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Occupant Restraint Use in 2024: Results From the NOPUS Controlled Intersection Study

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16. Abstract

This report presents results from the 2024 National Occupant Protection Use Survey (NOPUS) Controlled Intersection Study, the only nationwide probability-based occupant restraint use survey. NHTSA's National Center for Statistics and Analysis conducts this survey annually. The 2024 NOPUS found no significant changes for front-seat belt use and two significant changes for rear-seat belt use, while many historical trends persisted. Specifically for rear-seat belt use, the seat belt use rate of occupants driven by drivers 16 to 24 years old significantly decreased from 71.7 percent in 2023 to 54.3 percent in 2024; the seat belt use rate of occupants in the west region significantly decreased from 95.6 percent in 2023 to 83.6 percent in 2024; seat belt use continued to be lower for males (89.3%) than females (93.5%) in the front seat for 8 and older, seat belt use continued to be lower in rear seats (80.1%) than in front seats (91.2%) for 8 and older, and seat belt use continued to be lower among Black occupants (83.1%) than white occupants (91.7%) and members of other races (93.9%) in the front seat for 8 and older.

17. Key Words seat belt use, child restraint use, observational survey, demographics, rear-seat belt use, occupant protection, NOPUS, controlled intersections, car seat	**18. Distribution Statement** Document is available to the public from the DOT, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, https://crashstats.nhtsa.dot.gov.

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Definitions

The estimates computed from the 2024 National Occupant Protection Use Survey (NOPUS) Controlled Intersection (CI) Study reflect the population of all occupants on the road at a typical daylight moment, not just those at intersections.

A vehicle occupant observed in the NOPUS is counted as "belted" if the person appears 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.

The survey classifies a child as follows.

- **Restrained in a rear-facing car seat** if the child appears to be on a seat on top of the vehicle seat, facing the rear of the vehicle, with harness straps across the front of the child.
- **Restrained in a forward-facing car seat** if the child appears to be on a seat on top of the vehicle seat, facing the front of the vehicle, with harness straps across the front of the child.
- **Restrained in a high-back booster seat** if the child appears to be on a seat on top of the vehicle seat with a shoulder belt across the front of the child.
- **Restrained in a seat belt or backless booster seat** if there is a shoulder belt across the front of the child but the observers cannot see if the child is in a seat on top of the vehicle seat.
- **Restrained** if the child is restrained by any of the above.
- The remaining children are classified as **unrestrained**. Note that in the survey there is no mention of being "unrestrained" in, for example, a forward-facing car 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 reliable if observed from the roadside.

The racial categories "Black," "White," and "Members of other races" in NOPUS reflect subjective characterizations by roadside observers regarding the race of vehicle occupants. Likewise, observers record age groups (8 to 15 years old, 16 to 24 years old, 25 to 69 years old, and 70 and older) that best fit their visual assessment of each observed occupant.

"Expressways" are defined as roadways with limited access, while "surface streets" are all other roadways.

A roadway is defined to have "fast traffic" during the observation period if the average speed of passenger vehicles passing the observers exceeds 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" during the observation period if the average number of vehicles on the roadway is greater than 5 per lane per mile, with "moderately dense traffic" defined as greater than 1 but less than or equal to 5 vehicles per lane per mile, and "light traffic" as less than or equal to 1 vehicle per lane per mile. Please note that this traffic density breakdown was revised in the 2011 NOPUS to better capture the traffic patterns.

For 2023, Urban and Rural area classifications are based on Census's 2010 urban area classification. Urban areas are comprised of Urban (Census-Identified Urbanized Areas of

50,000 or more people) or suburban (Census-Identified Urban Clusters of at least 2,500 and less than 50,000 people). Rural areas are not designated as Urban Areas or Urban Clusters. For 2024, Urban and Rural area classifications are based on National Center for Education Statistics Locale Classification Boundaries (NCES). Urban areas are sites for which the midpoint of the selected road segments fall within territory assigned to a city, suburban, or town locale code (territory inside a Census-define urbanized area or urban cluster). Rural areas are sites for which the midpoint of the selected road segments fall within territory assigned to a rural locale code (Census defined rural territory).

The NOPUS sample design does not allow for State-by-State restraint use estimates; however, NOPUS produces estimates by region, defined as follows.

Northeast: Connecticut, Massachusetts, Maine, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont

Midwest: Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, North Dakota, Nebraska, Ohio, South Dakota, Wisconsin'

South: Alabama, Arkansas, the District of Columbia, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia

West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, New Mexico, Nevada, Oregon, Utah, Washington, Wyoming

Executive Summary

NOPUS is the only nationwide probability-based survey of seat belt use for occupants 8 and older in both front and rear seats, motorcycle helmet use, child restraint use for children under 8 years old, and driver electronic device use in the United States. NCSA conducts the NOPUS annually. Two sub-surveys – the NOPUS Moving Traffic (MT) Survey and the NOPUS Controlled Intersection Study – make up the NOPUS.

In the CI study, passenger vehicles occupants are observed from the roadside at intersections controlled by stop signs or stoplights. Only stopped vehicles are observed to allow ample time to collect a variety of information required by the survey. NOPUS derives its estimates of seat belt use in rear seats, child restraint use, driver electronic device use, and demographic characteristics of vehicle occupants from the CI study. Estimates from this study reflect the population of all occupants on the road at a typical daylight moment, not just those at intersections. The NOPUS sample was redesigned in 2022 and implemented in the 2024 survey. Details about the NOPUS sample design are in the NOPUS Methodology section of this report.

This report presents results of occupant restraint use from the 2024 NOPUS CI Study. NHTSA publishes the driver electronic device use results and the motorcycle helmet use results in separate research notes. Here are the major findings from the 2024 NOPUS CI Study.

Front-Seat Belt Use (Among Occupants 8 and Older):

- Overall front-seat belt use in 2024 was 91.2 percent, not statistically different from 91.9 percent in 2023.
- Seat belt use continued to be lower for males (89.3%) than for females (93.5%).
- Seat belt use continued to be lowest among 16- to 24-year-olds (87.3%) and highest among those 70 and older (91.9 %).
- Seat belt use continued to be lower among Black occupants (83.1%) than white occupants (91.7%) and members of other races (93.9%).

Rear-Seat Belt Use (Among Occupants 8 and Older):

- Seat belt use continued to be lower among occupants of rear seats (80.1%) than those in front seats (91.2%).
- The percentage of occupants using a rear-seat belt who are 8 and older driven by a driver 16 to 24 significantly decreased from 71.7 percent in 2023 to 54.3 percent in 2024.
- The percentage of occupants using a rear-seat belt in the west region significantly decreased from 95.6 percent in 2023 to 83.6 percent in 2024.
- Rear-seat belt use is the same in States that require belt use in all seating positions and those that require belt use only in the front seats (80.1%). This is consistent with the trend observed since 2020, except in 2023 when rear-seat belt use was higher in States with requirements for all seating positions.

Child Restraint Use (for Children From Birth to 7 Years Old):

- Restraint use for children from birth to 7 years old in 2024 was 92.2 percent, not statistically different from 90.9 percent in 2023.
- Among the four regions, the Northeast region had the highest child restraint use rate of 94.3 percent in 2024, while the South region had the lowest child restraint use rate of 91.2 percent.
- Restraint use for children driven by belted drivers (94.4%) continued to be higher than for those driven by unbelted drivers (65.0%).
- Restraint use for children traveling in moderately dense traffic significantly increased from 87.3 percent in 2023 to 92.8 percent in 2024.

Introduction

NOPUS is the only nationwide probability-based survey of seat belt use for occupants 8 and older in both front and rear seats, motorcycle helmet use, child restraint use for children under 8 years old, and driver electronic device use in the United States. NCSA conducts the NOPUS annually. Two sub-surveys, the MT survey and the CI study, make up the NOPUS.

In the MT survey, front-seat occupant shoulder belt use data and motorcyclist helmet use data is collected either at the roadside or by data collectors in vehicles (on expressways). NOPUS estimates of front-seat belt use and motorcycle helmet use are from the MT survey. The collective front-seat belt use estimate (also known as NHTSA's national seat belt estimate) is described in *Seat Belt Use in 2024 - Overall Results* (NCSA, 2025).

By contrast, the NOPUS CI study data is collected at intersections controlled by stop signs or stoplights, where vehicle occupants are observed from the roadside. Since the vehicles are stationary, data collectors have enough time to record occupants' characteristics such as race, age, and sex. NOPUS derives its estimates of rear-seat belt use, child restraint use, driver electronic device use, and demographic characteristics of the vehicle occupants from the CI study.

Only motorcycles and passenger vehicles (passenger cars, pickup trucks, SUVs, and vans) are observed in the NOPUS. The population of interest includes all 50 States and the District of Columbia, with the sample observation sites consisting of Federal, State, and county highways, residential streets, and rural roads. Data is collected only during daylight hours when light is adequate to observe seat belt use through the vehicle windshield.

The 2024 NOPUS data was collected from June 3 to June 20, 2024, while the 2023 NOPUS data was collected from June 5 to June 24, 2023. In a typical year, data is collected in early June, immediately following the *Click It or Ticket* campaign. The 2024 NOPUS data is based on the observation of 85,813 occupants, which is approximately 23 percent more than the 2023 sample, observed in 64,151 vehicles, which are approximately 24 percent more than the 2023 sample. Of those observed occupants, 2,857 were children under 8. More details on the NOPUS sampling, data collection, and estimation are discussed in the NOPUS Methodology section below.

Please note that the terms "significant" and "statistically significant" are used interchangeably throughout this report. "Significant" always means "statistically significant," and the statistical significance level is alpha = .05. In tables below, the data with *p*-values that are less than or equal to .05 are formatted in boldface type.

The percentages provided in this report are interpreted as the percentage of occupants during an average daylight moment.

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Demographic Results in Front Seats

The national seat belt use estimate in 2024 was 91.2 percent; not a significant change from 91.9 percent in 2023 (Werth, 2024). This section presents a demographic breakdown of the occupants who used seat belts in 2024. Table 1 shows passenger vehicle occupant seat belt use in front seats for occupants ages 8 and older by demographic and other characteristics in 2023 and 2024. NOPUS demographics are highlighted below.

Age

Figure 1 and Table 1 show a comparison of front-seat belt use rates from 2023 and 2024 across four age groups. None of the age groups experienced a significant year-to-year change in seat belt use rate.

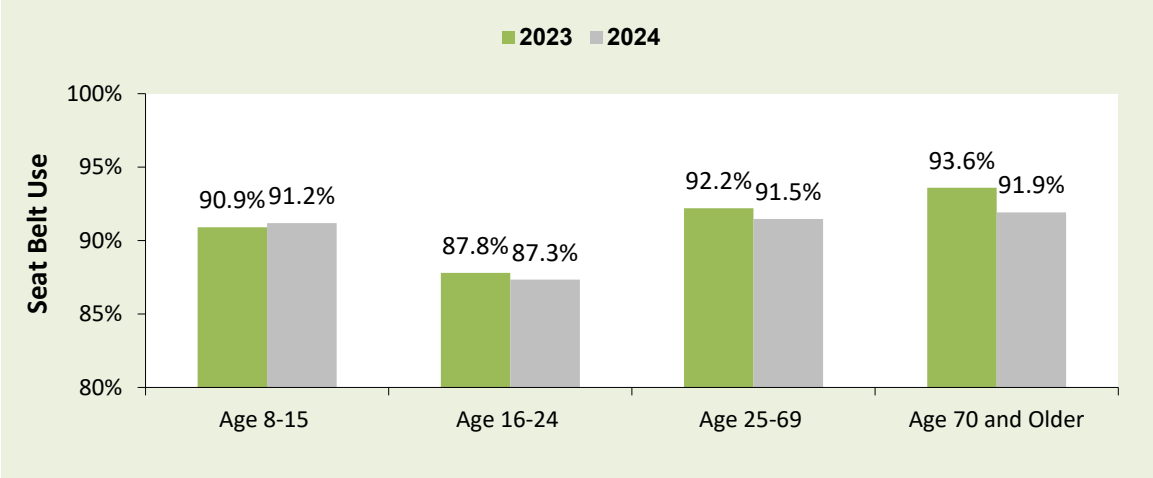

Figure 1. Seat Belt Use in Front Seats by Age for Occupants 8 and Older in 2023 and 2024

Figure 2 shows the trends of front-seat belt use for the four age groups over a 10-year period (2015 to 2024). Seat belt use among 16- to 24-year-olds has been consistently lower than other age groups. Seat belt use among occupants 70 and older was higher than other age groups in 2024.

