



2007-2009 Crashes Involving Motorcyclists with KAB Injuries

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Definitions

A **motorcycle operator** is the person in control of the motorcycle.

Passenger is any person seated on the motorcycle but not in control of the motorcycle.

Motorcyclist(s) refers to any combined reference to the motorcycle operator as well as the passenger.

Injury includes incapacitating injury and non-incapacitating injury.

KAB – “K” represent fatalities; “A” represents incapacitating injury; and “B” represents non-incapacitating injury.

Motorcycle Fatal Crashes & Fatalities Three-Year Trend				
	2007	2008	2009	Total
Motorcyclist Fatalities	74	87	105	266
Total Fatalities	770	751	737	2,258
Motorcyclist Fatalities as Percentage of Total Fatalities	9.6%	11.6%	14.2%	11.8%
Motorcycle Fatal Crashes	70	85	102	257
Total Fatal Crashes	653	673	646	1927
Motorcycle Fatal Crashes as Percentage of Total Fatal Crashes	10.7%	12.6%	15.8%	13.3%

Motorcyclist KAB Injury Crashes Motorcycle and One Other Vehicle Involved Demographics					
Rates per 100 Million Vehicle Miles Traveled					
Year	Motorcycle VMT	Motorcyclist Fatalities	Motorcyclists Injured	Fatality Rate	Injury Rate
2007	200,446,408	74	1045	36.92	521.34
2008	199,920,778	87	1240	43.52	620.25
2009	200,563,635	105	1011	52.35	504.08
Rates per 10,000 Motorcycle Registrations					
Year	Motorcycle Registrations	Motorcyclist Fatalities	Motorcyclists Injured	Fatality Rate	Injury Rate
2007	100,974	74	1045	7.33	103.49
2008	115,381	87	1240	7.54	107.47
2009	123,906	105	1011	8.47	81.59
Rates per 10,000 Motorcycle Endorsements					
Year	Motorcycle Endorsements	Motorcyclist Fatalities	Motorcyclists Injured	Fatality Rate	Injury Rate
2007	181,488	74	1045	4.08	57.58
2008	191,789	87	1240	4.54	64.65
2009	199,075	105	1011	5.27	50.78

Motorcyclist Fatalities & Injuries

From 2007-2009, there were 242 motorcycle operators and 24 motorcycle passengers killed in crashes for a total of 266 fatalities. There were 2,910 operators and 395 motorcycle passengers injured.

Of the 242 motorcycle operators killed, 24.8% were age 46-55, 20.2% were age 26-35 and 18.2% were age 16-25.

Of the 2,910 motorcycle operators injured, 22.9% were age 16-25, 21.3% were age 46-55 and 20.9% were age 36-45.

In Addition

Crashes involving motorcyclists with KAB injuries also involved five bicyclists, four pedestrians, one train, 47 parked vehicles and 145 animals.

One bicyclist, four pedestrians and three persons inside parked vehicles were injured.

Motorcyclists Killed or Injured (2007-2009) By Motorcyclist Injury Severity & Person Type			
Injury Severity	Operator	Passenger	Total
Fatal	242	24	266
Incapacitating	1138	151	1289
Non-incapacitating	1772	235	2007
Total	3152	419	3562

Motorcyclists Killed or Injured (2007-2009) By Make of Motorcycle & Motorcyclist Injury Severity				
Make of Motorcycle	Motorcyclist Injury Severity			Total
	Fatal	Incapacitating	Non-incapacitating	
Harley	89	433	618	1140
Honda	54	268	449	771
Suzuki	37	156	264	457
Yamaha	35	179	276	490
Kawasaki	35	147	239	421
Other	16	106	161	283
Total	266	1289	2007	3562
Total	266	3296		3562

Motorcycle Operators Killed or Injured In Crashes (2007-2009)				
Operator Age	Operators Killed	% of Operators Killed	Operators Injured	% of Operators Injured
Not Stated			7	.2%
Under 16	2	0.8%	51	1.8%
16 - 25	44	18.2%	665	22.9%
26 - 35	49	20.2%	589	20.2%
36 - 45	41	16.9%	607	20.9%
46 - 55	60	24.8%	621	21.3%
56 - 65	39	16.1%	320	11.0%
66 - 75	6	2.5%	38	1.3%
76+	1	0.4%	12	0.4%
Total	242	100.0%	2910	100.0%

