

# Traffic Safety Facts

## Research Note

April 2007

DOT HS 810 765

## Rear-Seat Belt Use in 2006

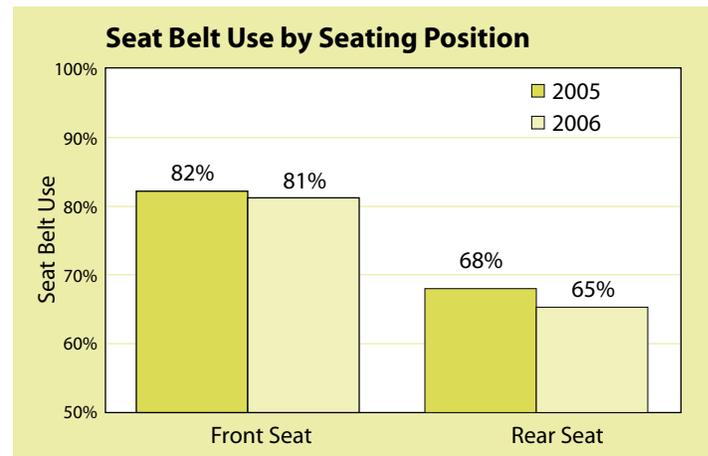
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In 2006, seat belt use in the United States continued to be higher in the front seat (81%) than in the rear seat (65%). This result is from the National Occupant Protection Use Survey (NOPUS), which provides the only probability-based observed data on seat belt use in the United States. NOPUS is conducted annually by the National Center for Statistics and Analysis of the National Highway Traffic Safety Administration.

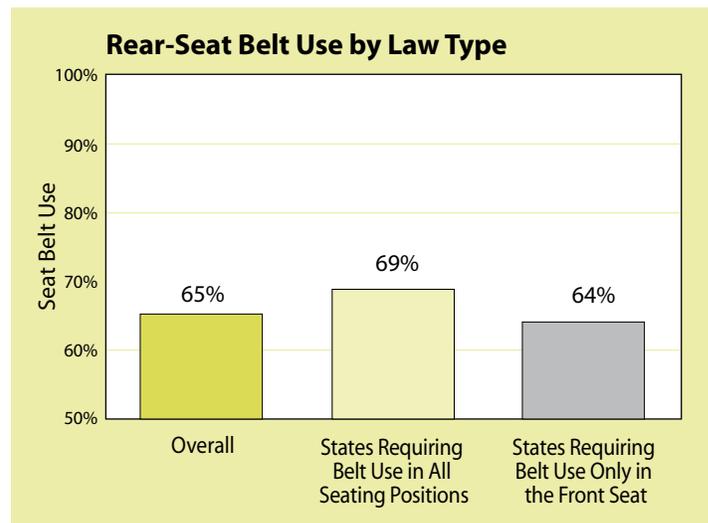
The 2006 survey also found the following:

- Rear-seat belt use among passengers 70 and older decreased from 84 percent in 2005 to 69 percent in 2006. This decrease is statistically significant.
- Rear-seat belt use continued to be lower among African-Americans than other races.

The front-seat belt use nationwide was 81 percent in 2006, down slightly but not statistically from the 2005 use rate of 82 percent. For detailed information on front-seat belt use in 2006, please consult the companion publications "Seat Belt Use in 2006: Overall Results" and "Seat Belt Use in 2006: Demographic Results," which are available at [www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/AvailInf.html](http://www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/AvailInf.html).



Source: National Occupant Protection Use Survey, NHTSA's National Center for Statistics and Analysis, 2005-2006.



Source: National Occupant Protection Use Survey, NHTSA's National Center for Statistics and Analysis, 2006.

