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
15 - 19	157	10.4%	45	11.4%	88	10.3%	25	11.8%	5	14.7%	1	20.0%
20 - 24	343	22.8%	54	13.7%	190	22.3%	33	15.6%	9	26.5%	1	20.0%
25 - 29	238	15.8%	45	11.4%	139	16.3%	27	12.7%	2	5.9%	1	20.0%
30 - 34	186	12.4%	51	12.9%	110	12.9%	23	10.8%	5	14.7%	0	0.0%
35 - 39	193	12.8%	77	19.5%	109	12.8%	39	18.4%	2	5.9%	0	0.0%
40 - 44	150	10.0%	60	15.2%	78	9.2%	32	15.1%	4	11.8%	2	40.0%
45 - 49	89	5.9%	29	7.4%	57	6.7%	18	8.5%	3	8.8%	0	0.0%
50 - 54	49	3.3%	14	3.6%	26	3.1%	5	2.4%	1	2.9%	0	0.0%
55 - 59	27	1.8%	10	2.5%	15	1.8%	5	2.4%	1	2.9%	0	0.0%
60 - 64	20	1.3%	2	0.5%	11	1.3%	0	0.0%	0	0.0%	0	0.0%
65 - 69	9	0.6%	3	0.8%	2	0.2%	2	0.9%	0	0.0%	0	0.0%
70 - 74	10	0.7%	0	0.0%	10	1.2%	0	0.0%	0	0.0%	0	0.0%
75 - 79	6	0.4%	0	0.0%	2	0.2%	0	0.0%	0	0.0%	0	0.0%
80 - 84	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
85 +	3	0.2%	1	0.3%	2	0.2%	1	0.5%	1	2.9%	0	0.0%
Missing	24	1.6%	3	0.8%	12	1.4%	2	0.9%	1	2.9%	0	0.0%
Grand Total	1,504	100.0%	394	100.0%	851	100.0%	212	100.0%	34	100.0%	5	100.0%

Note: There were alcohol and other drug-related crashes that involved two impaired drivers and gender or age was missing for several of the impaired drivers. There was 8 alcohol or other drug impaired pedestrians / bicyclist involved in crashes. The information about the drivers involved in the alcohol or other drug impaired pedestrian / bicyclist crashes is not included in the above table.

1998 Alcohol and Other Drug-Related Crash Participants Injury Severity

Figure 7.05 Alcohol and Other Drug-Related Crash Participants Injury Severity as Reported by Police, 1998 (n=4,351)

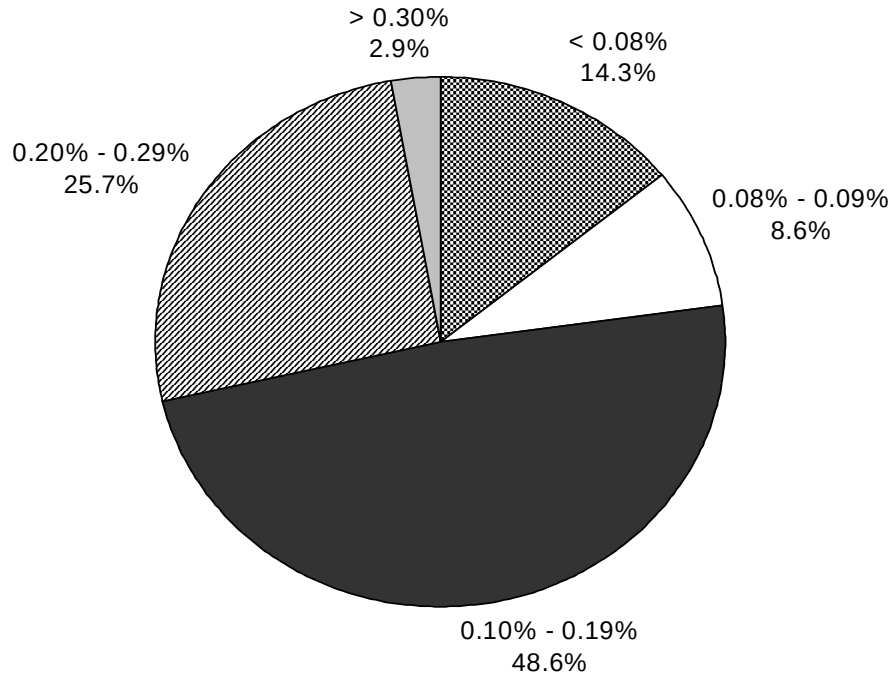


Forty-two percent (42%) of the alcohol and other drug-related crash participants sustained an injury compared to 22% for all motor vehicle crash participants. One percent (1%) of the alcohol and other drug-related crash participants died, which is higher than the 0.2% for all motor vehicle crash participants.

1998 Blood Alcohol Concentration Levels of Drivers Involved in Fatal Alcohol-Related Crashes

Figure 7.06 shows the blood alcohol concentration levels of drivers involved in fatal alcohol-related crashes. Over three quarters (86%) of the drivers had blood alcohol levels at or above the legal limit of 0.08%. In fact, almost 3% of the alcohol-related fatal crashes involved a driver with a blood alcohol concentration level over 0.30%.

Figure 7.06 Blood Alcohol Concentration Levels of Drivers Involved in Fatal Alcohol-Related Crashes, 1998 (n=35)



Driving Under the Influence Facts

In the last 15 years, there have been 191,200 driving under the influence (DUI) arrests in Utah. DUI is driving (or in physical control of) a vehicle on a roadway in Utah with 0.08% or more alcohol in the blood, or "unsafe" driving due to alcohol or drugs in the body. DUI is a Class B misdemeanor, punishable by $1,000 fine, jail or community service, 90-day license suspension, an alcohol class, and alcohol problem assessment. More severe criminal actions are taken for DUI with a passenger under the age of 16 years, DUI with an injury or fatal crash, or DUI that is the second or more DUI offense within 6 years.

In 1998 there were 13,100 arrests for DUI in Utah (Table 7.07). Most of the DUI arrests (33%) occurred in Salt Lake County, followed by Davis (11%), Utah (11%) and Weber (11%) counties. The average blood alcohol concentration (BAC) of those arrested was 0.14%. The average fine for DUI convictions was $1,100. Table 7.08 shows the number of DUI arrests by age. The largest percentage of those arrested were between the age of 25 to 36 years. Nine percent (9%) of the arrested were under the age of 21 years. For this same age group there is the "Not-a-drop" law which is zero alcohol tolerance for drivers under the age of 21 years. For teenagers between the ages of 13 to 18 years, there is the "Use-loose" law which suspends or postpones the teenagers license for 6 or more months for the purchase, attempt-to-purchase, possession or use of alcohol or other drugs.

