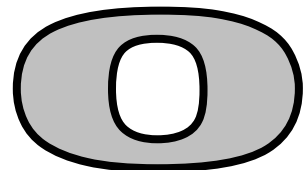
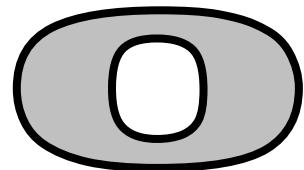


# Motorcycles

## Section 6: Motorcycles

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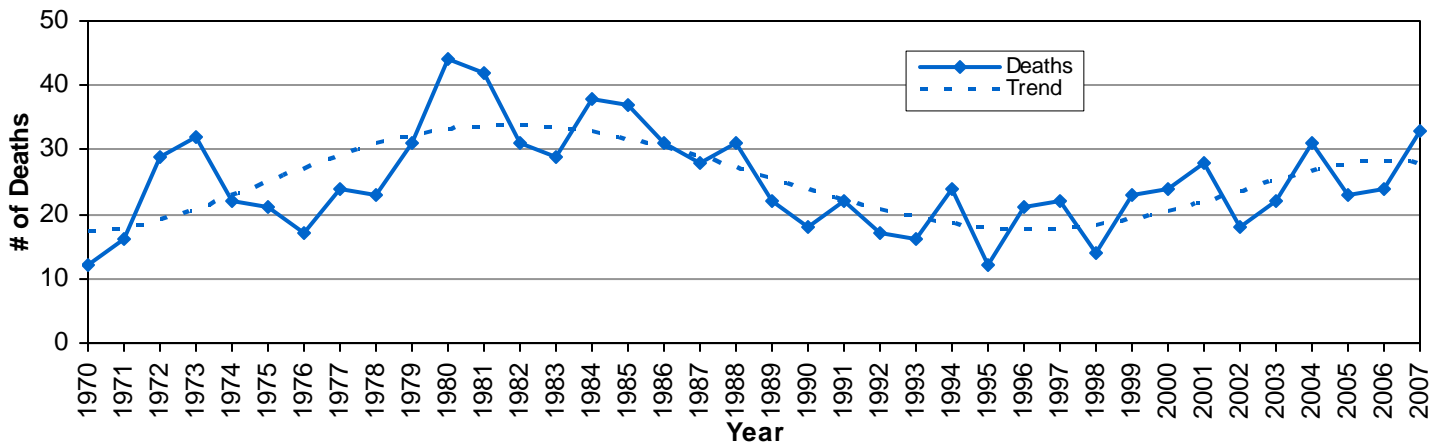
## Motorcycles



### Did you know in 2007:

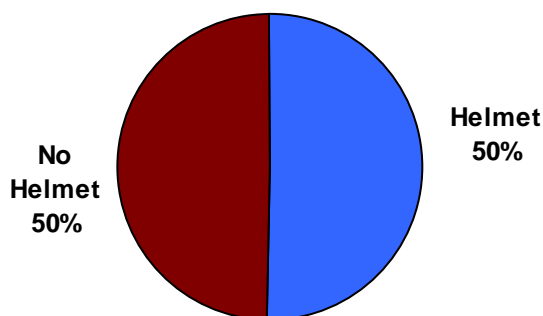
- There were 1,215 motorcycle crashes in Utah, resulting in 1,077 injured motorcyclists and 33 motorcyclist deaths.
- Motorcyclists accounted for 0.9% of persons in crashes and 11.0% of deaths.
- Compared to 2006, there was a 20% increase in the motorcyclist death rate per registered motorcycle.
- Motorcycle crashes were 7 times more likely to result in a death than other crashes.

### Motorcyclist Deaths (Utah 1970-2007)



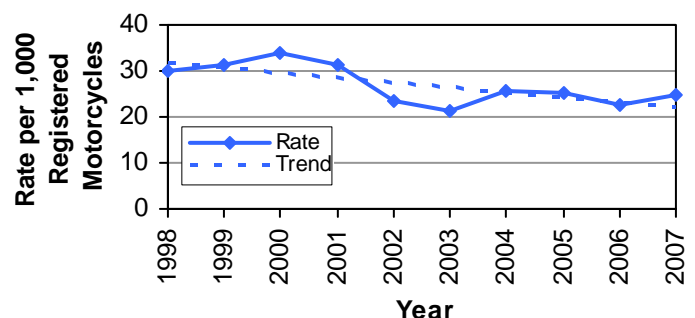
- Motorcyclist deaths are on the rise after seeing declining motorcyclist deaths in the 1990s.
- The 33 motorcyclist deaths in 2007 were the highest total since 1985.

### Helmet Use of Motorcyclists in Crashes (Utah 2007)



- Only 50% of motorcyclists wore a helmet.
- Utah law requires anyone under the age of 18 years riding a motorcycle to wear a helmet.

### Motorcyclist Crash Rates per Registered Motorcycles (Utah 1998-2007)



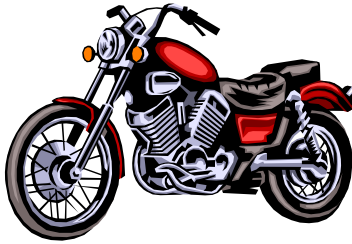
- The rate of motorcyclists in crashes per registered motorcycles increased in 2007 after two years of decreases.

**Leading Motorcyclist Contributing Factors in Crashes (Utah 2007)**

# Motorcycles

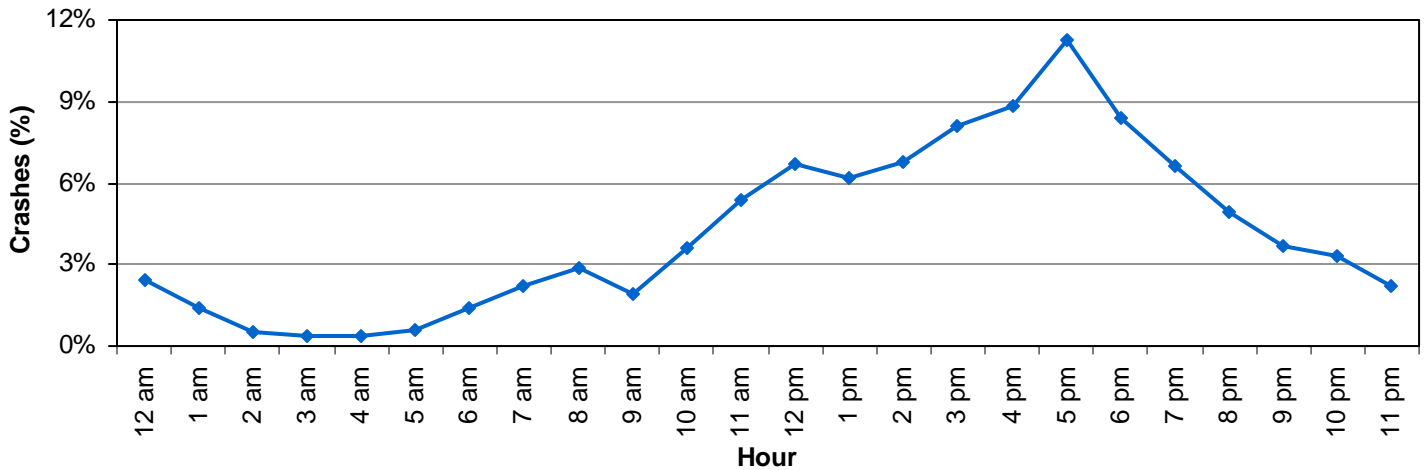


1. Speed Too Fast (13%)
2. Followed Too Closely (8%)
3. Swerved or Evasive Action (6%)
4. Failed to Keep in Proper Lane (5%)
5. Ran Off Road (5%)



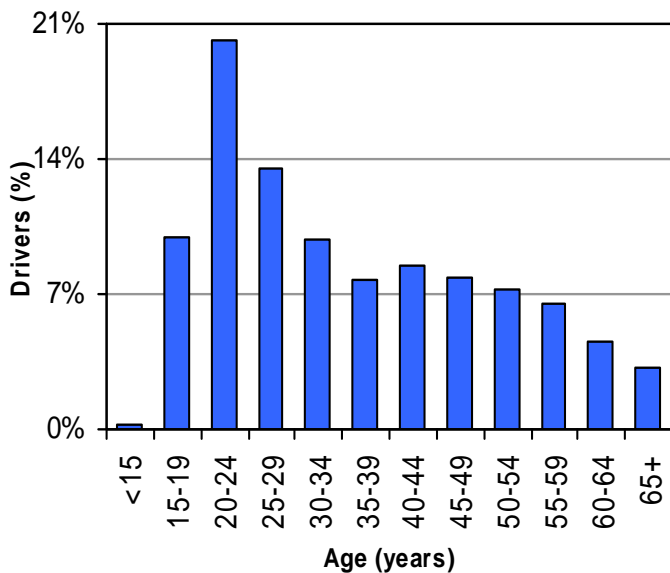
**Left Turns**  
 Nearly one-third (29%) of drivers who hit motorcycles were turning left. Drivers need to watch for motorcycles before turning.

