

# Traffic Safety Facts

## Research Note



DOT HS 810 948

May 2008

## Characteristics of Unrestrained Passenger Vehicle Occupant Fatalities 16 and Older in Motor Vehicle Traffic Crashes by Time Of Day

### Summary

In 2006, 42,642 people died on the Nation's highways. Of these fatalities 30,521 (72%) were passenger vehicles occupants of all ages, and 28,911 (68%) were occupants 16 and older. This Research Note looked at those 2006 fatalities 16 and older to identify characteristics of those who were unrestrained. Specifically:

- Fifty-five percent of fatalities 16 and older were unrestrained, a reduction of 4 percentage points (from 59%) from 2002.
- The number and percentage of unrestrained fatalities was much higher during nighttime. Sixty-four percent of fatalities at night were unrestrained, compared to 46 percent during the day.
- The nighttime period with the highest percentage of unrestrained fatalities was midnight to 3 a.m. (71%).
- Younger driver and passenger fatalities were unrestrained at high rates, especially at night. Almost 70 percent of occupant fatalities in the 16 to 20 (68%), 21 to 24 (68%), and 25 to 34 (69%) age cohorts were unrestrained during nighttime.
- Males had higher percentages of unrestrained fatalities than females. About 70 percent of male nighttime fatalities were unrestrained.
- Pickup truck occupants had the highest percentages of unrestrained fatalities. More than three-fourths of the pickup truck occupants fatally injured during nighttime were unrestrained.

### 1. Background

Table 1 shows the restraint use of passenger vehicle occupant fatalities 16 and older, in motor vehicle traffic crashes for the years 2002 to 2006 (latest data available). The data shows that the number and proportion of passenger vehicle occupants killed who were unrestrained has decreased slightly, from 18,269 (59%) in 2002 to 16,037 (55%) in 2006.

Research has found that when used, lap/shoulder seat belts reduce the risk of fatal injury to front-seat passenger car occupants by 45 percent and the risk of moderate-to-critical injury by 50 percent. For light-truck occupants, seat belts reduce the risk of fatal injury by 60 percent and moderate-to-critical injury by 65 percent.<sup>1</sup> Since seat belt use enhances a person's likelihood of surviving a potentially fatal crash, promoting the use of seat belts at all times by passenger vehicle occupants is one of National Highway Traffic Safety Administration's primary occupant protection priorities. Thus, this Research Note looks at proportions of passenger vehicle occupant fatalities who were unrestrained to identify who, when, and in what type of vehicles passenger vehicle occupant fatalities were most likely to be unrestrained. Identification of these groups will aid in developing occupant protection programs and enforcing occupant protection laws.

The data used in the report are from NHTSA's Fatality Analysis Reporting System (FARS), which annually collects data on fatal crashes from the 50 States, the District of Columbia, and Puerto Rico. FARS data is made available by NHTSA's National Center for Statistics and Analysis (NCSA).

**Table 1: Passenger Vehicle Occupant Fatalities 16 and Older in Motor Vehicle Traffic Crashes by Year and Restraint Use**

Year	Restrained		Unrestrained		Total	
	Number	Percent	Number	Percent	Number	Percent
2002	12,719	41	18,269	59	30,988	100
2003	13,260	44	17,160	56	30,420	100
2004	13,328	45	16,598	55	29,926	100
2005	13,221	44	16,633	56	29,854	100
2006	12,874	45	16,037	55	28,911	100

Source: NCSA, FARS 2002-2005 (Final), 2006 (Annual Report File)  
Unknown restraint use was distributed proportionally to known categories.

## 2. Data Analysis

The data presented in this Research Note shows restraint use among occupants of passenger vehicles 16 and older who were killed in motor vehicle traffic crashes in 2006. The analysis looks at the following factors: time of day (day/night) the crash occurred; age group and sex of the fatally injured person; and the type of vehicle in which the occupants were riding.

### 2.1 Passenger Vehicle Occupant Fatalities by Time of Day and Restraint Use

Among the passenger vehicle occupants 16 and older killed in 2006, an almost equal number were killed in nighttime crashes as in daytime crashes: 14,390 (50%) and 14,275 (49%),

respectively. The time was unknown for the remaining fatalities (less than 1%). However, the proportion of passenger vehicle occupants killed during nighttime who were unrestrained was much higher than during daytime. During nighttime, 64 percent of the passenger vehicle occupant fatalities in the 16-and-older age group were unrestrained compared to 46 percent during daytime. Table 2 shows passenger vehicle occupant fatalities 16 and older in 2006 by time of day and restraint use. While nearly 50 percent of passenger vehicle occupant fatalities 16 and older in 2006 occurred during nighttime, it is estimated that approximately 25 percent of travel<sup>2</sup> occurs at night. Consequently, the fatality rate per vehicle mile of travel is about three times<sup>3</sup> higher at night than during the day.