Table 7.07 DUI Arrests by County, 1998

County	DUI Arrests #	%
Salt Lake	4,323	33.0%
Davis	1,441	11.0%
Weber	1,441	11.0%
Utah	1,441	11.0%
Washington	524	4.0%
Cache	393	3.0%
Tooele	393	3.0%
Other Counties	3,144	24.0%
Statewide	13,100	100.0%

Table 7.08 DUI Arrests by Age, 1998

Ages	DUI Arrests #	%
15-20	1,181	9.0%
21-24	1,604	12.2%
25-36	4,817	36.8%
37-48	3,663	28.0%
49+	1,265	9.7%
Unknown	570	4.3%
Grand Total	13,100	100.0%

Section 8
1998 Speed-Related Crashes, Injury Crashes and Fatal Crashes

1992 - 1998 Speed-Related Crashes 8.2
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Figure 8.02 Severity of Speed-Related Crashes as Reported by Police, 1998
Figure 8.03 Highway and Municipal Roadway Speed-Related Crashes, Injury Crashes and Fatal Crashes, 1998
Figure 8.04 Speed-Related Crash Participants Injury Severity as Reported by Police, 1998

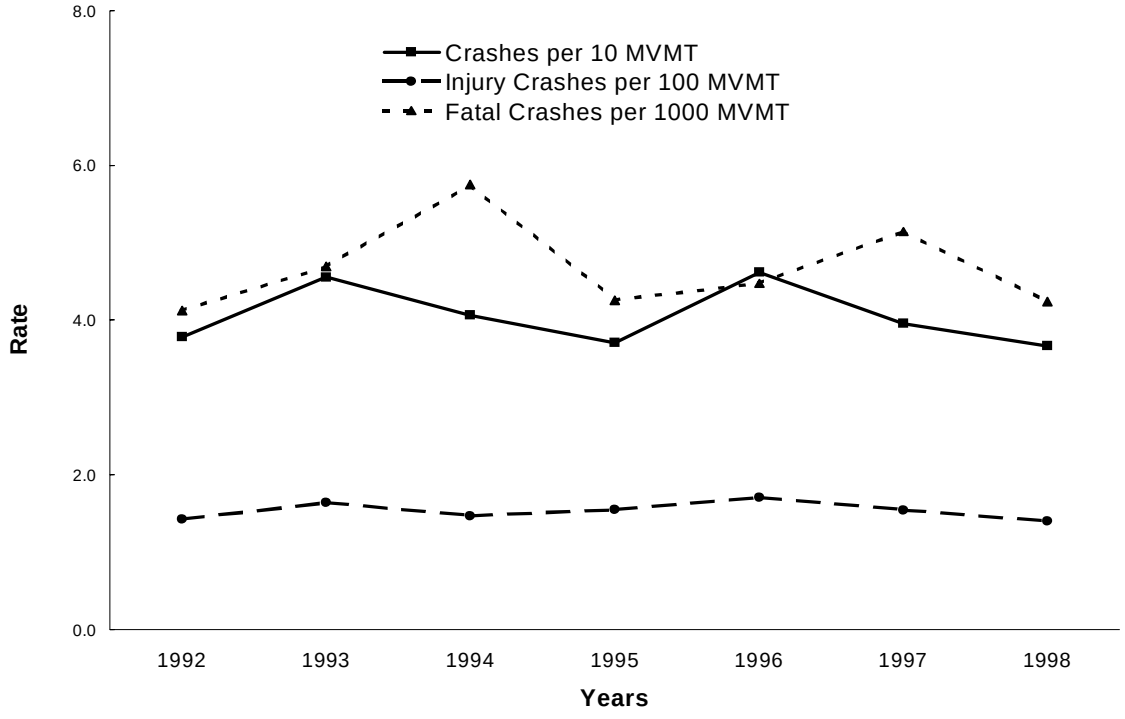
1992 - 1998 Speed-Related Crashes

For the past seven years, the speed-related crash rate per miles traveled has remained fairly constant (Table 8.01 and Figure 8.01). This is especially true of injury speed-related crashes, while the trends for all crashes and fatal crashes varied from year to year. In 1998, speed related crashes decreased 4% from 1997 and speed related fatal crashes decreased 14%. A crash was defined as speed related if a driver was cited for "speeding" or if "speed to fast" was marked as a contributing factor.

Table 8.01 Speed-Related Crashes, Injury Crashes and Fatal Crashes, 1992-1998

	Crashes		Injury Crashes		Fatal Crashes	
Year	#	Rate per 10 MVMT	#	Rate per 10 MVMT	#	Rate per 1000 MVMT
1992	6,152	3.8	2320	1.4	67	4.1
1993	7,765	4.6	2796	1.6	80	4.7
1994	7,344	4.1	2658	1.5	104	5.8
1995	6,972	3.7	2912	1.6	80	4.3
1996	8,974	4.6	3,322	1.7	87	4.5
1997	8,079	4.0	3151	1.5	105	5.1
1998	7,788	3.7	2981	1.4	90	4.2

Figure 8.01 Speed-Related Crashes, Injury Crashes and Fatal Crashes, 1992- 1998



1998 Speed-Related Crash Severity

Figure 8.02 Severity of Speed-Related Crashes as Reported by Police, 1998 (n=7,788)

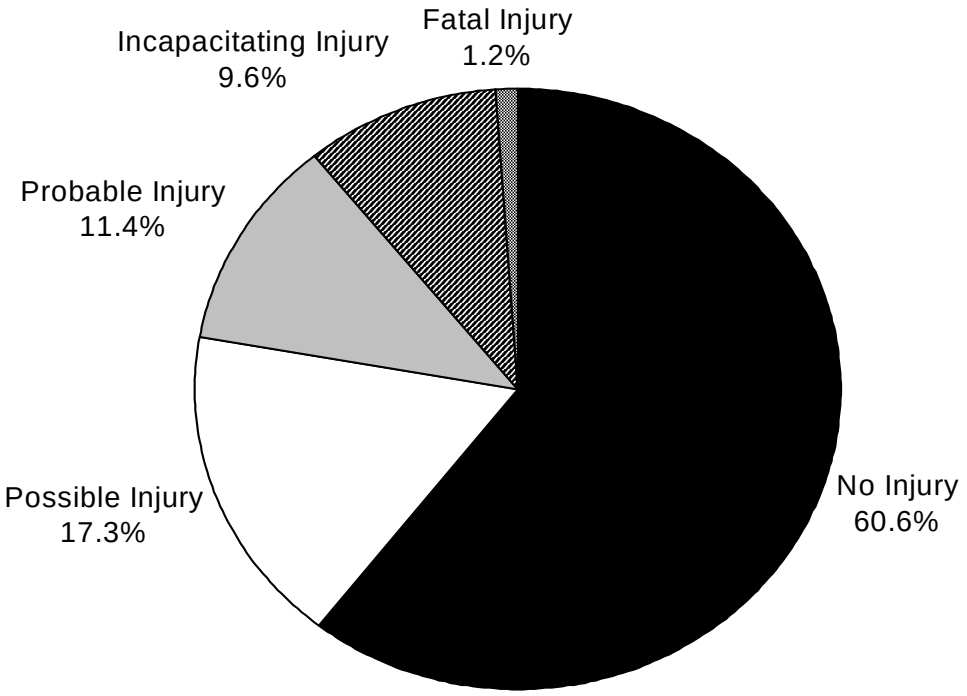


Figure 8.02 shows the breakdown of speed-related crash severity. Thirty-nine percent (39%) of speed-related crashes resulted in an injury, similar to 37% for all motor vehicle crashes. The percentage of fatal speed-related crashes (1.2%) was higher than the percentage for all motor vehicle crashes (0.6%).

