

# Traffic Safety Facts

2006 Data

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**NHTSA**

DOT HS 810 807

## Occupant Protection

### Restraint Use

In 2006, NHTSA conducted the National Occupant Protection Use Survey (NOPUS). The overall observed shoulder belt use rate was 81 percent in 2006, compared to 82 percent observed in 2005, 80 percent in 2004, 79 percent in 2003, 75 percent in 2002, 73 percent in 2001, and 71 percent in 2000. In 1994, the overall observed shoulder belt use rate was 58 percent.

Table 1 shows seat belt use rates in the States, the District of Columbia, and Puerto Rico. The results were obtained by observing traffic on roads at selected observation sites. Where rates are missing from the table, States did not submit rates to NHTSA. For more information on State seat belt use rates, see D. Glassbrenner, *Seat belt Use in 2006 – Use Rates in the States and Territories*, NHTSA Research Note, DOT HS 810 690 (Revised April 2007).

Table 1  
Seat Belt Use Rates by State, 2005 and 2006

State or U.S. Territory	2005	2006	Reduction in Nonuse 2005-2006	State or U.S. Territory	2005	2006	Reduction in Nonuse 2005-2006
Alabama	81.8%	82.9%	6%	Nebraska	79.2%	76.0%	-15%
Alaska	78.4%	83.2%	22%	Nevada	94.8%	NA	NA
Arizona	94.2%	NA	NA	New Hampshire	NA	NA	NA
Arkansas	68.3%	69.3%	3%	New Jersey	86.0%	90.0%	29%
California	92.5%	93.4%	12%	New Mexico	89.5%	89.6%	1%
Colorado	79.2%	80.3%	5%	New York	85.0%	83.0%	-13%
Connecticut	81.6%	83.5%	10%	North Carolina	86.7%	88.5%	14%
Delaware	83.8%	86.1%	14%	North Dakota	76.3%	79.0%	11%
Dist. Of Columbia	88.8%	85.4%	-30%	Ohio	78.7%	81.7%	14%
Florida	73.9%	NA	NA	Oklahoma	83.1%	83.7%	4%
Georgia	89.9%	NA	NA	Oregon	93.3%	94.1%	12%
Hawaii	95.3%	92.5%	-60%	Pennsylvania	83.3%	NA	NA
Idaho	76.0%	79.8%	16%	Rhode Island	74.7%	NA	NA
Illinois	86.0%	87.8%	13%	South Carolina	69.7%	72.5%	9%
Indiana	81.2%	84.3%	16%	South Dakota	68.8%	71.3%	8%
Iowa	87.1%	89.6%	19%	Tennessee	74.4%	78.6%	16%
Kansas	69.0%	73.5%	15%	Texas	89.9%	90.4%	5%
Kentucky	66.7%	67.2%	2%	Utah	86.9%	88.6%	13%
Louisiana	77.7%	74.8%	-13%	Vermont	84.7%	82.4%	-15%
Maine	75.8%	77.2%	6%	Virginia	80.4%	78.7%	-9%
Maryland	91.1%	NA	NA	Washington	95.2%	96.3%	23%
Massachusetts	64.8%	66.9%	6%	West Virginia	84.9%	NA	NA
Michigan	92.9%	94.3%	20%	Wisconsin	73.3%	75.4%	8%
Minnesota	83.9%	83.3%	-4%	Wyoming	NA	63.5%	NA
Mississippi	60.8%	73.6%	33%	<b>Nationwide</b>	<b>82%</b>	<b>81%</b>	<b>-6%</b>
Missouri	77.4%	75.2%	-10%	Puerto Rico	92.5%	92.7%	3%
Montana	80.0%	79.0%	-5%				

Note: Rates in jurisdictions with primary belt enforcement during the calendar year of the survey are shaded.

Source: Rates in States and Territories are from surveys conducted in accordance with Section 157, Title 23, U.S. Code.

NA = not available.

*“In 2006, 65 percent of the passenger vehicle occupants, 13 to 15, 21 to 24 and 25 to 34 years old killed in traffic crashes were not using restraints — these three age groups had the highest percentage out of all age groups.”*

## Occupant Fatalities by Age and Restraint Use

In 2006, 30,521 occupants of passenger vehicles (passenger cars, light trucks, vans, and SUVs) were killed in motor vehicle traffic crashes, 72 percent of the 42,642 traffic fatalities reported for the year.

Of the 30,521 passenger vehicle occupant fatalities in 2006, restraint use was unknown for 2,380 (8%). Of the 28,141 passenger vehicle occupant fatalities for which restraint use was known, 15,523 (55%) were unrestrained.