**Table 2: Passenger Vehicle Occupant Fatalities 16 and Older in Motor Vehicle Traffic Crashes in 2006 by Time of Day and Restraint Use**

Time of Day	Restrained		Unrestrained		Total	
	Number	Percent	Number	Percent	Number	Percent
Nighttime	5,143	36	9,247	64	14,390	100
Daytime	7,642	54	6,633	46	14,275	100
Unknown	71	29	175	71	246	100
<b>Total</b>	<b>12,874</b>	<b>45</b>	<b>16,037</b>	<b>55</b>	<b>28,911</b>	<b>100</b>

Source: NCSA, FARS 2006 (ARF)

Unknown restraint use was distributed proportionally to known categories.

Because of this higher nighttime fatality rate, the lack of seat belt use by passenger vehicle occupant fatalities at night was examined further. Table 3 shows passenger vehicle occupants 16 and older killed in 2006 by time of day in 3-hour increments. The lack of seat belt use by fatally injured occupants

was highest (71%) during the hours of midnight to 3 a.m. The proportion of unrestrained fatalities was still high, but about the same, for the 3-hour periods before and after: 64 percent from 9 p.m. to midnight and 65 percent from 3 a.m. to 6 a.m.

**Table 3: Passenger Vehicle Occupant Fatalities 16 and Older in Motor Vehicle Traffic Crashes in 2006 by Time of Day and Restraint Use**

Time of Day	Restraint Use				Total	NHTS Percent of Travel	Fatality Rate*
	Restrained		Unrestrained				
	#	%	#	%	#	%	#
6 a.m. to 9 a.m.	1,498	48	1,611	52	3,109	14.2	0.79
9 a.m. to Noon	1,635	56	1,261	44	2,896	17.4	0.60
Noon to 3 p.m.	2,205	57	1,647	43	3,852	21.3	0.65
3 p.m. to 6 p.m.	2,306	52	2,112	48	4,418	24	0.66
6 p.m. to 9 p.m.	1,644	44	2,109	56	3,753	15.7	0.86
9 p.m. to Midnight	1,375	36	2,461	64	3,836	5.2	2.66
Midnight to 3 a.m.	1,179	29	2,937	71	4,116	0.8	18.56
3 a.m. to 6 a.m.	938	35	1,747	65	2,685	1.4	6.92
Unknown	71	29	175	71	246	---	---
<b>Total</b>	<b>12,874</b>	<b>45</b>	<b>16,037</b>	<b>55</b>	<b>28,911</b>	<b>100</b>	<b>1.04</b>

Source: NCSA, FARS 2006 (ARF), 2001 NHTS Daily Trip File

Unknown restraint use was distributed proportionally to known categories.

\* per 100 million VMT

Note that the number of passenger vehicle occupant fatalities in the period midnight to 3 a.m. (4,116) was only slightly lower than the highest number in any of the 3-hour periods: 4,418 from 3 p.m. to 6 p.m. Table 3 also shows travel distribution for these time periods from the 2001 National Household Travel Survey (NHTS) "daily trip file." According to the percent of travel data from the NHTS, there was less than 1 percent (0.8%) of total travel during the hours from midnight to 3 a.m., while 24 percent of travel occurred during the

hours of 3 p.m. to 6 p.m. Using these estimates of percentage of travel and overall passenger vehicle miles of travel (VMT) for 2006 (2,771,684 million VMT), a passenger vehicle fatality rate can be estimated for these time periods. These rates are shown in Table 3.

The overall passenger vehicle fatality rate for all ages per 100 million VMT for 2006 was 1.10 (30,521 passenger vehicle occupant fatalities / 2,771,684 million VMT).

$$\begin{aligned} \text{PV Occupant fatality rate per 100 million VMT} &= \frac{\text{Total Passenger Vehicle Occupants Killed}}{\text{Passenger Vehicle VMT}} \\ &= \frac{30,521}{2,771,684} \times 100 = 1.10 \end{aligned}$$

Taking into consideration passenger vehicle occupants 16 and older killed from midnight to 3 a.m. (4,116) and the percent of travel during the same time period of the day — 0.8 % — the passenger vehicle occupant 16 and older fatality rate can be calculated as below:

$$= \frac{\text{PV occupant fatalities 16 and older}}{\text{Estimated travel during midnight to 3 a.m.}} = \frac{4,116}{0.8\% \times 2,771,684} = \frac{4,116}{22,173} \times 100 = 18.56$$

Similarly, the fatality rate for the time period 3 p.m. to 6 p.m. is estimated to be 0.66.

