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

Traffic Safety Facts
RESEARCH NOTE

DOT HS 813 682 October 2025 (Revised)

Seat Belt Use in 2024 – Overall Results[1]

The national estimate of seat belt use by adult front-seat passengers of passenger vehicles in 2024 was 91.2 percent, not statistically different (at the 0.05 level) from 91.9 percent observed in 2023. The seat belt use rate estimate represents the percentage of occupants who are belted during an average daylight moment.

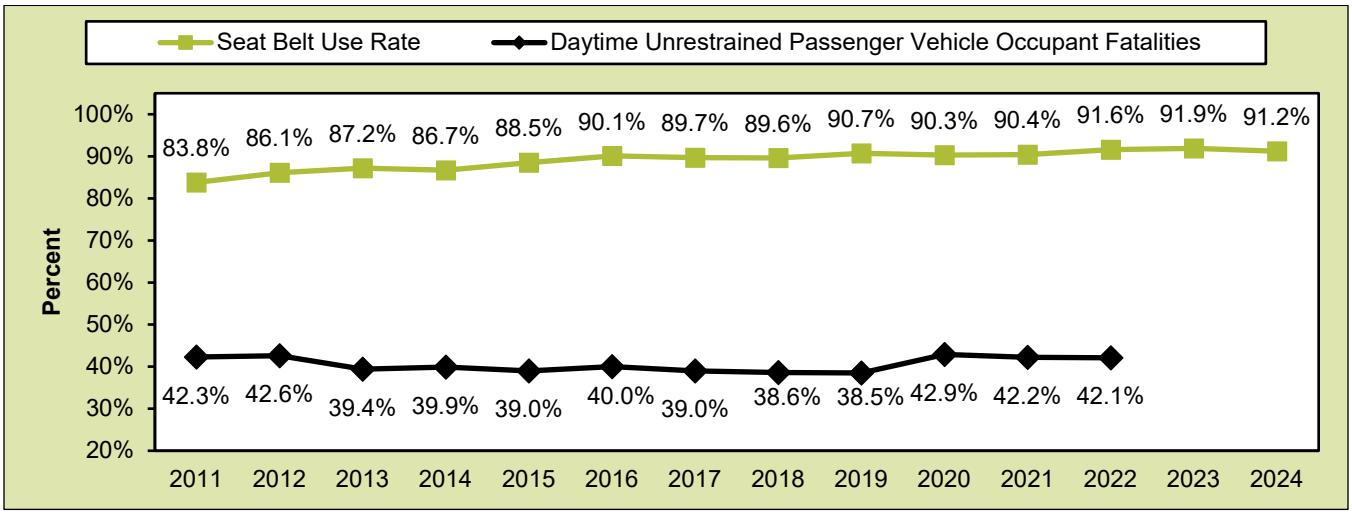
Figure 1 displays an increasing trend of seat belt use over a 14-year period, contrasted with the percentages of unrestrained passenger vehicle occupant fatalities during daytime.[2] The 2024 survey found one significant change in seat belt use from 2023 to 2024 for the West region as shown in Table 1. Seat belt use continued to be higher in the States where vehicles can be pulled over solely for occupants not using seat belts ("primary law States") compared to the States with weaker enforcement laws ("secondary law States") or no seat belt laws for adults (Figure 3).

The 2024 data collection occurred in early June, immediately following the *Click It or Ticket* campaign. The number of occupants observed in the 2024 survey increased by 14 percent from 2023.

NOPUS recently underwent a sample redesign. The 2024 data collection year is the first year in which the new sample design was implemented. Changes to the sample design are described at the end of this research note.

These results are from the National Occupant Protection Use Survey (NOPUS), the only survey that provides nationwide probability-based observed data on seat belt use in the United States. The NOPUS is conducted annually by NHTSA's National Center for Statistics and Analysis.

