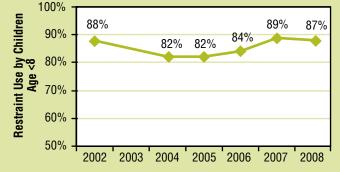# Child Restraint Use in 2008—Overall Results

The restraint use for all children from birth to 7 years old stood at 87 percent in 2008 compared to 89 percent in 2007. This result is from the National Occupant Protection Use Survey (NOPUS), which provides the only nationwide probability-based observed data on child restraint use in the United States. The NOPUS is conducted annually by the National Center for Statistics and Analysis of the National Highway Traffic Safety Administration.
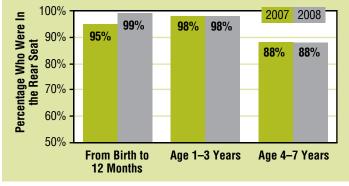
The 2008 survey also found the following:

■ Restraint use for children driven by belted drivers continued to be higher than for those driven by unbelted drivers.

■ Most children continued to ride in the rear seats of vehicles: 99 percent of infants in 2008 rode in rear seats, a significant increase from 95 percent in 2007; meanwhile 98 percent of children age 1 to 3 and 88 percent of children 4 to 7 rode in rear seats in 2008.

■ Child restraint use continued to be higher in the West than other parts of the country in 2008; however, child restraint use in the Northeast fell significantly from 88 percent in 2007 to 82 percent in 2008.

Child Restraint Use Among Children Age <8, 2002–2008

Source: National Occupant Protection Use Survey, NHTSA's National Center for Statistics and Analysis, 2002-2008
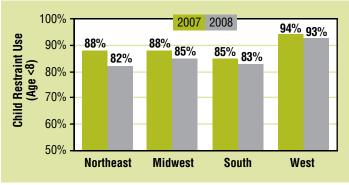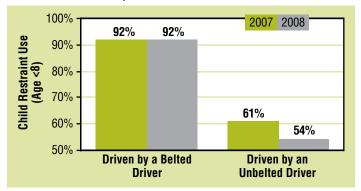
Child Restraint Use by Region in 2007 and 2008

Source: National Occupant Protection Use Survey, NHTSA's National Center for Statistics and Analysis, 2007-2008

Child Rear Placement by Age

Source: National Occupant Protection Use Survey, NHTSA's National Center for Statistics and Analysis, 2007-2008

Child Restraint Use by Driver Belt Status

Source: National Occupant Protection Use Survey, NHTSA's National Center for Statistics and Analysis, 2007-2008

Child Restraint Use in Passenger Motor Vehicles, by Major Characteristics

Child Passenger Group[1]	2007 Restraint Use[2]	2007 Confidence That Use Is High or Low in Group[3]	2008 Restraint Use[2]	2008 Confidence That Use Is High or Low in Group[3]	2007-2008 Change Change in Percentage Points	2007-2008 Change Confidence in a Change in Use[4]
All Child Passengers (From Birth to 7 Years)	89%		87%		-2	65%
Children Driven by						
a Belted Driver	92%	**100%**	92%	**100%**	0	54%
an Unbelted Driver	61%	**100%**	54%	**100%**	-7	74%
a Male Driver	86%	**97%**	85%	**93%**	-1	29%
a Female Driver	90%	**97%**	88%	**93%**	-2	60%
a Driver Age 16-24	87%	73%	88%	65%	1	23%
a Driver Age 25-69	89%	85%	87%	68%	-2	72%
a Driver Age 70+	81%	83%	90%	72%	9	71%
a White Driver	91%	**100%**	89%	**100%**	-2	71%
a Black Driver	80%	**99%**	76%	**100%**	-4	67%
a Driver of Another Race	86%	89%	86%	70%	0	3%
Children in						
the Front Seat	75%	**100%**	74%	**100%**	-1	12%
the Rear Seat	90%	**100%**	88%	**100%**	-2	71%
Child Passengers on						
Expressways	90%	75%	91%	**100%**	1	72%
Surface Streets	88%	75%	85%	**100%**	-3	80%
Child Passengers Traveling in						
Fast Traffic	89%	53%	88%	78%	-1	17%
Medium-Speed Traffic	88%	56%	89%	**90%**	1	25%
Slow Traffic	89%	51%	84%	**96%**	-5	**91%**
Child Passengers Traveling in						
Heavy Traffic	NA	NA	NA	NA	NA	NA
Moderately Dense Traffic	93%	**92%**	93%	82%	0	1%
Light Traffic	88%	**97%**	87%	78%	-1	58%
Child Passengers Traveling Through						
Light Precipitation	92%	84%	81%	**93%**	-11	**95%**
Fog	99%	**100%**	NA	NA	NA	NA
Clear Weather Conditions	88%	**94%**	87%	**92%**	-1	34%
Child Passengers in						
Passenger Cars	88%	83%	86%	73%	-2	45%
Vans & SUVs	91%	**100%**	90%	**98%**	-1	56%
Pickup Trucks	76%	**99%**	73%	**99%**	-3	25%
Child Passengers in the						
Northeast	88%	61%	82%	98%	-6	**95%**
Midwest	88%	58%	85%	79%	-3	60%
South	85%	**97%**	83%	**96%**	-2	48%
West	94%	**100%**	93%	**100%**	-1	27%
Child Passengers in						
Urban Areas	85%	89%	85%	81%	0	0%
Suburban Areas	91%	**99%**	89%	**98%**	-2	64%
Rural Areas	86%	86%	83%	**96%**	-3	73%
Child Passengers Traveling During						
Weekdays	90%	**97%**	88%	83%	-2	76%
Rush Hours	91%	**92%**	90%	**97%**	-1	53%
Nonrush Hours	89%	**92%**	86%	**97%**	-3	70%
Weekends	86%	**97%**	85%	83%	-1	19%