The rates of speed-related crashes, injury crashes and fatal crashes for each county are shown in Table 8.02. There are two different rates given, one based on population of the county and another on the miles traveled in the county. The top three counties for speed-related crashes based on miles traveled were Wayne, Morgan and Wasatch. The top three counties for speed-related injury crashes were Morgan, Iron, and Sevier. Piute, Sanpete, and Morgan had the highest rates of speed-related fatal crashes per miles traveled.

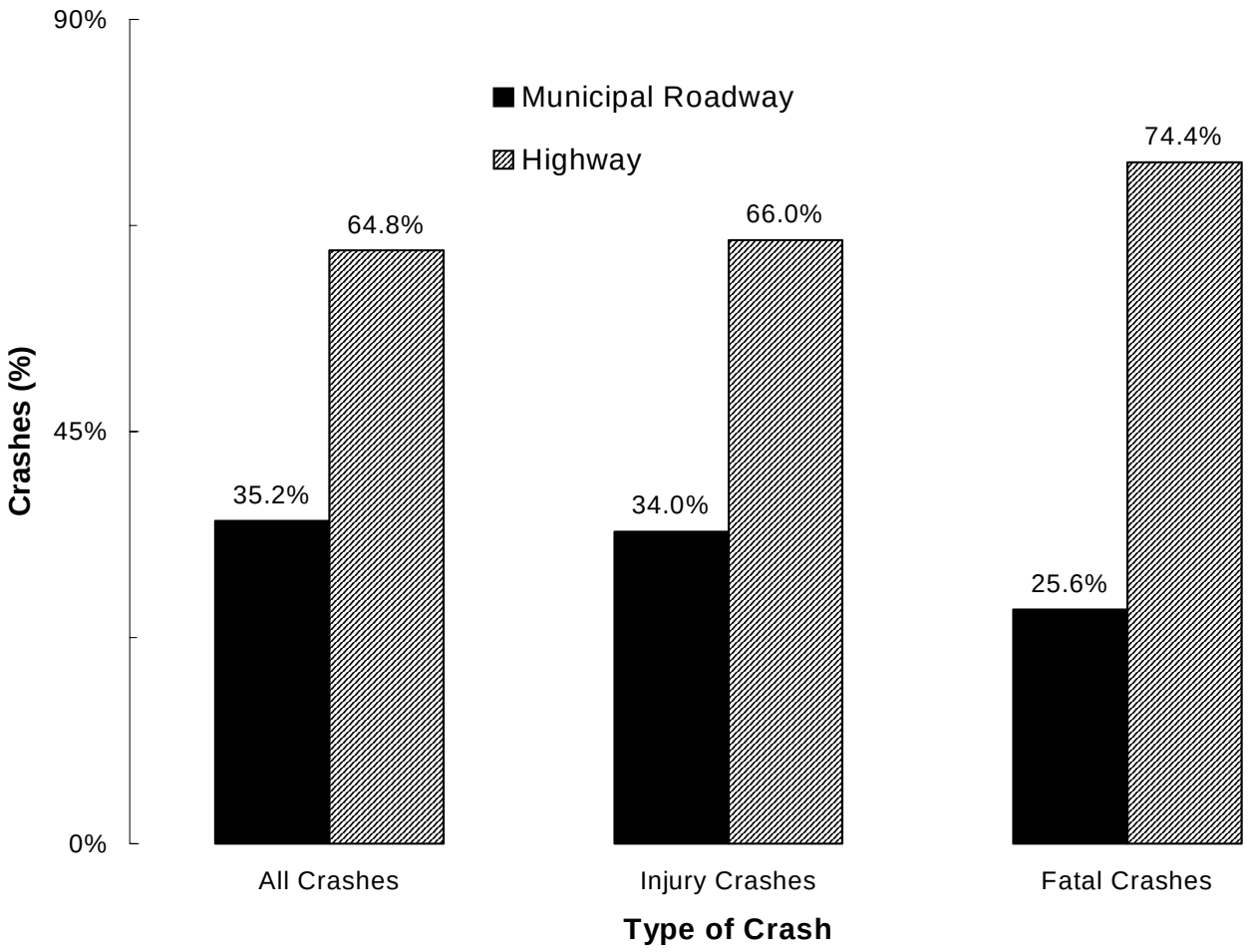
1998 Speed-Related Crashes by County

Table 8.02 Speed-Related Crashes, Injury Crashes and Fatal Crashes by County, 1998

	Crashes			Injury Crashes			Fatal Crashes		
County	#	Rate per 10,000 Population	Rate per 10 MVMT	#	Rate per 10,000 Population	Rate per 100 MVMT	#	Rate per 100,000 Population	Rate per 1000 MVMT
Beaver	89	140.0	4.4	40	62.9	19.9	2	31.5	10.0
Box Elder	232	56.2	2.7	104	25.2	12.1	7	16.9	8.2
Cache	267	29.6	3.6	90	10.0	12.1	4	4.4	5.4
Carbon	55	24.8	1.6	29	13.1	8.6	4	18.1	11.9
Daggett	8	96.0	3.5	3	36.0	13.3	0	0.0	0.0
Davis	469	20.6	2.4	147	6.4	7.5	2	0.9	1.0
Duchesne	62	43.5	3.4	32	22.4	17.6	1	7.0	5.5
Emery	81	73.3	2.5	35	31.7	10.7	1	9.0	3.1
Garfield	30	64.6	2.4	18	38.8	14.2	1	21.5	7.9
Grand	40	40.2	1.5	18	18.1	6.9	1	10.0	3.8
Iron	249	78.2	4.7	118	37.0	22.1	4	12.6	7.5
Juab	67	85.0	2.1	37	46.9	11.6	0	0.0	0.0
Kane	39	54.9	3.2	21	29.6	17.4	1	14.1	8.3
Millard	134	107.1	3.4	68	54.3	17.1	5	40.0	12.6
Morgan	65	94.8	5.7	27	39.4	23.8	2	29.2	17.6
Piute	8	49.5	2.6	1	6.2	3.3	2	123.7	65.7
Rich	8	43.0	1.8	3	16.1	6.7	0	0.0	0.0
Salt Lake	3,308	38.9	4.7	1,210	14.2	17.1	9	1.1	1.3
San Juan	51	38.3	1.9	32	24.0	11.8	3	22.5	11.1
Sanpete	83	38.9	3.7	40	18.7	18.1	4	18.7	18.1
Sevier	182	96.6	5.1	71	37.7	20.0	5	26.5	14.1
Summit	246	96.2	4.3	67	26.2	11.7	5	19.5	8.8
Tooele	172	50.5	2.7	69	20.3	11.0	4	11.7	6.4
Uintah	70	28.6	2.5	26	10.6	9.3	2	8.2	7.2
Utah	1043	31.2	3.8	408	12.2	14.8	13	3.9	4.7
Wasatch	116	85.1	5.2	41	30.1	18.4	2	14.7	9.0
Washington	157	19.7	1.8	72	9.0	8.5	3	3.8	3.5
Wayne	24	95.2	6.5	7	27.8	18.8	0	0.0	0.0
Weber	433	23.5	3.1	147	8.0	10.5	3	1.6	2.1
Grand Total	7,788	37.1	3.7	2,981	14.2	14.0	90	4.3	4.2

1998 Speed-Related Crash Locations

Figure 8.03 Highway and Municipal Roadway Speed-Related Crashes, Injury Crashes and Fatal Crashes, 1998



The locations of the speed-related crashes are shown in Figure 8.03. Speed-related crashes of all types were more likely to occur on a highway compared to a municipal roadway.