Motorcyclist Operators Killed or Injured In Crashes (2007-2009)							
Operator Age	Make of Motorcycle						Total
	Harley	Honda	Kawasaki	Other	Suzuki	Yamaha	
Unknown	2	1		3	1		7
Under 16		12	22	9	3	7	53
16 - 25	51	177	129	54	151	147	709
26 - 35	145	149	86	67	110	81	638
36 - 45	250	111	72	47	79	89	648
46 - 55	315	146	50	44	46	80	681
56 - 65	160	84	31	33	24	27	359
66 - 75	22	11	2	4	1	4	44
76+	4	2		3	2	2	13
Total	949	693	392	264	417	437	3152

Motorcycle Operators Killed or Injured in Crashes (2007-2009)				
Operator Age	Motorcycle Make	Operator Injury Severity		Total
		Fatal	Injured	
Not Stated	Harley		2	2
	Honda		1	1
	Other		3	3
	Suzuki		1	1
	Total		7	7
Under 16	Honda		12	12
	Kawasaki	2	20	22
	Other		9	9
	Suzuki		3	3
	Yamaha		7	7
Total	2	51	53	
16 - 25	Harley		51	51
	Honda	14	163	177
	Kawasaki	8	121	129
	Other	5	49	54
	Suzuki	13	138	151
	Yamaha	4	143	147
	Total	44	665	709
26 - 35	Harley	15	130	145
	Honda	12	137	149
	Kawasaki	5	81	86
	Other	1	66	67
	Suzuki	7	103	110
	Yamaha	9	72	81
Total	49	589	638	
36 - 45	Harley	13	237	250
	Honda	5	106	111
	Kawasaki	6	66	72
	Other	3	44	47
	Suzuki	6	73	79
	Yamaha	8	81	89
	Total	41	607	648
46 - 55	Harley	25	290	315
	Honda	13	133	146
	Kawasaki	10	40	50
	Other	3	41	44
	Suzuki	4	42	46
	Yamaha	5	75	80
Total	60	621	681	
56 - 65	Harley	21	139	160
	Honda	5	79	84
	Kawasaki	3	28	31
	Other	3	30	33
	Suzuki	4	20	24
	Yamaha	3	24	27
	Total	39	320	359
66 - 75	Harley	4	18	22
	Honda		11	11
	Kawasaki		2	2
	Other	1	3	4
	Suzuki		1	1
	Yamaha	1	3	4
Total	6	38	44	
76+	Harley		4	4
	Honda		2	2
	Other		3	3
	Suzuki	1	1	2
	Yamaha		2	2
Total	1	12	13	
Total		242	2910	3152

Contributing Factors

The table below shows contributing factors of motorcycle operators and other drivers involved in crashes where a motorcyclist received a KAB injury. The primary contributing factors for motorcycle operators were: (1) Unsafe Speed, (2) Other Improper Act Movement and (3) Inattention. The primary contributing factors for other drivers were: (1) Failed to Yield, (2) Improper Turn and (3) Other Improper Act/Movement.

Contributing Factors (2007-2009) In Crashes Involving Motorcyclists with KAB Injuries				
Contributing Factor	Motorcycle Operator	Other Driver	Other Driver Hit & Run	Total
Changed Lanes Unsafely	22	60	4	86
Failed To Stop	27	16	2	45
Failed To Yield	75	439	1	515
Followed Too Closely	115	36		151
Improper Overtaking	36	7	1	44
Improper Parking	1	1		2
Improper Start	5	1		6
Improper Turn	31	152	3	186
Inattention	179	58		237
Left of Center	32	26	1	59
No Improper Action by Driver	1296	498		1794
Other Improper Act/Movement	280	69	2	351
Stopped in Traffic Lane	2	2	1	5
Unsafe Speed	926	31	1	958
Unsafe Vehicle	62	14		76
Wrong Way	4	1		5
DUI-Alcohol	169	11		180
DUI-Drugs	10	4		14
Drugs DUI	10	4		14
Total	3272	1426	16	4714
Note: 3,152 motorcycle operators received KAB injuries. An additional 120 motorcycle operators were involved in these crashes with other types of injuries or no injuries.				