Figure 1. National Seat Belt Use Rate and Daytime Percentages of Unrestrained Passenger Vehicle Occupant Fatalities



Source: NOPUS, FARS 2011-2021 Final File, FARS 2022 ARF, FARS 2023/2024 are not available.

[1] This Research Note was originally published in January 2025. This revision reflects corrected 95% confidence intervals for the year 2024. All other results remain the same.

[2] The FARS 2023 and 2024 data on the percentages of unrestrained passenger vehicle occupant fatalities during daytime will be available in early 2025 and early 2026.

Table 1. Seat Belt Use 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 Points	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)	.25
Drivers	92.1%	(90.7, 93.3)	91.2%	(89.1, 93.0)	-0.9	(-2.0, 0.3)	.14
Right-Front Passengers	90.9%	(89.4, 92.3)	90.8%	(88.5, 92.7)	-0.1	(-2.1, 1.9)	.91
Occupants in States With[6]							
Primary Enforcement Laws	92.0%	(90.3, 93.5)	91.7%	(89.1, 93.7)	-0.4	(-1.6, 0.9)	.57
Secondary/No Enforcement Laws	91.3%	(88.9, 93.2)	89.2%	(86.7, 91.3)	-2.1	(-5.2, 1.0)	.18
Occupants Traveling on							
Expressways	94.3%	(93.4, 95.1)	95.0%	(93.9, 95.9)	0.6	(-0.7, 2.0)	.34
Surface Streets	90.2%	(88.1, 91.9)	90.0%	(87.4, 92.2)	-0.1	(-1.6, 1.3)	.85
Occupants Traveling in							
Fast Traffic	93.6%	(92.7, 94.4)	92.9%	(90.7, 94.6)	-0.7	(-1.8, 0.4)	.21
Medium-Speed Traffic	91.0%	(89.1, 92.6)	90.8%	(88.7, 92.6)	-0.2	(-1.5, 1.1)	.74
Slow Traffic	88.8%	(86.4, 90.9)	89.6%	(86.7, 91.9)	0.7	(-2.0, 3.5)	.59
Occupants Traveling in							
Heavy Traffic	93.7%	(92.9, 94.4)	92.9%	(91.4, 94.2)	-0.8	(-2.2, 0.7)	.28
Moderately Dense Traffic	90.0%	(87.5, 92.0)	89.9%	(86.3, 92.7)	-0.1	(-2.5, 2.3)	.93
Light Traffic	84.6%	(80.5, 87.9)	84.4%	(80.4, 87.7)	-0.2	(-3.5, 3.2)	.92
Occupants Traveling Through							
Not Clear Weather Conditions	93.8%	(92.4, 95.0)	91.4%	(88.0, 93.9)	-2.4	(-4.8, 0.0)	.05
Clear Weather Conditions	91.7%	(90.4, 92.9)	91.1%	(89.0, 92.9)	-0.6	(-1.9, 0.7)	.37
Occupants in							
Passenger Cars	91.8%	(90.2, 93.1)	91.0%	(88.7, 92.8)	-0.8	(-2.4, 0.8)	.32
Vans and SUVs	93.9%	(93.0, 94.7)	93.6%	(92.1, 94.9)	-0.3	(-1.4, 0.8)	.60
Pickup Trucks	87.0%	(84.1, 89.4)	85.0%	(81.5, 87.9)	-2.0	(-4.1, 0.2)	.07
Occupants in							
Northeast	93.0%	(91.9, 93.9)	92.0%	(87.6, 95.0)	-0.9	(-3.3, 1.4)	.43
Midwest	92.9%	(89.8, 95.2)	91.7%	(88.9, 93.8)	-1.2	(-4.0, 1.6)	.37
South	88.4%	(85.6, 90.8)	88.8%	(83.8, 92.3)	0.3	(-2.1, 2.7)	.78
West	**96.5%**	**(95.6, 97.2)**	**95.0%**	**(93.5, 96.1)**	**-1.5**	**(-2.9, -0.1)**	**.04**
Occupants in							
Urban Areas	92.3%	(91.2, 93.2)	92.3%	(91.0, 93.5)	0.0	(-1.6, 1.6)	.99
Rural Areas	91.2%	(88.4, 93.3)	89.2%	(84.5, 92.6)	-1.9	(-4.8, 0.9)	.18
Occupants Traveling During							
Weekdays	91.6%	(90.2, 92.7)	90.3%	(88.0, 92.2)	-1.3	(-2.8, 0.3)	.11
Weekday Rush Hours	91.8%	(90.3, 93.0)	89.6%	(86.6, 92.0)	-2.2	(-4.4, 0.0)	.05
Weekday Non-Rush Hours	91.4%	(89.8, 92.7)	91.0%	(89.1, 92.6)	-0.4	(-2.0, 1.2)	.65
Weekends	92.5%	(90.6, 94.1)	93.2%	(91.3, 94.8)	0.7	(-1.3, 2.8)	.48