1998 Drivers Involved in Speed-Related Crashes

The largest proportion of speed-related crashes of all types involved drivers in the 15 to 24 year old group for both males and females (Table 8.03).

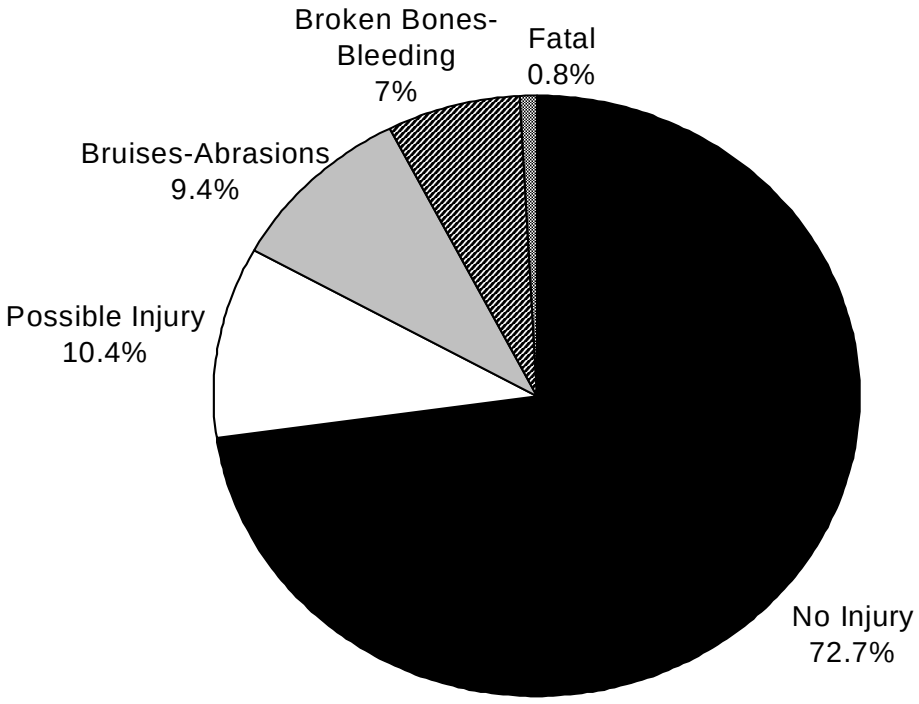
Table 8.03 Gender and Age of Drivers Involved in Speed-Related Crashes, Injury Crashes and Fatal Crashes, 1998

	Crashes				Injury Crashes				Fatal Crashes			
	Male Drivers		Female Drivers		Male Drivers		Female Drivers		Male Drivers		Female Drivers	
Age	#	%	#	%	#	%	#	%	#	%	#	%
<15	14	0.3%	8	0.3%	10	0.5%	5	0.5%	0	0.0%	0	0.0%
15 - 19	1,407	26.4%	807	30.1%	509	25.4%	312	28.7%	12	16.0%	5	26.3%
20 - 24	1,179	22.1%	586	21.8%	442	22.1%	229	21.1%	20	26.7%	5	26.3%
25 - 29	691	12.9%	312	11.6%	277	13.8%	127	11.7%	7	9.3%	0	0.0%
30 - 34	483	9.1%	217	8.1%	179	8.9%	99	9.1%	6	8.0%	1	5.3%
35 - 39	398	7.5%	237	8.8%	163	8.1%	105	9.7%	4	5.3%	3	15.8%
40 - 44	347	6.5%	159	5.9%	120	6.0%	64	5.9%	5	6.7%	3	15.8%
45 - 49	264	4.9%	137	5.1%	94	4.7%	54	5.0%	7	9.3%	0	0.0%
50 - 54	161	3.0%	86	3.2%	59	2.9%	34	3.1%	3	4.0%	0	0.0%
55 - 59	130	2.4%	54	2.0%	44	2.2%	22	2.0%	4	5.3%	0	0.0%
60 - 64	75	1.4%	28	1.0%	34	1.7%	11	1.0%	2	2.7%	1	5.3%
65 - 69	56	1.0%	18	0.7%	17	0.8%	7	0.6%	1	1.3%	0	0.0%
70 - 74	45	0.8%	11	0.4%	20	1.0%	7	0.6%	2	2.7%	0	0.0%
75 - 79	29	0.5%	12	0.4%	11	0.5%	5	0.5%	2	2.7%	1	5.3%
80 - 84	11	0.2%	4	0.1%	2	0.1%	2	0.2%	0	0.0%	0	0.0%
85 +	3	0.1%	0	0.0%	2	0.1%	0	0.0%	0	0.0%	0	0.0%
Missing	43	0.8%	7	0.3%	18	0.9%	4	0.4%	0	0.0%	0	0.0%
Grand Total	5,336	100.0%	2,683	100.0%	2,001	100.0%	1,087	100.0%	75	100.0%	19	100.0%

*Note: More than one driver may be speeding in a speed-related crash.

1998 Speed-Related Crash Participants Injury Severity

Figure 8.04 Speed-Related Crash Participants Injury Severity as Reported by Police, 1998 (n=12,507)



Over a quarter (27%) of speed-related crash participants were injured compared to 22% of all motor vehicle crash participants. One percent (1%) of these crash participants sustained a fatal injury, which was slightly higher than the percentage for all motor vehicle crash participants (0.2%).

Section 9
1998 Occupant Protection

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1998 Seatbelt Use by Gender, Age and Occupant Placement 9.6
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FIGURES