[1] Passengers under 8 years old observed between 7 a.m. and 6 p.m. in the right-front seat or the second row of seats in passenger vehicles with no commercial or government markings that are stopped at a stop sign or stop light. Age, gender, and racial classifications are based on the subjective assessments of roadside observers.

[2] Use of child safety seats (front- or rear-facing), booster seats, and seat belts.

[3] The level of statistical confidence that use in the passenger group (e.g., child passengers in the Northeast) is higher or lower than use in the corresponding complementary passenger group (e.g., combined child passengers in the Midwest, in the South and in the West). 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 100.0 percent.

[4] The degree of statistical confidence that the 2008 use rate is different from the 2007 rate. Confidence levels that meet or exceed 90 percent are formatted in boldface type.

NA: Data not sufficient to produce a reliable estimate.

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

The Percent of Children Who Ride in the Rear Seat, by Major Characteristics

Child Passengers Group[1]	2007 Percentage Who Were in the Rear Seat[2]	2007 Confidence That Use Is High or Low in Group[3]	2008 Percentage Who Were in the Rear Seat[2]	2008 Confidence That Use Is High or Low in Group[3]	2007-2008 Change in Percentage Points	2007-2008 Confidence in a Change in Rear Seat Occupancy[4]
All Child Passengers (From Birth to 7 Years)	92%		93%		1	40%
Age <1 (Infants)	95%	**93%**	99%	**100%**	4	**98%**
Age 1-3	98%	**100%**	98%	**100%**	0	1%
Age 4-7	88%	**100%**	88%	**100%**	0	5%
Child Passengers in States With[5]						
Law Requiring Children Ages <6 Be in the Rear Seat	92%	64%	94%	85%	2	65%
No Such Law	93%	64%	93%	85%	0	7%
Children Driven by						
a Belted Driver	93%	**99%**	93%	82%	0	3%
an Unbelted Driver	87%	**99%**	91%	82%	4	71%
a Male Driver	92%	52%	93%	57%	1	37%
a Female Driver	93%	52%	93%	57%	0	24%
a Driver Age 16-24	96%	**100%**	95%	**98%**	-1	44%
a Driver Age 25-69	92%	**94%**	93%	**99%**	1	27%
a Driver Age 70+	85%	89%	98%	**99%**	13	**94%**
a White Driver	93%	79%	94%	**99%**	1	84%
a Black Driver	93%	51%	93%	55%	0	4%
a Driver of Another Race	91%	78%	88%	**99%**	-3	66%
Child Passengers on						
Expressways	95%	**99%**	94%	74%	-1	43%
Surface Streets	91%	**99%**	93%	74%	2	76%
Child Passengers Traveling in						
Fast Traffic	91%	81%	94%	89%	3	89%
Medium-Speed Traffic	93%	63%	94%	76%	1	35%
Slow Traffic	93%	81%	91%	**94%**	-2	73%
Child Passengers Traveling in						
Heavy Traffic	NA	NA	NA	NA	NA	NA
Moderately Dense Traffic	97%	**99%**	82%	80%	-15	73%
Light Traffic	92%	**100%**	93%	79%	1	74%
Child Passengers Traveling Through						
Light Precipitation	97%	**99%**	88%	89%	-9	**95%**
Fog	NA	NA	NA	NA	NA	NA
Clear Weather Conditions	92%	**100%**	93%	89%	1	78%
Child Passengers in						
Passenger Cars	94%	**99%**	93%	56%	-1	65%
Vans & SUVs	95%	**100%**	94%	**97%**	-1	42%
Pickup Trucks	64%	**100%**	84%	**100%**	20	**100%**
Child Passengers in the						
Northeast	93%	72%	93%	57%	0	27%
Midwest	93%	55%	91%	89%	-2	62%
South	93%	53%	95%	**91%**	2	75%
West	92%	68%	92%	71%	0	30%
Child Passengers in						
Urban Areas	91%	79%	90%	**94%**	-1	23%
Suburban Areas	95%	**99%**	94%	**98%**	-1	34%
Rural Areas	89%	**95%**	92%	79%	3	80%
Child Passengers Traveling During						
Weekdays	93%	82%	92%	**100%**	-1	64%
Rush Hours	94%	**96%**	91%	79%	-3	**95%**
Nonrush Hours	92%	**96%**	93%	79%	1	31%
Weekends	91%	82%	95%	**100%**	4	**95%**
Child Passengers in a						
Rear-Facing Car Seat	93%	62%	98%	**100%**	5	**93%**
Front-Facing Car Seat	99%	**100%**	99%	**100%**	0	13%
High-Backed Booster Seat	94%	70%	99%	**100%**	5	85%
Seat belt or Backless Booster Seat	89%	**100%**	87%	**100%**	-2	73%
No Restraint Observed	84%	**100%**	86%	**100%**	2	50%