Consequently, the fatality rate among passenger vehicle occupants 16 and older killed in 2006 from midnight to 3 a.m. is 16.87 times the overall passenger vehicle occupant fatality rate per 100 million vehicle miles of travel in 2006 (18.56 versus 1.10), and 28 times higher than the time period 3 p.m. – 6 p.m. (18.56 versus 0.66), despite the higher number of fatalities.

## 2.2 Passenger Vehicle Occupant Fatalities by Time of Day, Age Group, and Restraint Use

Table 4 shows passenger vehicle occupants 16 and older killed in crashes in 2006 by time of day, age group, and restraint use. Overall, the age groups with the highest proportion of unrestrained passenger vehicle occupant fatalities were 21- to 24-year-olds and 25- to 34-year-olds. Nearly two-thirds of the occupant fatalities in these age groups were unrestrained. While the proportion of fatalities that were unrestrained decreased as the passenger vehicle occupant ages increased, with the lowest percentage of unrestrained seen in the 65-and-older age category, 3 in 5 fatalities in the 35- to 45-year-old age group were unrestrained as were more than half of the

45- to 54-year-olds. Of the passenger vehicle occupants killed during nighttime crashes, almost 70 percent of the occupants in the 16-to-34 age groups were unrestrained as were more than 60 percent of the occupants killed in the 35-to-54 age groups. The proportion of unrestrained was comparatively lower during nighttime among occupants of age groups 55 to 64 and was the lowest among occupants 65 and older. In crashes during daytime hours the proportion of unrestrained fatalities was lower than during nighttime. The proportion of unrestrained fatalities among occupants of age groups 16 to 34, 55 to 64, and 65 and older was lower by 10 percentage points during daytime. The largest drop in unrestrained proportion during daytime was seen in the 35-to-44 and 45-to-54 age groups, by about 15 percentage points.

**Table 4: Passenger Vehicle Occupant Fatalities 16 and Older in Motor Vehicle Traffic Crashes in 2006 by Time of Day, Age Group, and Restraint Use**

Time of Day & Age Group		Restraint Use				Total	
		Restrained		Unrestrained			
		Number	Percent	Number	Percent	Number	Percent
Nighttime	16-20	945	32	1,981	68	2,926	100
	21-24	802	32	1,713	68	2,515	100
	25-34	973	31	2,183	69	3,156	100
	35-44	757	34	1,500	66	2,257	100
	45-54	707	40	1,044	60	1,751	100
	55-64	433	48	469	52	902	100
	65+	521	59	362	41	883	100
	<b>Total</b>	5,143	36	9,247	64	14,390	100
Daytime	16-20	812	43	1,069	57	1,881	100
	21-24	478	42	649	58	1,127	100
	25-34	824	43	1,088	57	1,912	100
	35-44	853	48	936	52	1,789	100
	45-54	1,084	55	904	45	1,988	100
	55-64	1,043	57	777	43	1,820	100
	65+	2,542	68	1,216	32	3,758	100
	<b>Total</b>	7,642	54	6,633	46	14,275	100
Unknown	16-20	10	29	25	71	35	100
	21-24	6	22	23	78	29	100
	25-34	9	15	53	85	62	100
	35-44	13	27	36	73	49	100
	45-54	10	26	28	74	38	100
	55-64	8	53	7	47	15	100
	65+	13	71	5	29	18	100
	<b>Total</b>	71	29	175	71	246	100
Total	16-20	1,768	37	3,074	63	4,842	100
	21-24	1,288	35	2,383	65	3,671	100
	25-34	1,808	35	3,322	65	5,130	100
	35-44	1,624	40	2,471	60	4,095	100
	45-54	1,802	48	1,975	52	3,777	100
	55-64	1,485	54	1,252	46	2,737	100
	65+	3,076	66	1,583	34	4,659	100
	<b>Total</b>	12,874	45	16,037	55	28,911	100

Source: NCSA, FARS 2006 (ARF)

Unknown restraint use was distributed proportionally to known categories.

## 2.3 Passenger Vehicle Occupant Fatalities by Time of Day, Sex, and Restraint Use

In 2006, among passenger vehicle occupants 16 and older killed, 19,126 (66%) were males, 9,771 (34%) were females and the rest (less than half a percent) were of unknown sex (sex not reported). Overall, 61 percent of male occupants killed were unrestrained compared to 46 percent for female fatali-

ties. Table 5 shows passenger vehicle occupants 16 and older killed in crashes in 2006 by time of day, sex, and restraint use. The proportion of unrestrained fatalities during nighttime was higher for both sexes than during daytime: 68 percent for males and 55 percent for females at nighttime compared to 51 percent for males and 39 percent for females during daytime.