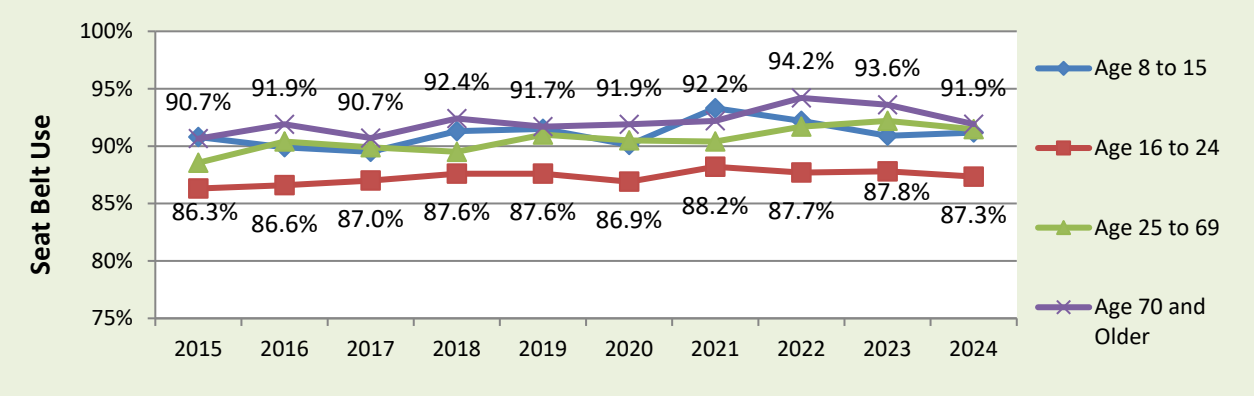

Figure 2. Seat Belt Use in Front Seats by Age for Occupants 8 and Older, 2015 to 2024

Sex

Figure 3 shows the trends of front-seat belt use for male and female occupants over a 10-year period (2015 to 2024). In 2024 seat belt use continued to be lower for males (89.3%) than females (93.5%). During the 10-year period, seat belt use for males and females was highest in 2023.

Race

In NOPUS, observed vehicle occupant race categories are Black, white, and members of other races. This characterization is based on the visual assessment of the data collectors who observe vehicle occupants from roadsides.

Figure 4 shows the trends of front-seat belt use among the three race categories over a 10-year period (2015 to 2024). In 2024 seat belt use continued to be lower among Black occupants than white occupants and members of other races.

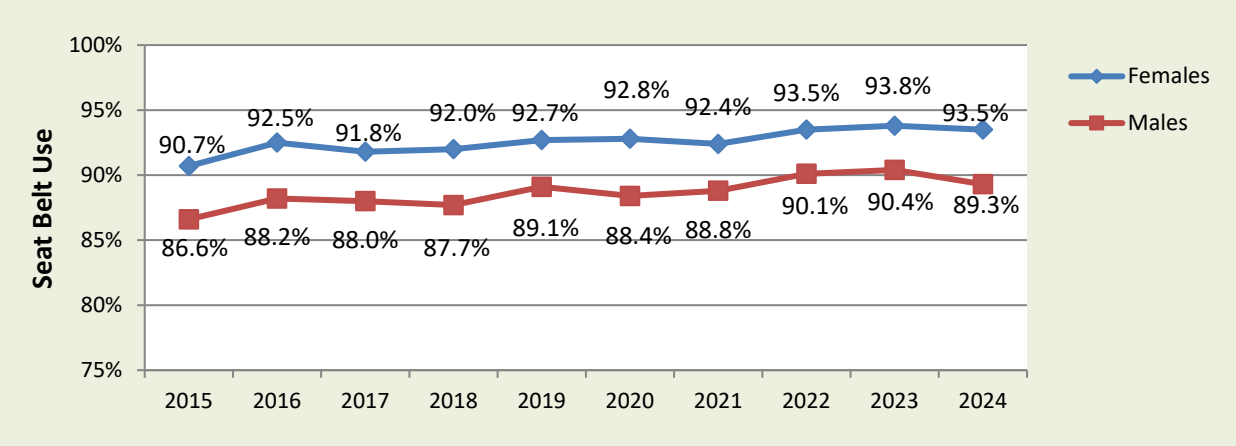

Figure 3. Seat Belt Use in Front Seats by Sex for Occupants 8 and Older, 2015 to 2024

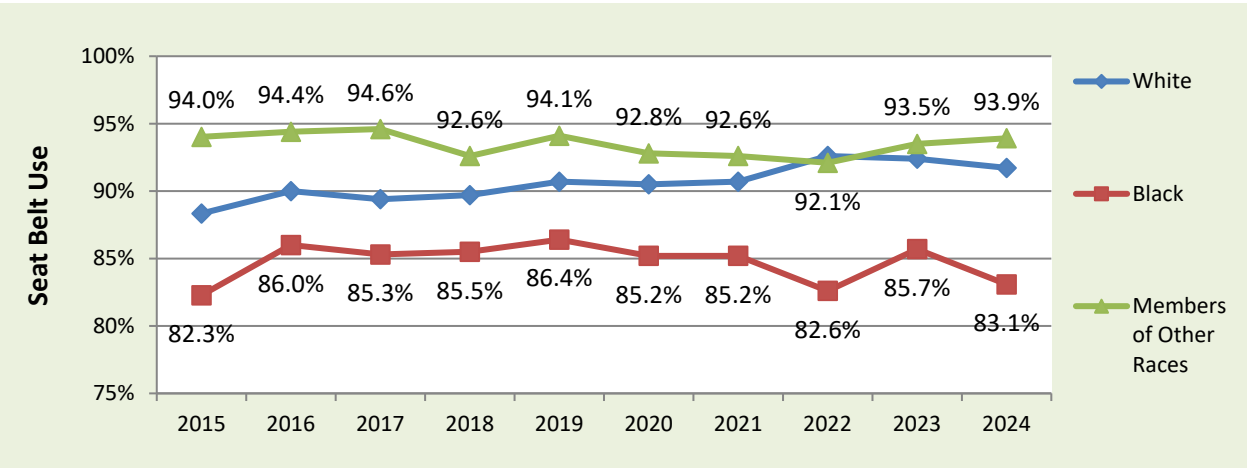

Figure 4. Seat Belt Use in Front Seats by Race for Occupants 8 and Older, 2015 to 2024

Presence of Passengers and Seat Belt Use

Figure 5 shows that front-seat belt use continued to be lower for a driver driving alone (90.7%) than for a driver driving with at least one passenger in the vehicle (92.7%); a decrease from the 10-year period high in 2023.

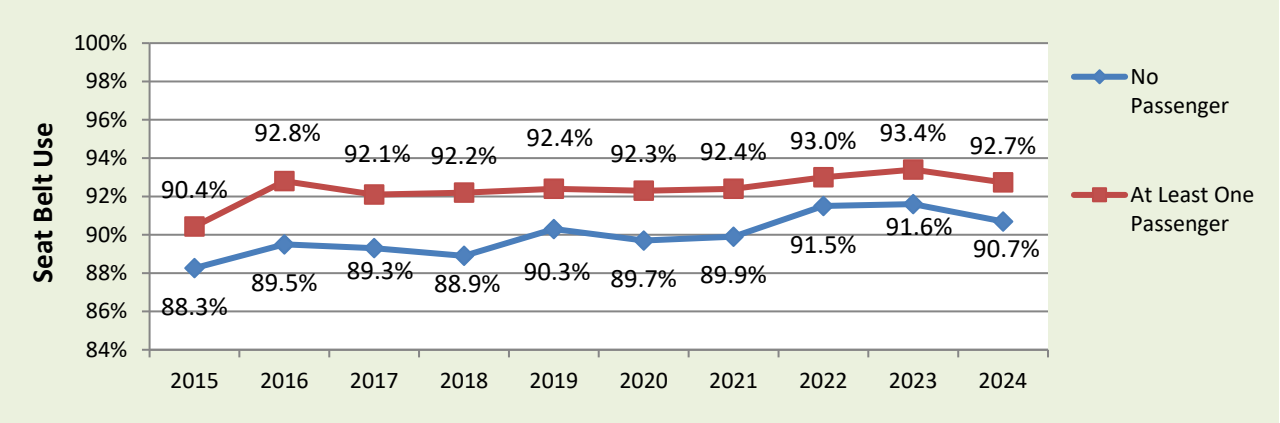

Figure 5. Passenger Effect on Seat Belt Use in Front Seats for Occupants 8 and Older, 2015 to 2024

Table 1. Passenger Vehicle Occupant Seat Belt Use in Front Seats (Ages 8 and Older) by Major Characteristics

Occupant Group[1]	2023		2024		2023-2024 Change		
	Belt Use[2]	95% Confidence Interval[3]	Belt Use[2]	95% Confidence Interval[3]	Change in Percentage[7]	95% Confidence Interval[4]	*P*-value[5]
All Occupants	91.9%	(90.6, 93.0)	91.2%	(89.0, 92.9)	-0.7	(-1.9, 0.5)	0.25
Males[6]	90.4%	(88.7, 91.9)	89.3%	(86.9, 91.4)	-1.1	(-2.5, 0.4)	0.16
Females[6]	93.8%	(92.8, 94.6)	93.5%	91.8, 94.8)	-0.3	(-1.4, 0.8)	0.58
Occupants by Age Group[6]							
8 to 15	90.9%	(86.7, 93.8)	91.2%	(88.3, 93.4)	0.3	(-3.6, 4.3)	0.87
16 to 24	87.8%	(85.5, 89.7)	87.3%	(82.4, 91.1)	-0.4	(-3.4, 2.6)	0.77
25 to 69	92.2%	(91.0, 93.2)	91.5%	(89.4, 93.1)	-0.7	(-2.0, 0.6)	0.29
70 and Older	93.6%	(90.8, 95.5)	91.9%	(89.3, 93.9)	-1.6	(-3.8, 0.5)	0.12
Occupants by Race[6]							
White	92.4%	(90.8, 93.7)	91.7%	(89.7, 93.4)	-0.6	(-1.9, 0.6)	0.30
Black	85.7%	(81.5, 89.1)	83.1%	(75.6, 88.6)	-2.7	(-6.1, 0.7)	0.12
Members of Other Races	93.5%	(91.7, 94.9)	93.9%	(92.3, 95.2)	0.4	(-1.7, 2.6)	0.68
Drivers With							
No Passengers	91.6%	(90.1, 92.8)	90.7%	(88.5, 92.5)	-0.9	(-2.1, 0.4)	0.16
At Least One Passenger	93.4%	(92.1, 94.6)	92.7%	(90.7, 94.3)	-0.7	(-2.0, 0.6)	0.26
No Passengers	91.6%	(90.1, 92.8)	90.7%	(88.5, 92.5)	-0.9	(-2.1, 0.4)	0.16
Passengers All Under 8	93.7%	(89.7, 96.3)	93.0%	(90.8, 94.7)	-0.7	(-3.5, 2.1)	0.59
Passengers All 8 and Older	93.4%	(92.0, 94.6)	92.7%	(90.7, 94.3)	-0.7	(-2.1, 0.6)	0.28
Some Passengers Under 8 and Some 8 or Older	93.1%	(90.4, 95.1)	92.7%	(88.3, 95.5)	-0.5	(-4.0, 3.1)	0.79

Occupant Group[1]	2023		2024		2023-2024 Change		
	Belt Use[2]	95% Confidence Interval[3]	Belt Use[2]	95% Confidence Interval[3]	Change in Percentage[7]	95% Confidence Interval[4]	*P*-value[5]
Drivers 16-24 With							
No Passengers	87.6%	(85.0, 89.8)	87.8%	(82.5, 91.7)	0.2	(-3.1, 3.5)	0.89
Passengers All 16-24	87.7%	(84.0, 90.7)	84.2%	(74.9, 90.5)	-3.5	(-9.7, 2.7)	0.26
At Least One Passenger Not 16-24	90.9%	(84.8, 94.7)	90.8%	(83.3, 95.2)	-0.1	(-6.1, 5.9)	0.99
Occupants 16-24 When							
All Occupants Are 16-24	87.1%	(84.6, 89.3)	86.4%	(80.3, 90.8)	-0.7	(-4.3, 2.8)	0.68
At Least One Occupant Is Not 16-24	89.4%	(86.6, 91.6)	89.8%	(85.9, 92.7)	0.4	(-2.9, 3.7)	0.81

[1] Drivers and right-front passengers of passenger vehicles.