 From 2007-2009, there were a total of 3,181 crashes involving a motorcyclist with a KAB injury

 Of these 3,181 crashes involving a motorcyclist with a KAB injury

 Day of Week

- 22.0% occurred on Saturday
- 16.3% occurred on Friday
- 16.2% occurred on Sunday

 Lighting

- 67.8% occurred during daylight
- 15.3% occurred in the dark in an unlighted area
- 11.9% occurred in the dark in a lighted area

 Locality

- 37.3% occurred in a business locality
- 37.1% occurred in an area not built up

 64.9% occurred in clear weather and 31.8% in cloudy weather

 2.4% occurred in a work zone

 58.0% occurred between 12:00 Noon and 7:59 p.m.

 61.9% occurred between May and September

 Number of vehicles involved

- 54.2% involved a motorcycle only
- 43.0% involved a motorcycle and one other vehicle
- 2.8% involved a motorcycle and two or more other vehicles

 Manner of collision

- 12.7% were rear end (front-to-end) collisions
- 11.5% were front-to-side right angle (includes broadside) collisions
- 4.8% were head-on (front-to-front)

 Highway class

- 38.9% city streets
- 13.9% county roads
- 11.9% interstate highways

 66.3% occurred on a two-way undivided roadway

 30.3% were intersection related

 Motorcycle operators involved in crashes where at least one motorcyclist received a KAB injury

 3,272 motorcycle operators involved

 Operator primary contributing factors

- 35.2% were no improper action
- 28.3% were traveling at an unsafe speed
- 5.5% were inattentive

- 3.5% were following too closely
- 13.0% had an alcohol-related driver condition
- 94.6% were male
- 48.3% were not wearing a helmet
- 242 operators were killed
 - 59.9% of the operators killed were not wearing a helmet
- Traffic control device
 - 69.2% had no traffic control device
 - 15.5% were in a no passing zone
 - 7.2% were at a traffic control signal
- Number of riders
 - 84.8% operator only
 - 15.5% operator and one passenger
- 74.6% were on a straight road
- 73.9% were on a level grade road
- 94.0% were on a dry road surface
- Roadway surface
 - 76.3% on an asphalt road
 - 21.8% on a concrete road
- Point of first contact on the motorcycle
 - 37.1% center front (clock position 12)
 - 15.5% left-side center (clock position 9)
 - 12.9% right front (clock position 3)
- What motorcycle did
 - 43.0% went ahead
 - 16.6% departed roadway-right
 - 8.5% departed roadway-left



Motorcycle operators that went ahead

- 1 A section of the collision report called “What Vehicle Did” requires the officer completing the report to choose a description that best describes what the vehicle did at the time of the collision
- 43.0% (1,407) of the motorcycle operators involved went ahead
- Number of vehicles involved
 - 65.2% involved the motorcycle and one other vehicle
 - 30.8% involved only the motorcycle
 - 3.9% involved the motorcycle and three or more vehicles
- Motorcycle operators contributing factors
 - 54.6% made an improper act/movement

- 16.1% were traveling at an unsafe speed
- 5.3% followed too closely
- 5.0% were inattentive
- Operator age
 - 25.4% were age 16-25
 - 21.5% were age 46-55
 - 20.4% were age 36-45
 - 19.6% were age 26-35
- Day of week
 - 22.0% on Saturday
 - 17.2% on Saturday
 - 14.2% on Sunday
 - 14.2% on Thursday
- 2.9% were distracted (not by electronic device)
- 47.0% were not wearing a helmet
- 7.0% (98) of the motorcycle operators were killed
 - 61.2% of the motorcycle operators killed were not wearing a helmet
- 9.3% had an alcohol-related driver condition
- 96.0% were male
- Traffic control device
 - 75.6% no control
 - 8.3% traffic control signal
 - 7.8% no passing zone
 - 4.3% stop sign
- Number of riders
 - 85.6% operator only
 - 14.1% operator and one passenger
- Horizontal alignment of roadway
 - 90.6% were straight
 - 4.7% curved left
 - 4.6% curved right
- Road grade
 - 79.5% were level
 - 10.1% were downhill
 - 6.5% were uphill
 - 3.3% were hillcrest
- 95.4% occurred on a dry road