**Table 5: Passenger Vehicle Occupant Fatalities 16 and Older in Motor Vehicle Traffic Crashes in 2006 by Time of Day, Sex, and Restraint Use**

Time of Day & Sex		Restraint Use				Total	
		Restrained		Unrestrained			
		Number	Percent	Number	Percent	Number	Percent
Nighttime	Male	3,395	32	7,092	68	10,487	100
	Female	1,744	45	2,153	55	3,897	100
	Unknown	0	0	6	100	6	100
	<b>Total</b>	5,143	36	9,247	64	14,390	100
Daytime	Male	4,099	49	4,344	51	8,443	100
	Female	3,536	61	2,289	39	5,825	100
	Unknown	0	0	7	100	7	100
	<b>Total</b>	7,642	54	6,633	46	14,275	100
Unknown	Male	49	25	147	75	196	100
	Female	20	42	29	58	49	100
	Unknown	1	100	0	0	1	100
	<b>Total</b>	71	29	175	71	246	100
Total	Male	7,553	39	11,573	61	19,126	100
	Female	5,306	54	4,465	46	9,771	100
	Unknown	4	25	11	75	14	100
	<b>Total</b>	12,874	45	16,037	55	28,911	100

Source: NCSA, FARS 2006 (ARF)

Unknown restraint use was distributed proportionally to known categories.

## 2.4 Passenger Vehicle Occupant Fatalities by Time of Day, Vehicle Body Type, and Restraint Use

Of the passenger vehicle occupants 16 and older killed in crashes in 2006, 59 percent were in passenger cars, 20 percent in pickup trucks, 16 percent in sport utility vehicles (SUVs), 6 percent in vans, and the remaining (about 0.1%) in other light trucks. A breakdown of registered passenger vehicles in 2006 shows similar proportions with 58 percent passenger cars, 17 percent pickup trucks, 16 percent SUVs, 8 percent vans, and 0.4 percent other light trucks.

Overall in 2006, occupants killed in pickup trucks failed to use their seat belts at the highest rate (69%), followed by

SUVs (63%) and vans (52%). The percentage of unrestrained fatalities was lowest for passenger car occupants (49%). This sequence holds true during the daytime as well as at night. During daytime hours, the percentage of unrestrained occupant fatalities was 60 percent in pickup trucks, 54 percent in SUVs, 46 percent in vans and, 40 percent in passenger cars. However, the proportion of unrestrained fatalities increased significantly at nighttime: for pickup trucks it was 16 percentage points higher (76%); for SUVs it was 17 percentage points higher (71%); and for vans it was 16 percentage points higher (61%). Passenger cars had the larger increase -- 18 percentage points (58%). Table 6 shows passenger vehicle occupants 16 and older killed by time of day, passenger vehicle body type, and restraint use.

**Table 6: Passenger Vehicle Occupant Fatalities 16 and Older in Motor Vehicle Traffic Crashes in 2006 by Time of Day, Vehicle Body Type, and Restraint Use**

Time of Day & Vehicle Body Type		Restraint Use				Total	
		Restrained		Unrestrained			
		Number	Percent	Number	Percent	Number	Percent
Nighttime	Passenger Cars	3,541	42	4,928	58	8,469	100
	Light Truck - Utility	668	29	1,667	71	2,335	100
	Light Truck - Pickup	699	24	2,245	76	2,944	100
	Light Truck - Van	247	39	385	61	632	100
	Light Truck - Other	2	22	8	78	10	100
	<b>Total</b>	5,143	36	9,247	64	14,390	100
Daytime	Passenger Cars	5,024	60	3,348	40	8,372	100
	Light Truck - Utility	1,002	46	1,159	54	2,161	100
	Light Truck - Pickup	1,095	40	1,662	60	2,757	100
	Light Truck - Van	526	54	446	46	972	100
	Light Truck - Other	4	30	9	70	13	100
	<b>Total</b>	7,642	54	6,633	46	14,275	100
Unknown	Passenger Cars	46	41	67	59	113	100
	Light Truck - Utility	12	26	34	74	46	100
	Light Truck - Pickup	11	15	64	85	75	100
	Light Truck - Van	2	18	10	82	12	100
	<b>Total</b>	71	29	175	71	246	100
Total	Passenger Cars	8,624	51	8,330	49	16,954	100
	Light Truck - Utility	1,687	37	2,855	63	4,542	100
	Light Truck - Pickup	1,805	31	3,971	69	5,776	100
	Light Truck - Van	775	48	841	52	1,616	100
	Light Truck - Other	6	26	17	74	23	100
	<b>Total</b>	12,874	45	16,037	55	28,911	100

Source: NCSA, FARS 2006 (ARF)

Unknown restraint use was distributed proportionally to known categories.