[1] Passengers under 8 years old observed between 7 a.m. and 6 p.m. in the right-front seat or the second row of seats in passenger vehicles with no commercial or government markings that are stopped at a stop sign or stoplight. Age, gender, and racial classifications are based on the subjective assessments of roadside observers.

[2] The percentage of the child passenger group who were in the second row of seats at the time of observation.

[3] The level of statistical confidence that use in the passenger group (e.g., child passengers in the Northeast) is higher or lower than use in the corresponding complementary passenger group (e.g., combined child passengers in the Midwest, in the South and in the West). 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 100.0 percent.

[4] The degree of statistical confidence that the percentage of the child passenger group who were in the rear seat in 2008 is different from the analogous percentage from 2007.

[5] Use rates reflect the law in effect at the time data was collected.

NA: Data not sufficient to produce a reliable estimate.

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

Child Restraint Use in Passenger Motor Vehicles, by Age and Other Characteristics

Child Passenger Group[1]	2007 Restraint Use[2]	2007 Confidence That Use Is High or Low in Group[3]	2008 Restraint Use[2]	2008 Confidence That Use Is High or Low in Group[3]	2007-2008 Change Change in Percentage Points	2007-2008 Change Confidence in a Change in Use[4]
Infants (From Birth to 12 Months)						
Infants Driven by						
a Belted Driver	99%	**96%**	98%	57%	-1	79%
an Unbelted Driver	88%	**96%**	98%	57%	10	85%
a Male Driver	96%	**92%**	97%	86%	1	24%
a Female Driver	99%	**92%**	99%	86%	0	9%
Infants in						
Passenger Cars	97%	72%	98%	56%	1	44%
Vans & SUVs	99%	**98%**	98%	63%	-1	70%
Pickup Trucks	NA	NA	NA	NA	NA	NA
Infants in the						
Northeast	97%	60%	97%	79%	0	17%
Midwest	100%	UA	100%	UA	0	UA
South	96%	88%	99%	**93%**	3	78%
West	100%	**97%**	97%	**90%**	-3	**91%**
Infants in						
Urban Areas	99%	**90%**	98%	55%	-1	66%
Suburban Areas	98%	66%	98%	64%	0	12%
Rural Areas	96%	78%	98%	61%	2	39%
Children Age 1-3 Years						
Children Age 1-3 Driven by						
a Belted Driver	96%	**100%**	95%	**100%**	-1	24%
an Unbelted Driver	69%	**100%**	73%	**100%**	4	29%
a Male Driver	91%	82%	93%	52%	2	46%
a Female Driver	94%	82%	93%	52%	-1	24%
Children Age 1-3 in						
Passenger Cars	91%	87%	90%	**100%**	-1	14%
Vans & SUVs	97%	**100%**	97%	**100%**	0	8%
Pickup Trucks	73%	**94%**	89%	81%	16	70%
Children Age 1-3 in the						
Northeast	89%	83%	88%	**90%**	-1	12%
Midwest	94%	78%	93%	53%	-1	32%
South	91%	77%	91%	**91%**	0	3%
West	96%	**97%**	96%	**99%**	0	12%
Children Age 1-3 in						
Urban Areas	92%	62%	85%	**100%**	-7	**91%**
Suburban Areas	93%	59%	95%	**99%**	2	71%
Rural Areas	93%	54%	93%	52%	0	7%
Children Age 4-7 Years						
Children Age 4-7 Driven by						
a Belted Driver	89%	**100%**	87%	**100%**	-2	62%
an Unbelted Driver	51%	**100%**	39%	**100%**	-12	84%
a Male Driver	82%	**96%**	79%	74%	-3	60%
a Female Driver	86%	**96%**	81%	74%	-5	77%
Children Age 4-7 in						
Passenger Cars	84%	59%	80%	52%	-4	74%
Vans & SUVs	86%	89%	83%	**94%**	-3	54%
Pickup Trucks	74%	**91%**	65%	**98%**	-9	63%
Children Age 4-7 in the						
Northeast	86%	68%	78%	74%	-8	83%
Midwest	81%	73%	78%	73%	-3	53%
South	78%	**99%**	73%	**99%**	-5	74%
West	91%	**100%**	89%	**100%**	-2	53%
Children Age 4-7 in						
Urban Areas	77%	**96%**	80%	57%	3	42%
Suburban Areas	88%	**99%**	82%	**91%**	-6	87%
Rural Areas	82%	80%	76%	**91%**	-6	87%