**Motorcycle Crashes by Hour of Day (Utah 2007)**

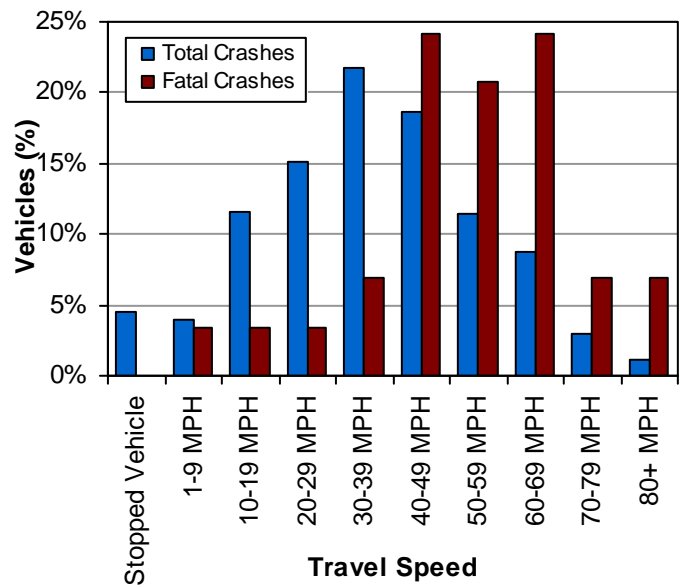


- Nearly two-thirds (63%) of total motorcycle crashes occurred between 12:00 p.m. and 7:59 p.m.

**Age of Motorcycle Drivers in All Crashes (Utah 2007)**



**Travel Speed of Motorcycles in Crashes (Utah 2007)**

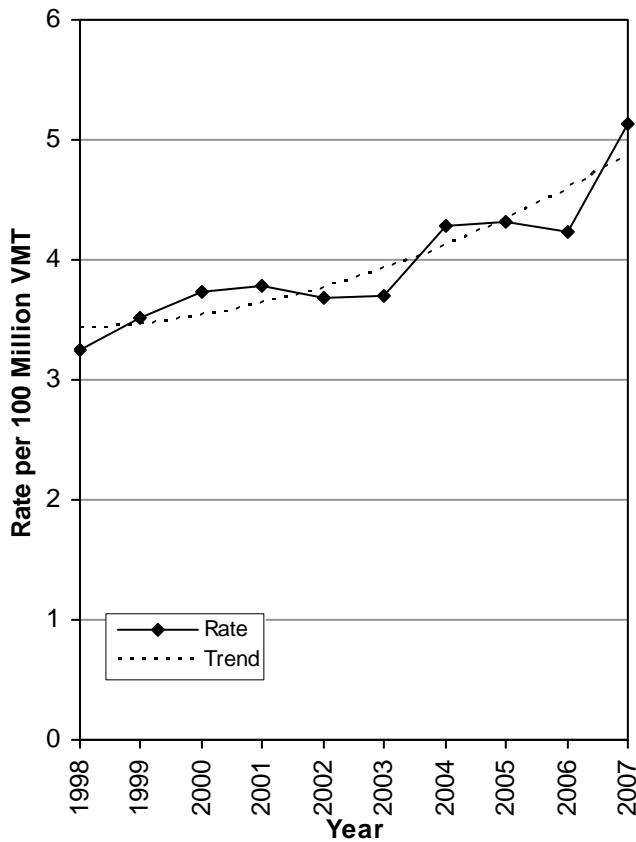


- Over one-half (54%) of motorcycle drivers in crashes were under the age of 35 years.
- Most (83%) of the motorcycles in fatal crashes were traveling 40 MPH or higher.

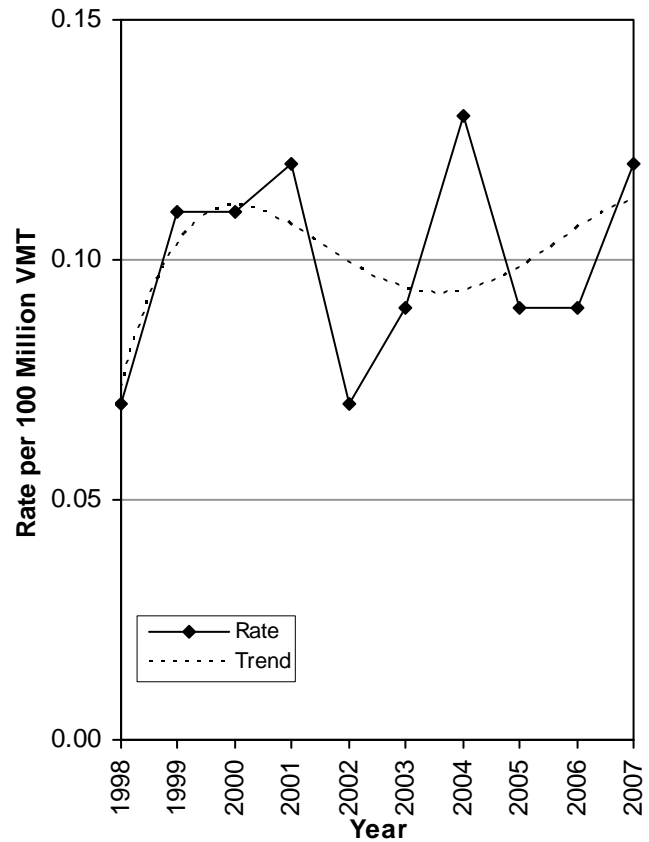
## Motorcyclists in Crashes (Utah 1998-2007)

Motorcyclists (Driver and Passenger)								
Year	Non-Injured		Injured		Killed		Total	
	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT
1998	93	0.44	584	2.75	14	0.07	691	3.25
1999	76	0.35	671	3.07	23	0.11	770	3.52
2000	124	0.55	694	3.08	24	0.11	842	3.74
2001	124	0.53	733	3.13	28	0.12	885	3.78
2002	130	0.53	755	3.09	18	0.07	903	3.69
2003	134	0.56	730	3.05	22	0.09	886	3.70
2004	149	0.60	877	3.56	31	0.13	1,057	4.29
2005	192	0.76	871	3.47	23	0.09	1,086	4.32
2006	186	0.71	899	3.44	24	0.09	1,109	4.24
2007	270	1.01	1,077	4.02	33	0.12	1,380	5.14
<b>Total</b>	<b>1,478</b>	<b>0.62</b>	<b>7,891</b>	<b>3.29</b>	<b>240</b>	<b>0.10</b>	<b>9,609</b>	<b>4.00</b>

### Motorcyclist Crash Rates per VMT (Utah 1998-2007)



### Motorcyclist Death Rates per VMT (Utah 1998-2007)



- Overall, the rate of motorcyclists in crashes has shown an increasing trend since 1998.
- 2007 had the highest (5.14) rate of total motorcyclists in crashes per VMT.

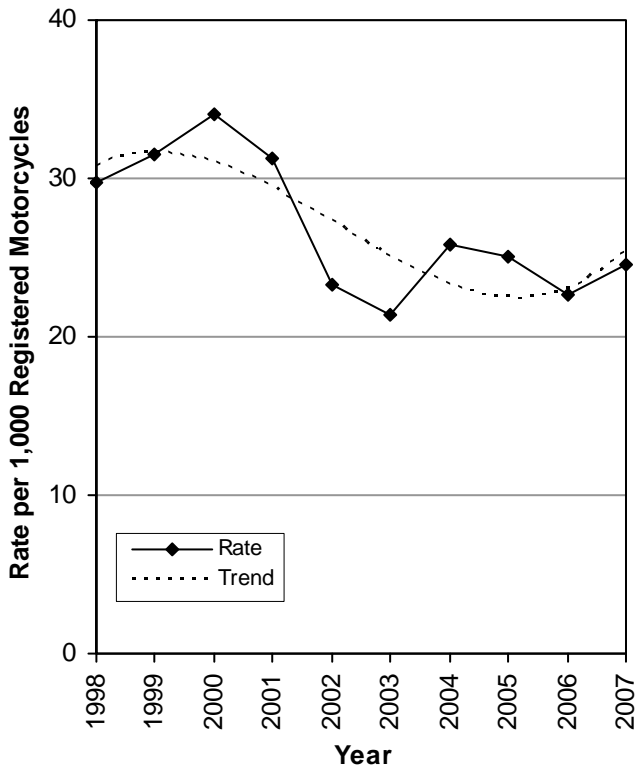
- The rate of motorcyclists killed in crashes has varied over time fluctuating around the 10-year rate of 0.10 per 100 million VMT.

# Trends

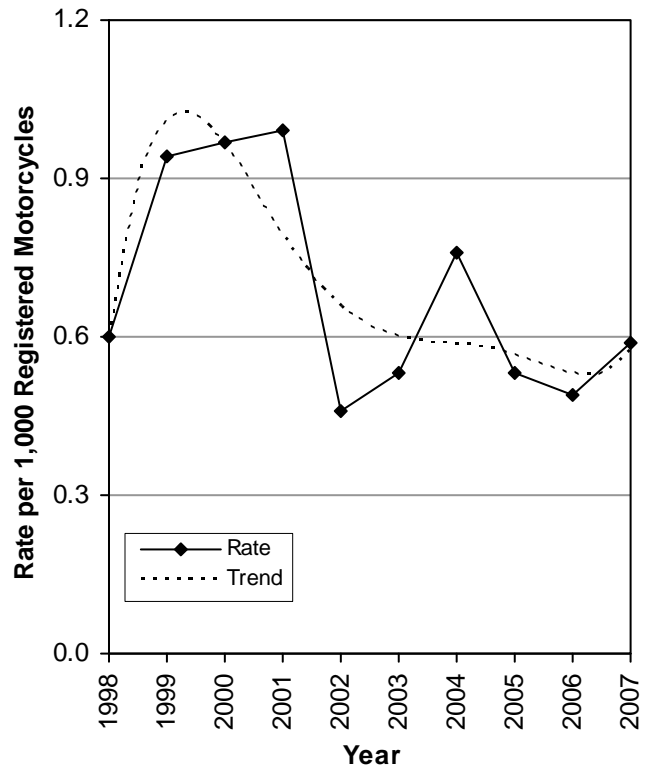
## Crash Rates per Registered Motorcycles (Utah 1998-2007)