Figure 9.01 Percentage of Drivers and Front Seat Passengers Wearing Seatbelts in Crashes and Observational Studies, 1992 - 1998
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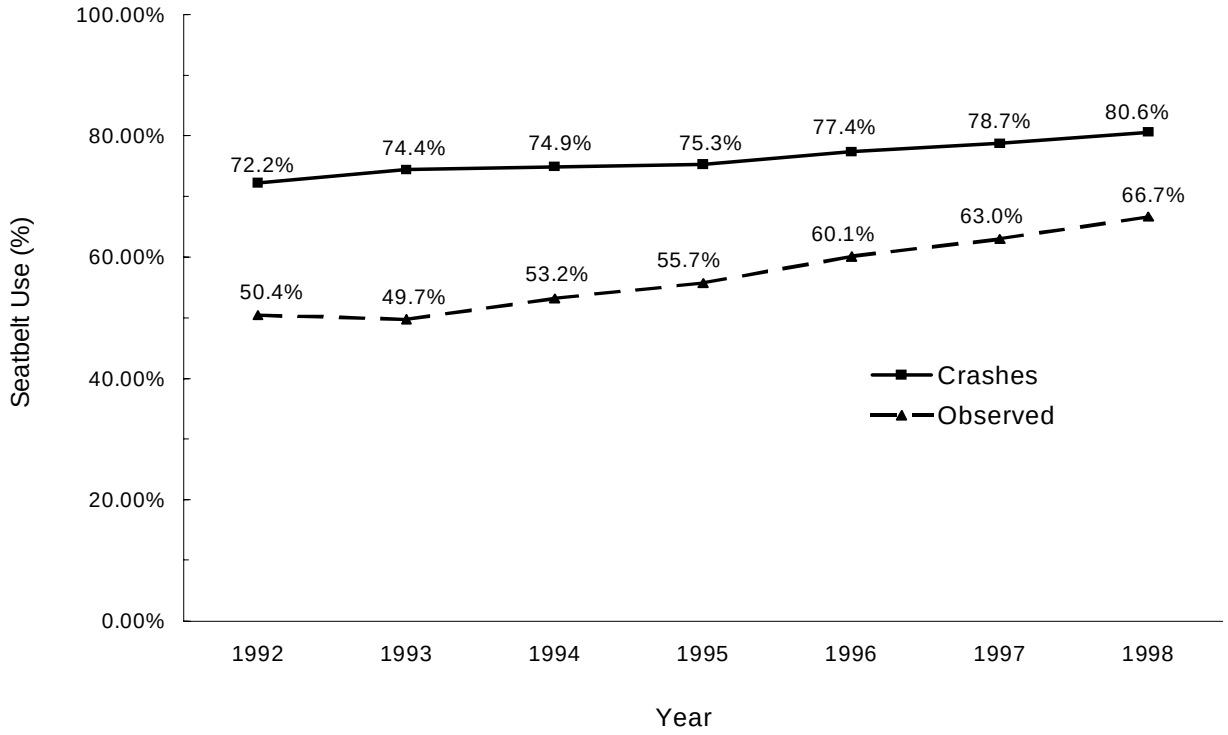
Note:
Seatbelt Use - Seatbelt use is reported for occupants in a passenger car, a light truck or van. Occupants are coded as wearing a seatbelt if they reported using a shoulder/lap belt, lap belt or a child safety seat (occupants using only a shoulder strap were reported to be unbelted). In the majority of cases, seatbelt use as recorded by the investigating officer is self-reported by the crash occupant. It is possible that crash occupants may report using a seatbelt when they were not in order to avoid a citation or fine. In the case of fatal or severe injury crashes the officer will determine the seatbelt use.

Observational Study - Each year the Utah Department of Public Safety's Highway Safety Office conducts a seatbelt usage observational study. Study sites are located throughout the state where trained observers can record seatbelt use for drivers and front seat passengers of slow moving or stopped vehicles.

1992 - 1998 Occupant Protection

Figure 9.01 compares the percentage of seatbelt use reported in crashes to observational studies for drivers and front seat passengers. Seatbelt use by drivers and front-seat passengers has increased each year in both crashes and observational studies. The difference between crash seatbelt use rates reported by crash participants or the investigating officer at the crash scene and observed seatbelt use rates may be due to overreporting of seatbelt use by crash participants.

Figure 9.01 Percentage of Drivers and Front Seat Passengers Wearing Seatbelts in Crashes and Observational Studies, 1992 - 1998

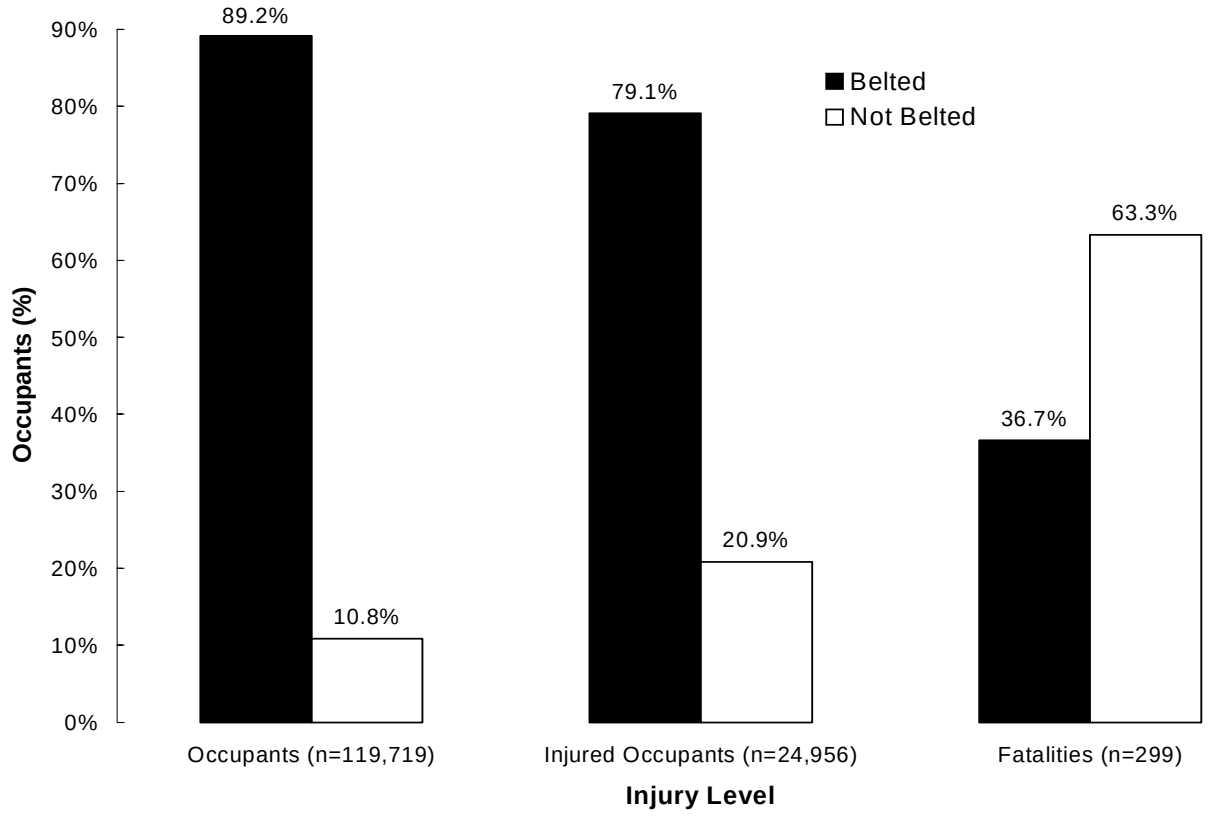


1998 Seatbelt Use

The statewide seatbelt use for all crash occupants (including back seat occupants) as reported to crash investigating officers is shown in Figure 9.02. The majority (89%) of occupants involved in a crash and the majority (79%) of the injured occupants reported using a seatbelt, compared to a third (37%) of the fatally injured occupants. Seatbelts are an important safety feature; occupants who were not wearing a seatbelt were 10 times more likely to sustain a fatal injury than occupants who were wearing a seatbelt.

Table 9.01 shows the self-reported seatbelt use of occupants by age and county. Davis County had the highest percentage of seatbelt use (92%), while Sevier had the lowest percentage of seatbelt use (72%).

