

Seat Belt Use and Child Safety Seats

Headline

After falling to 82 percent in 2004, seat belt use among children under age eight increased to 89 percent in 2007. ([See Table 2](#)).

Importance

Motor vehicle accidents are the leading cause of death for children and youth ages 5 to 24.¹ The use of seat belts and child safety restraints greatly reduces the chance of fatalities and serious injuries in motor vehicle crashes.² Seat belt use reduces the risk of fatal injury by almost 50 percent;³ child safety seats reduce the risk of fatal injury by 71 percent.⁴

According to recommendations by the National Highway Traffic Safety Administration, all infants under the age of one or under 20 pounds should be in a rear-facing safety seat, children older than one who are between 20 and 40 pounds (92 percent of toddlers) should be in forward-facing safety seats, and children who are under age eight and less than 4'9" tall (63 percent of four- to seven-year olds) should be in booster seats. In 2007, 72 percent of infants were using rear-facing safety seats, 69 percent of toddlers were using forward-facing safety seats, and 25 percent of four- to seven-year olds were in high-back booster seats (although an additional 49 percent were using belts or backless boosters).⁵

Trends

The percentage of youth ages 16 to 24 using seat belts increased from 53 percent in 1994 to 77 percent in 2007. ([See Figure 1](#)) The percentage of infants observed using restraints increased from 88 percent in 1994 to 98 percent in 2007. ([See Table 2](#)) In 2007, 89 percent of children under age eight were observed using a seat belt or restraint. In 2007, 82 percent of children ages eight to 15 in the front seat used seatbelts or restraints. ([See Table 1](#))

Note: Estimates for children ages eight to fifteen and sixteen to twenty-four refer only to children and youth sitting in a front seat. All other estimates refer to children sitting in a front or back seat.

Differences by Age

Among children under age eight, the youngest children are most likely to use seat belts or restraints. In 2007, 98 percent of children under age one, 96 percent of children ages one to three, and 85 percent of children ages four to seven used a safety seat, seat belt, or restraint. ([See Figure 3](#)) Among older children and youth in a front seat, 82 percent of

children ages eight to fifteen and 77 percent of youth ages sixteen to twenty-four used seat belts in 2007.

Differences by Belt Status of Driver

Children in cars with a driver using a seat belt are more likely to themselves use seatbelts or restraints. In 2007, 92 percent of children under age eight used seat belts or restraints in cars with a belted driver, compared with only 61 percent of children under age eight in cars where the driver was not using a seat belt. ([See Figure 2](#))

Differences by Region

In 2007, among children under age eight, those living in the West were the most likely to wear a seat belt (94 percent), while children living in the South were the least likely to be belted (85 percent). ([See Table 2](#)) Regional disparities were also apparent for older children: in 2003, only about half (49 percent) of children ages eight to 15 living in the South wore a seat belt when riding in the front seat, as compared with 88 percent of children in the same age group living in the Northeast. ([See Table 1](#))

National Goals

Through its *Healthy People 2010* initiative, the federal government has set a national goal to increase the percentage of children under the age of five using child restraints from a 1998 baseline of 92 percent to 100 percent in 2010.

<http://www.health.gov/healthypeople/document/html/objectives/15-20.htm>

The Federal government's goal for seat belt use among the total U.S. population is to increase the percentage of people who use seat belts from a 1998 baseline of 69 percent to 92 percent in 2010.

<http://www.health.gov/healthypeople/document/html/objectives/15-19.htm>

The Federal government has also set national goals to reduce the number of people killed or injured in motor vehicle accidents.

<http://www.health.gov/healthypeople/document/html/objectives/15-15.htm> (deaths)

<http://www.health.gov/healthypeople/document/html/objectives/15-17.htm> (nonfatal injuries)

State and Local Estimates

Trend estimates for high school students who never or rarely wore seat belts (while riding in a car driven by someone else) are available from the Youth Risk Behavior Survey (YRBS) at:

http://www.cdc.gov/HealthyYouth/yrbs/pdf/yrbs07_us_unintentional_injury_trend.pdf

Estimates for high school students who never or rarely wore seat belts (while riding in a car driven by someone else) by specific state and city location are available from the

Youth Risk Behavior Survey (YRBS) at:

<http://apps.nccd.cdc.gov/yrbss/CategoryQuestions.asp?Cat=1&desc=Unintentional%20Injuries%20and%20Violence>

International Estimates

Not available

Definition

If a child or youth was observed in a child restraint or using a seat belt, he or she was defined as using a seat belt or restraint. Restraints include a rear-facing safety seat, front-facing safety seat, high-backed booster seat, or seat-belt or backless booster seat. Observations were made by trained observers at various roadways. Estimates were based on child restraints observed in the front or back seat or the front seat only.