[1] Passengers under 8 years old observed between 7 a.m. and 6 p.m. in the right-front seat or the second row of seats in passenger vehicles with no commercial or government markings that are stopped at a stop sign or stoplight. Age, gender, and racial classifications are based on the subjective assessments of roadside observers.

[2] Use of child safety seats (front- or rear-facing), booster seats, and seat belts.

[3] The level of statistical confidence that use in the passenger group (e.g., child passengers in the Northeast) is higher or lower than use in the corresponding complementary passenger group (e.g., combined child passengers in the Midwest, in the South and in the West). 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 100.0 percent.

[4] The degree of statistical confidence that the percentage of the child passenger group who were in the rear seat in 2008 is different from the analogous percentage from 2007.
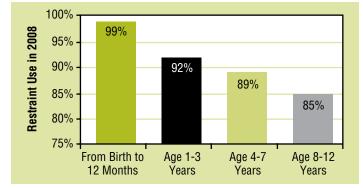
NA: Data not sufficient to produce a reliable estimate.   UA: Estimate not available.   **Source**: NOPUS, 2007-2008

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Child Restraint Use by Age

In May 2009, NHTSA published the 2008 restraint use rates for children under 12 by age as follows: children from birth to 12 months, 99 percent; children age 1 to 3 years old, 92 percent; children age 4 to 7 years old, 89 percent; and children 8 to 12 years old, 85 percent. These rates are from the 2008 National Survey of the Use of Booster Seats (NSUBS), another survey conducted by NHTSA. Since age information is obtained by interviews in NSUBS instead of through visual assessment in NOPUS and therefore is more accurate, NHTSA publishes rates for the age groups from NSUBS instead of NOPUS (fortunately, child restraint use rates from both surveys are highly consistent). Please see the publications "Child Restraint Use in 2008 - Demographic Results" and "Child Restraint Use in 2008 – Use of Correct Restraint Types" for race and ethnicity, restraint types, and other information for each age group. These publications are available at the Web site http://www-nrd.nhtsa.dot.gov/CMSWeb/index.aspx.

Child Restraint Use Rates from 2008 NSUBS

Source: The National Survey of the Use of Booster Seats, NHTSA's National Center for Statistics and Analysis, 2008

Survey Methodology

The National Occupant Protection Use Survey is the only nationwide probability-based observational survey of child restraint 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 the Nation's children are being protected by these life-saving devices.

The survey data is collected by sending trained observers to probabilistically sampled intersections controlled by a stop sign or stoplight, where vehicle occupants are observed from the roadside. Data is collected between the hours of 7 a.m. and 6 p.m. Only stopped vehicles are observed 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 the NOPUS captures the untainted behavior of occu-

pants. The 2008 NOPUS data was collected between June 2 and June 22, while the 2007 data was collected between June 4 and June 25, 2007.