[2] Use of shoulder belts observed from 7 a.m. to 6 p.m.

[3] The Wilson confidence interval is used in the estimated percentages in the occupant group (e.g., occupants who are male), which is in the form: $\left\{(2n_{EFF}p + t^2) \pm t\sqrt{(t^2 + 4n_{EFF}pq)}\right\}/\left(2(n_{EFF} + t^2)\right)$, where p is the estimated percentage of Belt Use, $n_{EFF} = n/D_{EFF}$ is the effective sample size (where n is the sample size and D_{EFF} is the design effect), $t = t_{(1-\alpha/2)}(df)$, is a multiplier from the t-distribution with df degrees of freedom, and $q = 1 - p$. For percentages, these endpoints are multiplied by 100.

[4] The regular symmetric interval was used for the estimated change in percentage point, which is in the form: $p \pm t_{(1-\alpha/2)}(df)\sqrt{v(p)}$, where p is the estimated change in percentage point, $v(p)$ is its estimated variance, and $t_{(1-\alpha/2)}(df)$ is a multiplier from the t-distribution with df degrees of freedom.

[5] A p-value of .05 or less indicates that there is a statistically significant difference (at the alpha=.05 level) between the year-over-year estimates for the group in question, **indicated with bold type**.

[6] The age, sex, and racial classifications are based on the subjective assessments of roadside observers.

[7] The "Change in Percentage Points" column was computed using unrounded estimates and may not equal the difference between the rounded estimates displayed in the table.

Source: NOPUS, 2023, 2024.

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Seat Belt Use in Rear Seats

According to Federal Motor Vehicle Safety Standard No. 208, Occupant Crash Protection, all passenger cars shall have integral lap and shoulder belts at every front outboard designated seating position and every rear designated seating position (except for side-facing seating positions). Using the 2020 vehicle registration data from the National Vehicle Population Profile (R. L. Polk & Co., n.a.), NHTSA estimated that 96.4 percent of passenger vehicles on the road have shoulder belts in the rear outboard seating positions. Of the 3.6 percent of vehicles that have only lap belts in the rear outboard seats, all observed rear-seat vehicle occupants are counted by NOPUS as *unbelted (not restrained with a shoulder belt)*, even if they may be using lap belts. So, NOPUS rear-seat shoulder belt use estimates reflect both the degree to which vehicle occupants use restraints and the availability of shoulder belts in these seating positions. Please note that NOPUS only observes up to two passengers in the second row of seats and none in the third row and beyond.

Table 2 shows results of seat belt use in rear seats of passenger vehicles in 2023 and 2024 as well as the changes between the 2 years. Some major results are highlighted below.

Seat Belt Use in Rear Seats Versus in Front Seats

Figure 6 shows the front- and rear-seat belt use trends from 2015 to 2024. As in previous years, seat belt use in 2024 was lower in rear seats (80.1%) than in front seats (91.2%).

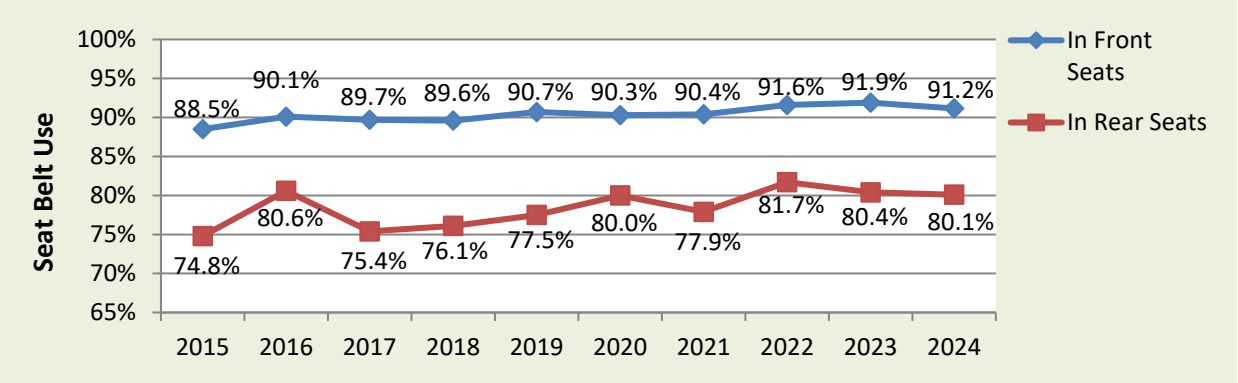

Figure 6. Seat Belt Use by Seating Position for Occupants 8 and Older, 2015 to 2024

State Laws and Rear-Seat Belt Use

At the time the 2024 NOPUS survey was conducted, 33 States and the District of Columbia required all vehicle occupants 18 and older to use seat belts when riding in rear seats (Highway Loss Data Institute, 2024). Please note that rear-seat belt use laws are secondary in Alabama, Connecticut, Idaho, Kansas, Maryland, Massachusetts, Montana, Nevada, New Jersey, North Carolina, Vermont, and Wyoming. "Secondary enforcement laws allow law enforcement officers to cite violators only after they first have been stopped for some other traffic violation" (Kirley et al., 2023). New Hampshire is the only State that does not have mandatory seat belt laws for adults 18 and older.

The following States and the District of Columbia had laws in effect as of June 3, 2024, that require people 18 and older to use seat belts in all seating positions (Highway Loss Data Institute, 2024).

> Alabama, Alaska, California, Connecticut, Delaware, District of Columbia, Hawaii, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Mississippi, Montana, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Oregon, Rhode Island, South Carolina, Texas, Utah, Vermont, Washington, Wisconsin, and Wyoming.

Figure 7 shows the trend of rear-seat belt use among passengers in the States with or without laws requiring belt use in all seating positions over the period 2015 to 2024. Rear-seat belt use in States with laws requiring belt use in all seating positions decreased from 81.3 percent in 2023 to 80.1 percent in 2024, while rear-seat belt use in States with laws requiring belt use only in the front seat increased from 75.8 percent in 2023 to 80.1 percent in 2024. Neither of these changes is statistically significant.

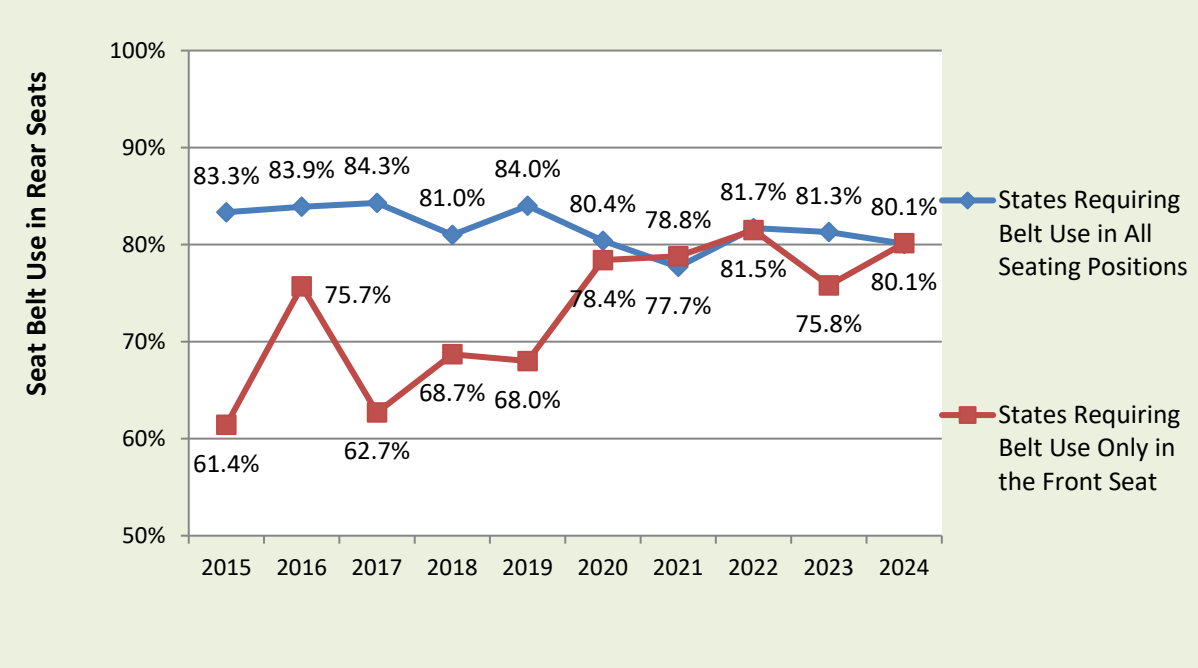

Figure 7. Seat Belt Use in Rear Seats by State Law Type for Occupants 8 and Older, 2015 to 2024

Rear seat belt use among female passengers in rear seats (82.7%) was higher than the seat belt use among male passengers in rear seats (77.9%). Seat belt use continued to be lower among Black occupants (69.9%) than white occupants (84.1%) and members of other races (74.8%) in rear seats. The percentage of rear-seat belt use of occupants driven by a driver aged 16-24 significantly decreased from 71.7 percent in 2023 to 54.3 percent in 2024, and belt use rate for rear seat occupant in the west region significantly decreased from 95.6 percent in 2023 to 83.6 percent in 2024.