### 3. Findings

Based on the data presented above, the following are some key findings:

- Passenger vehicle occupant fatalities 16 and older were most likely to be unrestrained at night. Lack of seat belt use by those killed in crashes was 18 percentage points higher at night, increasing from 46 percent during daytime hours to 64 percent during nighttime hours.
- People killed were most likely to be unrestrained from midnight to 3 a.m.
  - The percentage of unrestrained fatalities increased by 28 percentage points from 43 percent (lowest) in the time period noon to 3 p.m. to 71 percent from midnight to 3 a.m.
  - The fatality rate among passenger vehicle occupants 16 and older killed in 2006 from midnight to 3 a.m. is **16.87 times** the overall passenger vehicle occupant fatality rate per 100 million vehicle miles of travel in 2006 (18.56 versus 1.10).
- Almost 70 percent of the 16- to 34-year-old passenger vehicle occupant fatalities killed during nighttime hours were unrestrained.
- The proportion of male passenger vehicle occupant fatalities who were unrestrained during nighttime hours was 68 percent compared to 55 percent for females. During daytime hours the proportions were 51 percent for males and 39 percent for females.
- Three-fourths of the pickup truck occupants 16 and older killed during nighttime hours were unrestrained. Pickup truck occupants also had the highest percentage of unrestrained fatalities of all types of passenger vehicles both during daytime and nighttime hours.

## Appendix

### Definitions:

**Classification of Restraint Use:** Restraint usage is classified into three categories. In this Research Note unknown restraint use was distributed proportionally to known (used/not used) categories. In all the years (2002-2006) unknown restraint use proportion was about 8 percent.

Classification	Categories Used
Used	Shoulder belt, lap belt, lap and shoulder belt, restraint used – type unknown, seat belt used improperly
Not Used	None used (vehicle occupant)
Unknown	Unknown if used

### Classification of Daytime and Nighttime

Daytime: 6 a.m. to 5:59 p.m.

Nighttime: 6 p.m. to 5:59 a.m.

The term “**occupant**” is used for drivers, passengers, and the unknown occupant types of a motor vehicle in transport.

The term “**passenger vehicle occupant**” refers to the drivers, passengers, and unknown occupant type of passenger vehicle occupants.

**Passenger Vehicles:** passenger cars, SUVs, pickup trucks, vans, and other light trucks.

### State level data

■ Table 7 - Passenger vehicle occupants 16 and older killed in motor vehicle traffic crashes in 2006 by State, time of day, and restraint use.

Trend for the past 5 years (2002-2006). Passenger vehicle occupant fatalities 16 and older in motor vehicle traffic crashes by restraint use by:

■ Table 8 - Year, Sex, and Restraint Use

■ Table 9 - Year, Time of Day, and Restraint Use

■ Table 10 - Year, Vehicle Type, and Restraint Use

■ Table 11 - Year, Age, and Restraint Use

### NHTS Travel Survey Data

■ Table 12 - Travel distribution by time of day, in percent.

The complete NHTS travel survey 2001 Highlights report can be found at: [www.bts.gov/publications/highlights\\_of\\_the\\_2001\\_national\\_household\\_travel\\_survey/pdf/entire.pdf](http://www.bts.gov/publications/highlights_of_the_2001_national_household_travel_survey/pdf/entire.pdf)

**Table 7: Passenger Vehicle Occupant Fatalities 16 and Older in Motor Vehicle Traffic Crashes in 2006 by State, Time of Day, and Restraint Use**