- 76.2% were on asphalt and 22.5% were on concrete
- 68.6% were on a two-way undivided roadway
- 18.2% were on a two-way divided roadway
- Point of first contact on motorcycle
 - 52.1% center front (clock position 12)
 - 10.5% left-side center (clock position 9)
 - 9.0% right-side center (clock position 3)

Motorcycle operators that departed the roadway-right

- A section of the collision report called “What Vehicle Did” requires the officer completing the report to choose a description that best describes what the vehicle did at the time of the collision
- 16.6% (544) of the motorcycle operators involved departed the roadway-right
- 95.5% involved only one vehicle, the motorcycle
- Motorcycle operators contributing factors
 - 59.2% were traveling at an unsafe speed
 - 9.7% were inattentive
 - 9.7% made an improper act/movement
- Operator age
 - 24.1% were age 46-55
 - 21.7% were age 26-35
 - 20.4% were age 36-45
- 49.6% occurred on Saturday and Sunday
- 4.7% were distracted (not by electronic device)
- 52.8% were not wearing a helmet
- 12.3% (67) were killed
 - 65.7% were not wearing a helmet
- 21.1% had an alcohol-related driver condition
- 93.4% were male
- 56.4% had no traffic control device
- 37.1% were in a no passing zone
- 82.7% were the only rider on the motorcycle
- 17.3% were ridden by the operator and one passenger
- Horizontal alignment of roadway
 - 57.5% curved left
 - 37.3% were straight
 - 5.1% curved right
- Road grade
 - 64.9% were level

- 22.8% were downhill
- 10.5% were uphill
- 95.6% occurred on a dry road
- 87.1% were on asphalt and 11.4% were on concrete
- 76.7% were on a two-way undivided roadway
- 10.7% were on a two-way divided roadway
- Point of first contact on motorcycle
 - 25.9% center front (clock position 12)
 - 24.8% left-side center (clock position 9)
 - 16.7% right-side center (clock position 3)

Drivers of other vehicles in crashes involving a motorcyclist with a KAB injury

- There were a total of 1,426 drivers of other vehicles
- Driver primary contributing factors were
 - 34.5% made no improper action
 - 30.8% failure to yield
 - 10.7% improper turn
 - 4.8% other improper act/movement
- 6.8% had an alcohol-related driver condition
- 53.6% were male
- Driver distraction
 - 1.5% electronic device
 - 3.4% other inside or outside the vehicle
- Driver age
 - 26.2% age 15-25
 - 19.4% age 26-35
 - 15.5% age 36-45
- 88.8% were using restraints
- 4.7% of the drivers were injured and there were no driver fatalities
- Traffic control device
 - 57.4% had no traffic control device
 - 17.5% were at a stop sign
 - 12.6% had a traffic control signal
- Number of occupants in vehicles
 - 65.3% were occupied by the driver only
 - 20.8% were occupied by the driver and one passenger
 - 7.7% were occupied by the driver and two passengers
 - 4.9% were occupied by the driver and three or more passengers

- 94.0% were on a straight road
- Road grade
 - 81.3% level
 - 8.5% downhill
 - 7.2% uphill
- 95.9% were on a dry road
- Road surface type
 - 75.7% asphalt
 - 23.5% concrete
- 67.0% were on a two-way undivided road and 16.3% were on a divided two-way road
- Vehicle configuration
 - 40.1% 4-door passenger vehicle
 - 23.2% pickup truck
 - 14.1% SUV
 - 9.9% 2-door passenger vehicle
 - 6.1% passenger van
- Point of first contact on the vehicle
 - 21.7% center front (clock position 12)
 - 14.9% center rear (clock position 6)
 - 9.4% left front (clock position 11)
 - 7.2% right front (clock position 1)
- What vehicle did
 - 31.4% turned left
 - 30.6% went ahead
 - 7.3% stopped
 - 4.7% slowed