## Seat Belt Use in the Rear Seat of Passenger Vehicles, by Major Characteristics

Passenger Group <sup>1</sup>	2005		2006		2005-2006 Change		
	Belt Use <sup>2</sup>	Confidence That Use Is High or Low in Group <sup>3</sup>	Belt Use <sup>2</sup>	Confidence That Use Is High or Low in Group <sup>3</sup>	Change in Percentage Points	Confidence in a Change in Use <sup>4</sup>	Conversion Rate <sup>5</sup>
All Passengers	68%		65%		-3	56%	-10%
Males	65%	84%	63%	78%	-2	36%	-7%
Females	70%	84%	66%	78%	-4	57%	-12%
Passengers Who Appear to Be							
Age 8-15	73%	<b>93%</b>	69%	<b>92%</b>	-4	44%	-11%
Age 16-24	59%	<b>99%</b>	62%	84%	3	36%	7%
Age 25-69	67%	54%	61%	86%	-6	63%	-19%
Age 70 and Older	84%	<b>100%</b>	69%	77%	-15	<b>91%</b>	-96%
Passengers Who Appear to Be							
White	73%	<b>97%</b>	69%	<b>100%</b>	-4	54%	-12%
Black	57%	<b>90%</b>	48%	<b>100%</b>	-9	47%	-20%
Members of Other Races	64%	79%	62%	68%	-2	19%	-5%
Passengers in States With Laws Requiring Belts Be Used <sup>6</sup>							
In All Seating Positions	76%	<b>97%</b>	69%	81%	-7	75%	-29%
In the Front Seat Only	64%	<b>97%</b>	64%	81%	0	8%	-2%

<sup>1</sup> Up to two passengers observed in the second row of seats in passenger vehicles with no commercial or government markings.

<sup>2</sup> Use of shoulder belts observed between 8 a.m. and 6 p.m.

<sup>3</sup> The level of statistical confidence that use in the passenger group (e.g., passengers who appear to be White) is higher or lower than use in the corresponding complementary passenger groups (e.g., combined passengers who appear to be Black or members of other races). Confidence levels that meet or exceed 90 percent are formatted in boldface type. Confidence levels are rounded to the nearest percentage point, and so levels reported as "100 percent" confidence are between 99.5 percent and 100 percent.

<sup>4</sup> The degree of statistical confidence that the 2006 use rate is different from the 2005 rate.

<sup>5</sup> The "conversion rate" is the percentage reduction in belt nonuse. This is based on unrounded use rates.

<sup>6</sup> Use rates reflect the law in effect at the time data was collected.

Source: National Occupant Protection Use Survey, National Highway Traffic Safety Administration, National Center for Statistics and Analysis.

## Survey Methodology

The National Occupant Protection Use Survey is the only probability-based observational survey of seat belt use in the United States. The survey observes usage as it actually occurs at a random selection of roadway sites, and so provides the best tracking of the extent to which vehicle occupants in this country are buckling up.

## Sites, Vehicles, and Occupants Observed

Numbers of	2005	2006	Percentage Change
Sites Observed	1,200	1,200	0%
Vehicles Observed	43,000	43,000	0%
Occupants Observed	58,000	57,000	-2%
Rear Seat	3,000	3,000	0%

The survey data is collected by sending trained observers to probabilistically sampled intersections controlled by stop signs or stoplights, where vehicle occupants are observed from the roadside. Data is collected between 8 a.m. and 6 p.m. Only stopped vehicles are observed in order to permit time to collect the variety of information required by the survey, including subjective assessments of vehicle occupants' age and race. Observers collect data on the driver, right-front passenger, and up to two passengers in the second row of seats. Observers do not interview vehicle occupants, so that NOPUS can capture the untainted behavior of vehicle occupants. The 2006 NOPUS data was collected between June 5 and June 26, 2006, while the 2005 data was collected between June 6 and June 25, 2005.

Although the data was collected solely from vehicles stopped at intersections controlled by a stop sign or stoplight, the estimates in this publication concerning seat belt use in the front seat reflect use by vehicle occupants *in transit* on *all types of roadways*. This is accomplished by making adjustments using data from another portion of the survey that observes belt use in vehicles in transit on general roadways.