Because the NOPUS sites were chosen through probabilistic means, we can analyze the statistical significance of its results. Statistically significant increases in child restraint use (respectively, rear-seat occupancy rates) between 2007 and 2008 are identified in the tables of child restraint use estimates (respectively, rear-seat occupancy rates) by having a result that is 90 percent or greater in column 7. Statistical confidence levels that restraint use in a given child passenger group, e.g., child passengers in the Northeast, is higher or lower than in the complementary passenger group, e.g., combined child passengers in the Midwest, in the South and in the West, are provided in columns 3 and 5. Such comparisons are made within categories delineated by changes in row shading in the tables. The exceptions to this are the grouping, "Children Driven by…," which is divided into the four categories of driver belt use, driver gender, driver age, and driver race, and the grouping, "Child Passengers Traveling During …," in which weekdays are compared to weekends, and weekday rush hour to weekday nonrush hour.

Sites, Vehicles, and Occupants Observed

Numbers of	2007	2008	Percentage Change
Sites Observed	1,534	1,504	-2%
Vehicles Observed	58,216	55,199	-5%
Children Observed			
Age <1 Year	362	589	63%
Age 1-3 Years	1,293	1,530	18%
Age 4-7 Years	1,934	2,149	11%

The NOPUS uses a complex multistage probability sample, statistical data editing, imputation of unknown values, and complex estimation and variance estimation procedures. The 2008 NOPUS continued the transition to the newly designed sample of observation sites, which was implemented in 2006. The 2008 results reflect the partial incorporation of a set of observation sites from the new design (about 60%) and a set of the observation sites from the old design (about 40%). Data from 2005 and prior years were obtained from the old observation sites only.

Data collection, estimation, and variance estimation for the NOPUS are conducted by Westat, Inc., under the direction of the National Center for Statistics and Analysis in NHTSA under Federal contract number DTNH22-07-D-00057.

Definitions

The survey classified a child as:

■ restrained in a rear-facing safety seat if the child appeared to be on a seat on top of the vehicle seat, faced the rear of a vehicle, and there were harness straps across the front of the child;

■ restrained in a front-facing safety seat if the child appeared to be on a seat on top of the vehicle seat, faced the front of a vehicle, and there were harness straps across the front of the child;

■ restrained in a high-backed booster seat if the child appeared to be on a seat on top of the vehicle seat and there was a shoulder belt across the front of the child; and

■ restrained in a seat belt or backless booster seat if there was a shoulder belt across the front of the child but the observers could not see whether the child was in a seat on top of the vehicle seat.

A child was considered restrained if s/he was restrained in any of these (a rear-facing safety seat, front-facing safety seat, high-backed booster seat, or seat belt or backless booster seat). The remaining children were classified as unrestrained. Note that in the survey there is no such notion of being "unrestrained" in, for example, a front-facing safety seat. NOPUS does not observe the use of lap belts, and does not distinguish between seat belts and backless booster seats, because these assessments cannot be reliably observed from the roadside.

States With Laws Requiring Children Age 5 and Younger Be in The Rear Seat[1]

California	Georgia	Maine
New Jersey	Rhode Island	South Carolina
Tennessee	Washington	Wyoming

[1]Among children less than 80 pounds and less than 54" tall. States with laws in effect as of June 30, 2008. In no other States did such laws take effect during the period June 30, 2007 – June 30, 2008.

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 (birth-12 months; 1-3 years; 4-7 years; 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 2008 survey was conducted, 9 States required children 5 and younger who weigh less than 80 pounds and are less than 54" tall to ride in the rear seat of vehicles.

"Expressways" are defined to be roadways with limited access, while "surface streets" comprise all other roadways. A roadway is defined to have "fast traffic" if during the observation period the average speed of passenger vehicles that passed the observer(s) exceeded 50 mph, with "medium-speed traffic" defined as 31 to 50 mph and "slow traffic" defined as 30 mph or slower. A roadway is defined to have "heavy traffic" if the average number of vehicles per lane mile on the roadway during the observation period exceeded 45 vehicles per lane mile, with "moderately dense traffic" defined as 26 to 45 vehicles per lane per mile and "light traffic" having at most 25 vehicles per lane per mile.

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 http://www-nrd.nhtsa.dot.gov/CMSWeb/index.aspx in 2009. For more information on the campaign by NHTSA to increase child restraint use, see www.nhtsa.gov.

The NOPUS also observes other types of restraints, such as seat belts 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 members of the series, such as "Motorcycle Helmet Use in 2008—Overall Results," for the latest data on these topics.