Drivers of other vehicles that turned left

- A section of the collision report called “What Vehicle Did” requires the officer completing the report to choose a description that best describes what the vehicle did at the time of the collision
- 31.4% (448) of drivers of other vehicles that turned left
- Driver primary contributing factors
 - 50.7% failed to yield
 - 27.2% made an improper turn
 - 15.2% made no improper action
- Driver age
 - 27.5% age 16-25
 - 16.7% age 26-35

- 14.7% age 36-45
- 14.3% age 46-55
- Day of Week
 - 16.7% on Friday
 - 16.1% on Monday
 - 16.1% on Saturday
- 6.3% of drivers had an alcohol-related driver condition
- 51.8% of the drivers were male
- 90.0% of drivers were restrained
- Traffic control device
 - 54.9% had no traffic control device
 - 19.9% were at a stop sign
 - 14.5% were at a traffic control signal
 - 8.3% were in a no passing zone
- Number of occupants
 - 70.0% of the vehicles were occupied by the driver only
 - 17.0% of the vehicles were occupied by the driver and one passenger
 - 7.4% of the vehicles were occupied by the driver and two passengers
 - 3.5% of the vehicles were occupied by the driver and three or more passengers
- 97.8% were on a straight road
- 83.7% were on a level roads
- 96.7% were on a dry road
- 76.3% were on asphalt
- 77.2% were on a two-way undivided road and 12.7% were on a two-way divided road
- Vehicle configuration
 - 44.4% 4-door passenger vehicle
 - 24.6% pickup trucks
 - 12.9% SUV
 - 9.6% 2-door passenger vehicle
- Point of first contact on vehicle
 - 19.2% center front (clock position 12)
 - 11.4% front left (clock position 11)
 - 9.8% right-side rear (clock position 4)
 - 9.2% right-side center (clock position 3)



Drivers of other vehicles that went ahead

- A section of the collision report called “What Vehicle Did” requires the officer completing the report to choose a description that best describes what the vehicle did at the time of the collision

- 30.6% (436) drivers of other vehicles went ahead
- Driver primary contributing factors
 - 39.2% made no improper action
 - 28.0% failed to yield
 - 8.9% were inattentive
 - 5.3% followed too closely
 - 5.3% were other improper act/movement
- Driver age
 - 25.2% age 16-25
 - 21.1% age 26-35
 - 15.8% age 36-45
 - 14.0% age 46-55
- Day of Week
 - 18.3% Saturday
 - 17.7% Friday
 - 15.6% Sunday
- 9.9% of drivers had an alcohol-related driver condition
- 54.6% of the drivers were male
- 88.3% of drivers were restrained
- Traffic control device
 - 54.8% had no traffic control device
 - 22.0% were at a stop sign
 - 11.7% were at a traffic control signal
 - 6.2% were in a no passing zone
- Number of occupants
 - 65.6% of the vehicles were occupied by the driver only
 - 21.3% of the vehicles were occupied by the driver and one passenger
 - 7.3% of the vehicles were occupied by the driver and two passengers
 - 4.5% of the vehicles were occupied by the driver and three or more passengers
- Number of Vehicles
 - 85.6% involved two vehicles
 - 13.7% involved three vehicles or more
- 93.3% were on a straight road
- 82.1% were on a level roads
- 97.2% were on a dry road
- 76.1% were on asphalt
- Trafficway

- 63.3% were on a two-way undivided road
- 17.0% were on a two-way divided road
- 13.5% were on a two-way divided road with positive median barrier
- Vehicle configuration
 - 34.4% 4-door passenger vehicle
 - 25.2% pickup trucks
 - 14.4% SUV
 - 11.9% 2-door passenger vehicle
 - 7.1% passenger van
- Point of first contact on vehicle
 - 36.9% center front (clock position 12)
 - 8.7% front right (clock position 1)
 - 6.9% center rear (clock position 6)
 - 6.7% left-side center (clock position 9)