Data Source

Data for 2007 children ages 8 to 15 and youth ages 16 to 24: Glassbrenner, Ye (January 2008) "Child Restraint Use in 2007--Demographic Results," DOT HS 810 897. Available at <http://www-nrd.nhtsa.dot.gov/PUBS/810897.PDF>

Data for 2007 children ages zero to eight: Ye, Pickrell (April 2008) "Child Restraint Use in 2007--Overall Results," DOT HS 810 931. Available at: <http://www-nrd.nhtsa.dot.gov/PUBS/810931.PDF> Glassbrenner, Ye (January 2008) "Child Restraint Use in 2007--Use of Correct Restraint Types," DOT HS 810 895. Available at: <http://www-nrd.nhtsa.dot.gov/PUBS/810895.PDF>

Data for 2006 children ages 8 to 15 and youth ages 16 to 24: Glassbrenner, Donna. (April 2007). *Research Note: Child Restraint Use in 2007 – Demographic Results*. U.S Department of Transportation, National Highway Traffic Safety Administration, DOT HS 810 766. Available online at: <http://www-nrd.nhtsa.dot.gov/PUBS/810766.PDF>

Data for 2006: Glassbrenner, Donna. (February 2007). *Research Note: Child Restraint Use in 2006 - Overall Result*. U.S Department of Transportation, National Highway Traffic Safety Administration, DOT HS 810 737. Available online at: <http://www-nrd.nhtsa.dot.gov/Pubs/810737.PDF>

Data for 2005: Glassbrenner, Donna. (December 2005). *Research Note: Safety Belt Use in 2005—Demographic Results*. U.S. Department of Transportation, National Highway Safety Administration, DOT HS 809 969. Available online at: <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/RNotes/2005/809969.pdf>.

Data for 2004 children ages 8 to 15 and youth ages 16 to 24: Glassbrenner, Donna. (February 2005). *Research Note: Safety Belt Use in 2004 - Demographic Results*. U.S. Department of Transportation, National Highway Traffic Safety Administration, DOT

HS 809 848. Available online at: <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/RNotes/2005/809848.pdf>

All other 2004 data: Glassbrenner, Donna. (February 2005). *Child Restraint Use in 2004 - Overall Results*, DOT HS 809 845. U.S. Department of Transportation, National Highway Traffic Safety Administration. <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/RNotes/2005/809845.pdf>.

Data for 2003: Glassbrenner, Donna. *Safety Belt Use in 2003-Demographic Characteristics*. U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, DOT HS 809 729, May 2004. Available online: <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/Rpts/2004/809729.pdf>.

Data for 2002 children under age eight: Glassbrenner, Donna. *Research Note: The Use of Child Restraints in 2002*, DOT HS 809 555. U.S. Department of Transportation, National Highway Traffic Safety Administration, February 2003.

<http://www.nhtsa.dot.gov/people/injury/childps/ChildRestraints/ChildRestraints.html>

Data for 2002 children ages eight to 24: Glassbrenner, Donna. *Research Note: Safety Belt Use in 2002- Demographic Characteristics*, DOT HS 809 557. U.S. Department of Transportation, National Highway Traffic Safety Administration, March 2003.

<http://www.nhtsa.dot.gov/people/injury/airbags/demographic03-03/demographic.htm>

Data for all other years: Bondy, Nancy and Donna Glassbrenner. *Research Note: National Occupant Protection Use Survey- 2000 Controlled Intersection Study*, DOT HS 809 318. U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, August 2001.