Motorcyclists (Driver and Passenger)									
Year	Registered Motorcycles	Non-Injured		Injured		Killed		Total	
		#	Rate per 1,000 Registered Motorcycles	#	Rate per 1,000 Registered Motorcycles	#	Rate per 1,000 Registered Motorcycles	#	Rate per 1,000 Registered Motorcycles
1998	23,175	93	4.0	584	25.2	14	0.60	691	29.8
1999	24,470	76	3.1	671	27.4	23	0.94	770	31.5
2000	24,674	124	5.0	694	28.1	24	0.97	842	34.1
2001	28,291	124	4.4	733	25.9	28	0.99	885	31.3
2002	38,787	130	3.4	755	19.5	18	0.46	903	23.3
2003	41,421	134	3.2	730	17.6	22	0.53	886	21.4
2004	40,964	149	3.6	877	21.4	31	0.76	1,057	25.8
2005	43,271	192	4.4	871	20.1	23	0.53	1,086	25.1
2006	48,949	186	3.8	899	18.4	24	0.49	1,109	22.7
2007	56,146	270	4.8	1,077	19.2	33	0.59	1,380	24.6
<b>Total</b>	<b>370,148</b>	<b>1,478</b>	<b>4.0</b>	<b>7,891</b>	<b>21.3</b>	<b>240</b>	<b>0.65</b>	<b>9,609</b>	<b>26.0</b>

**Motorcyclist Total Crash Rates per Registered Motorcycles (Utah 1998-2007)**



**Motorcyclist Death Rates per Registered Motorcycles (Utah 1998-2007)**



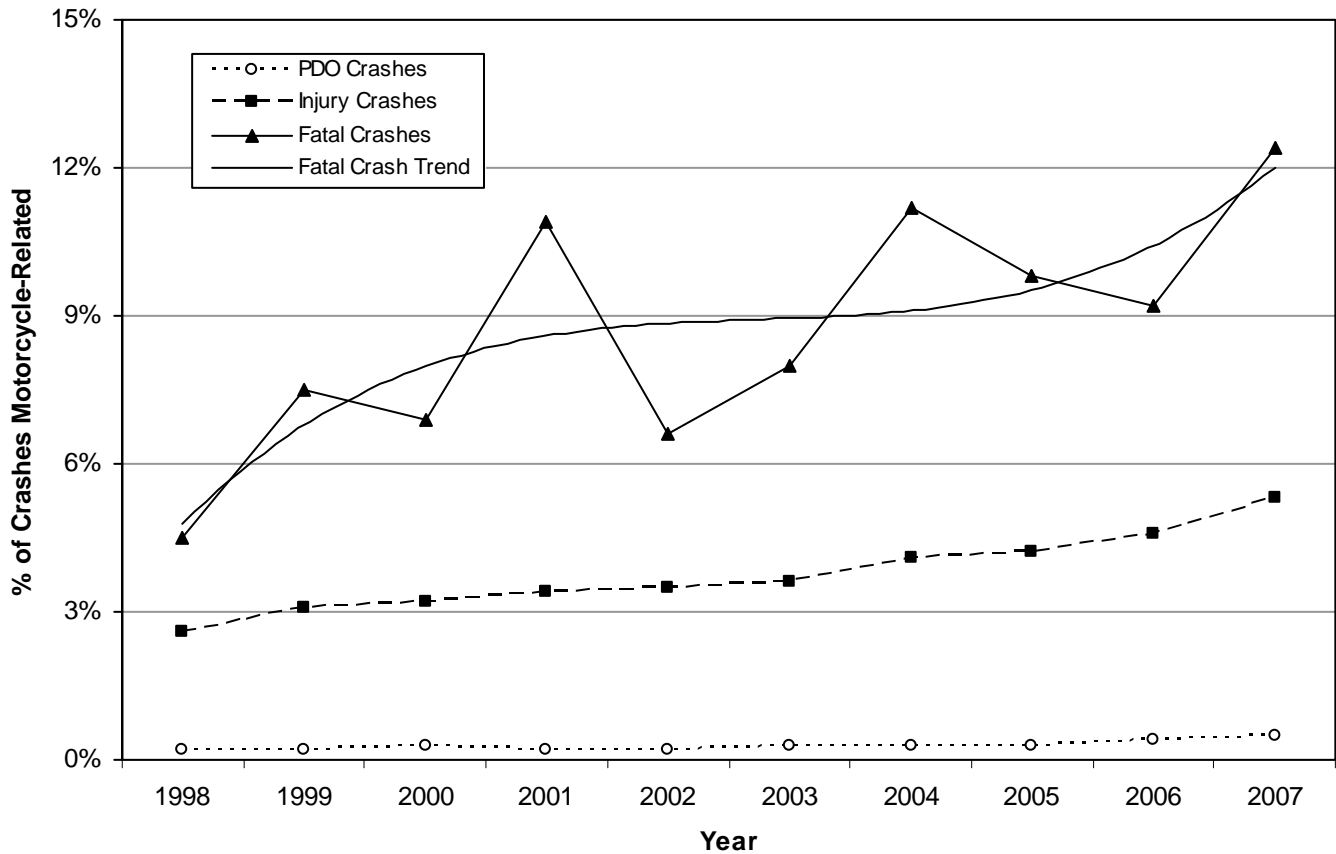
- The rate of total motorcyclists in crashes per registered motorcycles increased 8% in 2007 after two years of decreases.

- The motorcyclist death rate per registered motorcycle increased 20% in 2007 after two years of decreases.

### Motorcycle Crashes (Utah 1998-2007)

Motorcycle Crashes												
Year	Property Damage Only			Injury			Fatal			Total		
	All #	Mtrcy #	Mtrcy %	All #	Mtrcy #	Mtrcy %	All #	Mtrcy #	Mtrcy %	All #	Mtrcy #	Mtrcy %
1998	34,337	66	0.2%	19,427	509	2.6%	308	14	4.5%	54,072	589	1.1%
1999	32,971	52	0.2%	19,513	602	3.1%	318	24	7.5%	52,802	678	1.3%
2000	33,269	88	0.3%	19,564	624	3.2%	318	22	6.9%	53,151	734	1.4%
2001	33,113	82	0.2%	19,332	648	3.4%	258	28	10.9%	52,703	758	1.4%
2002	33,542	81	0.2%	19,552	689	3.5%	274	18	6.6%	53,368	788	1.5%
2003	31,842	84	0.3%	18,285	661	3.6%	262	21	8.0%	50,389	766	1.5%
2004	34,222	104	0.3%	19,423	805	4.1%	260	29	11.2%	53,905	938	1.7%
2005	35,158	117	0.3%	19,545	829	4.2%	235	23	9.8%	54,938	969	1.8%
2006	37,749	135	0.4%	18,189	835	4.6%	249	23	9.2%	56,187	993	1.8%
2007	42,368	199	0.5%	18,619	984	5.3%	258	32	12.4%	61,245	1,215	2.0%
<b>Total</b>	<b>348,571</b>	<b>1,008</b>	<b>0.3%</b>	<b>191,449</b>	<b>7,186</b>	<b>3.8%</b>	<b>2,740</b>	<b>234</b>	<b>8.5%</b>	<b>542,760</b>	<b>8,428</b>	<b>1.6%</b>

### Percent of Crashes Involving a Motorcycle (Utah 1998-2007)



- The 10-year trend shows that motorcycle crashes represent 0.3% of property damage only crashes, 3.8% of injury crashes, and 8.5% of fatal crashes.
- Motorcycles are over-represented in fatal crashes accounting for 8.5% of fatal crashes compared to 1.6% of total crashes.
- During the last 10 years, the highest percent of fatal crashes involving motorcycles occurred in 2007 (12.4%).

## Counties

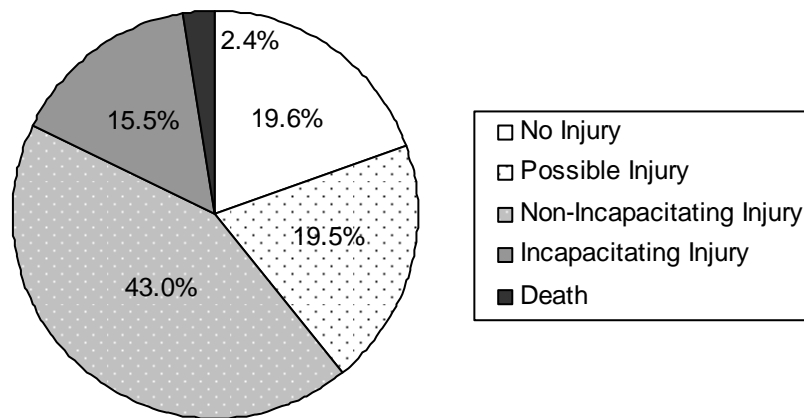
### Motorcyclists in Crashes by County (Utah 2007)