Table 2. Seat Belt Use in Rear Seats (8 and Older) of Passenger Vehicles, by Major Characteristics

Passenger Group[1]	2023		2024		2023-2024 Change		
	Belt Use[2]	95% Confidence Interval[3]	Belt Use[2]	95% Confidence Interval[3]	Change in Percentage[7]	95% Confidence Interval[4]	*P*-value[5]
All Passengers	80.4%	(73.3, 85.9)	80.1%	(74.3, 84.8)	-0.3	(-8.0, 7.4)	0.94
Males[6]	79.9%	(72.4, 85.8)	77.9%	(72.1, 82.9)	-2.0	(-9.7, 5.8)	0.61
Females[6]	80.9%	(73.6, 86.5)	82.7%	(75.8, 87.9)	1.8	(-7.1, 10.7)	0.68
Passengers by Age Group[6]							
8 to 15	85.1%	(79.4, 89.5)	88.0%	(83.9, 91.2)	2.9	(-2.7, 8.6)	0.30
16 to 24	80.4%	(71.2, 87.2)	75.0%	(66.1, 82.2)	-5.5	(-17.0, 6.1)	0.34
25 to 69	74.5%	(65.8, 81.6)	77.3%	(70.7, 82.7)	2.8	(-5.7, 11.2)	0.51
70 and Older	87.8%	(76.4, 94.1)	80.8%	(69.3, 88.7)	-7.1	(-19.7, 5.6)	0.26
Passengers by Race[6]							
White	84.5%	(78.4, 89.1)	84.1%	(78.9, 88.1)	-0.4	(-7.1, 6.3)	0.90
Black	65.6%	(55.5, 74.4)	69.9%	(58.9, 79.0)	4.4	(-8.4, 17.1)	0.49
Members of Other Races	75.4%	(64.0, 84.1)	74.8%	(66.5, 81.6)	-0.6	(-10.4, 9.2)	0.90
Passengers in States With Laws Requiring Belts Be Used							
In All Seating Positions	81.3%	(72.8, 87.5)	80.1%	(73.0, 85.7)	-1.2	(-10.2, 7.8)	0.79
In Front Seats Only	75.8%	(68.0, 82.1)	80.1%	(69.1, 87.9)	4.4	(-8.0, 16.8)	0.47
Passengers in States With							
Primary Belt Use Laws	79.6%	(71.4, 85.8)	80.3%	(73.7, 85.6)	0.7	(-8.0, 9.5)	0.87
Secondary or No Belt Use Laws	84.9%	(76.9, 90.5)	79.4%	(65.8, 88.5)	-5.6	(-18.7, 7.6)	0.39
Passengers Driven by							
a Restrained Driver	83.0%	(75.4, 88.6)	83.1%	(77.7, 87.5)	0.1	(-7.3, 7.6)	0.97
an Unrestrained Driver	42.0%	(32.1, 52.7)	44.6%	(33.1, 56.7)	2.6	(-14.6, 19.8)	0.76
a Male Driver	78.6%	(68.9, 85.9)	78.5%	(71.4, 84.2)	-0.1	(-9.7, 9.5)	0.98
a Female Driver	83.2%	(77.4, 87.8)	82.6%	(77.6, 86.6)	-0.6	(-6.2, 5.0)	0.82
a Driver Aged 16-24	**71.7%**	**(60.0, 81.0)**	**54.3%**	**(42.4, 65.8)**	**-17.4**	**(-32.2, -2.6)**	**0.02**

Passenger Group[1]	2023		2024		2023-2024 Change		
	Belt Use[2]	95% Confidence Interval[3]	Belt Use[2]	95% Confidence Interval[3]	Change in Percentage[7]	95% Confidence Interval[4]	*P*-value[5]
a Driver Aged 25-69	81.1%	(74.1, 86.5)	82.2%	(76.5, 86.7)	1.1	(-6.4, 8.6)	0.76
a Driver Aged 70 or Older	81.6%	(65.0, 91.4)	79.8%	(66.5, 88.7)	-1.9	(-18.1, 14.4)	0.82
a White Driver	84.2%	(78.9, 88.4)	82.6%	(77.4, 86.9)	-1.6	(-8.0, 4.9)	0.62
a Black Driver	67.7%	(56.5, 77.2)	73.2%	(62.7, 81.6)	5.4	(-6.2, 17.1)	0.35
a Driver of Another Race	75.9%	(62.5, 85.6)	77.1%	(68.0, 84.2)	1.2	(-10.5, 12.9)	0.84
Passengers on							
Expressways	82.6%	(75.0, 88.3)	79.7%	(68.4, 87.7)	-2.9	(-15.0, 9.2)	0.63
Surface Streets	78.6%	(71.2, 84.6)	80.3%	(74.7, 84.8)	1.6	(-6.1, 9.4)	0.67
Passengers Traveling in							
Fast Traffic	81.8%	(74.8, 87.1)	83.6%	(78.3, 87.8)	1.9	(-5.2, 9.0)	0.60
Medium Speed Traffic	81.1%	(71.8, 87.9)	80.6%	(74.3, 85.7)	-0.5	(-10.2, 9.2)	0.92
Slow Traffic	77.3%	(64.7, 86.4)	75.5%	(65.6, 83.3)	-1.8	(-14.4, 10.7)	0.77
Passengers Traveling in							
Heavy Traffic	81.7%	(72.2, 88.5)	80.9%	(73.5, 86.6)	-0.8	(-10.5, 8.9)	0.87
Moderately Dense Traffic	78.1%	(70.7, 84.0)	79.9%	(72.7, 85.7)	1.9	(-7.4, 11.1)	0.68
Light Traffic	75.4%	(66.7, 82.4)	75.4%	(67.0, 82.2)	0.0	(-12.5, 12.6)	0.99
Passengers Traveling Through							
Not Clear Weather Conditions	87.9%	(80.0, 93.0)	79.1%	(48.6, 93.8)	-8.8	(-32.6, 15.0)	0.45
Clear Weather Conditions	80.0%	(72.7, 85.7)	80.2%	(74.2, 85.0)	0.1	(-7.6, 7.9)	0.97
Passengers in							
Passenger Cars	73.1%	(65.7, 79.4)	78.1%	(70.3, 84.3)	5.0	(-6.2, 16.2)	0.37
Vans and SUVs	85.1%	(76.4, 91.0)	83.2%	(76.4, 88.4)	-1.9	(-10.8, 7.1)	0.67
Pickup Trucks	78.7%	(70.5, 85.2)	71.5%	(64.1, 77.9)	-7.2	(-17.3, 2.9)	0.15

Passenger Group[1]	2023		2024		2023-2024 Change		
	Belt Use[2]	95% Confidence Interval[3]	Belt Use[2]	95% Confidence Interval[3]	Change in Percentage[7]	95% Confidence Interval[4]	*P*-value[5]
Passengers in the							
Northeast	68.9%	(46.3, 85.0)	75.4%	(57.8, 87.2)	6.5	(-14.5, 27.6)	0.53
Midwest	87.0%	(79.8, 91.9)	78.1%	(64.9, 87.4)	-8.8	(-21.7, 4.0)	0.17
South	75.4%	(66.2, 82.7)	81.0%	(74.0, 86.5)	5.6	(-3.9, 15.2)	0.23
West	**95.6%**	**(91.2, 97.8)**	**83.6%**	**(72.3, 90.9**	**-12.0**	**(-22.0, -2.0)**	**0.02**
Passengers in Objectively Characterized							
Urban Areas	80.8%	(71.8, 87.5)	80.6%	(73.6, 86.1)	-0.2	(-9.5, 9.0)	0.96
Rural Areas	79.3%	(73.5, 84.1)	79.0%	(70.1, 85.8)	-0.3	(-10.2, 9.5)	0.95
Passengers Traveling During							
Weekdays	79.0%	(71.1, 85.2)	79.8%	(74.3, 84.3)	0.8	(-7.6, 9.2)	0.85
Rush Hours	80.8%	(73.0, 86.8)	79.0%	(73.4, 83.8)	-1.8	(-11.9, 8.3)	0.72
Non-Rush Hours	77.3%	(66.2, 85.6)	80.6%	(73.1, 86.4)	3.3	(-6.8, 13.4)	0.51
Weekends	82.1%	(73.9, 88.2)	80.6%	(72.1, 87.0)	-1.5	(-11.7, 8.6)	0.76

[1] Up to two passengers observed in the second row of seats in passenger vehicles.
[2] Use of shoulder belts observed from 7 a.m. to 6 p.m.
[3] The Wilson confidence interval is used in the estimated percentages in the occupant group (e.g., occupants who are male), which is in the form: $\left\{(2n_{EFF}p + t^2) \pm t\sqrt{(t^2 + 4n_{EFF}pq)}\right\}/\left(2(n_{EFF} + t^2)\right)$, where p is the estimated percentage of Belt Use, $n_{EFF} = n/D_{EFF}$ is the effective sample size (where n is the sample size and D_{EFF} is the design effect), $t = t_{(1-\alpha/2)}(df)$, is a multiplier from the t-distribution with df degrees of freedom, and $q = 1 - p$. For percentages, these endpoints are multiplied by 100.
[4] The regular symmetric interval was used for the estimated change in percentage point, which is in the form: $p \pm t_{(1-\alpha/2)}(df)\sqrt{v(p)}$, where p is the estimated change in percentage point, $v(p)$ is its estimated variance, and $t_{(1-\alpha/2)}(df)$ is a multiplier from the t-distribution with df degrees of freedom.
[5] A *p*-value of .05 or less indicates that there is a statistically significant difference (at the alpha=.05 level) between the year-over-year estimates for the group in question, **indicated with bold type**.
[6] The age, sex, and racial classifications are based on the subjective assessments of roadside observers.
[7] The "Change in Percentage Points" column was computed using unrounded estimates and may not equal the difference between the rounded estimates displayed in the table.
Source: NOPUS, 2023, 2024.

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Child Restraint Use

In 2024, NOPUS continued to collect roadside observational data on child restraint use for all children under 8 years old. Detailed results of child restraint use are shown in Table 3, Table 4, and Table 5. Table 3 shows the results of child restraint use in passenger vehicles by major characteristics in 2023 and 2024 as well as the changes between the 2 years. Table 4 shows results on child rear seat placement by major characteristics in 2023 and 2024 as well as the changes between the 2 years. Table 5 divides the child occupants into three age groups and reports restraint use by some other characteristics among these groups. Some of the major results of child restraint use are discussed below.

Child Restraint Use Among All Children Under 8 Years Old

Restraint use for children under 8 in 2024 was 92.2 percent, up from 90.9 percent in 2023, which is not a significant change. Figure 8 shows the child restraint use trend since 2015.

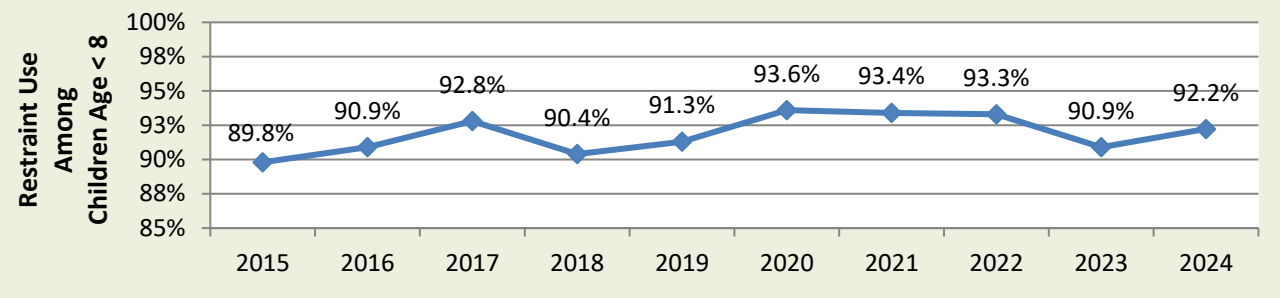

Figure 8. Child Restraint Use Among Children Under 8 Years Old, 2015 to 2024

Child Rear Seat Placement

Figure 9 shows the trends for each age group of rear-seat placement of children under 8 from 2015 to 2024. The 2024 NOPUS found that 94.2 percent of children under 8 rode in rear seats of vehicles, which is not a significant increase from 91.7 percent in 2023. In the infant group (from birth to 12 months), 98.0 percent rode in rear seats. 98.8 percent of children 1 to 3 years old and 90.6 percent of 4- to 7-year-olds were in rear seats in 2024. Rear seat placement among children under 8 in States with laws requiring children under 8 to be in the rear seat decreased from 94.5 percent in 2023 to 93.1 percent in 2024. Lastly, rear seat placement among children traveling during Weekday Non-Rush Hours increased significantly from 89.0 percent in 2023 to 93.8 percent in 2024.