<http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/RNotes/2001/809-318.pdf>

Raw Data Source

National Occupant Protection Use Survey (NOPUS)

<http://www-nrd.nhtsa.dot.gov/departments/nrd-01/summaries/4313GA.html>

Data of Next Update

Unknown

¹Hoyer, D., Heron, M., Murphy, S., & Kung, H. "Deaths: Final Data for 2003," *National Vital Statistics Reports* 54(13): Table 10. http://www.cdc.gov/nchs/data/nvsr/nvsr54/nvsr54_13.pdf.

² *Presidential Initiative for Increasing Seat Belt Use Nationwide: Recommendations from the Secretary of Transportation*. National Highway and Transportation Safety Administration. Available online at: <http://www.nhtsa.dot.gov/people/injury/airbags/Archive-04/PresBelt/index.html>

³ Ibid.

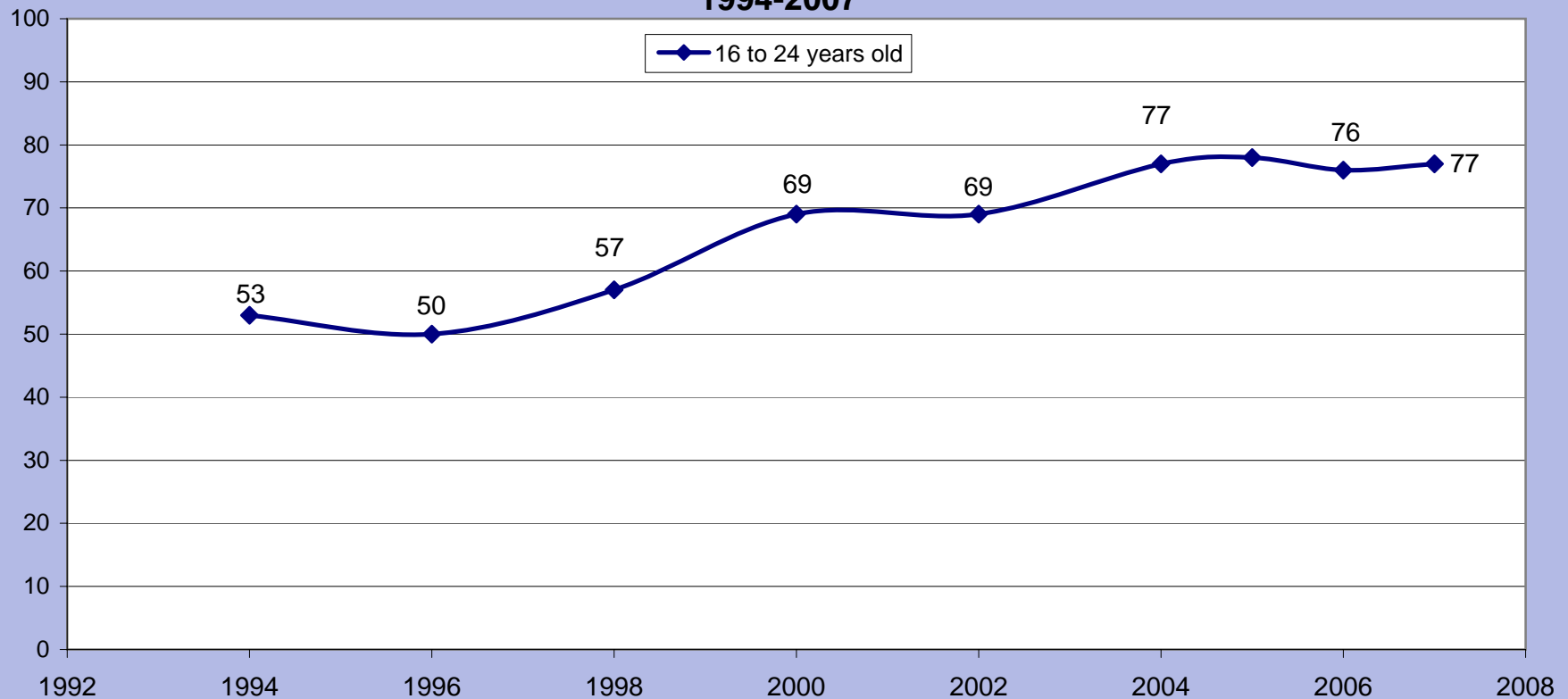
⁴ Lawrence E. Decina, Kathy H. Lococo, and Charlene T. Doyle. (2004) "Child Restraint Use Survey: LATCH Use and Misuse." National Center for Statistics and Analysis, National Highway Traffic Safety Administration, Washington, DC 20590. Report No. DOT HS 810 679.