Motorcyclists (Driver and Passenger)								
County	Non-Injured		Injured		Killed		Total	
		Rate		Rate		Rate		Rate
		per 100		per 100		per 100		per 100
		Million		Million		Million		Million
	#	VMT	#	VMT	#	VMT	#	VMT
Rich	2	4.0	9	18.0	0	0.0	11	22.0
Wayne	1	2.5	7	17.4	0	0.0	8	19.9
Kane	6	4.0	14	9.2	3	2.0	23	15.2
Garfield	4	3.3	10	8.3	1	0.8	15	12.5
Morgan	4	2.8	11	7.7	0	0.0	15	10.5
Daggett	0	0.0	3	9.1	0	0.0	3	9.1
Weber	33	2.0	110	6.7	4	0.2	147	9.0
Washington	13	0.9	81	5.9	2	0.1	96	6.9
Grand	4	1.4	14	4.9	0	0.0	18	6.3
Cache	13	1.3	48	4.9	0	0.0	61	6.2
San Juan	1	0.4	14	5.0	2	0.7	17	6.1
Utah	22	0.6	203	5.4	2	0.1	227	6.1
Wasatch	5	1.6	13	4.3	0	0.0	18	5.9
Uintah	1	0.3	17	4.8	2	0.6	20	5.7
Salt Lake	124	1.4	345	3.9	9	0.1	478	5.4
Duchesne	1	0.4	11	4.7	0	0.0	12	5.1
Carbon	3	1.0	9	3.1	0	0.0	12	4.1
Davis	19	0.8	72	2.9	3	0.1	94	3.7
Iron	1	0.1	19	2.7	0	0.0	20	2.8
Emery	4	1.1	6	1.7	0	0.0	10	2.8
Millard	2	0.4	7	1.5	3	0.7	12	2.6
Sanpete	0	0.0	5	2.1	0	0.0	5	2.1
Summit	1	0.1	15	1.9	0	0.0	16	2.1
Beaver	4	1.6	0	0.0	1	0.4	5	2.0
Sevier	1	0.2	6	1.4	1	0.2	8	1.9
Tooele	0	0.0	16	1.8	0	0.0	16	1.8
Box Elder	1	0.1	10	1.1	0	0.0	11	1.2
Juab	0	0.0	2	0.5	0	0.0	2	0.5
Piute	0	0.0	0	0.0	0	0.0	0	0.0
<b>Statewide</b>	<b>270</b>	<b>1.0</b>	<b>1,077</b>	<b>4.0</b>	<b>33</b>	<b>0.1</b>	<b>1,380</b>	<b>5.1</b>

- Rich (22.0), Wayne (19.9), and Kane (15.2) counties had the highest rates of motorcyclists in crashes per vehicle miles traveled.
- Piute County had no motorcyclists in crashes.
- Kane (2.0), Garfield (0.8), Millard (0.7), and San Juan (0.7) counties had the highest rates of motorcyclists killed in crashes.

# Motorcyclists

## Injury Severity of Motorcyclists in Crashes (Utah 2007)



- The percentage of motorcyclists sustaining a non-fatal injury (78.0%) was much higher than the percentage of all motor vehicle crash occupants sustaining a non-fatal injury (17.7%).
- The percentage of motorcyclists killed in crashes (2.4%) was higher than the percentage for all persons killed in motor vehicle crashes (0.2%).
- Motorcycle crashes were 7 times more likely to result in a death than other motor vehicle crashes.

## Occupant Placement of Motorcyclists in Crashes (Utah 2007)

Motorcyclists (Driver and Passenger)								
Occupant Placement	Non-Injured		Injured		Killed		Total	
	#	%	#	%	#	%	#	%
Driver	233	86.3%	971	90.2%	30	90.9%	1,234	89.4%
Passenger	37	13.7%	106	9.8%	3	9.1%	146	10.6%
<b>Total</b>	<b>270</b>	<b>100.0%</b>	<b>1077</b>	<b>100.0%</b>	<b>33</b>	<b>100.0%</b>	<b>1,380</b>	<b>100.0%</b>

- Drivers accounted for the majority of motorcyclists in a crash (89.4%) and motorcyclists killed (90.9%).

## Gender of Motorcyclists in Crashes (Utah 2007)

Motorcyclists (Driver and Passenger)								
Gender	Non-Injured		Injured		Killed		Total	
	#	%	#	%	#	%	#	%
Male	215	79.6%	900	83.6%	29	87.9%	1144	82.9%
Female	39	14.4%	172	16.0%	4	12.1%	215	15.6%
Unknown	16	5.9%	5	0.5%	0	0.0%	21	1.5%
<b>Total</b>	<b>270</b>	<b>100.0%</b>	<b>1077</b>	<b>100.0%</b>	<b>33</b>	<b>100.0%</b>	<b>1,380</b>	<b>100.0%</b>

- The majority of all motorcyclists (82.9%) and motorcyclists killed (87.9%) in crashes were male.

# Motorcyclists

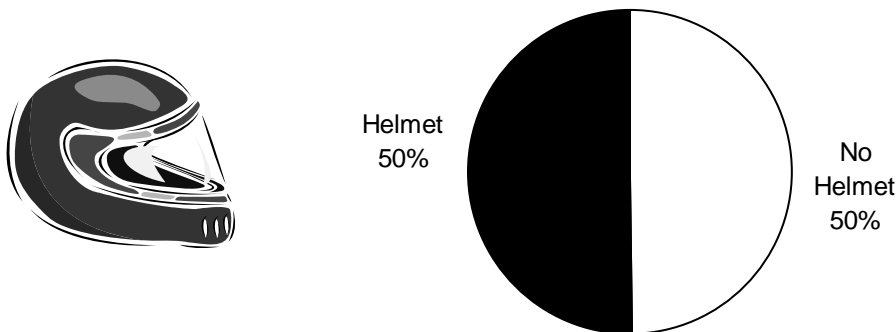
## Age of Motorcyclists in Crashes (Utah 2007)

Motorcyclists (Driver and Passenger)								
Age	Non-Injured		Injured		Killed		Total	
	#	%	#	%	#	%	#	%
0-4	2	0.7%	1	0.1%	0	0.0%	3	0.2%
5-9	3	1.1%	4	0.4%	0	0.0%	7	0.5%
10-14	1	0.4%	9	0.8%	0	0.0%	10	0.7%
15-19	22	8.1%	124	11.5%	4	12.1%	150	10.9%
20-24	46	17.0%	210	19.5%	7	21.2%	263	19.1%
25-29	29	10.7%	145	13.5%	1	3.0%	175	12.7%
30-34	24	8.9%	104	9.7%	1	3.0%	129	9.3%
35-39	27	10.0%	79	7.3%	0	0.0%	106	7.7%
40-44	24	8.9%	86	8.0%	2	6.1%	112	8.1%
45-49	20	7.4%	86	8.0%	4	12.1%	110	8.0%
50-54	16	5.9%	78	7.2%	4	12.1%	98	7.1%
55-59	20	7.4%	67	6.2%	2	6.1%	89	6.4%
60-64	15	5.6%	42	3.9%	2	6.1%	59	4.3%
65+	5	1.9%	30	2.8%	6	18.2%	41	3.0%
Unknown	16	5.9%	12	1.1%	0	0.0%	28	2.0%
<b>Total</b>	<b>270</b>	<b>100.0%</b>	<b>1077</b>	<b>100.0%</b>	<b>33</b>	<b>100.0%</b>	<b>1,380</b>	<b>100.0%</b>

- Overall, the largest percentages of motorcyclists in crashes were aged 20-24 years (19.1%), 25-29 years (12.7%), and 15-19 years (10.9%).
- The highest percentages of motorcyclist deaths were aged 20-24 years (21.2%) and 65+ years (18.2%).

## Helmet Use of Motorcyclists in Crashes (Utah 2007)

Motorcyclists (Driver and Passenger)								
Helmet Use	Non-Injured		Injured		Killed		Total	
	#	%	#	%	#	%	#	%
Helmet Worn	90	33.3%	497	46.1%	18	54.5%	605	43.8%
Helmet Not Worn	70	25.9%	513	47.6%	14	42.4%	597	43.3%
Unknown	110	40.7%	67	6.2%	1	3.0%	178	12.9%
<b>Total</b>	<b>270</b>	<b>100.0%</b>	<b>1077</b>	<b>100.0%</b>	<b>33</b>	<b>100.0%</b>	<b>1,380</b>	<b>100.0%</b>



- Only 50.3% of the motorcyclists in crashes wore a helmet, where helmet use was known.
- 14 of the 33 motorcyclists killed in crashes (42.4%) were not wearing a helmet.

## Motorcycle Drivers

### Motorcycle Driver Age (Utah 2007)

Motorcycle Drivers								
Age	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
<15	2	0.9%	0	0.0%	0	0.0%	2	0.2%
15-19	16	6.9%	103	10.6%	5	14.7%	124	10.0%
20-24	44	19.0%	199	20.6%	6	17.6%	249	20.2%
25-29	26	11.2%	138	14.3%	2	5.9%	166	13.5%
30-34	24	10.3%	96	9.9%	1	2.9%	121	9.8%
35-39	23	9.9%	72	7.4%	0	0.0%	95	7.7%
40-44	23	9.9%	80	8.3%	2	5.9%	105	8.5%
45-49	18	7.8%	74	7.6%	4	11.8%	96	7.8%
50-54	14	6.0%	70	7.2%	5	14.7%	89	7.2%
55-59	19	8.2%	59	6.1%	2	5.9%	80	6.5%
60-64	13	5.6%	40	4.1%	2	5.9%	55	4.5%
65+	5	2.2%	29	3.0%	5	14.7%	39	3.2%
Unknown	5	2.2%	8	0.8%	0	0.0%	13	1.1%
<b>Total</b>	<b>232</b>	<b>100.0%</b>	<b>968</b>	<b>100.0%</b>	<b>34</b>	<b>100.0%</b>	<b>1,234</b>	<b>100.0%</b>

- Over one-half (53.6%) of the motorcycle drivers in crashes were under the age of 35 years.

### Motorcycle Driver Gender (Utah 2007)

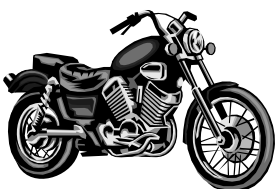
Motorcycle Drivers								
Gender	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Male	207	89.2%	877	90.6%	33	97.1%	1,117	90.5%
Female	20	8.6%	91	9.4%	1	2.9%	112	9.1%
Unknown	5	2.2%	0	0.0%	0	0.0%	5	0.4%
<b>Total</b>	<b>232</b>	<b>100.0%</b>	<b>968</b>	<b>100.0%</b>	<b>34</b>	<b>100.0%</b>	<b>1,234</b>	<b>100.0%</b>

- The majority of motorcycle drivers in total crashes (90.5%) and fatal crashes (97.1%) were male.