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

[2] Shoulder belt use observed from 7 a.m. to 6 p.m.

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

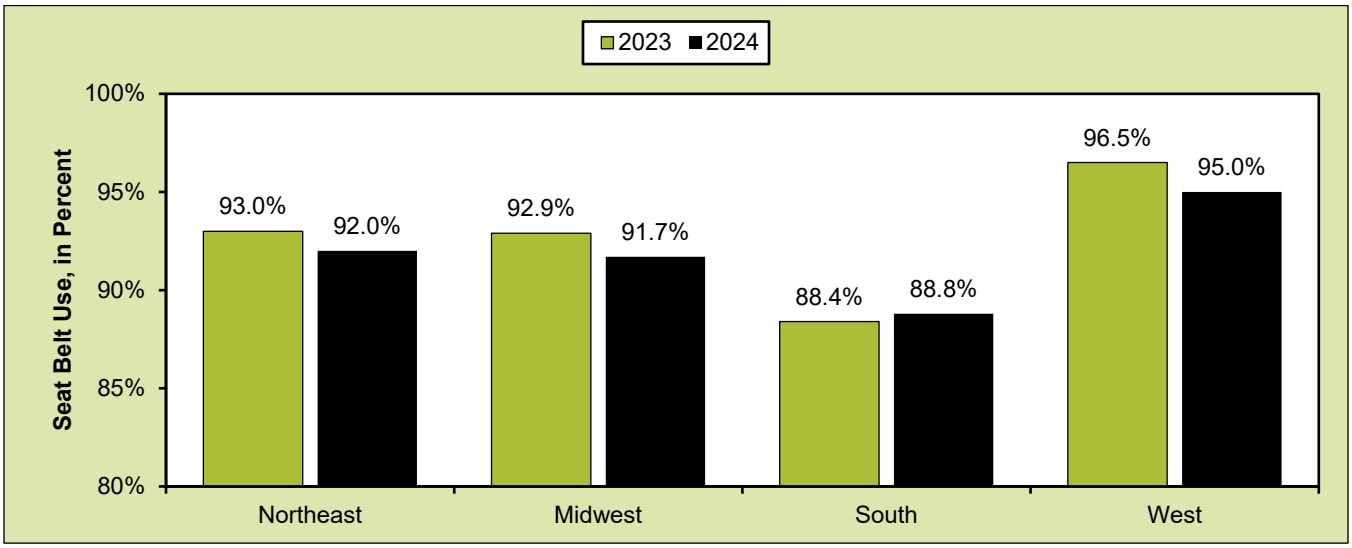
[4] The regular symmetric interval was used for the estimated change in percentage point, which is in the form: $p \pm t_{1-\alpha/2}(df)\sqrt{v(p)}$, where p is the estimated change in percentage point, $v(p)$ is its estimated variance, and $t_{1-\alpha/2}(df)$ is a multiplier from the *t*-distribution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

[5] A p value of 0.05 or less indicates that there is a statistically significant difference (at the alpha = 0.05 level) between the year-over-year estimates for the group in question, **indicated with bold type.**

[6] Use rates reflect the laws in effect at the time data were collected.