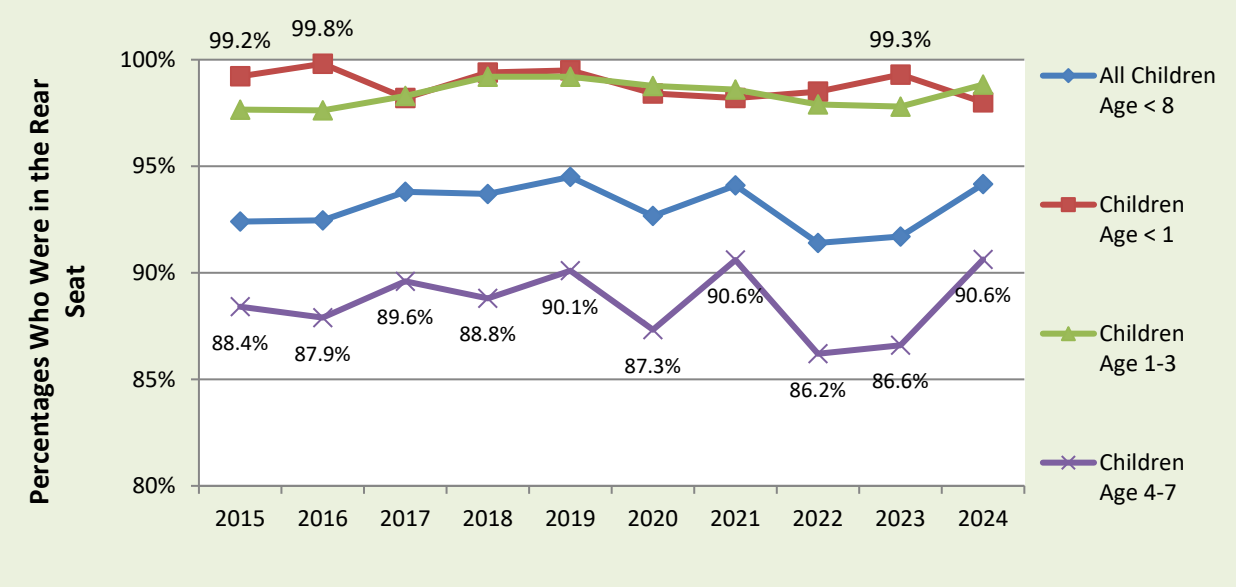

Figure 9. Child Rear Seat Placement, 2015 to 2024

As of June 3, 2024, at the time the 2024 survey was conducted, 11 States required children 5 and younger who weighed less than 80 pounds and were less than 54 inches tall, to ride in the rear seats of vehicles. The following is a list of those states: California, Georgia, Louisiana, Maine, Nebraska, New Jersey, Rhode Island, South Carolina, Tennessee, Washington, and Wyoming. In no other State did such a law take effect from June 5, 2023, to June 3, 2024. In Delaware, children 11 and younger and 65 inches or less must be in rear seats if air bags are active (Highway Loss Data Institute, 2024).

Child Restraint Use by Region

There were no significant changes in child restraint use from 2023 to 2024 in any of the regions, as shown in Figure 10. Among all regions, the biggest change occurred in the Northeast where child restraint use increased from 87.6 percent in 2023 to 94.3 percent in 2024.

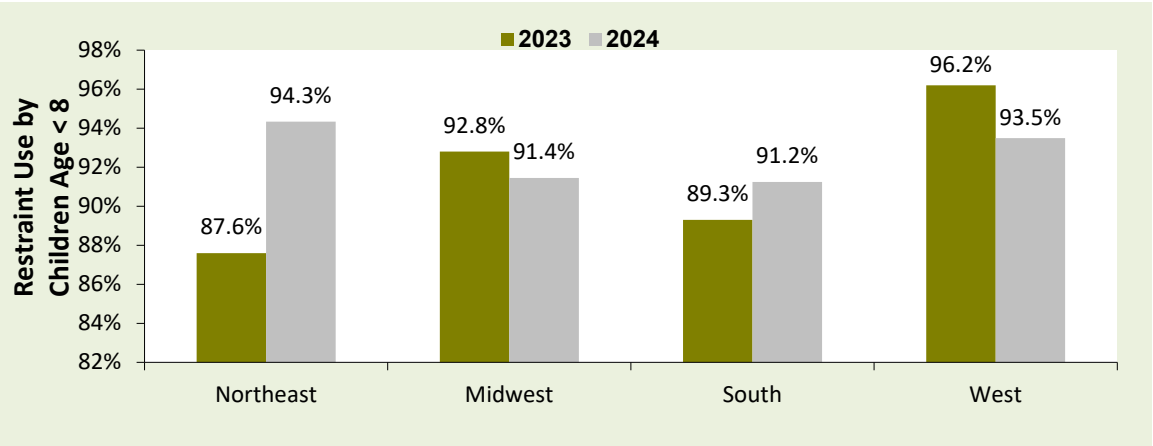

Figure 10. Child Restraint Use by Region in 2023 and 2024

Figure 11 shows the trends in child restraint use by region from 2015 to 2024. The South region had the lowest restraint use rate of 91.2 percent in 2024, while the Northeast region had the highest restraint use rate of 94.3 percent in 2024.

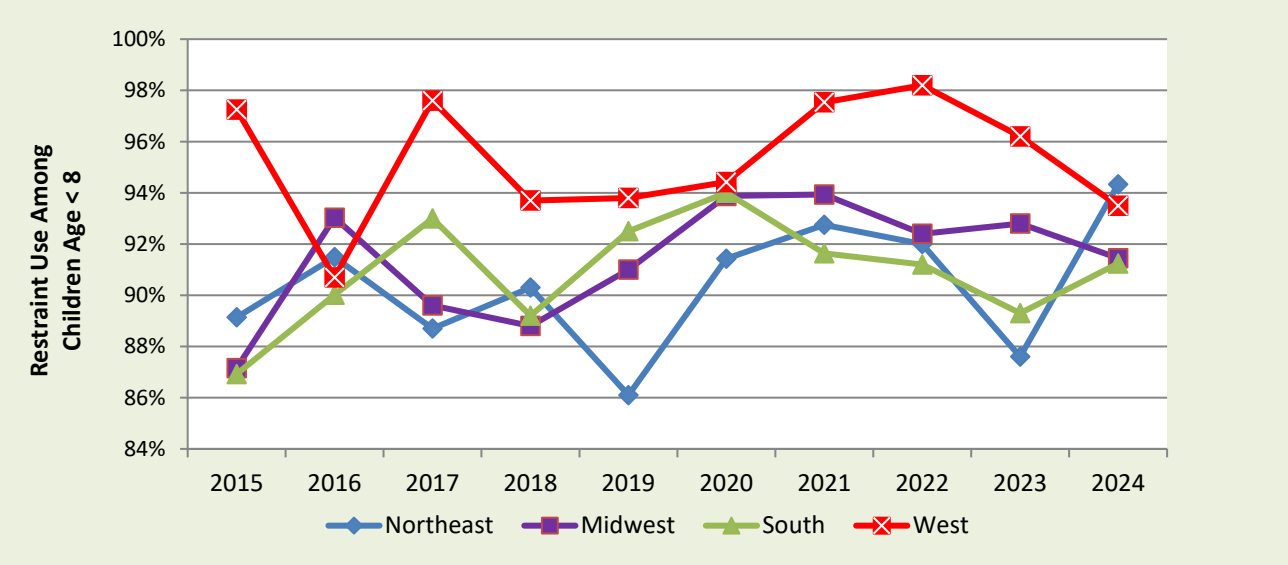

Figure 11. Child Restraint Use by Region, 2014 to 2024

Child Restraint Use by Time of Week

Child restraint use decreased for each of the time of week categories except for Weekends; none of the changes are statistically significant (Figure 12).

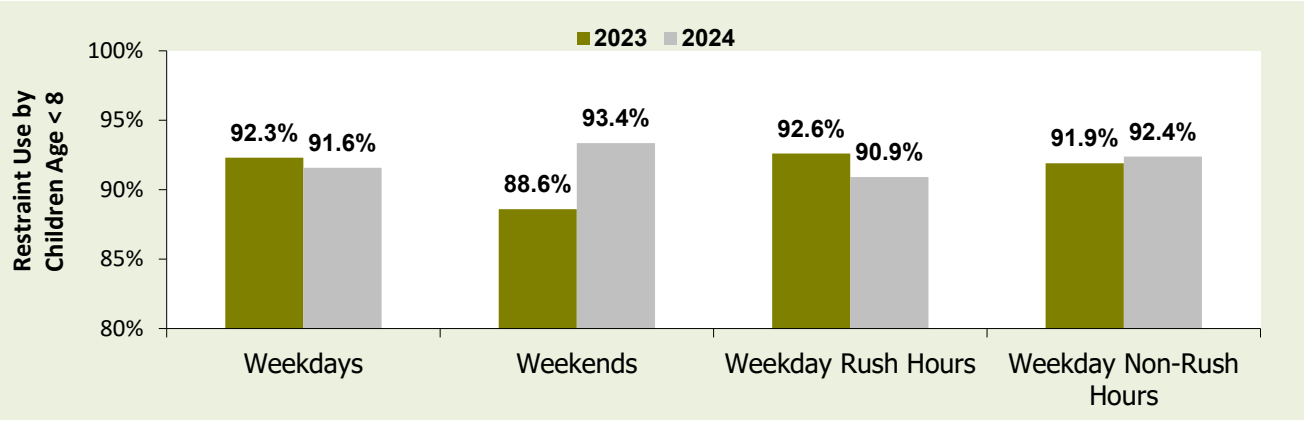

Figure 12. Child Restraint Use by Time of Week in 2023 and 2024

Child Restraint Use by Vehicle Type

Child restraint use increased for each vehicle type. However, none of these changes are statistically significant (Figure 13).

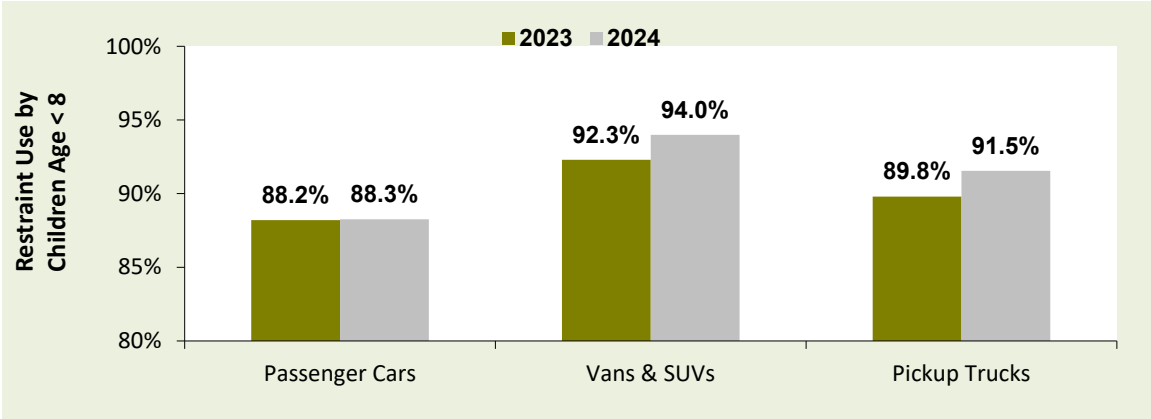

Figure 13. Child Restraint Use by Vehicle Type in 2023 and 2024

Child Restraint Use by Driver Type and Belt Use Status

As shown in Figure 14, restraint use for children driven by belted drivers continued to be significantly higher than for those driven by unbelted drivers.