Figure 9.02 Seatbelt Use by All Occupants, Injured Occupants, and Fatalities, 1998



1998 Seatbelt Use by Age and County

Table 9.01 Seatbelt Use by Age and County, 1998

County	Seatbelt Use	Age Group													Total	Percent
		00 - 04	05 - 09	10 - 14	15 - 19	20 - 24	25 - 29	30-39	40-49	50-59	60-69	70-79	80+	Unknown		
Beaver	Belted	20	16	19	99	76	41	46	53	45	32	14	0	2	463	80.5%
	Unbelted	3	2	9	43	15	6	12	8	5	0	4	1	4	112	19.5%
Box Elder	Belted	70	64	74	330	211	135	221	196	105	90	33	14	20	1,563	84.1%
	Unbelted	7	12	25	109	34	15	38	26	12	9	1	2	5	295	15.9%
Cache	Belted	245	126	165	1,139	867	417	533	434	227	134	112	60	32	4,491	85.9%
	Unbelted	11	13	40	238	187	67	65	44	21	21	13	10	6	736	14.1%
Carbon	Belted	20	22	15	150	52	39	66	67	59	26	22	9	5	552	78.1%
	Unbelted	3	4	4	53	27	13	27	8	9	3	1	0	3	155	21.9%
Daggett	Belted	0	3	1	11	5	4	12	8	10	3	3	1	1	62	83.8%
	Unbelted	1	0	1	2	0	1	5	0	2	0	0	0	0	12	16.2%
Davis	Belted	504	331	354	2,450	1,216	804	1,316	1,073	581	333	242	100	134	9,438	92.0%
	Unbelted	22	24	65	314	115	63	83	49	27	13	22	5	17	819	8.0%
Duchesne	Belted	22	20	28	119	47	36	69	68	38	23	13	5	5	493	75.3%
	Unbelted	5	8	15	55	23	9	20	13	5	3	1	3	2	162	24.7%
Emery	Belted	14	19	20	92	58	35	59	72	28	18	10	8	5	438	78.8%
	Unbelted	1	7	8	48	19	12	1	10	3	3	3	2	1	118	21.2%
Garfield	Belted	5	9	11	40	29	23	34	36	23	18	6	1	6	241	85.8%
	Unbelted	3	0	3	16	4	2	4	2	1	0	1	3	1	40	14.2%
Grand	Belted	10	10	13	42	46	41	38	42	29	23	10	3	7	314	79.9%
	Unbelted	0	2	3	21	22	1	11	3	8	2	0	0	6	79	20.1%
Iron	Belted	72	57	77	362	277	110	180	181	120	86	62	20	44	1,648	81.3%
	Unbelted	13	18	27	134	67	27	37	33	9	4	5	1	4	379	18.7%
Juab	Belted	24	25	22	74	61	33	61	62	46	26	7	2	3	446	80.9%
	Unbelted	4	6	10	35	10	9	10	12	2	3	0	2	2	105	19.1%
Kane	Belted	14	7	15	45	63	29	53	52	42	25	15	5	3	368	82.7%
	Unbelted	1	2	4	30	8	4	12	7	1	1	2	2	3	77	17.3%
Millard	Belted	33	30	32	160	98	59	101	68	43	32	23	9	3	691	82.7%
	Unbelted	1	5	18	42	20	12	14	16	7	5	2	3	0	145	17.3%

Table 9.01 Seatbelt Use by Age and County, 1998

County	Seatbelt Use	Age Group													Total	Percent
		00 - 04	05 - 09	10 - 14	15 - 19	20 - 24	25 - 29	30-39	40-49	50-59	60-69	70-79	80+	Unknown		
Morgan	Belted	2	4	12	48	18	13	29	20	15	9	2	0	9	181	80.4%
	Unbelted	1	0	3	21	4	0	5	4	1	2	0	1	2	44	19.6%
Piute	Belted	0	0	1	8	6	6	4	10	10	0	1	3	2	51	86.4%
	Unbelted	0	0	0	4	0	0	1	2	0	1	0	0	0	8	13.6%
Rich	Belted	2	4	4	25	14	10	15	13	9	5	4	0	12	117	83.0%
	Unbelted	0	2	0	12	2	1	3	1	0	0	1	1	1	24	17.0%
Salt Lake	Belted	2,133	1,488	1,411	10,126	7,727	5,558	8,276	6,384	3,482	1,825	1,153	422	731	50,716	91.9%
	Unbelted	79	123	175	1,357	803	456	626	402	180	95	69	31	54	4,450	8.1%
San Juan	Belted	12	13	19	41	50	32	79	69	36	21	15	2	13	402	82.0%
	Unbelted	2	3	3	26	11	5	14	14	1	3	3	0	3	88	18.0%
Sanpete	Belted	27	23	35	168	92	45	89	75	54	31	20	10	10	679	73.2%
	Unbelted	6	13	15	108	33	13	26	12	7	3	6	1	5	248	26.8%
Sevier	Belted	36	22	27	135	90	72	97	94	89	42	28	13	15	760	72.4%
	Unbelted	11	6	21	109	45	19	33	19	6	9	4	1	7	290	27.6%
Summit	Belted	35	32	32	225	175	130	228	184	107	32	26	8	34	1,248	89.9%
	Unbelted	5	2	6	31	21	20	22	20	6	3	2	0	2	140	10.1%
Tooele	Belted	43	27	33	155	149	99	125	115	62	44	28	16	23	919	86.2%
	Unbelted	0	3	2	45	37	16	12	17	5	4	2	1	3	147	13.8%
Uintah	Belted	48	34	48	290	80	55	95	108	60	27	30	11	11	897	79.8%
	Unbelted	4	5	9	97	44	9	18	23	5	4	4	0	5	227	20.2%
Utah	Belted	838	495	470	3,743	3,499	1,670	2,072	1,652	949	547	412	190	200	16,737	88.3%
	Unbelted	29	53	88	833	432	198	227	152	79	39	44	19	33	2,226	11.7%
Wasatch	Belted	42	33	23	106	97	66	103	96	49	34	13	10	23	695	85.5%
	Unbelted	1	11	8	35	12	14	16	11	4	2	3	0	1	118	14.5%
Washington	Belted	143	112	125	868	472	265	393	339	241	206	172	87	77	3,500	85.6%
	Unbelted	10	12	36	243	99	37	55	31	21	13	17	8	8	590	14.4%
Wayne	Belted	1	0	1	21	14	13	17	7	7	3	2	1	2	89	77.4%
	Unbelted	0	0	2	13	2	1	2	1	1	1	2	0	1	26	22.6%
Weber	Belted	293	220	191	1,929	1,265	799	1,273	1,022	595	382	338	117	121	8,545	88.5%
	Unbelted	19	31	36	339	226	118	144	88	55	14	26	6	13	1,115	11.5%
Statewide	Belted	4,708	3,246	3,278	23,001	16,854	10,639	15,684	12,600	7,161	4,077	2,816	1,127	1,553	106,744	89.2%
	Unbelted	242	367	636	4,413	2,322	1,148	1,543	1,028	483	260	238	103	192	12,975	10.8%

1998 Seatbelt Use by Gender, Age and Occupant Placement

Female and male crash occupants and injured occupants reported similar seatbelt use (approximately 85%). For fatally injured occupants, the reported seatbelt use is almost half of that for crash and injured occupants regardless of gender.