<http://www-nrd.nhtsa.dot.gov/Pubs/810679.PDF>

⁵ Glassbrenner, Ye (January 2008) "Child Restraint Use in 2007--Use of Correct Restraint Types," DOT HS 810 895. Available at: <http://www-nrd.nhtsa.dot.gov/PUBS/810895.PDF>

Figure 1

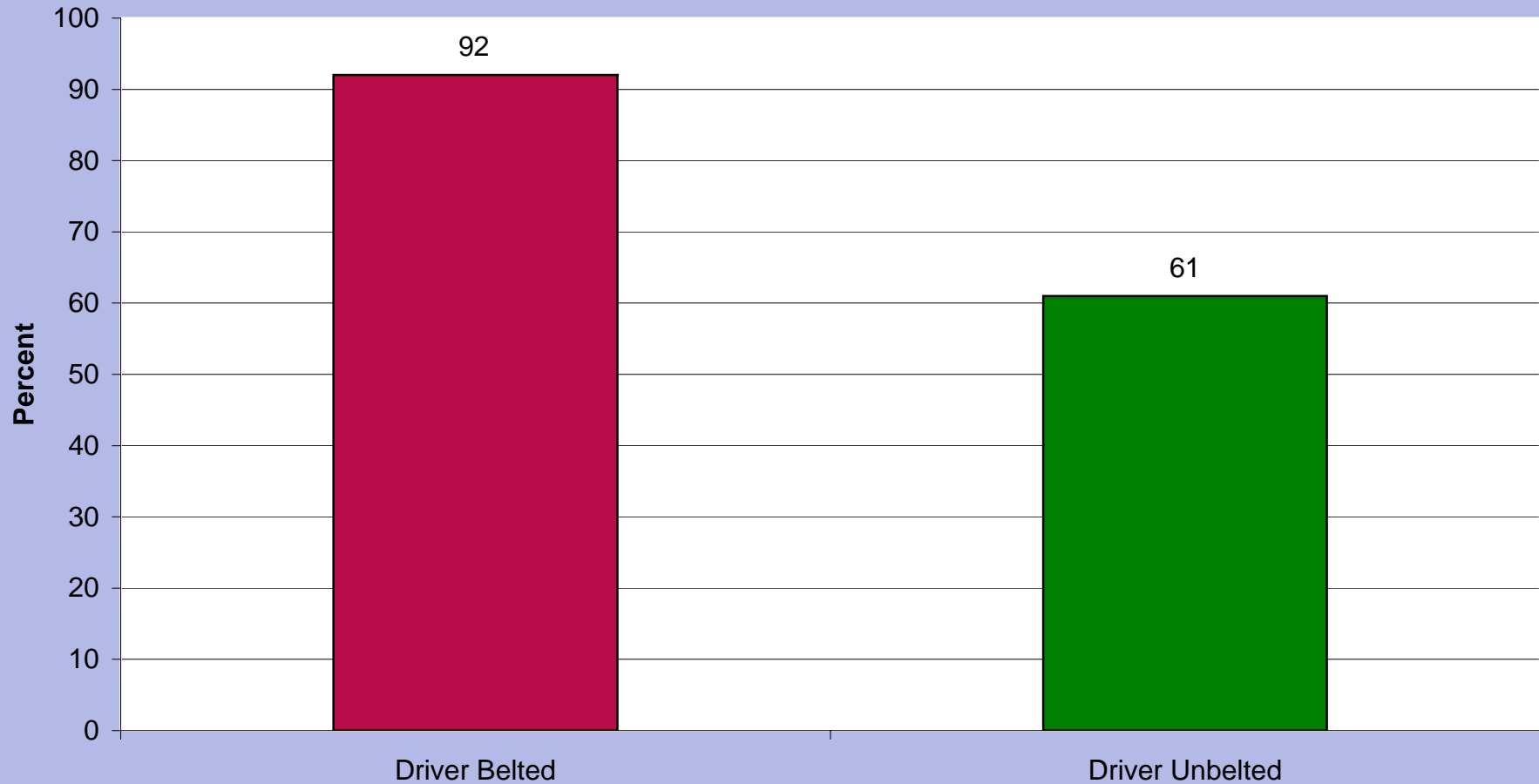
Percentage of Youth 16 to 24 years old Using Seat Belts or Restraints, 1994-2007