### License Status of Motorcycle Drivers (Utah 2007)

Motorcycle Drivers								
Motorcycle License Status	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Yes	60	25.9%	353	36.5%	26	76.5%	439	35.6%
No	113	48.7%	486	50.2%	8	23.5%	607	49.2%
Unknown	59	25.4%	129	13.3%	0	0.0%	188	15.2%
<b>Total</b>	<b>232</b>	<b>100.0%</b>	<b>968</b>	<b>100.0%</b>	<b>34</b>	<b>100.0%</b>	<b>1,234</b>	<b>100.0%</b>

- Less than one-half (42.0% of known) of motorcycle drivers in total crashes had a motorcycle license.
- Of the 34 motorcycle drivers in fatal crashes, eight (23.5%) did not have a motorcycle license.
- In addition, only 8.8% of motorcycle drivers in a crash completed the Utah Motorcycle Rider Training Program.



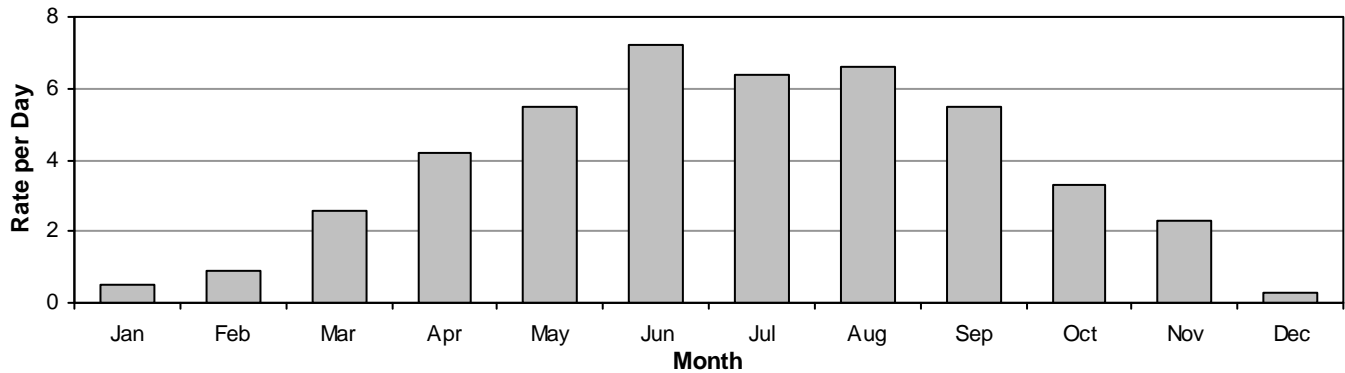
### Alcohol Involvement of Motorcycle Drivers (Utah 2007)

- Of the 34 motorcycle drivers in fatal crashes, two (5.9%) were impaired by alcohol.

## Motorcycle Crash Conditions

### Motorcyclists in Crashes by Month (Utah 2007)

Motorcyclists (Driver and Passenger)									
	Days in	Non-Injured		Injured		Killed		Total	
	Month		Rate		Rate		Rate		Rate
Month	#	#	per Day	#	per Day	#	per Day	#	per Day
January	31	5	0.2	8	0.3	1	0.03	14	0.5
February	28	3	0.1	23	0.8	0	0.00	26	0.9
March	31	17	0.5	60	1.9	4	0.13	81	2.6
April	30	30	1.0	94	3.1	2	0.07	126	4.2
May	31	26	0.8	143	4.6	3	0.10	172	5.5
June	30	43	1.4	167	5.6	5	0.17	215	7.2
July	31	29	0.9	160	5.2	9	0.29	198	6.4
August	31	37	1.2	164	5.3	4	0.13	205	6.6
September	30	33	1.1	132	4.4	1	0.03	166	5.5
October	31	30	1.0	68	2.2	3	0.10	101	3.3
November	30	14	0.5	53	1.8	1	0.03	68	2.3
December	31	3	0.1	5	0.2	0	0.00	8	0.3
<b>Total</b>	<b>365</b>	<b>270</b>	<b>0.7</b>	<b>1,077</b>	<b>3.0</b>	<b>33</b>	<b>0.09</b>	<b>1,380</b>	<b>3.8</b>



- May through September had the highest rates per day of total motorcycle crashes. Very few motorcycle crashes occurred in the winter months, likely due to the decrease in motorcycle riding in the winter.

### Motorcyclists in Crashes by Day of Week (Utah 2007)

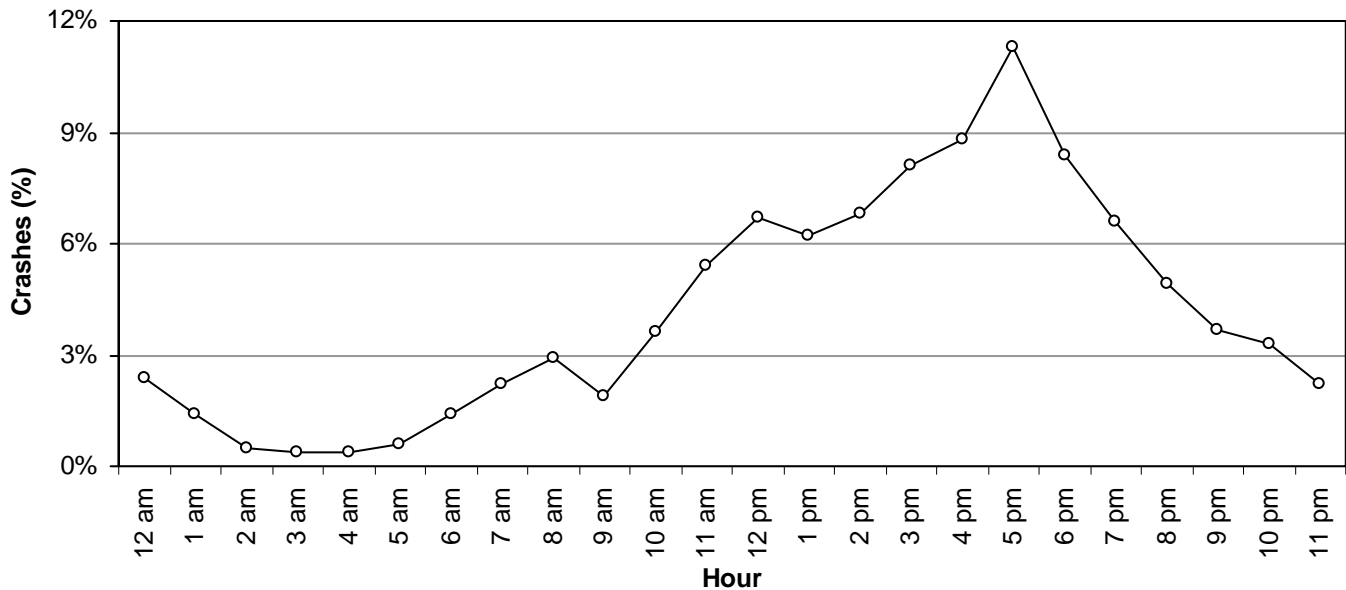
Motorcyclists (Driver and Passenger)								
Day of Week	Non-Injured		Injured		Killed		Total	
	#	%	#	%	#	%	#	%
Sunday	41	15.2%	181	16.8%	5	15.2%	227	16.4%
Monday	30	11.1%	123	11.4%	3	9.1%	156	11.3%
Tuesday	35	13.0%	119	11.0%	7	21.2%	161	11.7%
Wednesday	44	16.3%	152	14.1%	7	21.2%	203	14.7%
Thursday	28	10.4%	127	11.8%	2	6.1%	157	11.4%
Friday	37	13.7%	178	16.5%	0	0.0%	215	15.6%
Saturday	55	20.4%	197	18.3%	9	27.3%	261	18.9%
<b>Total</b>	<b>270</b>	<b>100.0%</b>	<b>1,077</b>	<b>100.0%</b>	<b>33</b>	<b>100.0%</b>	<b>1,380</b>	<b>100.0%</b>

- Over one-third (35.4%) of total motorcycle crashes occurred on the weekend (Saturday and Sunday).
- Fatal motorcycle crashes occurred most frequently on Saturday (27.3%).

# Motorcycle Crash Conditions

## Motorcyclists in Crashes by Hour (Utah 2007)

Motorcyclists (Driver and Passenger)								
Hour	Non-Injured		Injured		Killed		Total	
	#	%	#	%	#	%	#	%
Midnight	2	0.7%	30	2.8%	1	3.0%	33	2.4%
1 a.m.	3	1.1%	15	1.4%	1	3.0%	19	1.4%
2 a.m.	0	0.0%	7	0.6%	0	0.0%	7	0.5%
3 a.m.	2	0.7%	2	0.2%	1	3.0%	5	0.4%
4 a.m.	0	0.0%	5	0.5%	0	0.0%	5	0.4%
5 a.m.	1	0.4%	7	0.6%	0	0.0%	8	0.6%
6 a.m.	7	2.6%	13	1.2%	0	0.0%	20	1.4%
7 a.m.	8	3.0%	22	2.0%	1	3.0%	31	2.2%
8 a.m.	9	3.3%	29	2.7%	2	6.1%	40	2.9%
9 a.m.	4	1.5%	22	2.0%	0	0.0%	26	1.9%
10 a.m.	8	3.0%	42	3.9%	0	0.0%	50	3.6%
11 a.m.	14	5.2%	57	5.3%	3	9.1%	74	5.4%
Noon	22	8.1%	70	6.5%	1	3.0%	93	6.7%
1 p.m.	23	8.5%	60	5.6%	2	6.1%	85	6.2%
2 p.m.	23	8.5%	65	6.0%	6	18.2%	94	6.8%
3 p.m.	17	6.3%	92	8.5%	3	9.1%	112	8.1%
4 p.m.	28	10.4%	92	8.5%	1	3.0%	121	8.8%
5 p.m.	36	13.3%	118	11.0%	2	6.1%	156	11.3%
6 p.m.	19	7.0%	96	8.9%	1	3.0%	116	8.4%
7 p.m.	9	3.3%	79	7.3%	3	9.1%	91	6.6%
8 p.m.	14	5.2%	51	4.7%	2	6.1%	67	4.9%
9 p.m.	11	4.1%	40	3.7%	0	0.0%	51	3.7%
10 p.m.	7	2.6%	36	3.3%	3	9.1%	46	3.3%
11 p.m.	3	1.1%	27	2.5%	0	0.0%	30	2.2%
<b>Total</b>	<b>270</b>	<b>100.0%</b>	<b>1,077</b>	<b>100.0%</b>	<b>33</b>	<b>100.0%</b>	<b>1,380</b>	<b>100.0%</b>



- Nearly two-thirds (62.9%) of total motorcycle crashes occurred between 12:00 p.m. and 7:59 p.m.
- Motorcyclist deaths were highest at 2:00 p.m. (18.2%).