The age groups of 13-15, 21-24, and 25-34 held the highest percentage of unrestrained occupants at 65 percent. Of the 482 passenger vehicle occupant fatalities among 13- to 15-year-olds for which restraint use was known, 313 (65%) were unrestrained; of the 3,349 passenger vehicle occupant fatalities among 21- to 24-year-olds for which restraint use was known, 2,174 (65%) were unrestrained; and of the 4,674 passenger vehicle occupant fatalities among 25- to 34-year-olds for which restraint use was known, 3,027 (65%) were unrestrained. Of the 4,431 passenger vehicle occupant fatalities among 16- to 20-year-olds for which restraint use was known, 2,813 (63%) were unrestrained, which was the second highest percentage for any age group.

In 2006 there were a total of 361 passenger vehicle occupant fatalities among children under age 4. Of the 361 fatalities in this age group for which restraint use was known, 109 (32%) were unrestrained. Of the 309 fatalities among children 4 to 7 years old for which restraint use was known, 116 (41%) were unrestrained.

Table 2

### Passenger Vehicle Occupants Killed, by Age and Restraint Use, 2006

Age (Years)	Restraint Used		Restraint Not Used		Restraint Use Unknown		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<4	235	68	109	32	17	5	361	100
4-7	168	54	116	38	25	8	309	100
8-12	148	44	158	46	34	10	340	100
13-15	169	32	313	59	45	9	527	100
16-20	1,618	33	2,813	58	411	8	4,842	100
21-24	1,175	32	2,174	59	322	9	3,671	100
25-34	1,647	32	3,027	59	456	9	5,130	100
35-44	1,510	37	2,298	56	287	7	4,095	100
45-54	1,691	45	1,853	49	233	6	3,777	100
55-64	1,375	50	1,159	42	203	7	2,737	100
65-74	1,143	59	655	34	132	7	1,930	100
75+	1,721	63	819	30	189	7	2,729	100
Unknown	18	25	29	40	26	36	73	100
<b>Total</b>	<b>12,618</b>	<b>41</b>	<b>15,523</b>	<b>51</b>	<b>2,380</b>	<b>8</b>	<b>30,521</b>	<b>100</b>

*“In 2006, 68 percent of the pickup truck drivers killed in traffic crashes were not using restraints.”*

## Driver and Occupant Fatalities by Vehicle Type and Restraint Use

A total of 21,527 passenger vehicle drivers were killed in traffic crashes in 2006. Among the 19,948 passenger vehicle driver fatalities for which restraint use was known, 68 percent (2,904) of the drivers of pickup trucks killed were unrestrained, compared to 61 percent (1,910) for SUVs, 49 percent (475) for vans, and 48 percent (5,531) for passenger cars.

A total of 8,994 occupants of passenger vehicles were killed in traffic crashes in 2006. Among the 8,193 passenger vehicle fatalities for which restraint use was known, 72 percent (928) of the passengers in pickup trucks were unrestrained, compared to 65 percent (955) for SUVs, 54 percent (367) for vans, and 51 percent (2,438) for passenger cars.

Table 3

### Drivers and Passengers Killed, by Passenger Vehicle Type and Restraint Use, 2006

Type of Passenger Vehicle	Restraint Used		Restraint Not Used		Restraint Use Unknown		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Drivers Killed</b>								
Passenger Cars	6,026	48	5,531	44	992	8	12,549	100
Pickup Trucks	1,397	30	2,904	63	291	6	4,592	100
Sport Utility Vehicles	1,196	36	1,910	58	213	6	3,319	100
Vans	496	47	475	45	79	8	1,050	100
Other Light Trucks	5	29	8	47	4	24	17	100
<b>Total</b>	<b>9,120</b>	<b>42</b>	<b>10,828</b>	<b>50</b>	<b>1,579</b>	<b>7</b>	<b>21,527</b>	<b>100</b>
<b>Passengers Killed</b>								
Passenger Cars	2,299	44	2,438	46	514	10	5,251	100
Pickup Trucks	359	26	928	67	105	8	1,392	100
Sport Utility Vehicles	525	33	955	60	111	7	1,591	100
Vans	314	42	367	49	71	9	752	100
Other Light Trucks	1	13	7	88	0	0	8	100
<b>Total</b>	<b>3,498</b>	<b>39</b>	<b>4,695</b>	<b>52</b>	<b>801</b>	<b>9</b>	<b>8,994</b>	<b>100</b>

*“Seat belts, when used, reduce the risk of fatal injury to front-seat passenger car occupants by 45 percent.”*

### Seat Belt Use and Benefits

Research has found that lap/shoulder seat belts, when used, 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.