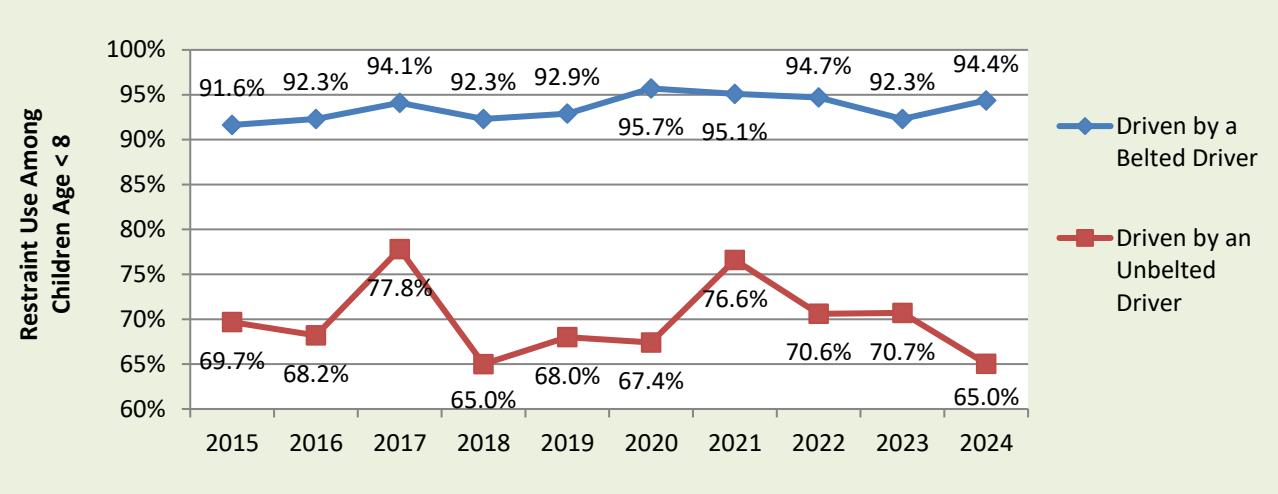

Figure 14. Child Restraint Use by Driver Belt Status, 2015 to 2024

Table 3. Child Restraint Use in Passenger Motor Vehicles, by Major Characteristics

Child Passenger Group[1]	2023		2024		2023-2024 Change		
	Restraint Use[2]	95% Confidence Interval[3]	Restraint Use[2]	95% Confidence Interval[3]	Change in Percentage Points[6]	Confidence in a Change in Use[4]	*P*-value[5]
All Child Passengers (From Birth to 7 Years)	90.9%	(87.6, 93.5)	92.2%	(90.0, 94.0)	1.3	(-1.9, 4.4)	0.41
0 (Infants)	97.7%	(92.7, 99.3)	98.7%	(94.9, 99.7)	1.0	(-2.3, 4.2)	0.55
1-3	95.0%	(92.3, 96.8)	95.6%	(92.7, 97.4)	0.6	(-2.8, 4.1)	0.72
4-7	87.2%	(82.4, 90.8)	88.8%	(85.7, 91.3)	1.6	(-3.0, 6.2)	0.48
Children Driven by							
a Belted Driver	92.3%	(89.4, 94.5)	94.4%	(92.4, 95.9)	2.1	(-0.7, 4.8)	0.13
an Unbelted Driver	70.7%	(58.5, 80.5)	65.0%	(51.7, 76.4)	-5.7	(-23.0, 11.7)	0.51
a Male Driver	90.6%	(86.9, 93.4)	92.0%	(89.9, 93.8)	1.4	(-2.5, 5.4)	0.47
a Female Driver	91.2%	(86.1, 94.5)	92.4%	(89.8, 94.4)	1.2	(-2.9, 5.2)	0.56
a Driver 16 to 24	89.2%	(78.9, 94.8)	95.7%	(83.6, 99.0)	6.6	(-3.3, 16.4)	0.18
a Driver 25 to 69	91.3%	(87.9, 93.8)	91.9%	(89.7, 93.7)	0.7	(-2.6, 3.9)	0.68
a Driver 70 and Older	80.9%	(50.7, 94.6)	93.8%	(85.4, 97.5)	12.9	(-20.0, 45.8)	0.43
a White Driver	92.6%	(89.0, 95.1)	94.1%	(91.9, 95.8)	1.5	(-1.7, 4.8)	0.34
a Black Driver	81.9%	(71.1, 89.3)	81.6%	(69.6, 89.6)	-0.3	(-9.5, 9.0)	0.95
a Driver Who is a Member of Other Races	87.7%	(82.5, 91.6)	90.9%	(86.1, 94.1)	3.2	(-3.3, 9.6)	0.32
Children in							
Front Seats	83.3%	(73.3, 90.0)	83.2%	(75.5, 88.9)	0.0	(-11.9, 11.8)	1.00
Rear Seats	91.7%	(88.3, 94.1)	92.8%	(90.7, 94.5)	1.1	(-1.9, 4.2)	0.46
Child Passengers on							
Expressways	91.1%	(86.2, 94.4)	93.2%	(89.3, 95.7)	2.1	(-3.7, 7.9)	0.46
Surface Streets	90.8%	(87.1, 93.6)	91.9%	(88.9, 94.1)	1.1	(-2.1, 4.3)	0.50
Child Passengers Traveling in							
Fast Traffic	91.0%	(86.3, 94.2)	92.1%	(88.4, 94.7)	1.1	(-4.3, 6.5)	0.68
Medium-Speed Traffic	92.5%	(88.6, 95.1)	92.4%	(89.7, 94.5)	0.0	(-3.4, 3.3)	0.99
Slow Traffic	88.6%	(82.4, 92.8)	92.0%	(86.0, 95.6)	3.5	(-1.1, 8.0)	0.13
Child Passengers Traveling in							
Heavy Traffic	92.4%	(88.5, 95.0)	92.5%	(90.1, 94.3)	0.1	(-3.6, 3.7)	0.97

Child Passenger Group[1]	2023		2024		2023-2024 Change		
	Restraint Use[2]	95% Confidence Interval[3]	Restraint Use[2]	95% Confidence Interval[3]	Change in Percentage Points[6]	Confidence in a Change in Use[4]	*P*-value[5]
Moderately Dense Traffic	**87.3%**	**(83.0, 90.6)**	**92.8%**	**(88.8, 95.5)**	**5.6**	**(0.6, 10.6)**	**0.03**
Light Traffic	88.2%	(81.4, 92.7)	89.3%	(83.8, 93.1)	1.1	(-6.2, 8.5)	0.75
Child Passengers Travelling Through							
Not Clear Weather Conditions	92.8%	(85.3, 96.7)	87.9%	(69.3, 95.9)	-4.9	(-18.1, 8.2)	0.45
Clear Weather Conditions	90.8%	(87.3, 93.5)	92.5%	(90.5, 94.1)	1.7	(-1.3, 4.7)	0.26
Child Passengers in							
Passenger Cars	88.2%	(83.4, 91.7)	88.3%	(83.5, 91.8)	0.1	(-5.0, 5.1)	0.98
Vans and SUVs	92.3%	(88.1, 95.0)	94.0%	(91.9, 95.6)	1.7	(-2.6, 6.0)	0.41
Pickup Trucks	89.8%	(83.4, 93.9)	91.5%	(86.1, 95.0)	1.8	(-5.5, 9.0)	0.62
Child Passengers in the							
Northeast	87.6%	(74.9, 94.4)	94.3%	(85.8, 97.9)	6.7	(-2.8, 16.2)	0.16
Midwest	92.8%	(88.6, 95.6)	91.4%	(87.9, 94.1)	-1.4	(-5.6, 2.9)	0.51
South	89.3%	(83.0, 93.5)	91.2%	(87.8, 93.8)	1.9	(-3.1, 7.0)	0.44
West	96.2%	(91.0, 98.5)	93.5%	(89.0, 96.2)	-2.7	(-8.7, 3.2)	0.35
Child Passengers in							
Urban Areas	92.1%	(87.6, 95.0)	93.2%	(90.6, 95.2)	1.2	(-2.0, 4.3)	0.45
Rural Areas	88.3%	(84.1, 91.5)	90.2%	(85.5, 93.5)	1.9	(-3.6, 7.4)	0.48
Child Passengers Traveling During							
Weekdays	92.3%	(88.8, 94.7)	91.6%	(88.2, 94.0)	-0.7	(-4.0, 2.6)	0.67
Rush Hours	92.6%	(86.8, 95.9)	90.9%	(85.5, 94.4)	-1.6	(-7.2, 3.9)	0.54
Non-Rush Hours	91.9%	(88.0, 94.6)	92.4%	(89.3, 94.6)	0.5	(-3.6, 4.6)	0.81
Weekends	88.6%	(82.5, 92.7)	93.4%	(90.7, 95.3)	4.8	(-0.9, 10.4)	0.10

[1] Passengers under 8 observed from 7 a.m. to 6 p.m. in the right-front seat or the second row of seats in passenger vehicles that are stopped at a stop sign or stoplight. Age, sex, and racial classifications are based on the subjective assessments of roadside observers.

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

[3] The Wilson confidence interval is used in the estimated percentages in the occupant group (e.g., occupants who are male), which is in the form: $\left\{(2n_{EFF}p + t^2) \pm t\sqrt{(t^2 + 4n_{EFF}pq)}\right\}/\left(2(n_{EFF} + t^2)\right)$, where p is the estimated percentage of Belt Use, $n_{EFF} = n/D_{EFF}$ is the effective sample size (where n is the sample size and D_{EFF} is the design effect), $t = t_{(1-\alpha/2)}(df)$, is a multiplier from the t-distribution with df degrees of freedom, and $q = 1 - p$. For percentages, these endpoints are multiplied by 100.

[4] The regular symmetric interval was used for the estimated change in percentage point, which is in the form: $p \pm t_{(1-\alpha/2)}(df)\sqrt{v(p)}$, where p is the estimated change in percentage point, $v(p)$ is its estimated variance, and $t_{(1-\alpha/2)}(df)$ is a multiplier from the t-distribution with df degrees of freedom.
[5] A p-value of .05 or less indicates that there is a statistically significant difference (at the alpha=.05 level) between the year-over-year estimates for the group in question, **indicated with bold type**.
[6] The "Change in Percentage Points" column was computed using unrounded estimates and may not equal the difference between the rounded estimates displayed in the table.
Source: NOPUS, 2023, 2024.