## Motorcycle Crash Conditions

### Motorcycle Crashes by First Harmful Event (Utah 2007)

Motorcycle Crashes								
First Harmful Event	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Collision with Another Motor Vehicle	123	61.8%	431	43.8%	19	59.4%	573	47.2%
Overturn/Rollover	8	4.0%	130	13.2%	0	0.0%	138	11.4%
Fell/Jumped from Vehicle	6	3.0%	56	5.7%	5	15.6%	67	5.5%
Collision with Other Fixed Object	10	5.0%	49	5.0%	0	0.0%	59	4.9%
Other Non-collision	4	2.0%	48	4.9%	0	0.0%	52	4.3%
Collision with Animal	9	4.5%	38	3.9%	3	9.4%	50	4.1%
Collision with Concrete/Cable Barrier	4	2.0%	22	2.2%	2	6.3%	28	2.3%
Collision with Ditch	2	1.0%	15	1.5%	0	0.0%	17	1.4%
Collision with Embankment	2	1.0%	13	1.3%	1	3.1%	16	1.3%
Collision with Other Non-fixed Object	4	2.0%	11	1.1%	0	0.0%	15	1.2%
Collision with Tree/Shrubbery	0	0.0%	14	1.4%	0	0.0%	14	1.2%
Collision with Bicyclist/Pedestrian	1	0.5%	10	1.0%	0	0.0%	11	0.9%
Collision with Post, Pole, or Support	3	1.5%	7	0.7%	0	0.0%	10	0.8%
Collision with Parked Vehicle	2	1.0%	5	0.5%	0	0.0%	7	0.6%
Collision with Fence	1	0.5%	3	0.3%	1	3.1%	5	0.4%
Collision with Guardrail	0	0.0%	4	0.4%	1	3.1%	5	0.4%
Collision with Thrown or Fallen Object	1	0.5%	2	0.2%	0	0.0%	3	0.2%
Unknown	19	9.5%	126	12.8%	0	0.0%	145	11.9%
<b>Total</b>	<b>199</b>	<b>100.0%</b>	<b>984</b>	<b>100.0%</b>	<b>32</b>	<b>100.0%</b>	<b>1,215</b>	<b>100.0%</b>

- For all motorcycle crashes, the leading first harmful event was collision with another motor vehicle.
- For total motorcycle crashes, overturn/rollover (11.4%) and fell/jumped from vehicle (5.5%) were the next highest first harmful events.
- For fatal crashes, fell/jumped from vehicle (15.6%), collision with animal (9.4%), and collision with concrete/cable barrier (6.3%) were the next highest first harmful events.

### Motorcycle Crashes by Collision Description (Utah 2007)

Motorcycle Crashes (Two or More Motor Vehicles)								
Collision Description	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Broadside	36	25.5%	257	50.2%	9	47.4%	302	44.9%
Rear End	65	46.1%	125	24.4%	5	26.3%	195	29.0%
Sideswipe	13	9.2%	54	10.5%	1	5.3%	68	10.1%
Parked Vehicle	17	12.1%	16	3.1%	0	0.0%	33	4.9%
Head On	0	0.0%	19	3.7%	4	21.1%	23	3.4%
Backing Vehicle	0	0.0%	2	0.4%	0	0.0%	2	0.3%
Unknown	10	7.1%	39	7.6%	0	0.0%	49	7.3%
<b>Total</b>	<b>141</b>	<b>100.0%</b>	<b>512</b>	<b>100.0%</b>	<b>19</b>	<b>100.0%</b>	<b>672</b>	<b>100.0%</b>

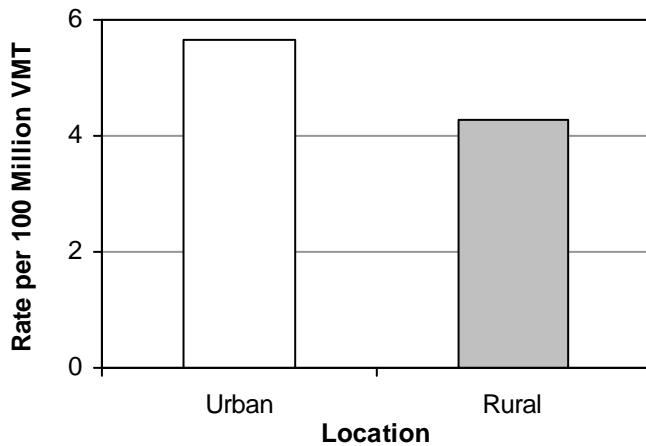
- For all motorcycle crashes, the leading collision types involving two or more motor vehicles were broadside (44.9%) and rear end (29.0%).
- For fatal motorcycle crashes, the leading collision types were broadside (47.4%) and rear end (26.3%).

# Motorcycle Crash Conditions

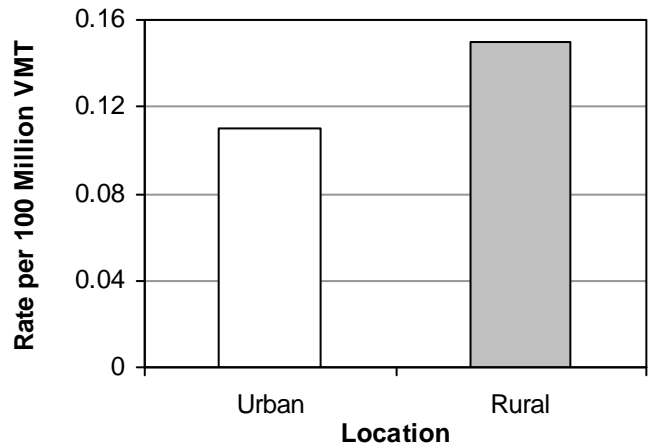
## Urban/Rural Location of Motorcyclists in Crashes (Utah 2007)

Motorcyclists (Driver and Passenger)								
Location	Non-Injured		Injured		Killed		Total	
	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT
	Urban	198	1.19	730	4.37	18	0.11	946
Rural	72	0.71	347	3.42	15	0.15	434	4.28
Total	270	1.01	1,077	4.02	33	0.12	1,380	5.14

### Urban/Rural Motorcyclist Crash Rates per VMT (Utah 2007)



### Urban/Rural Motorcyclist Fatal Rates per VMT (Utah 2007)



- Urban areas had a higher rate of total motorcycle crashes than rural areas, while rural areas had a higher rate of fatal motorcycle crashes than urban areas.