Ejection from the vehicle is one of the most injurious events that can happen to a person in a crash. In fatal crashes in 2006, 75 percent of passenger vehicle occupants who were totally ejected from the vehicle were killed. Seat belts are effective in preventing total ejections: only 1 percent of the occupants reported to have been using restraints were total ejected, compared with 31 percent of the unrestrained occupants.

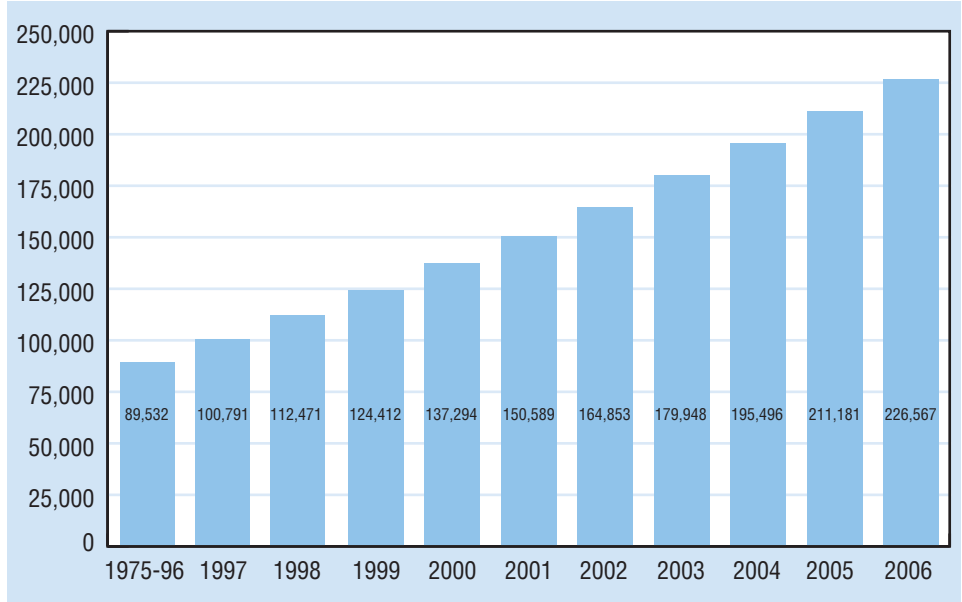
### Lives Saved by Seat Belts

Among passenger vehicle occupants over age 4, seat belts saved an estimated 15,383 lives in 2006. If all passenger vehicle occupants over age 4 had worn seat belts, 20,824 lives (that is, an additional 5,441) could have been saved in 2006.

In 2002, NHTSA refined its method of estimating lives saved by seat belts and air bags. The new method, including an explanation of the changes made, will be published in an upcoming NHTSA Technical Report.

Figure 1  
**Cumulative Estimated Number of Lives Saved by Seat Belt Use, 1975-2006**

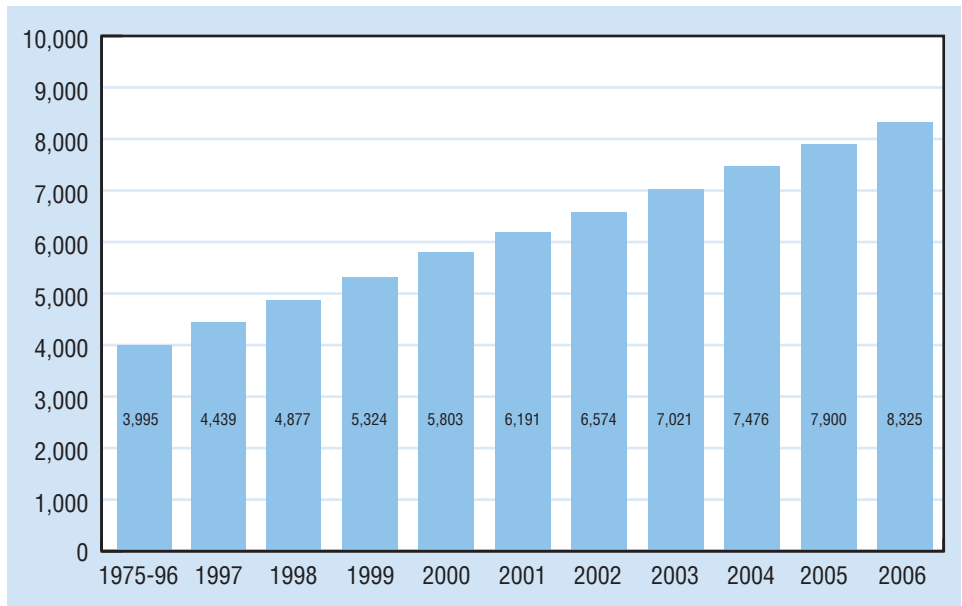
*“From 1975 through 2006, an estimated 8,325 lives were saved by child restraints.”*