Data for 2007: Glassbrenner, Ye (January 2008) "Child Restraint Use in 2007--Demographic Results," DOT HS 810 897. Available at: <http://www-nrd.nhtsa.dot.gov/PUBS/810897.PDF>
Data for 2006: Glassbrenner, Donna. (April 2007). Safety Belt Use in 2006--Demographic Results, DOT HS 810 766. U.S. Department of Transportation, National Highway Traffic Safety Administration. Data for 2005: Glassbrenner, Donna. (December 2005). *Safety Belt Use in 2005--Demographic Results*, DOT HS 809 969. U.S. Department of Transportation, National Highway Traffic Safety Administration. Data for 2004: Glassbrenner, Donna. (February 2005). *Research Note: Safety Belt Use in 2004 - Demographic Results*. U.S. Department of Transportation, National Highway Traffic Safety Administration, DOT HS 809 848. Data for 2003: Glassbrenner, Donna. (2004). *Safety Belt Use in 2003-Demographic Characteristics*. U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, DOT HS 809 729. Data for 2002: Glassbrenner, Donna. (March 2003). *Research Note: Safety Belt Use in 2002-Demographic Characteristics*, DOT HS 809 557. U.S. Department of Transportation, National Highway Traffic Safety Administration. Data for 1994-2000: Bondy, Nancy and Donna Glassbrenner. *Research Note: National Occupant Protection Use Survey- 2000 Controlled Intersection Study*. U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, DOT HS 809 318: August 2001.

Figure 2

Percentage of Children Under Age Eight Using Seat Belts or Restraints by Seat Belt Status of Driver, 2007