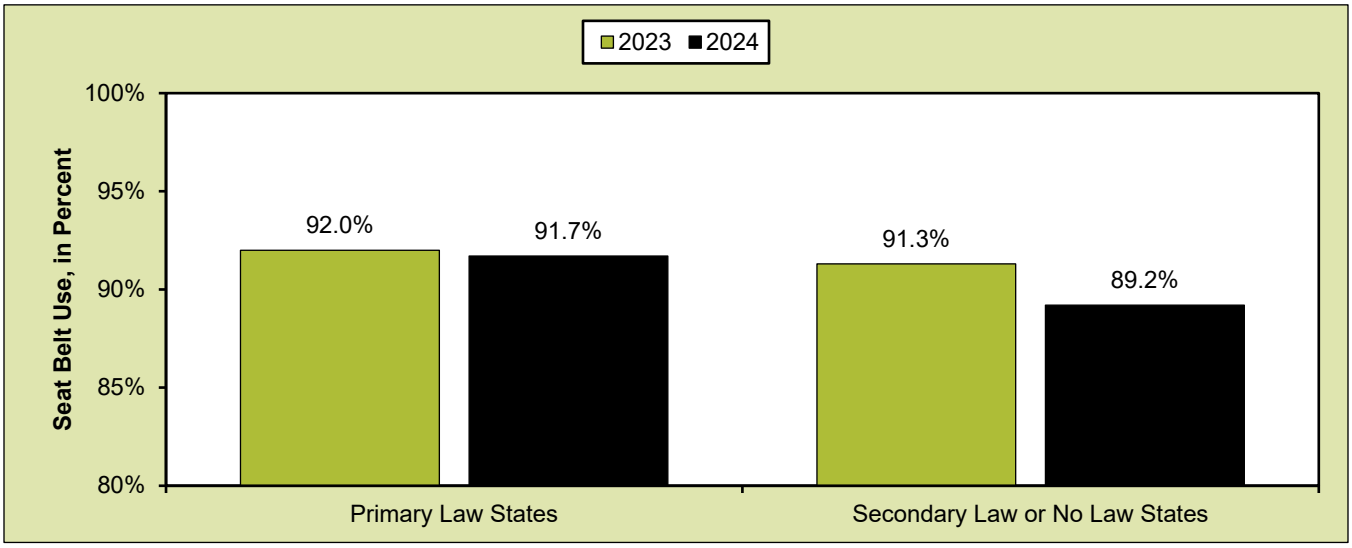
Data Source: NOPUS, NCSA, 2023, 2024

Figure 2. Seat Belt Use by Region



Source: NOPUS

Figure 3. Seat Belt Use by Law Type



Source: NOPUS

Survey Methodology

NOPUS is the only nationwide probability-based observational survey of seat belt use in the United States. The survey observes seat belt use as it actually occurs at randomly selected roadway sites and thus provides the best tracking of the extent to which passenger vehicle occupants in the United States are buckling up.

The survey data is collected by sending trained observers to probabilistically sampled roadways, who observe passenger vehicles from 7 a.m. to 6 p.m. Observations are made either while standing at the roadside or, in the case of expressways, while riding in a vehicle in the traffic. In order to capture the true behavior of passenger vehicle occupants, the NOPUS observers do not stop vehicles or interview occupants. 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.

The NOPUS uses a complex, multistage probability sample, statistical data editing, imputation of unknown values, and complex estimation procedures. Table 2 shows the observed sample sizes of the 2024 NOPUS Moving Traffic Survey. A total of 139,733 occupants were observed in the 115,543 vehicles. The observed occupants increased by 14 percent and the observed vehicles increased by 15 percent from the 2023 sample.

Because the NOPUS sites were selected probabilistically, we can test the statistical significance of the results. Statistically significant changes in seat belt use between 2023 to 2024 are identified in Table 1 by a *p* value that is .05 or less in the table's far-right column.