### Child Restraint Use and Benefits

Research on the effectiveness of child safety seats has found them to reduce fatal injury by 71 percent for infants (younger than 1 year old) and by 54 percent for toddlers (1-4 years old) in passenger cars. For infants and toddlers in light trucks, the corresponding reductions are 58 percent and 59 percent, respectively.

Figure 2  
**Cumulative Estimated Number of Lives Saved by Child Restraints, 1975-2006**



*Air bags, combined with lap/shoulder belts, offer the most effective safety protection available today for passenger vehicle occupants."*

### Lives Saved by Child Safety Seats

Among children under age 5, an estimated 425 lives were saved in 2006 by child restraint use. Of these 425 lives saved, 392 were associated with the use of child safety seats and 32 with the use of adult seat belts.

At 100 percent child safety seat use for children under 5, an estimated 521 lives (that is, an additional 96) could have been saved in 2006.

Over the period 1975 through 2006, an estimated 8,325 lives were saved by child restraints (child safety seats or adults seat belts).

### Air Bag Use and Benefits

Air bags, combined with lap/shoulder seat belts, offer the most effective safety protection available today for passenger vehicle occupants.

Recent NHTSA analyses indicate a fatality-reducing effectiveness for air bags of 14 percent when no seat belt was used and 11 percent when a seat belt was used in conjunction with air bags.

It is estimated that, as of 2006, 177 million air-bag-equipped passenger vehicles were on the road, including 162 million with dual air bags.

Air bags are supplemental protection and are not designed to deploy in all crashes. Most are designed to inflate in a moderate-to-severe frontal crash.

Some crashes at lower speeds may result in injuries, but generally not the serious injuries that air bags are designed to prevent. For this and other reasons, lap/shoulder belts should always be used, even in vehicles with air bags.

*Children in rear-facing child safety seats should not be placed in the front seat of vehicles equipped with passenger-side air bags. The impact of a deploying air bag striking a rear-facing child safety seat could result in injury to the child.*

### Lives Saved by Air Bags

In 2006, an estimated 2,796 lives were saved by air bags. From 1987 to 2006, a total of 22,466 lives were saved.

*"Between 1987 and 2006, 22,466 lives were saved by air bags."*

Table 4

#### Estimated Number of Lives Saved by Restraint Systems, 1975-2006

Restraint Type	1975-96	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Seat Belts	89,592	11,259	11,680	11,941	12,882	13,295	14,264	15,095	15,548	15,688	15,383
Child Restraints	3,995	444	438	447	479	388	383	447	455	424	425
Air Bags	2,049	973	1,208	1,491	1,716	1,978	2,324	2,519	2,660	2,752	2,796

In 2002, NHTSA revised its method for calculating lives saved by air bags. The estimates in Table 4 reflect this revision.

Table 5  
**Passenger Vehicle Occupants Killed by State and Restraint Use, 2006**