Table 9.02 Seatbelt Use by Gender, 1998

Gender	Seatbelt Status	Occupants #	Occupants %	Injured Occupants #	Injured Occupants %	Fatalities #	Fatalities %
Female	Belted	50,367	90.4%	11,628	82.0%	40	41.2%
	Unbelted	5,369	9.6%	2,560	18.0%	57	58.8%
Male	Belted	56,301	88.1%	8,118	75.4%	44	33.3%
	Unbelted	7,603	11.9%	2,643	24.6%	88	66.7%
Total	Belted	106,668	89.2%	19,746	79.1%	84	36.7%
	Unbelted	12,972	10.8%	5,203	20.9%	145	63.3%
Grand Total		119,640	100.0%	24,949	100.0%	229	100.0%

Reported seatbelt use did not vary substantially by seating location (Table 9.03). Among all occupants and injured occupants, drivers reported the highest seatbelt use compared to other seating locations. For fatally injured occupants, front seat passengers reported the highest seatbelt use.

Table 9.03 Seatbelt Use by Occupant Placement, 1998

Placement	Seatbelt Status	Occupants #	Occupants %	Injured Occupants #	Injured Occupants %	Fatalities #	Fatalities %
Driver	Belted	74,835	90.7%	13,270	82.7%	50	37.3%
	Unbelted	7,637	9.3%	2,783	17.3%	84	62.7%
Front Seat Passenger	Belted	19,479	85.4%	4,547	73.9%	26	44.1%
	Unbelted	3,328	14.6%	1,602	26.1%	33	55.9%
Back Seat Passenger	Belted	12,430	86.1%	1,934	70.2%	8	22.2%
	Unbelted	2,010	13.9%	820	29.8%	28	77.8%
Total Belted		106,744	89.2%	19,751	79.1%	84	36.7%
Total Unbelted		12,975	10.8%	5,205	20.9%	145	63.3%
Grand Total		119,719	100.0%	24,956	100.0%	229	100.0%

Seatbelt use varied slightly by age (Table 9.04). For all occupants, children under the age of 5 years had the highest rate of reported seatbelt use (95%), whereas, the age group 10 to 14 years old and teenagers aged 15 to 19 years reported the lowest percentage of seatbelt use (84%). Among injured occupants, the age group 65 to 69 years reported the highest seatbelt use and those aged 10 to 14 years reported the lowest. For fatally injured occupants, children under the age of 10 years were reported to have the highest seatbelt use and those aged 15 to 19 years the lowest.

Although the reported seatbelt or child safety seat use rate for children under the age of 10 years was often one of the highest for all age groups, it does not indicate that children were properly restrained. Several statewide surveys have found that child safety seats are often placed incorrectly in vehicles. In addition, young children are moved to adult sized seatbelts when they should be in booster seats. (see page 9.11 for Safety Recommendations).

Table 9.04 Seatbelt Use by Age Group, 1998

	Occupants		Injured Occupants		Fatalities	
Age Category	Total	% Belted	Total	% Belted	Total	% Belted
00 - 04	4,950	95.1%	626	83.7%	7	71.4%
05 - 09	3,613	89.8%	733	76.7%	6	66.7%
10 - 14	3,914	83.8%	942	67.1%	6	50.0%
15 - 19	27,414	83.9%	5,602	68.4%	39	12.8%
20 - 24	19,176	87.9%	3,925	78.4%	27	37.0%
25 - 29	11,787	90.3%	2,529	81.7%	17	23.5%
30 - 34	8,669	91.2%	1,858	84.1%	15	40.0%
35 - 39	8,558	90.9%	1,825	82.4%	19	36.8%
40 - 44	7,448	92.2%	1,581	85.9%	15	26.7%
45 - 49	6,180	92.8%	1,344	85.1%	9	44.4%
50 - 54	4,424	93.7%	981	89.0%	12	41.7%
55 - 59	3,220	93.6%	668	88.9%	12	33.3%
60 - 64	2,352	93.8%	514	87.5%	9	55.6%
65 - 69	1,985	94.2%	444	92.1%	4	50.0%
70 - 74	1,713	92.5%	375	85.3%	8	62.5%
75 - 79	1,341	91.9%	317	84.5%	14	57.1%
80 - 84	818	92.8%	192	89.1%	4	50.0%
85 +	412	89.3%	112	88.4%	5	20.0%
Missing	1,745	89.0%	388	78.9%	1	0.0%
Grand Total	119,719	89.2%	24,956	79.1%	229	36.7%

1998 Children and Restraint Use

The proportion of children under the age of 9 years who were reported as unbelted increased with increasing age (Table 9.05) The majority of children under the age of 2 years (84%) were in child safety seats, compared to 42% of children aged 2 to 4 years who were in child safety seats at the time of the crash. Children under the age of 2 years were 7 times more likely to be in a child safety seat than children between the ages of 2 to 4 years. Ninety percent (90%) of children between the ages 5 to 8 years were belted or in a child safety seat. Child safety seat usage was highest for children in the back seat; children in the back seat were 3 times more likely to be in a child safety seat than children in the front seat.

Utah's Child Restraint Law requires all children under the age of 10 years to be properly restrained when riding in a motor vehicle. In addition, children under the age of 2 years must be restrained in a child safety seat (see page 9.11 for Safety Laws and Recommendations).

Table 9.05 Seating Location and Restraint Status for Children Under the Age 9 Years, 1998

		Ages 0 - 1		Ages 2 - 4		Ages 5 - 8		
Seating Location	**Seatbelt Status**	**#**	**%**	**#**	**%**	**#**	**%**	**Total**
Front Middle	Child Safety Seat	39	63.9%	17	12.1%	4	2.7%	56
	Other Belted	17	27.9%	94	67.1%	117	79.1%	111
	Unbelted	5	8.2%	29	20.7%	27	18.2%	34
Front Right	Child Safety Seat	174	75.7%	117	24.6%	14	1.7%	291
	Other Belted	40	17.4%	313	65.9%	715	88.9%	353
	Unbelted	16	7.0%	45	9.5%	75	9.3%	61
Back Seat	Child Safety Seat	1,376	85.7%	1,145	47.2%	91	4.5%	2,521
	Other Belted	208	13.0%	1,154	47.6%	1,715	85.5%	1,362
	Unbelted	21	1.3%	127	5.2%	199	9.9%	148
Total	Child Safety Seat	1,589	83.8%	1,279	42.1%	109	3.7%	2,868
	Other Belted	265	14.0%	1,561	51.3%	2,547	86.1%	1,826
	Unbelted	42	2.2%	201	6.6%	301	10.2%	243
Grand Total		1,896	100.0%	3,041	100.0%	2,957	100.0%	7,894