## Speed Limit (Utah 2007)

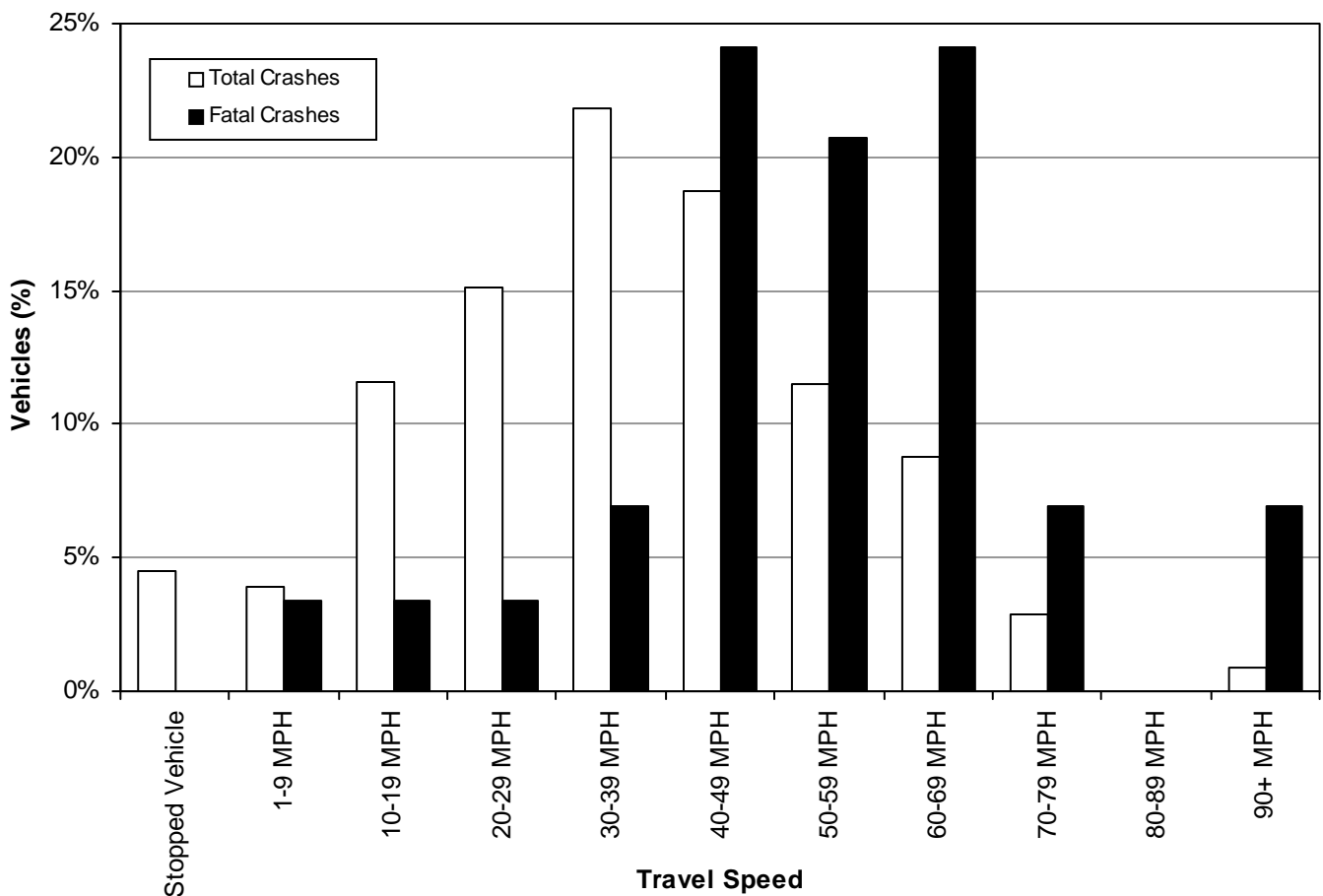
Motorcycles								
Speed Limit	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
5-15 MPH	1	0.5%	7	0.7%	0	0.0%	8	0.6%
20-25 MPH	20	9.9%	132	13.1%	1	2.9%	153	12.3%
30-35 MPH	40	19.8%	260	25.8%	4	11.8%	304	24.4%
40-45 MPH	36	17.8%	233	23.1%	17	50.0%	286	23.0%
50-55 MPH	29	14.4%	113	11.2%	8	23.5%	150	12.0%
60-65 MPH	24	11.9%	107	10.6%	3	8.8%	134	10.8%
70-75 MPH	2	1.0%	14	1.4%	1	2.9%	17	1.4%
Unknown	50	24.8%	143	14.2%	0	0.0%	193	15.5%
Total	202	100.0%	1,009	100.0%	34	100.0%	1,245	100.0%

- Over half (56.1% where speed limit was known) of total motorcycle crashes occurred where the speed limit was 30-45 MPH.
- Nearly three-fourths (73.5%) of fatal motorcycle crashes occurred where the speed limit was 40-55 MPH.

# Motorcycle Crash Conditions

## Travel Speed (Utah 2007)

Motorcycles								
Travel Speed	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Stopped Vehicle	17	8.4%	26	2.6%	0	0.0%	43	3.5%
1-9 MPH	13	6.4%	23	2.3%	1	2.9%	37	3.0%
10-19 MPH	18	8.9%	92	9.1%	1	2.9%	111	8.9%
20-29 MPH	18	8.9%	126	12.5%	1	2.9%	145	11.6%
30-39 MPH	26	12.9%	181	17.9%	2	5.9%	209	16.8%
40-49 MPH	15	7.4%	157	15.6%	7	20.6%	179	14.4%
50-59 MPH	12	5.9%	92	9.1%	6	17.6%	110	8.8%
60-69 MPH	12	5.9%	65	6.4%	7	20.6%	84	6.7%
70-79 MPH	2	1.0%	24	2.4%	2	5.9%	28	2.2%
80-89 MPH	0	0.0%	3	0.3%	0	0.0%	3	0.2%
90+ MPH	1	0.5%	6	0.6%	2	5.9%	9	0.7%
Unknown	68	33.7%	214	21.2%	5	14.7%	287	23.1%
<b>Total</b>	<b>202</b>	<b>100.0%</b>	<b>1,009</b>	<b>100.0%</b>	<b>34</b>	<b>100.0%</b>	<b>1,245</b>	<b>100.0%</b>



- Over half (55.6% where travel speed was known) of motorcycles in total crashes were traveling 20-49 MPH.
- Motorcycles in fatal crashes were more likely to be traveling at higher speeds. Most (82.8% where travel speed was known) of the motorcycles in fatal crashes were traveling 40 MPH or higher.
- The higher the speed the greater the amount of energy that must be absorbed in a crash, hence there is more likelihood of serious injury.

## Motorcycle Crash Conditions

### Motorcycle Maneuver Prior to Crash (Utah 2007)

Motorcycles								
Vehicle Maneuver	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Straight Ahead	116	57.4%	772	76.5%	28	82.4%	916	73.6%
Turning Left	17	8.4%	58	5.7%	1	2.9%	76	6.1%
Slowing in Traffic Lane	10	5.0%	48	4.8%	1	2.9%	59	4.7%
Turning Right	16	7.9%	39	3.9%	1	2.9%	56	4.5%
Stopped in Traffic Lane	17	8.4%	26	2.6%	0	0.0%	43	3.5%
Overtaking/Passing	0	0.0%	22	2.2%	2	5.9%	24	1.9%
Changing Lanes	2	1.0%	15	1.5%	0	0.0%	17	1.4%
Entering Traffic Lane	5	2.5%	10	1.0%	0	0.0%	15	1.2%
Parked	10	5.0%	2	0.2%	0	0.0%	12	1.0%
Making U-turn	2	1.0%	4	0.4%	0	0.0%	6	0.5%
Leaving Traffic Lane	0	0.0%	4	0.4%	0	0.0%	4	0.3%
Backing	1	0.5%	2	0.2%	0	0.0%	3	0.2%
Other	4	2.0%	5	0.5%	1	2.9%	10	0.8%
Unknown	2	1.0%	2	0.2%	0	0.0%	4	0.3%
<b>Total</b>	<b>202</b>	<b>100.0%</b>	<b>1009</b>	<b>100.0%</b>	<b>34</b>	<b>100.0%</b>	<b>1,245</b>	<b>100.0%</b>

- For all motorcycle crashes, the leading motorcycle maneuvers prior to the crash were straight ahead (73.6%), turning left (6.1%), and turning right (4.5%).
- For fatal crashes, the leading motorcycle maneuver prior to the crash was straight ahead (82.4%).

### Maneuver of Other Vehicle Prior to Motorcycle Crash (Utah 2007)

Vehicles Other than Motorcycles (Motorcycle Crash)								
Vehicle Maneuver	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Straight Ahead	60	39.5%	160	30.1%	12	60.0%	232	33.0%
Turning Left	27	17.8%	169	31.8%	6	30.0%	202	28.7%
Stopped in Traffic Lane	11	7.2%	51	9.6%	0	0.0%	62	8.8%
Slowing in Traffic Lane	16	10.5%	32	6.0%	1	5.0%	49	7.0%
Turning Right	10	6.6%	33	6.2%	0	0.0%	43	6.1%
Parked	9	5.9%	17	3.2%	0	0.0%	26	3.7%
Making U-turn	3	2.0%	22	4.1%	0	0.0%	25	3.6%
Changing Lanes	1	0.7%	20	3.8%	1	5.0%	22	3.1%
Entering Traffic Lane	3	2.0%	15	2.8%	0	0.0%	18	2.6%
Backing	8	5.3%	3	0.6%	0	0.0%	11	1.6%
Overtaking/Passing	2	1.3%	6	1.1%	0	0.0%	8	1.1%
Leaving Traffic Lane	1	0.7%	1	0.2%	0	0.0%	2	0.3%
Other	1	0.7%	2	0.4%	0	0.0%	3	0.4%
Unknown	0	0.0%	1	0.2%	0	0.0%	1	0.1%
<b>Total</b>	<b>152</b>	<b>100.0%</b>	<b>532</b>	<b>100.0%</b>	<b>20</b>	<b>100.0%</b>	<b>704</b>	<b>100.0%</b>

- For all motorcycle crashes, the leading maneuvers of vehicles other than motorcycles prior to the crash were straight ahead (33.0%), turning left (28.7%), and stopped in traffic lane (8.8%).
- For fatal motorcycle crashes, the leading maneuvers of vehicles other than motorcycles prior to the crash were straight ahead (60.0%) and turning left (30.0%).