Table 2. Sites, Vehicles, and Occupants* Observed

Numbers of	2023	2024	Percentage Change
Sites Observed	1,869	1,629	-12.84%
Vehicles Observed	100,893	115,543	14.52%
Occupants Observed*	122,828	139,733	13.76%

*Drivers and right-front passengers only

Data collection, estimation, and variance estimation for the NOPUS are conducted by Westat, Inc., under the direction of NHTSA's National Center for Statistics and Analysis.

Definitions

Under NOPUS observation protocols, a driver or right-front passenger is considered "belted" if a shoulder belt appears to be across the front of the body.

A jurisdiction that can enforce traffic laws, such as a State or the District of Columbia, has a "primary enforcement" law if occupants can be ticketed simply for not using their seat belts. Under "secondary enforcement" laws, vehicles must be stopped for another violation, such as an expired license tag, before an occupant can be cited for seat belt nonuse. As of May 31, 2024, primary laws were in effect in 35 States and the District of Columbia, 15 States had secondary laws, and 1 State (New Hampshire) effectively has no adult seat belt law. In New Hampshire, it is legal for occupants over age 18 to ride unbelted (Highway Loss Data Institute, 2024).

The following States below had "primary enforcement" seat belt laws effect as of May 31, 2024.

AL, AK, AR, CA, CT, DE, DC, FL, GA, HI, IL, IN, IA, KS, KY, LA, ME, MD, MI, MN, MS, NJ, NM, NY, NC, ND, OK, OR, RI, SC, TN, TX, UT, WA, WV, WI

"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 pass the observer 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" if the average number of vehicles on the roadway during the observation period 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.

As of 2018 "Not Clear Weather Conditions" includes sites where light precipitation or light fog is present.

The survey uses the following definitions of geographic regions, defined by the States below.

Northeast: CT, MA, ME, NH, NJ, NY, PA, RI, VT

Midwest: IA, KS, IL, IN, MI, MN, MO, ND, NE, OH, SD, WI

South: AL, AR, DC, DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV

West: AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY

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 segment falls 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 segment falls within territory assigned to a rural locale code (Census defined rural territory).

"Weekday Rush hours" are defined to be 7 a.m. to 9:30 a.m. and 3:30 to 6 p.m. on weekdays, while "Weekday Non-Rush Hours" comprise all other weekday hours (9:30 a.m. to 3:30 p.m.).

Seat belt use rates reflect the State laws in effect at the time of data collection.

The 2024 NOPUS Redesign

The NOPUS sample was redesigned in 2022 and 2023 and implemented in the 2024 survey. NHTSA initiated the redesign to make the NOPUS more efficient, accurate, and representative. The new design incorporates scalability and flexibility in its design to accommodate changing resources. A sample of 60 primary sampling units (PSUs) were selected from a frame of 1,588 PSUs.

The redesigned NOPUS sample was selected using a stratified two-stage design. The first stage of selection is at the county-level, referred to as the PSU. The PSUs were targeted for selection based on their measure of size (MOS). The second stage of selection of 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 they can efficiently observe seat belt use, motorcycle helmet use, and driver electronic device use.

Frame Formation

The NOPUS sample frame of PSUs excluded Puerto Rico and other U.S. Territories due to data collection cost constraints. In total, 44 counties were excluded on the basis of low traffic volume measure in terms of vehicle miles travelled (VMT) or because they were geographically isolated following the same exclusions as the 2015 design. 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. To reduce visits to sites with the potential of no vehicle observations, the 2024 design introduces the exclusion of remote rural local roads as identified by NCES.

The PSUs consist of individual counties or groups of counties that were formed to minimize the distance that data collectors might have to travel within a particular PSU, while maintaining road segments that reflected a minimum number of annual VMT for each PSU. All PSUs for the sample frame are contained within their States; a PSU cannot be in more than one State if it is comprised of multiple counties. The MOS is the 2018[3] VMT obtained from the Federal Highway Administration.