Table 4. The Percentage of Children Who Rode in Rear Seats, by Major Characteristics

Child Passenger Group[1]	2023		2024		2023-2024 Change		
	Percentage Who Were in Rear Seat[2]	95% Confidence Interval[3]	Percentage Who Were in Rear Seat[2]	95% Confidence Interval[3]	Change in Percentage Points[6]	Confidence in a Change in Use[4]	*P*-value[5]
All Child Passengers (From Birth to 7 Years)	91.7%	(88.2, 94.2)	94.2%	(92.2, 95.6)	2.5	(-1.0, 6.0)	0.15
0 (Infants)	99.3%	(97.0, 99.8)	98.0%	(94.4, 99.3)	-1.3	(-3.3, 0.8)	0.22
1-3	97.8%	(95.1, 99.1)	98.8%	(97.6, 99.4)	1.0	(-1.2, 3.2)	0.36
4-7	86.6%	(81.0, 90.7)	90.6%	(87.8, 92.9)	4.1	(-1.4, 9.5)	0.14
Child Passengers in States With[6]							
Law Requiring Children From Birth to 5 Years Be in Rear Seats	94.5%	(91.9, 96.3)	93.1%	(88.8, 95.8)	-1.3	(-4.9, 2.3)	0.45
No Such Law	91.0%	(86.1, 94.2)	94.5%	(92.4, 96.0)	3.5	(-0.7, 7.7)	0.10
Children Driven by							
a Belted Driver	91.7%	(88.0, 94.4)	94.3%	(92.4, 96.0)	2.6	(-1.1, 6.3)	0.16
an Unbelted Driver	91.0%	(83.2, 95.3)	92.4%	(86.0, 96.1)	1.5	(-7.9, 10.8)	0.75
a Male Driver	93.7%	(90.6, 95.8)	95.9%	(94.0, 97.2)	2.2	(-0.9, 5.3)	0.16
a Female Driver	90.1%	(85.6, 93.3)	92.8%	(90.1, 94.8)	2.7	(-1.5, 7.0)	0.20
a Driver 16 to 24	94.3%	(90.2, 96.8)	97.2%	(90.3, 99.2)	2.8	(-2.7, 8.4)	0.30
a Driver 25 to 69	91.6%	(88.3, 94.0)	94.0%	(92.0, 95.6)	2.4	(-1.1, 5.9)	0.16
a Driver 70 and Older	86.7%	(51.3, 97.6)	89.7%	(76.9, 95.8)	3.0	(-22.5, 28.4)	0.81
a White Driver	91.6%	(87.0, 94.7)	94.0%	(91.6, 95.7)	2.3	(-2.0, 6.7)	0.28
a Black Driver	93.1%	(87.6, 96.2)	94.3%	(89.3, 97.1)	1.3	(-3.4, 5.9)	0.58
a Driver Who is a Member of Other Races	91.0%	(86.0, 94.3)	95.0%	(89.7, 97.7)	4.1	(-1.1, 9.2)	0.12

Child Passenger Group[1]	2023		2024		2023-2024 Change		
	Percentage Who Were in Rear Seat[2]	95% Confidence Interval[3]	Percentage Who Were in Rear Seat[2]	95% Confidence Interval[3]	Change in Percentage Points[6]	Confidence in a Change in Use[4]	*P*-value[5]
Child Passengers on							
Expressways	94.0%	(90.7, 96.2)	95.6%	(93.5, 97.1)	1.6	(-2.0, 5.1)	0.37
Surface Streets	89.9%	(84.1, 93.7)	93.7%	(91.2, 95.5)	3.8	(-1.1, 8.8)	0.13
Child Passengers Traveling in							
Fast Traffic	92.6%	(89.3, 95.0)	94.7%	(93.3, 95.8)	2.1	(-1.7, 5.9)	0.27
Medium-Speed Traffic	94.0%	(90.6, 96.3)	95.6%	(93.1, 97.2)	1.5	(-1.4, 4.5)	0.30
Slow Traffic	86.2%	(75.6, 92.7)	91.9%	(86.3, 95.3)	5.6	(-3.7, 14.9)	0.23
Child Passengers Traveling in							
Heavy Traffic	92.0%	(87.6, 94.9)	94.9%	(92.9, 96.4)	2.9	(-1.2, 7.1)	0.16
Moderately Dense Traffic	90.4%	(86.7, 93.1)	93.8%	(90.9, 95.8)	3.4	(-0.7, 7.5)	0.10
Light Traffic	91.9%	(84.9, 95.8)	91.1%	(80.7, 96.2)	-0.7	(-8.7, 7.2)	0.85
Child Passengers Travelling Through							
Not Clear Weather Conditions	86.4%	(71.2, 94.2)	95.9%	(89.1, 98.5)	9.5	(-2.0, 20.9)	0.10
Clear Weather Conditions	91.9%	(88.3, 94.5)	94.0%	(92.2, 95.5)	2.1	(-1.5, 5.7)	0.24
Child Passengers in							
Passenger Cars	91.0%	(87.6, 93.6)	94.0%	(90.5, 96.3)	2.9	(-0.5, 6.4)	0.09
Vans and SUVs	92.8%	(88.7, 95.5)	95.2%	(93.0, 96.8)	2.4	(-1.6, 6.4)	0.22
Pickup Trucks	86.6%	(79.2, 91.7)	88.3%	(80.8, 93.2)	1.7	(-7.1, 10.5)	0.69
Child Passengers in the							
Northeast	94.5%	(92.5, 96.0)	93.7%	(86.0, 97.3)	-0.9	(-5.7, 4.0)	0.72
Midwest	88.2%	(81.6, 92.7)	92.4%	(88.0, 95.3)	4.2	(-2.6, 11.1)	0.22
South	94.2%	(90.4, 96.5)	94.4%	(92.2, 96.0)	0.2	(-3.2, 3.7)	0.88
West	85.9%	(70.7, 93.9)	95.9%	(89.8, 98.4)	10.0	(-2.0, 22.0)	0.10
Child Passengers in							
Urban Areas	91.5%	(86.9, 94.5)	94.5%	(92.2, 96.2)	3.1	(-1.3, 7.4)	0.16
Rural Areas	92.1%	(86.9, 95.4)	93.5%	(90.3, 95.6)	1.3	(-3.7, 6.3)	0.59

Child Passenger Group[1]	2023		2024		2023-2024 Change		
	Percentage Who Were in Rear Seat[2]	95% Confidence Interval[3]	Percentage Who Were in Rear Seat[2]	95% Confidence Interval[3]	Change in Percentage Points[6]	Confidence in a Change in Use[4]	*P*-value[5]
Child Passengers Traveling During							
Weekdays	91.5%	(88.6, 93.7)	93.8%	(91.0, 95.7)	2.3	(-1.0, 5.5)	0.16
Rush Hours	93.4%	(89.4, 96.0)	93.7%	(90.9, 95.7)	0.3	(-3.3, 3.9)	0.86
Non-Rush Hours	**89.0%**	**(83.9, 92.7)**	**93.8%**	**(90.0, 96.2)**	**4.8**	**(0.4, 9.2)**	**0.03**
Weekends	91.9%	(86.3, 95.4)	94.9%	(92.2, 96.7)	2.9	(-2.6, 8.5)	0.28
Child Passengers in a							
Rear-Facing Car Seat	99.7%	(97.7, 100.0)	98.7%	(95.6, 99.6)	-1.0	(-2.8, 0.9)	0.29
Forward-Facing Car Seat	99.1%	(97.9, 99.6)	98.7%	(94.9, 99.7)	-0.3	(-2.4, 1.7)	0.74
High-Backed Booster Seat	99.3%	(96.4, 99.9)	99.3%	(95.5, 99.9)	0.0	(-2.2, 2.1)	0.97
Seat Belt or Backless Booster Seat	83.1%	(75.8, 88.5)	88.3%	(84.0, 91.5)	5.1	(-2.7, 13.0)	0.19
No Restraint Observed	84.6%	(77.4, 89.7)	87.4%	(81.5, 91.6)	2.9	(-5.5, 11.2)	0.49

[1] Passengers under 8 observed from 7 a.m. to 6 p.m. in the right-front seat or the second row of seats in passenger vehicles that are stopped at a stop sign or stoplight. Age, sex, 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 Wilson confidence interval is used in the estimated percentages in the occupant group (e.g., occupants who are male), which is in the form: $\left\{(2n_{EFF}p + t^2) \pm t\sqrt{(t^2 + 4n_{EFF}pq)}\right\}/\left(2(n_{EFF} + t^2)\right)$, where p is the estimated percentage of Belt Use, $n_{EFF} = n/D_{EFF}$ is the effective sample size (where n is the sample size and D_{EFF} is the design effect), $t = t_{(1-\alpha/2)}(df)$, is a multiplier from the t-distribution with df degrees of freedom, and $q = 1 - p$. For percentages, these endpoints are multiplied by 100.

[4] The regular symmetric interval was used for the estimated change in percentage point, which is in the form: $p \pm t_{(1-\alpha/2)}(df)\sqrt{v(p)}$, where p is the estimated change in percentage point, $v(p)$ is its estimated variance, and $t_{(1-\alpha/2)}(df)$ is a multiplier from the t-distribution with df degrees of freedom.

[5] A *p*-value of .05 or less indicates that there is a statistically significant difference (at the alpha=.05 level) between the year-over-year estimates for the group in question, **indicated with bold type**.

[6] The "Change in Percentage Points" column was computed using unrounded estimates and may not equal the difference between the rounded estimates displayed in the table.

Source: NOPUS, 2023, 2024.

Table 5. Child Restraint Use in Passenger Motor Vehicles, by Age and Other Characteristics

Child Passenger Group[1]	2023		2024		2023-2024 Change		
	Restraint Use[2]	95% Confidence Interval[3]	Restraint Use[2]	95% Confidence Interval[3]	Change in Percentage Points[6]	Confidence in a Change in Use[4]	*P*-value[5]
Infants (From Birth to 12 Months)							
Infants Driven by							
a Belted Driver	97.7%	(92.4, 99.4)	99.6%	(98.4, 99.9)	1.9	(-1.4, 5.1)	0.24
an Unbelted Driver	97.0%	(85.7, 99.4)	NA	NA	NA	NA	NA
a Male Driver	95.5%	(84.1, 98.8)	98.2%	(87.1, 99.8)	2.7	(-4.9, 10.4)	0.47
a Female Driver	99.3%	(97.3, 99.8)	99.0%	(97.2, 99.7)	-0.3	(-1.7, 1.2)	0.71
Infants in							
Passenger Cars	94.7%	(77.4, 98.9)	96.3%	(84.1, 99.2)	1.6	(-8.8, 12.0)	0.75
Vans and SUVs	99.4%	(97.9, 99.8)	99.6%	(97.4, 99.9)	0.2	(-1.0, 1.4)	0.76
Pickup Trucks	NA	NA	100.0%	(100.0, 100.0)	NA	NA	NA
Infants in the							
Northeast	91.6%	(58.2, 98.9)	100.0%	(100.0, 100.0)	8.4	(-13.3, 30.0)	0.44
Midwest	99.3%	(95.8, 99.9)	100.0%	(100.0, 100.0)	0.7	(-0.7, 2.1)	0.34
South	99.1%	(96.5, 99.8)	96.5%	(87.6, 99.1)	-2.6	(-6.5, 1.3)	0.18
West	97.1%	(82.8, 99.6)	100.0%	(100.0, 100.0)	2.9	(-3.4, 9.2)	0.36
Infants in							
Urban Areas	97.4%	(89.5, 99.4)	99.2%	(97.6, 99.7)	1.8	(-2.6, 6.3)	0.41
Rural Areas	98.5%	(93.1, 99.7)	97.5%	(83.0, 99.7)	-0.9	(-6.3, 4.5)	0.73
Children 1 to 3							
Children 1-3 Driven by							
a Belted Driver	95.8%	(93.5, 97.4)	97.0%	(95.4, 98.0)	1.1	(-1.6, 3.9)	0.40
an Unbelted Driver	85.4%	(70.4, 93.5)	78.8%	(56.2, 91.5)	-6.6	(-23.5, 10.3)	0.43
a Male Driver	95.7%	(92.7, 97.5)	95.7%	(92.4, 97.6)	0.1	(-3.6, 3.7)	0.97
a Female Driver	94.5%	(90.9, 96.7)	95.5%	(91.9, 97.6)	1.1	(-2.9, 5.1)	0.58
Children 1-3 in							
Passenger Cars	90.9%	(86.0, 94.2)	92.9%	(88.3, 95.8)	2.0	(-4.1, 8.2)	0.50
Vans and SUVs	97.0%	(94.0, 98.5)	96.8%	(92.8, 98.6)	-0.2	(-3.9, 3.4)	0.90
Pickup Trucks	94.0%	(84.1, 97.9)	95.9%	(85.8, 98.9)	1.9	(-6.3, 10.1)	0.64