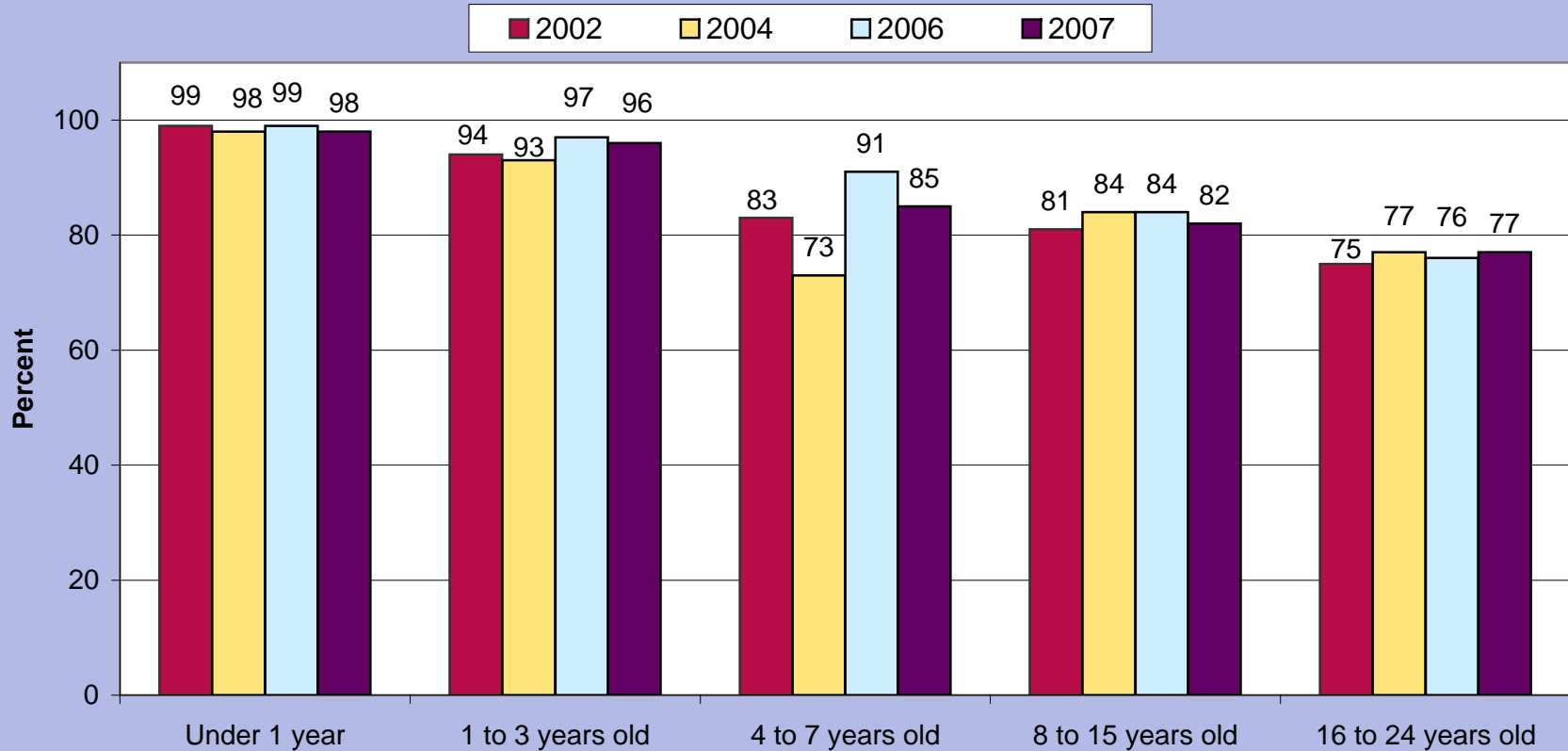


Source: Data for 2007: Ye, Pickrell (April 2008) "Child Restraint Use in 2007--Overall Results," DOT HS 810 931. Glassbrenner, Ye (January 2008) "Child Restraint Use in 2007--Demographic Results," DOT HS 810 897. Glassbrenner, Ye (January 2008) "Child Restraint Use in 2007--Use of Correct Restraint Types," DOT HS 810 895. Available at: <http://www-nrd.nhtsa.dot.gov/PUBS/810895.PDF>



Figure 3

Percentage of Children and Youth Using Seat Belts or Restraints, Selected Years 2002-2007



Source: Data for 2002: Glassbrenner, Donna (February 2003). *The Use of Child Restraints in 2002*, DOT HS 809 555. U.S. Department of Transportation, National Highway Traffic Safety Administration. Data for 2004: Glassbrenner, Donna. (February 2005). *Child Restraint Use in 2004 - Overall Results*, DOT HS 809 845. U.S. Department of Transportation, National Highway Traffic Safety Administration. Data for 2005: Glassbrenner, Donna. (December 2005). *Research Note: Safety Belt Use in 2005—Demographic Results*. U.S. Department of Transportation, National Highway Safety Administration, DOT HS 809 969. Available online at: <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/RNotes/2005/809969.pdf>. Data for 2006: Glassbrenner, Donna. (February 2007). *Child Restraint Use in 2006 - Overall Results*, DOT HS 810 737. U.S. Department of Transportation, National Highway Traffic Safety Administration. <http://199.79.179.188/portal/site/nhtsa/menuitem.6a6eaf83cf719ad24ec86e10dba046a0/> Data for 2007: Ye, Pickrell (April 2008) "Child Restraint Use in 2007--Overall Results," DOT HS 810 931. Glassbrenner, Ye (January 2008) "Child Restraint Use in 2007--Demographic Results," DOT HS 810 897. Glassbrenner, Ye (January 2008) "Child Restraint Use in 2007--Use of Correct Restraint Types," DOT HS 810 895. Available at: <http://www-nrd.nhtsa.dot.gov/PUBS/810897.PDF> and <http://www-nrd.nhtsa.dot.gov/PUBS/810895.PDF>



Table 2

Percent of Children Under Age Eight Using Seat Belts/Restraints in the Front or Back Seat, 1994-2007