Because the NOPUS sites were chosen through probabilistic means, we can analyze the statistical significance of its results. Statistically significant changes in belt use between 2005 and 2006 are identified in the table "Seat Belt Use in the Rear Seat of Passenger Vehicles, by Major Characteristics" by having a result that is 90 percent or greater in the table's column 7. Statistical confidence levels that seat belt use in a given passenger group (e.g., passengers who appear to be White) is higher or lower than in the complementary passenger groups (e.g., combined passengers who appear to be Black or members of other races), are provided in columns 3 and 5. Such comparisons are made within categories delineated by changes in row shading in the tables.

NOPUS uses a complex multistage probability sample, statistical data editing, imputation of unknown values, and complex estimation and variance estimation procedures. The 2006 survey results reflect the partial incorporation of a new set of probabilistically-designed observation sites. Specifically, the 2006 survey used half of the observation sites from the previous survey years and half of the sites from the newly designed sample of observation sites. The 2005 data was obtained from the old observation sites only.

Data collection, estimation, and variance estimation for NOPUS are conducted by Westat, Inc., under the direction of NHTSA's National Center for Statistics and Analysis under Federal contract number DTNH22-05-D-01002.

## States With Laws Requiring Seat Belts Be Used in All Seating Positions<sup>1</sup>

Alaska	California	Delaware
District of Columbia	Idaho	Kentucky
Massachusetts	Montana	Nevada
New Mexico	Oregon	Rhode Island
South Carolina	Tennessee	Vermont
Washington	Wisconsin	Wyoming

<sup>1</sup>States with laws in effect as of June 30, 2006, requiring people 18 and older to use seat belts in all seating positions. Also includes the District of Columbia. In no other States did such laws take effect during the period June 30, 2005 – June 30, 2006.

## Definitions

Vehicle occupants observed in the survey were counted as "belted" if they appeared to have a shoulder belt across the front of the body. NOPUS does not observe the use of lap belts because these restraints cannot be reliably observed from the roadside.

Not all vehicles on the road today have shoulder belts in the rear seats. Based on vehicle registration data from the National Vehicle Population Profile, R.L. Polk & Co., we estimate that 84 percent of passenger vehicles on the road today have shoulder belts in the rear outboard seating positions. In the 16 percent of vehicles with only lap belts in the rear outboard seats, all rear-seat vehicle occupants would be counted by NOPUS as not using shoulder belts, regardless of whether they were using lap belts. Consequently NOPUS rear-seat shoulder belt use estimates reflect both the degree to which vehicle occupants use restraints and the prevalence of shoulder belts in these seating positions.

The racial categories "Black," "White," and "Other Races" appearing in the tables reflect subjective characterizations by roadside observers regarding the race of vehicle occupants. Likewise observers recorded the age group (8-15 years; 16-24 years; 25-69 years; and 70 years or older) that best fit their visual assessment of each observed occupant.

At the time the 2006 survey was conducted, 18 States and the District of Columbia required all vehicle occupants 18 and older to use seat belts when riding in the rear seat.

The "conversion rate" is the percentage of reduction in seat belt nonuse. This rate roughly reflects the percentage of belt nonusers in 2005 who were "converted" to using belts in 2006.

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## For More Information

Detailed analyses of the data in this publication, as well as additional data and information on the survey design and analysis procedures, will be available in upcoming publications to be posted at the Web site [www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/AvailInf.html](http://www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/AvailInf.html) in 2007.

For more information on the campaign by NHTSA and the States to increase seat belt use, see [www.buckleupamerica.org](http://www.buckleupamerica.org).

NOPUS also observes other types of restraints, such as child restraints and motorcycle helmets, and observes driver cell phone use. This publication is part of a series that presents overall results from the survey on these topics. Please see other notes in the series such as "Child Restraint Use in 2006 – Overall Results" for the latest data on these topics.



U.S. Department of Transportation  
**National Highway Traffic Safety  
Administration**