Child Passenger Group[1]	2023		2024		2023-2024 Change		
	Restraint Use[2]	95% Confidence Interval[3]	Restraint Use[2]	95% Confidence Interval[3]	Change in Percentage Points[6]	Confidence in a Change in Use[4]	*P*-value[5]
Children 1-3 in the							
Northeast	91.4%	(85.5, 95.1)	97.0%	(90.5, 99.1)	5.6	(-3.0, 14.2)	0.19
Midwest	98.6%	(95.0, 99.6)	95.8%	(91.5, 97.9)	-2.8	(-5.9, 0.2)	0.07
South	93.9%	(87.6, 97.1)	94.8%	(88.5, 97.8)	1.0	(-5.5, 7.4)	0.76
West	98.2%	(92.7, 99.6)	95.7%	(85.9, 98.8)	-2.4	(-8.4, 3.5)	0.41
Children 1-3 in							
Urban Areas	95.2%	(92.5, 96.9)	96.3%	(93.5, 98.0)	1.2	(-2.1, 4.4)	0.47
Rural Areas	94.6%	(89.7, 97.2)	94.3%	(87.4, 97.5)	-0.3	(-6.2, 5.7)	0.92
Children 4 to 7							
Children 4-7 Driven by							
a Belted Driver	89.2%	(84.9, 92.3)	91.6%	(88.3, 94.1)	2.5	(-1.8, 6.8)	0.25
an Unbelted Driver	52.6%	(35.9, 68.7)	52.1%	(42.9, 61.0)	-0.5	(-25.6, 24.6)	0.97
a Male Driver	86.7%	(81.3, 90.7)	88.8%	(85.5, 91.4)	2.1	(-4.4, 8.6)	0.51
a Female Driver	87.5%	(79.9, 92.6)	88.7%	(85.0, 91.6)	1.2	(-4.9, 7.3)	0.69
Children 4-7 in							
Passenger Cars	84.4%	(77.3, 89.6)	83.0%	(76.3, 88.1)	-1.4	(-9.8, 7.0)	0.73
Vans and SUVs	88.3%	(82.4, 92.4)	91.2%	(88.2, 93.5)	2.9	(-3.4, 9.2)	0.35
Pickup Trucks	86.5%	(77.7, 92.2)	87.7%	(80.2, 92.6)	1.2	(-9.8, 12.2)	0.82
Children 4-7 in the							
Northeast	84.1%	(66.4, 93.4)	91.0%	(79.2, 96.4)	6.9	(-7.7, 21.6)	0.34
Midwest	89.4%	(82.6, 93.8)	86.5%	(79.7, 91.3)	-2.9	(-10.5, 4.7)	0.44
South	84.1%	(75.0, 90.3)	88.5%	(83.8, 91.9)	4.4	(-2.2, 10.9)	0.18
West	95.0%	(86.6, 98.2)	90.0%	(84.3, 93.8)	-4.9	(-14.7, 4.8)	0.31
Children 4-7 in							
Urban Areas	89.0%	(82.3, 93.3)	90.1%	(86.2, 93.0)	1.1	(-3.7, 5.9)	0.64
Rural Areas	83.3%	(76.8, 88.2)	86.1%	(79.9, 90.7)	2.9	(-5.0, 10.7)	0.46

[1] Passengers under 8 observed from 7 a.m. to 6 p.m. in the right-front seat or the second row of seats in passenger vehicles that are stopped at a stop sign or stoplight. Age, sex, and racial classifications are based on the subjective assessments of roadside observers.
[2] Use of child car seats (forward- or rear-facing), booster seats, and seat belts.

[3] The Wilson confidence interval is used in the estimated percentages in the occupant group (e.g., occupants who are male), which is in the form: $\left\{(2n_{EFF}p + t^2) \pm t\sqrt{(t^2 + 4n_{EFF}pq)}\right\}/\left(2(n_{EFF} + t^2)\right)$, where p is the estimated percentage of Belt Use, $n_{EFF} = n/D_{EFF}$ is the effective sample size (where n is the sample size and D_{EFF} is the design effect), $t = t_{(1-\alpha/2)}(df)$, is a multiplier from the t-distribution with df degrees of freedom, and $q = 1 - p$. For percentages, these endpoints are multiplied by 100.

[4] The regular symmetric interval was used for the estimated change in percentage point, which is in the form: $p \pm t_{(1-\alpha/2)}(df)\sqrt{v(p)}$, where p is the estimated change in percentage point, $v(p)$ is its estimated variance, and $t_{(1-\alpha/2)}(df)$ is a multiplier from the t-distribution with df degrees of freedom.

[5] A *p*-value of .05 or less indicates that there is a statistically significant difference (at the alpha=.05 level) between the year-over-year estimates for the group in question, **indicated with bold type**.

[6] The "Change in Percentage Points" column was computed using unrounded estimates and may not equal the difference between the rounded estimates displayed in the table.

NA: Data was not sufficient to produce a reliable estimate.

Source: NOPUS, 2023, 2024.

NOPUS Methodology

The NOPUS sample was redesigned in 2022 and 2023 and implemented in the 2024 survey. This section discusses the sample design, data collection, and estimation used in the 2024 NOPUS CI Study. Data collection, estimation, and variance estimation for NOPUS are conducted by Westat, Inc., under the direction of the NCSA.

Sample Design

The NOPUS uses a complex multistage probability sample, statistical data editing, imputation for unknown values, and complex estimation procedures. The sample sites for the 2024 NOPUS were entirely from the 2024 NOPUS sample redesign.

The redesigned NOPUS sample was selected using a stratified two-stage design. The first stage of selection was the individual county or set of adjacent counties, referred to as the primary sampling unit (PSU) within the design framework. The PSUs were targeted for selection based on their measure of size (MOS). A sample of 60 PSUs, up from 57 PSUs in the 2015 design, were selected from a frame of 1,588 PSUs.

The second stage of selection or secondary sampling unit (SSU), within the selected PSUs, is the road segment. At the road segment level, the NOPUS data collectors are then positioned so that they can efficiently observe seat belt use, motorcycle helmet use, and driver electronic device use.

The NOPUS sample frame of PSUs excluded Puerto Rico and the U.S. Territories. All other counties in the United States were included in the sampling frame with the exception of 37 counties and three areas in Alaska; these locations were excluded on the basis of low traffic volume measured in terms of vehicle miles traveled (VMT) or because they were geographically isolated. The sample frame of SSUs excluded segments along unnamed roads, cul-de-sacs, private roads, and a variety of other road types that have traditionally had very low traffic volume measured by VMT.

One PSU was sampled with certainty because of its large VMT, and the remaining PSUs were then grouped into the eight major strata based on the four Census regions (Northeast, Midwest, South, and West) and two urbanicity classes (Urban and Rural).

A sample of 60 PSUs was selected using a sequential Poisson method with probability approximately proportional to the VMT as the MOS (Ohlsson, 1998). The new NOPUS sample was selected to maximize PSU overlap with the old sample, thus maintaining comparability of the estimates from the current and previous samples. Of the 60 PSUs in the 2024 design, 41 came from the 2015 design. An SSU sample of road segments within each PSU was selected using a probability proportional to size sample design, stratified by road type within each sampled PSU, and sampled with probability proportional to a measure of size that was based on adjusted road segment length.

Table 6 shows the observed sample sizes of the 2024 CI study. A total of 85,813 occupants were observed in 64,151 vehicles, the former is approximately 23% percent more than the 2023 sample and the latter is approximately 24% percent more than the 2024 sample. Of these observed occupants, 2,857 were children under 8. Please note that due to ineligibility, construction, danger in the area, or road closure, observations could not be completed at some of the sampled observation sites.

Table 6. Sites, Vehicles, and Occupants in the 2024 NOPUS Controlled Intersection Study

Numbers of	2023	2024	Percentage Change
Sites Observed	1,631	1,420	-12.94%
Vehicles Observed	51,769	64,151	23.92%
Total Occupants	69,504	85,813	23.46%
Occupants 8 and Older	67,217	82,956	23.42%
In Front Seat	12,827	15,468	20.59%
In Rear Seat	2,621	3,337	27.32%
Occupants Under 8	2,287	2,857	24.92%
Children Under 1	309	338	9.39%
Children 1 to 3	675	900	33.33%
Children 4 to 7	1,303	1,619	24.25%

Data Collection

The 2024 NOPUS data was collected from June 3 to June 20, 2024, while the 2023 NOPUS data was collected from June 5 to June 24, 2023. In a typical year, data is collected in early June, immediately following the *Click It or Ticket* campaign.

Data collection protocols remain largely the same in the redesigned NOPUS from 2015; however, NHTSA made adjustments such as increasing the data collection time by 10 minutes, to a total of 50 minutes and CI sties were virtually identified ahead of time instead of in the field.

In the CI study trained data collectors observe restraint use of drivers and other occupants of passenger vehicles (passenger cars, pickup trucks, SUVs, and vans) that have stopped at stop signs or stoplights during daylight hours from 7 a.m. to 6 p.m. Observations are made both on the surface streets and at the ends of the expressway exit ramps (where there are controlled intersections). Only stopped vehicles are observed based on the time required to collect the variety of information required by the survey, including subjective assessments of the vehicle occupant 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, allowing NOPUS to capture the uninfluenced behavior of the occupants.

The CI study is conducted annually following the MT survey and is usually scheduled for all surface streets and limited access highway ramps, where NOPUS data from previous years indicates that a controlled intersection exists. If the data collectors arrive at an assigned surface street site and the site is not controlled, they are instructed to search for an alternate data collection site further along the same road segment. After the data collectors have located a controlled intersection, they position themselves at the traffic signal or stop sign, facing the oncoming traffic from the side of the road. The data collectors walk in the direction of the oncoming traffic, away from the intersection to make their observations. When the traffic light

turns green or they finish observing all vehicles, the data collectors return to the intersection to wait for the next traffic light cycle or next vehicle. They observe vehicles in the lane closest to their observational position, even if the closest lane is an exclusive turn lane (which is often the case at the controlled intersections.) When possible and if visibility allows, the data collectors also observe the other lanes of traffic. The data collectors are instructed to record the first behavior of the driver that they observe (e.g., if the driver is unbelted, then sees the data collector and buckles up, the data collector documents the driver as unbelted).

Estimation

NOPUS estimates the proportion of occupants restrained in restraint type (R) among the occupants having characteristic (C) using the formula,

$$Restraint\ Use_{CR} = \frac{\sum_{i,j,k} w_{ijk} F_{ijk} CR_{ijk}}{\sum_{i,j,k} w_{ijk} F_{ijk} C_{ijk}},$$

where w_{ijk} and F_{ijk}, respectively, denote the base weight and the product of various weight adjustment factors at the site k in the stratum j of the PSU i. CR_{ijk} stands for the number of observed occupants having characteristic C and restrained in restraint type R and C_{ijk} denotes the number of observed occupants having characteristic C at the site k in the stratum j of the PSU i. For example, the seat belt use by vehicle type is estimated using the above formula, where CR_{ijk} is the number of observed belted occupants in certain types of vehicles (such as passenger cars, vans and SUVs, or pickup trucks) and C_{ijk} is the number of ALL (belted and unbelted) occupants observed in that type of vehicle at the site k in the stratum j of the PSU i.

Note that estimates computed from the CI study reflect the population of all occupants on the road at a typical daylight moment, not just those at intersections.

In certain instances, NHTSA does not provide estimates. These are typically restraint use estimates whose numerator is based on fewer than five people observed, or whose denominator is based on fewer than 30 people observed. These are reported as “NA” in publications. Any related estimate (i.e., change in use and confidence estimates) is not reported as well.

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