State	Time of Day												Total #
	Nighttime				Daytime				Unknown				
	Restrained		Unrestrained		Restrained		Unrestrained		Restrained		Unrestrained		
	#	%	#	%	#	%	#	%	#	%	#	%	
Alabama	124	29	297	71	239	48	256	52	0	0	0	0	916
Alaska	8	50	8	50	18	77	5	23	0	0	1	100	40
Arizona	126	34	249	66	163	41	236	59	3	23	11	77	788
Arkansas	44	18	196	82	98	41	139	59	0	0	1	100	478
California	789	57	591	43	830	71	338	29	25	40	37	60	2,610
Colorado	58	32	123	68	71	43	92	57	0	0	0	0	344
Connecticut	62	53	54	47	49	59	33	41	0	0	0	0	198
Delaware	19	41	27	59	31	58	23	42	0	0	0	0	100
Dist. of Columbia	7	50	7	50	5	100	0	0	0	0	0	0	18
Florida	322	32	687	68	466	51	457	49	3	23	12	77	1,947
Georgia	210	36	371	64	334	50	329	50	1	20	4	80	1,249
Hawaii	25	43	33	57	18	57	13	43	0	0	0	0	89
Idaho	24	26	69	74	61	59	42	41	1	25	3	75	200
Illinois	167	34	319	66	227	59	158	41	0	0	0	0	871
Indiana	125	38	207	62	158	54	137	46	0	0	0	0	627
Iowa	56	44	71	56	115	62	70	38	1	50	1	50	314
Kansas	47	37	81	63	88	43	115	57	0	0	3	100	334
Kentucky	68	25	201	75	148	37	257	63	0	0	0	0	674
Louisiana	103	26	292	74	159	51	153	49	0	0	3	100	710
Maine	24	39	38	61	32	44	40	56	0	0	0	0	134
Maryland	115	49	119	51	144	69	64	31	0	0	0	0	442
Massachusetts	40	26	114	74	55	40	81	60	0	0	0	0	290
Michigan	183	52	170	48	271	73	98	27	3	30	8	70	733
Minnesota	53	33	108	67	102	55	84	45	0	0	1	100	348
Mississippi	80	21	295	79	116	34	230	66	0	0	0	0	721
Missouri	86	20	341	80	152	39	240	61	3	23	10	77	832
Montana	23	23	81	77	36	38	58	62	4	57	3	43	205
Nebraska	18	20	72	80	49	47	54	53	3	25	8	75	203
Nevada	59	39	93	61	80	60	52	40	0	0	1	100	285
New Hampshire	8	24	27	76	14	24	47	76	0	0	0	0	97
New Jersey	68	38	113	63	80	45	97	55	0	0	0	0	358
New Mexico	52	34	102	66	100	63	58	37	0	0	0	0	312
New York	143	39	225	61	292	64	161	36	0	0	0	0	821
North Carolina	207	39	318	61	367	62	223	38	0	0	1	100	1,116
North Dakota	9	28	23	72	20	43	28	57	0	0	2	100	82
Ohio	145	34	284	66	233	52	212	48	0	0	0	0	874
Oklahoma	76	30	174	70	138	46	165	54	2	67	1	33	556
Oregon	74	54	64	46	133	75	45	25	5	36	9	64	330
Pennsylvania	147	26	409	74	227	46	267	54	1	50	1	50	1,052
Rhode Island	4	13	27	87	6	43	8	57	0	0	0	0	45
South Carolina	105	26	290	74	156	46	180	54	0	0	0	0	731
South Dakota	14	19	64	81	12	19	48	81	0	0	4	100	142
Tennessee	133	31	299	69	229	48	251	52	5	25	15	75	932
Texas	541	44	698	56	700	62	428	38	0	0	5	100	2,372
Utah	35	42	49	58	73	61	46	39	0	0	0	0	203
Vermont	13	52	12	48	22	50	22	50	0	0	2	100	70
Virginia	98	27	269	73	174	49	184	51	0	0	1	100	726
Washington	107	46	127	54	131	67	65	33	3	100	0	0	433
West Virginia	41	33	84	67	61	40	90	60	2	17	11	83	289
Wisconsin	83	29	205	71	124	57	94	43	5	26	14	74	525
Wyoming	6	14	40	86	44	46	52	54	0	0	3	100	145
<b>National</b>	<b>5,143</b>	<b>36</b>	<b>9,247</b>	<b>64</b>	<b>7,642</b>	<b>54</b>	<b>6,633</b>	<b>46</b>	<b>71</b>	<b>29</b>	<b>175</b>	<b>71</b>	<b>28,911</b>
Puerto Rico	49	41	71	59	50	52	46	48	0	0	0	0	216

Source: NCSA, FARS 2006 (ARF)

Unknown restraint use was distributed proportionally to known categories.



**Table 8: Passenger Vehicle Occupant Fatalities 16 and Older in Motor Vehicle Traffic Crashes by Year, Sex, and Restraint Use**

Year and Sex		Restrained		Unrestrained		Total	
		Number	Percent	Number	Percent	Number	Percent
2002	Male	7,213	35	13,196	65	20,409	100
	Female	5,495	52	5,079	48	10,574	100
	Unknown	1	25	4	75	5	100
	<b>Total</b>	12,719	41	18,269	59	30,988	100
2003	Male	7,597	38	12,301	62	19,898	100
	Female	5,650	54	4,871	46	10,521	100
	Unknown	0	0	0	0	1	100
	<b>Total</b>	13,260	44	17,160	56	30,420	100
2004	Male	7,675	39	11,951	61	19,626	100
	Female	5,642	55	4,658	45	10,300	100
	<b>Total</b>	13,328	45	16,598	55	29,926	100
2005	Male	7,731	39	12,011	61	19,742	100
	Female	5,479	54	4,631	46	10,110	100
	Unknown	1	50	1	50	2	100
	<b>Total</b>	13,221	44	16,633	56	29,854	100
2006	Male	7,553	39	11,573	61	19,126	100
	Female	5,306	54	4,465	46	9,771	100
	Unknown	4	25	11	75	14	100
	<b>Total</b>	12,874	45	16,037	55	28,911	100

Source: NCSA, FARS 2002-2005 (Final), 2006 (ARF)

Unknown restraint use was distributed proportionally to known categories.