Stratification

One PSU was sampled with certainty because of its large VMT, and the remaining PUSs were grouped into eight major strata based on the four U.S. Census regions (Northeast, Midwest, South, West) and two urbanicity classes (Urban and Rural). Within each major stratum, the PSUs were ordered by their predicted seat belt use rates, from lowest to highest. Then the PSUs were further stratified through cut points of the predicted seat belt use rate, resulting in strata with approximately equal total MOS resulting in 28 final strata. The restraint use rates were predicted by a lasso-selected model that considered a range of factors. The model included whether the area had a texting-while-driving ban, the State's 2019 seat belt use rate, the fatality rate per VMT, the proportion of adults who are obese, the proportion of local roads included in OpenStreetMap, the percentage of belted occupants in fatal crashes from 2014-2020 based on FARS data, census region, and an urban/rural classification.

[3] California uses 2017 data.

Sample Selection

A sample of 60 PSUs, up from 57, was selected using a sequential Poisson method with probability approximately proportional to the MOS (VMT). The new NOPUS sample was selected to maximize PSU overlap with old sample and minimizing variance of the estimates, thus maintaining comparability of the estimate from the current and previous samples. Of the 60 PSUs in the 2024 sample design, 41 came from the 2015 sample design. An SSU sample of road segments within each PSU is selected based upon the types of roads and urban/rural status with specified sampling rates.

The sample sizes of the PSUs and SSUs were determined to minimize the overall variance of restraint use while holding costs steady. The stratification employed in the redesign clusters the sampling units so the PSUs in each stratum are very similar in terms of their predicted seat belt use rates, and results in increased efficiency at the PSU level. NHTSA used updates road segment information to revise the road segment stratum sampling rates to achieve more efficiency from the survey.

Data Collection Changes and Improvements

Data collection protocols remain largely the same in the redesigned NOPUS; however, NHTSA has made some minor adjustments to streamline data collection.

The Controlled Intersection (CI) data collection time was increased by 10, to a total of 50 minutes to increase the number of rear-seat occupants observed without altering the survey too much.

To simplify training and save data collector time out in the field, CI sites were virtually identified ahead of time.

NOPUS is based on a probability sample, and this survey continues to use standard survey sampling methods for construction sampling weights for estimating nation seat belt use rates, and to use replication methods to calculate standard errors of these estimates.

References

Highway Loss Data Institute. (2024, October). *Seat belt and child seat laws by State.* [Web page]. Insurance Institute for Highway Safety. www.iihs.org/topics/seat-belts/seat-belt-law-table

National Center for Statistics and Analysis. (2019, March). *Lives saved in 2017 by restraint use and minimum-drinking-age laws* (Traffic Safety Facts CrashStats. Report No. DOT HS 812 683). National Highway Traffic Safety Administration. https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812683

For More Information

For questions regarding the information presented in this document, please contact ncsaweb@dot.gov.

Additional data and information on the survey design and analysis procedures will be available in upcoming publications to be posted at https://crashstats.nhtsa.dot.gov/#/.

Research has found that lap/shoulder seat belts, when used, reduce the risk of fatal injury to front-seat passenger car occupants by 45 percent and the risk of moderate-to-critical injury by 50 percent. In 2017 the use of seat belts in passenger vehicles saved an estimated 14,955 lives of occupants 5 and older (NCSA, 2019). For more information on the campaign by NHTSA and the States to increase seat belt use, see www.nhtsa.gov/CIOT.

The NOPUS also observes other types of restraints, such as child restraints and motorcycle helmets, and observes driver electronic device use. This publication is part of a series that presents overall results from the survey on these topics. Please refer to the upcoming research notes and technical reports in the series, such as *Motorcycle Helmet Use in 2024–Overall Results*, for the latest data on these topics.

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This research note and other general information on highway traffic safety may be found at: https://crashstats.nhtsa.dot.gov/.