State	Restraint Use							
	Restraint Used		No Restraint Used		Restraint Use Unknown		Total Occupants Killed	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Alabama	370	38	568	58	36	4	974	100
Alaska	28	61	17	37	1	2	46	100
Arizona	273	32	465	54	120	14	858	100
Arkansas	134	26	303	59	73	14	510	100
California	1,557	56	917	33	286	10	2,760	100
Colorado	139	38	226	61	3	1	368	100
Connecticut	90	44	71	35	42	21	203	100
Delaware	51	49	51	49	2	2	104	100
Dist of Columbia	10	56	6	33	2	11	18	100
Florida	779	38	1,156	57	97	5	2,032	100
Georgia	507	39	648	50	150	11	1,305	100
Hawaii	38	40	39	41	17	18	94	100
Idaho	85	40	116	55	10	5	211	100
Illinois	378	41	436	48	100	11	914	100
Indiana	261	39	309	47	91	14	661	100
Iowa	161	49	129	39	39	12	329	100
Kansas	138	39	200	57	12	3	350	100
Kentucky	229	33	474	67	0	0	703	100
Louisiana	263	35	437	59	47	6	747	100
Maine	48	34	65	46	28	20	141	100
Maryland	254	56	176	39	24	5	454	100
Massachusetts	79	26	158	53	62	21	299	100
Michigan	424	55	251	33	94	12	769	100
Minnesota	146	41	184	51	30	8	360	100
Mississippi	214	28	552	72	0	0	766	100
Missouri	238	27	563	64	76	9	877	100
Montana	65	31	143	67	5	2	213	100
Nebraska	77	33	136	59	17	7	230	100
Nevada	133	43	147	47	32	10	312	100
New Hampshire	22	22	71	72	5	5	98	100
New Jersey	148	40	205	55	21	6	374	100
New Mexico	154	45	171	50	18	5	343	100
New York	417	49	371	44	60	7	848	100
North Carolina	579	49	534	45	72	6	1,185	100
North Dakota	30	33	60	66	1	1	91	100
Ohio	385	42	502	55	26	3	913	100
Oklahoma	242	40	351	59	6	1	599	100
Oregon	204	58	106	30	40	11	350	100
Pennsylvania	345	32	599	55	148	14	1,092	100
Rhode Island	12	26	35	74	0	0	47	100
South Carolina	259	34	455	59	53	7	767	100
South Dakota	26	17	112	75	11	7	149	100
Tennessee	371	38	551	56	63	6	985	100
Texas	1,254	49	1,136	44	172	7	2,562	100
Utah	101	47	86	40	30	14	217	100
Vermont	34	47	35	48	4	5	73	100
Virginia	274	36	452	59	36	5	762	100
Washington	242	53	197	43	15	3	454	100
West Virginia	93	30	159	52	53	17	305	100
Wisconsin	204	38	296	55	43	8	543	100
Wyoming	53	34	96	62	7	4	156	100
<b>U.S. Total</b>	<b>12,618</b>	<b>41</b>	<b>15,523</b>	<b>51</b>	<b>2,380</b>	<b>8</b>	<b>30,521</b>	<b>100</b>
Puerto Rico	103	45	124	55	0	0	227	100



## Restraint Use Laws

The U.S. Department of Transportation's July 1984 rulemaking on automatic occupant protection began a wave of legislative action that resulted in the enactment of seat belt use laws in many States. The goal of those laws is to promote belt use and thereby reduce deaths and injuries in motor vehicle crashes.

The first mandatory belt use law was enacted in the State of New York in 1984. Adult belt use laws are in effect in 49 States and the District of Columbia. The laws differ from State to State, according to the type and age of the vehicle, occupant seating position, etc.

In 23 of the States with belt use laws, the law specifies secondary enforcement. That is, police officers are permitted to write a citation only after a vehicle is stopped for some other traffic infraction. Twenty-seven States and the District of Columbia have laws that allow primary enforcement, enabling officers to stop vehicles and write citations whenever they observe violations of the seat belt law.

A 1995 NHTSA study, *Seat belt Use Laws: An Evaluation of Primary Enforcement and Other Provisions*, indicates that States with primary enforcement seat belt laws achieved significantly higher belt use than did those with secondary enforcement laws. The analysis suggests that belt use among fatally injured occupants was at least 15 percent higher in States with primary enforcement laws.

The first mandatory child restraint use law was implemented in the State of Tennessee in 1978. Since 1985, all 50 States and the District of Columbia have had child restraint use laws in effect. These laws also cover various segments of the population.

### For more information:

Information on traffic fatalities is available from the National Center for Statistics and Analysis, NVS-421, 1200 New Jersey Avenue, SE, Washington, DC 20590. NCSA can be contacted on 800-934-8517. Fax messages should be sent to 202-366-7078. General information on highway traffic safety can be accessed by Internet users at <http://www.nhtsa.gov/portal/site/nhtsa/nca>. To report a safety-related problem or to inquire about motor vehicle safety information, contact the Vehicle Safety Hotline at 888-327-4236.

Other fact sheets available from the National Center for Statistics and Analysis are *Overview, Alcohol, African American, Bicyclists and Other Cyclists* (formerly titled *Pedalcyclists*), *Children, Hispanic, Large Trucks, Motorcycles, Older Population, Pedestrians, Race and Ethnicity, Rural/Urban Comparisons, School Transportation-Related Crashes, Speeding, State Alcohol Estimates, State Traffic Data*, and *Young Drivers*. Detailed data on motor vehicle traffic crashes are published annually in *Traffic Safety Facts: A Compilation of Motor Vehicle Crash Data from the Fatality Analysis Reporting System and the General Estimates System*. The fact sheets and annual Traffic Safety Facts report can be accessed online at <http://www-nrd.nhtsa.dot.gov/CMSWeb/index.aspx>.