**Table 9: Passenger Vehicle Occupant Fatalities 16 and Older in Motor Vehicle Traffic Crashes by Year, Time of Day, and Restraint Use**

Year and Time of Day		Restrained		Unrestrained		Total	
		Number	Percent	Number	Percent	Number	Percent
2002	Nighttime	4,878	32	10,319	68	15,197	100
	Daytime	7,759	50	7,763	50	15,522	100
	Unknown	59	22	210	78	269	100
	<b>Total</b>	12,719	41	18,269	59	30,988	100
2003	Nighttime	4,945	34	9,721	66	14,666	100
	Daytime	8,182	53	7,255	47	15,437	100
	Unknown	100	31	217	69	317	100
	<b>Total</b>	13,260	44	17,160	56	30,420	100
2004	Nighttime	5,051	35	9,316	65	14,367	100
	Daytime	8,173	53	7,114	47	15,287	100
	Unknown	83	30	189	70	272	100
	<b>Total</b>	13,328	45	16,598	55	29,926	100
2005	Nighttime	5,217	36	9,436	64	14,653	100
	Daytime	7,901	53	7,064	47	14,965	100
	Unknown	75	32	161	68	236	100
	<b>Total</b>	13,221	44	16,633	56	29,854	100
2006	Nighttime	5,143	36	9,247	64	14,390	100
	Daytime	7,642	54	6,633	46	14,275	100
	Unknown	71	29	175	71	246	100
	<b>Total</b>	12,874	45	16,037	55	28,911	100

Source: NCSA, FARS 2002-2005 (Final), 2006 (ARF)

Unknown restraint use was distributed proportionally to known categories.

**Table 10: Passenger Vehicle Occupant Fatalities 16 and Older  
in Motor Vehicle Traffic Crashes by Year, Vehicle Type, and Restraint Use**

Year and Vehicle Type		Restrained		Unrestrained		Total	
		Number	Percent	Number	Percent	Number	Percent
2002	Passenger Car	9,167	47	10,319	53	19,486	100
	Light Truck - Pickup	1,509	26	4,343	74	5,852	100
	Light Truck - Utility	1,261	34	2,476	66	3,737	100
	Light Truck - Van	798	42	1,085	58	1,883	100
	Light Truck - Other	4	13	26	87	30	100
	<b>Total</b>	12,719	41	18,269	59	30,988	100
2003	Passenger Car	9,337	50	9,293	50	18,630	100
	Light Truck - Pickup	1,661	29	4,089	71	5,750	100
	Light Truck - Utility	1,465	36	2,652	64	4,117	100
	Light Truck - Van	815	43	1,083	57	1,898	100
	Light Truck - Other	8	30	18	70	25	100
	<b>Total</b>	13,260	44	17,160	56	30,420	100
2004	Passenger Car	9,147	51	8,925	49	18,072	100
	Light Truck - Pickup	1,716	31	3,909	69	5,625	100
	Light Truck - Utility	1,637	37	2,748	63	4,385	100
	Light Truck - Van	834	46	980	54	1,814	100
	Light Truck - Other	11	36	19	64	30	100
	<b>Total</b>	13,328	45	16,598	55	29,926	100
2005	Passenger Car	8,909	51	8,678	49	17,587	100
	Light Truck - Pickup	1,812	31	4,052	69	5,864	100
	Light Truck - Utility	1,642	37	2,844	63	4,486	100
	Light Truck - Van	871	46	1,020	54	1,891	100
	Light Truck - Other	3	13	23	88	26	100
	<b>Total</b>	13,221	44	16,633	56	29,854	100
2006	Passenger Car	8,624	51	8,330	49	16,954	100
	Light Truck - Pickup	1,805	31	3,971	69	5,776	100
	Light Truck - Utility	1,687	37	2,855	63	4,542	100
	Light Truck - Van	775	48	841	52	1,616	100
	Light Truck - Other	6	26	17	74	23	100
	<b>Total</b>	12,874	45	16,037	55	28,911	100

Source: NCSA, FARS 2002-2005 (Final), 2006 (ARF)

Unknown restraint use was distributed proportionally to known categories.