	1994	1996	1998	2000	2002	2004	2006	2007
Total					88	82	84	89
Age								
Under 1 year old	88	85	97	95	99	98	99	98
1 to 3 years old	-	-	-	-	94	93	97	96
1 to 4 years old	61	60	91	91	-	-	-	-
4 to 7 years old	-	-	-	-	83	73	91	85
Belt Status of Driver								
Belted	-	-	-	-	92	86	87	92
Unbelted	-	-	-	-	72	50	58	61
Gender of Driver								
Female	-	-	-	-	92	82	82	90
Male	-	-	-	-	91	82	86	86
Region								
Northeast	-	-	-	-	87	69	81	88
Midwest	-	-	-	-	86	79	82	88
South	-	-	-	-	92	87	80	85
West	-	-	-	-	86	84	93	94
Urbanization								
Urban	-	-	-	-	84	78	73	85
Suburban	-	-	-	-	85	84	87	91
Rural	-	-	-	-	87	80	84	86
Type of Day								
Weekday	-	-	-	-	89	83	84	90
Weekend	-	-	-	-	85	79	83	86
Time of Day								
Weekday rush hour	-	-	-	-	90	80	78	91
Weekday non-rush hour	-	-	-	-	87	85	89	89
Type of Car								
Passenger cars	-	-	-	-	88	78	78	88
Vans and SUVs	-	-	-	-	91	88	91	91
Pickups	-	-	-	-	77	71	86	76
Type of Seat								
Front Seat	-	-	-	-	83	72	86	75
Rear Seat	-	-	-	-	90	83	83	90
Restraint Use by Infants								
Front-facing car seat	-	-	-	-	66	48	21	14
Rear-facing car seat	-	-	-	-	32	45	72	81
High-back booster seat	-	-	-	-	1	0	N/A	N/A
Belt or backless booster	-	-	-	-	1	4	2	N/A
No restraint observed	-	-	-	-	1	2	1	2
Restraint Use by Toddlers								
Front-facing car seat	-	-	-	-	62	62	69	73
Rear-facing car seat	-	-	-	-	4	6	4	3
High-back booster seat	-	-	-	-	16	2	12	9
Belt or backless booster	-	-	-	-	13	22	11	11
No restraint observed	-	-	-	-	6	7	3	4
Restraint Use by Booster-age Children								
Front-facing car seat	-	-	-	-	9	13	17	13
Rear-facing car seat	-	-	-	-	1	-	N/A	N/A
High-back booster seat	-	-	-	-	6	2	25	22
Belt or backless booster	-	-	-	-	67	58	49	50
No restraint observed	-	-	-	-	17	27	9	15

Note: Starting in 2002, the National Occupant Protection Use Survey revised its age breaks by redefining toddlers as those between the ages of one and three rather than one and four, adding an additional category of children between the age four and seven (to reflect booster seat-use), and redefining youth as those ages eight to fifteen rather than ages five to fifteen.

Data from 1994-2000: Bondy, Nancy and Donna Glassbrenner. Research Note: National Occupant Protection Use Survey- 2000 Controlled Intersection Study. U.S. Department of Transportation, National Highway Traffic Safety Administration. National Center for Statistics and Analysis, DOT HS 809 318: August 2001. Data for 2002: Glassbrenner, Donna (February 2003). The Use of Child Restraints in 2002, DOT HS 809 555. U.S. Department of Transportation, National Highway Traffic Safety Administration. Data for 2004: Glassbrenner, Donna. (February 2005). Child Restraint Use in 2004 - Overall Results, DOT HS 809 845.

U.S. Department of Transportation, National Highway Traffic Safety Administration. <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/RNotes/2005/809845.pdf>. Data for 2006: Glassbrenner, Donna. (February 2007). Child Restraint Use in 2006 - Overall Results, DOT HS 810 737. U.S. Department of Transportation, National Highway Traffic Safety Administration. <http://199.79.179.188/portal/site/nhtsa/menuitem.6a6eaf83c719ad24ec86e10dba046a0/> Data for 2007: Ye, Pickrell (April 2008) "Child Restraint Use in 2007--Overall Results," DOT HS 810 931. Glassbrenner, Ye (January 2008) "Child Restraint Use in 2007--Demographic Results," DOT HS 810 897. Glassbrenner, Ye (January 2008) "Child Restraint Use in 2007--Use of Correct Restraint Types," DOT HS 810 895. Available at: <http://www-nrd.nhtsa.dot.gov/PUBS/810897.PDF>, <http://www-nrd.nhtsa.dot.gov/PUBS/810895.PDF>, <http://www-nrd.nhtsa.dot.gov/PUBS/810931.PDF>