1998 Ejection by Seatbelt Use

Figure 9.03 Ejection by Seatbelt Use, 1998

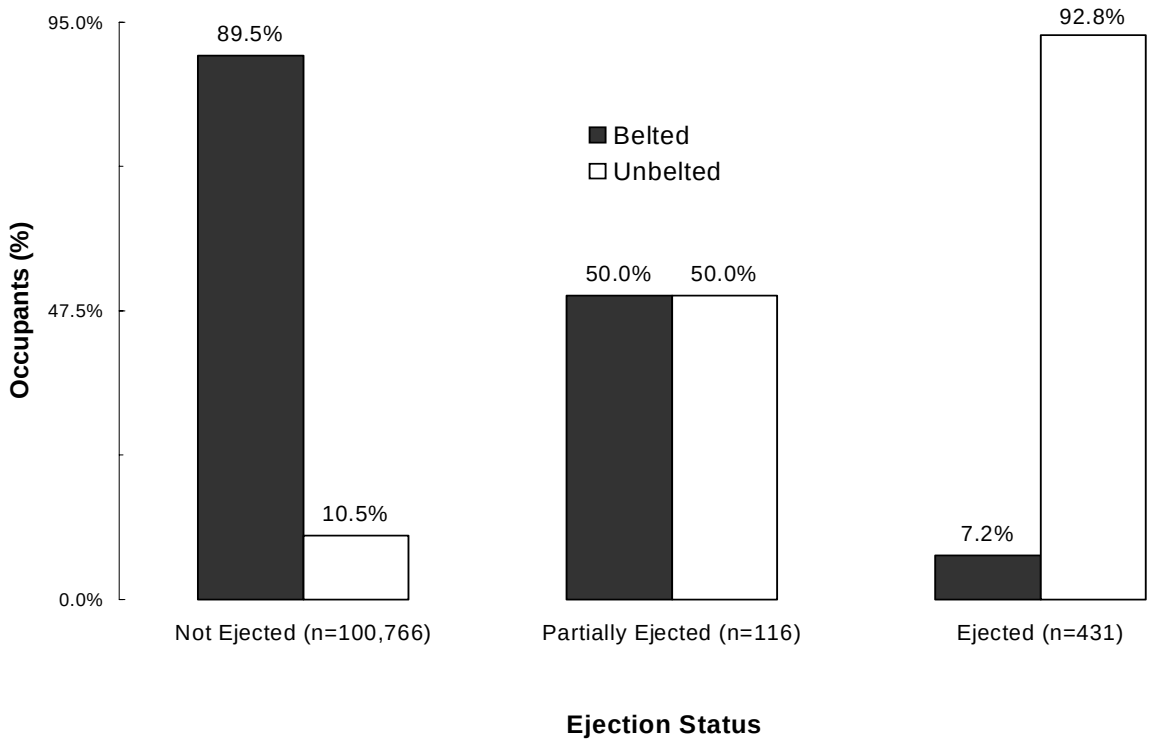


Figure 9.03 shows an inverse relationship between ejection from a motor vehicle and seatbelt use. The majority (93%) of the occupants ejected from a motor vehicle were not reported to be using a seatbelt compared to only 11% of reported non-seatbelt use for those occupant not ejected.

1998 Air Bags

Table 9.06 shows the age of occupants whose air bag deployed and the percentage belted. Regardless of crash severity, the majority of occupants whose air bag deployed were wearing a seatbelt .

Table 9.06 Percentage of Seatbelt Use for Occupants Whose Air Bag Deployed, 1998

	Occupants		Injured Occupants		Fatalities	
Age Category	Total	% Belted	Total	% Belted	Total	% Belted
00 - 04	10	90.0%	2	100.0%	1	100.0%
05 - 09	9	66.7%	6	83.3%	0	0.0%
10 - 14	30	80.0%	25	76.0%	0	0.0%
15 - 19	304	82.6%	213	79.8%	0	0.0%
20 - 24	277	88.1%	180	84.4%	0	0.0%
25 - 29	179	90.5%	135	88.1%	1	100.0%
30 - 34	108	88.0%	67	85.1%	2	100.0%
35 - 39	96	88.5%	62	83.9%	1	100.0%
40 - 44	86	89.5%	65	92.3%	1	0.0%
45 - 49	84	89.3%	62	88.7%	2	100.0%
50 - 54	69	89.9%	45	86.7%	2	50.0%
55 - 59	33	93.9%	20	90.0%	1	100.0%
60 - 64	37	91.9%	26	92.3%	1	100.0%
65 - 69	43	95.3%	32	93.8%	1	100.0%
70 - 74	22	86.4%	17	82.4%	0	0.0%
75 - 79	21	100.0%	12	100.0%	0	0.0%
80 - 84	16	93.8%	11	90.9%	0	0.0%
85 +	9	100.0%	7	100.0%	0	0.0%
Missing	11	90.9%	7	100.0%	0	0.0%
Grand Total	1,444	88.0%	994	85.7%	13	84.6%

Safety Restraint Laws And Recommendations

Seatbelt Use Law

Utah law requires all drivers and front seat passengers to be wearing a seatbelt when traveling in a motor vehicle. The law is a secondary law which means a person may be issued a citation only when the police officer has stopped the vehicle for another reason. Any person who violates this law is subject to a fine of $10. Exceptions to the law include, delivery personnel, rural letter carriers, persons driving vehicles used for farm purposes, individuals in motor vehicles manufactured before July 1, 1966, and individuals with physically disabling or medical condition which would prevent appropriate use of a safety belt. Visitors from outside Utah are also required to wear a seatbelt when traveling in Utah.

Child Passenger Safety Law

All children under the age of 10 years must be properly restrained in a motor vehicle. Children under the age of 2 years must ride in an approved child safety seat and children aged 2 to 10 years must ride in an approved child safety seat or seatbelt. This is a primary law which means an officer can stop a vehicle if he/she notices children are not properly restrained. A fine can be issued solely for not restraining a child under the age of 10 years and violators will be subject to a fine of not more than $75. The first offense shall be dismissed if the driver shows proof of acquiring a child safety seat or seatbelt. The law applies to all drivers, whether or not they are the parents of the unrestrained child.

Child Safety Seat Recommendations

- Infants should be placed in a rear facing child safety seat until they are at least 20 pounds AND 1 year of age.
- Children over 1 year of age weighing 20 - 40 pounds should ride in forward facing child safety seats.
- Older children (approximately 4-8 years of age) should ride in belt-positioning booster seats until they are approximately 60 - 80 pounds and can use an adult-size lap and shoulder belt system.
- Avoid using secondhand child safety seats especially if it does not have the original instruction booklet, if it has been used in a crash, if it does not have the manufacturer's date and model number on it or if it is more than six years old.
- The back seat is the safest place for children to ride.
- More than 95% of child safety seats are misused. Please be sure to read your child safety seat instruction manual and vehicle owners manual carefully and make sure it fits properly in your vehicle.

Seatbelt Recommendations

- Always use both the lap and shoulder belt. When worn properly, the shoulder belt should fit across the collar bone and the lap belt should fit low over the hips.
- Never place the shoulder strap under your arm or behind your back.
- Use belt-positioning booster seats for children who have outgrown their toddler safety seat (at about 4 years of age and 40 pounds). Booster seats help position an adult-size seatbelt for a safer fit on children.

Air Bag Safety Recommendations

- NEVER place a rear facing child safety seat in the front seat of a vehicle with a passenger side air bag.
- Place children age 12 years and younger in the back seat in an age and size-appropriate child safety seat or seatbelt.
- If you are the driver, keep 10 - 12 inches between you and the steering wheel.
- Move the front passenger seat as far back as possible.
- Shorter drivers, who cannot get 10 inches from the steering wheel and still comfortably reach the pedals can purchase pedal extender (call (813) 932-8566 for more information).
- Air bags are "supplemental" to seatbelts. Be sure you and your passengers use both the lap and shoulder portion of the seatbelt and children ride in appropriate child safety restraints in the back seat.
- If you MUST disconnect your vehicle's air bag contact Utah Highway Safety at (801) 293 -2480 or log onto the National Highway Traffic Safety Administration website at http://www/nhtsa.dot.gov for information.