## Motorcycle Crash Conditions

### Contributing Factors of Drivers Other than Motorcyclists in Motorcycle Crashes (Utah 2007)

Drivers/Vehicles Other than Motorcycles (Motorcycle Crash)								
Contributing Factors	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Failed to Yield Right of Way	21	14.6%	198	37.4%	5	26.3%	224	32.3%
Improper Turn	12	8.3%	56	10.6%	2	10.5%	70	10.1%
Followed Too Closely	25	17.4%	30	5.7%	1	5.3%	56	8.1%
Driver Distraction	13	9.0%	31	5.8%	0	0.0%	44	6.3%
Other Improper Driving	11	7.6%	30	5.7%	0	0.0%	41	5.9%
Improper Lane Change	3	2.1%	25	4.7%	1	5.3%	29	4.2%
Vision Obscured by Moving Vehicle	3	2.1%	18	3.4%	0	0.0%	21	3.0%
Failed to Keep in Proper Lane	5	3.5%	15	2.8%	0	0.0%	20	2.9%
Defective Condition of Vehicle	9	6.3%	8	1.5%	0	0.0%	17	2.5%
Hit and Run	3	2.1%	13	2.5%	1	5.3%	17	2.5%
Speed Too Fast	5	3.5%	11	2.1%	0	0.0%	16	2.3%
Driving Under the Influence	5	3.5%	7	1.3%	2	10.5%	14	2.0%
Disregard Traffic Signal/Sign	1	0.7%	10	1.9%	2	10.5%	13	1.9%
Vision Obscured by Glare	2	1.4%	11	2.1%	0	0.0%	13	1.9%
Improper Backing	6	4.2%	4	0.8%	0	0.0%	10	1.4%
Driver Emotionally Upset	4	2.8%	5	0.9%	0	0.0%	9	1.3%
Vision Obscured by Other	1	0.7%	8	1.5%	0	0.0%	9	1.3%
Vision Obscured by Parked Vehicle	1	0.7%	8	1.5%	0	0.0%	9	1.3%
Improper Parking/Stopping	4	2.8%	3	0.6%	0	0.0%	7	1.0%
Other Driver Condition	3	2.1%	4	0.8%	0	0.0%	7	1.0%
Swerved or Evasive Action	0	0.0%	7	1.3%	0	0.0%	7	1.0%
Reckless/Aggressive Driving	3	2.1%	0	0.0%	3	15.8%	6	0.9%
Vision Obscured by Building, Sign, etc.	1	0.7%	3	0.6%	0	0.0%	4	0.6%
Asleep/Fatigue	0	0.0%	3	0.6%	0	0.0%	3	0.4%
Disregard Road Markings	0	0.0%	3	0.6%	0	0.0%	3	0.4%
Improper Signal	0	0.0%	3	0.6%	0	0.0%	3	0.4%
Ran Off Road	0	0.0%	3	0.6%	0	0.0%	3	0.4%
Vision Obscured by Vegetation	0	0.0%	3	0.6%	0	0.0%	3	0.4%
Vision Obscured by Weather Condition	0	0.0%	3	0.6%	0	0.0%	3	0.4%
Windshield or Other Window Obscured	1	0.7%	2	0.4%	0	0.0%	3	0.4%
Wrong Side/Wrong Way	0	0.0%	1	0.2%	2	10.5%	3	0.4%
Driver Illness	1	0.7%	1	0.2%	0	0.0%	2	0.3%
Improper Passing	1	0.7%	1	0.2%	0	0.0%	2	0.3%
Overcorrected	0	0.0%	2	0.4%	0	0.0%	2	0.3%
<b>Total</b>	<b>144</b>	<b>100.0%</b>	<b>530</b>	<b>100.0%</b>	<b>19</b>	<b>100.0%</b>	<b>693</b>	<b>100.0%</b>

- Failed to yield right of way (32.3%), improper turn (10.1%), and followed too closely (8.1%) were the leading contributing factors for drivers other than motorcyclists in all motorcycle crashes.
- The leading contributing factors of drivers other than motorcyclists in fatal motorcycle crashes were failed to yield right of way (26.3%) and reckless/aggressive driving (15.8%).

## Motorcycle Crash Conditions

### Motorcycle Crash Violations (Utah 2007)

<b>Motorcycle Drivers</b>								
<b>Violations</b>	<b>PDO Crashes</b>		<b>Injury Crashes</b>		<b>Fatal Crashes</b>		<b>Total</b>	
	<b>#</b>	<b>%</b>	<b>#</b>	<b>%</b>	<b>#</b>	<b>%</b>	<b>#</b>	<b>%</b>
Improper Lane Change/Travel	6	40.0%	15	20.5%	0	0.0%	<b>21</b>	<b>23.9%</b>
Following Too Close	3	20.0%	11	15.1%	0	0.0%	<b>14</b>	<b>15.9%</b>
Driving Under the Influence	2	13.3%	6	8.2%	0	0.0%	<b>8</b>	<b>9.1%</b>
Speed	1	6.7%	7	9.6%	0	0.0%	<b>8</b>	<b>9.1%</b>
Insurance Violation	1	6.7%	6	8.2%	0	0.0%	<b>7</b>	<b>8.0%</b>
License Violation	0	0.0%	7	9.6%	0	0.0%	<b>7</b>	<b>8.0%</b>
Registration Violation	0	0.0%	5	6.8%	0	0.0%	<b>5</b>	<b>5.7%</b>
Negligent Collision	0	0.0%	3	4.1%	0	0.0%	<b>3</b>	<b>3.4%</b>
Reckless Driving	0	0.0%	3	4.1%	0	0.0%	<b>3</b>	<b>3.4%</b>
Hit and Run	0	0.0%	2	2.7%	0	0.0%	<b>2</b>	<b>2.3%</b>
Improper Lookout	0	0.0%	2	2.7%	0	0.0%	<b>2</b>	<b>2.3%</b>
Improper Turn	1	6.7%	1	1.4%	0	0.0%	<b>2</b>	<b>2.3%</b>
Equipment Violation	0	0.0%	1	1.4%	0	0.0%	<b>1</b>	<b>1.1%</b>
Failure to Stop at Stop Sign	1	6.7%	0	0.0%	0	0.0%	<b>1</b>	<b>1.1%</b>
Improper Passing	0	0.0%	1	1.4%	0	0.0%	<b>1</b>	<b>1.1%</b>
Improper Start or Stop	0	0.0%	1	1.4%	0	0.0%	<b>1</b>	<b>1.1%</b>
Wrong Side of Road	0	0.0%	1	1.4%	0	0.0%	<b>1</b>	<b>1.1%</b>
Other Moving Violation	0	0.0%	1	1.4%	0	0.0%	<b>1</b>	<b>1.1%</b>
<b>Total</b>	<b>15</b>	<b>100.0%</b>	<b>73</b>	<b>100.0%</b>	<b>0</b>	<b>0.0%</b>	<b>88</b>	<b>100.0%</b>

- There were 88 citations issued at the scene of the crash to motorcyclists. The most common moving violations were for improper lane change/travel (23.9%), following too close (15.9%), driving under the influence (9.1%), and speed (9.1%).

## Motorcycle Crash Conditions

### Contributing Factors in Motorcycle Crashes (Utah 2007)

Motorcycle Drivers/Vehicles								
Contributing Factors	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Speed Too Fast	21	14.9%	144	15.9%	11	42.3%	176	16.4%
Other Improper Driving	15	10.6%	99	10.9%	0	0.0%	114	10.6%
Followed Too Closely	22	15.6%	83	9.2%	0	0.0%	105	9.8%
Swerved or Evasive Action	5	3.5%	75	8.3%	1	3.8%	81	7.6%
Failed to Keep in Proper Lane	9	6.4%	63	7.0%	1	3.8%	73	6.8%
Ran Off Road	6	4.3%	65	7.2%	0	0.0%	71	6.6%
Reckless/Aggressive Driving	4	2.8%	42	4.6%	7	26.9%	53	4.9%
Driving Under the Influence	5	3.5%	40	4.4%	2	7.7%	47	4.4%
Failed to Yield Right of Way	12	8.5%	34	3.8%	1	3.8%	47	4.4%
Driver Distraction	6	4.3%	37	4.1%	0	0.0%	43	4.0%
Overcorrected	2	1.4%	34	3.8%	0	0.0%	36	3.4%
Vehicle Other Defective Condition	3	2.1%	27	3.0%	0	0.0%	30	2.8%
Vision Obscured by Moving Vehicle	4	2.8%	14	1.5%	0	0.0%	18	1.7%
Disregard Traffic Signal/Sign	2	1.4%	15	1.7%	0	0.0%	17	1.6%
Vehicle Tires	1	0.7%	15	1.7%	0	0.0%	16	1.5%
Improper Lane Change	3	2.1%	12	1.3%	0	0.0%	15	1.4%
Vision Obscured by Other	1	0.7%	14	1.5%	0	0.0%	15	1.4%
Improper Passing	0	0.0%	12	1.3%	2	7.7%	14	1.3%
Other Driver Condition	2	1.4%	12	1.3%	0	0.0%	14	1.3%
Improper Turn	4	2.8%	9	1.0%	0	0.0%	13	1.2%
Vision Obscured by Weather Condition	2	1.4%	9	1.0%	0	0.0%	11	1.0%
Vehicle Brakes	2	1.4%	7	0.8%	0	0.0%	9	0.8%
Hit and Run	2	1.4%	6	0.7%	0	0.0%	8	0.7%
Improper Parking/Stopping	1	0.7%	7	0.8%	0	0.0%	8	0.7%
Vision Obscured by Glare	0	0.0%	7	0.8%	0	0.0%	7	0.7%
Driver Emotionally Upset	2	1.4%	4	0.4%	0	0.0%	6	0.6%
Disregard Road Markings	0	0.0%	5	0.6%	0	0.0%	5	0.5%
Vision Obscured by Building, Sign, etc.	1	0.7%	4	0.4%	0	0.0%	5	0.5%
Vision Obscured by Parked Vehicle	1	0.7%	3	0.3%	0	0.0%	4	0.4%
Wrong Side/Wrong Way	1	0.7%	2	0.2%	1	3.8%	4	0.4%
Asleep/Fatigue	1	0.7%	1	0.1%	0	0.0%	2	0.2%
Improper Backing	1	0.7%	1	0.1%	0	0.0%	2	0.2%
Vision Obscured by Vegetation	0	0.0%	2	0.2%	0	0.0%	2	0.2%
Driver Illness	0	0.0%	1	0.1%	0	0.0%	1	0.1%
<b>Total</b>	<b>141</b>	<b>100.0%</b>	<b>905</b>	<b>100.0%</b>	<b>26</b>	<b>100.0%</b>	<b>1,072</b>	<b>100.0%</b>

- Speed too fast (16.4%), followed too closely (9.8%), and swerved or evasive action (7.6%) were the leading contributing factors for all motorcycle crashes.
- The leading contributing factors for fatal crashes were speed too fast (42.3%) and reckless/aggressive driving (26.9%).