**Table 11: Passenger Vehicle Occupant Fatalities 16 and Older in Motor Vehicle Traffic Crashes by Year, Age, and Restraint Use**

Year and Age		Restrained		Unrestrained		Total	
		Number	Percent	Number	Percent	Number	Percent
2002	16-20	2,003	35	3,652	65	5,655	100
	21-24	1,209	33	2,497	67	3,706	100
	25-34	1,585	31	3,610	69	5,195	100
	35-44	1,664	35	3,105	65	4,769	100
	45-54	1,685	44	2,139	56	3,824	100
	55-64	1,292	51	1,233	49	2,525	100
	65+	3,274	62	2,040	38	5,314	100
	<b>Total</b>	<b>12,719</b>	<b>41</b>	<b>18,269</b>	<b>59</b>	<b>30,988</b>	<b>100</b>
2003	16-20	1,962	37	3,326	63	5,288	100
	21-24	1,214	34	2,361	66	3,575	100
	25-34	1,771	35	3,265	65	5,036	100
	35-44	1,716	37	2,894	63	4,610	100
	45-54	1,738	45	2,136	55	3,874	100
	55-64	1,353	51	1,296	49	2,649	100
	65+	3,490	65	1,898	35	5,388	100
	<b>Total</b>	<b>13,260</b>	<b>44</b>	<b>17,160</b>	<b>56</b>	<b>30,420</b>	<b>100</b>
2004	16-20	1,975	38	3,184	62	5,159	100
	21-24	1,230	34	2,378	66	3,608	100
	25-34	1,855	36	3,231	64	5,086	100
	35-44	1,637	38	2,641	62	4,278	100
	45-54	1,765	46	2,103	54	3,868	100
	55-64	1,410	52	1,289	48	2,699	100
	65+	3,440	66	1,788	34	5,228	100
	<b>Total</b>	<b>13,328</b>	<b>45</b>	<b>16,598</b>	<b>55</b>	<b>29,926</b>	<b>100</b>
2005	16-20	1,899	39	3,020	61	4,919	100
	21-24	1,265	34	2,406	66	3,671	100
	25-34	1,731	34	3,414	66	5,145	100
	35-44	1,664	39	2,623	61	4,287	100
	45-54	1,744	45	2,146	55	3,890	100
	55-64	1,503	53	1,332	47	2,835	100
	65+	3,395	66	1,712	34	5,107	100
	<b>Total</b>	<b>13,221</b>	<b>44</b>	<b>16,633</b>	<b>56</b>	<b>29,854</b>	<b>100</b>
2006	16-20	1,768	37	3,074	63	4,842	100
	21-24	1,288	35	2,383	65	3,671	100
	25-34	1,808	35	3,322	65	5,130	100
	35-44	1,624	40	2,471	60	4,095	100
	45-54	1,802	48	1,975	52	3,777	100
	55-64	1,485	54	1,252	46	2,737	100
	65+	3,076	66	1,583	34	4,659	100
	<b>Total</b>	<b>12,874</b>	<b>45</b>	<b>16,037</b>	<b>55</b>	<b>28,911</b>	<b>100</b>

Source: NCSA, FARS 2002-2005 (Final), 2006 (ARF)

Unknown restraint use was distributed proportionally to known categories.

**Table 12: Distribution of Trips by Time of Day, in Percent**

Trip start time	Percent	SE
Midnight - 1 a.m.	0.4	0.02
1 - 2 a.m.	0.2	0.01
2 - 3 a.m.	0.2	0.01
3 - 4 a.m.	0.1	0.01
4 - 5 a.m.	0.4	0.02
5 - 6 a.m.	1.0	0.03
6 - 7 a.m.	2.6	0.05
7 - 8 a.m.	6.2	0.08
8 - 9 a.m.	5.5	0.08
9 - 10 a.m.	4.9	0.07
10 - 11 a.m.	5.9	0.08
11 a.m. - Noon	6.6	0.08
12 - 1 p.m.	7.4	0.08
1 - 2 p.m.	6.6	0.07
2 - 3 p.m.	7.3	0.09
3 - 4 p.m.	8.3	0.09
4 - 5 p.m.	7.8	0.08
5 - 6 p.m.	7.9	0.09
6 - 7 p.m.	6.7	0.09
7 - 8 p.m.	5.2	0.08
8 - 9 p.m.	3.9	0.07
9 - 10 p.m.	2.8	0.06
10 - 11 p.m.	1.6	0.05
11 p.m. - Midnight	0.9	0.03
<b>Total</b>	<b>100.0</b>	<b>—</b>

Notes: More accurately the categories are midnight to 00:59 a.m., 1 a.m. to 1:59 a.m., etc. SE = standard error.

Source: The 2001 National Household Travel Survey, daily trip file, U.S. Department of Transportation.

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This Research Note and other general information on highway traffic safety may be accessed by Internet users at: [www.nrd.nhtsa.dot.gov/CATS/index.aspx](http://www.nrd.nhtsa.dot.gov/CATS/index.aspx).

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