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TRAFFIC SAFETY FACTS
Research Note

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Seat Belt Use in 2014—Overall Results

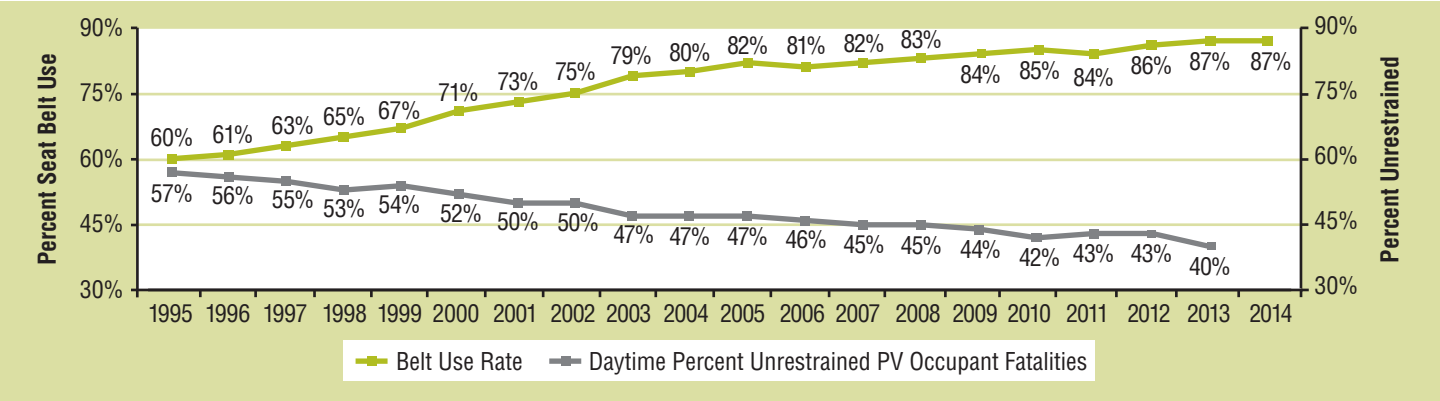
Seat belt use in 2014 remained at 87 percent, unchanged from 2013. This result is from the National Occupant Protection Use Survey (NOPUS), which is the only survey that provides nationwide probability-based observed data on seat belt use in the United States. The NOPUS is conducted annually by the National Center for Statistics and Analysis of the National Highway Traffic Safety Administration.

Seat belt use has shown an increasing trend since 1995, accompanied by a steady decline in the percentage[1] of unrestrained passenger vehicle occupant fatalities during daytime (Figure 1).

The 2014 survey also found the following.

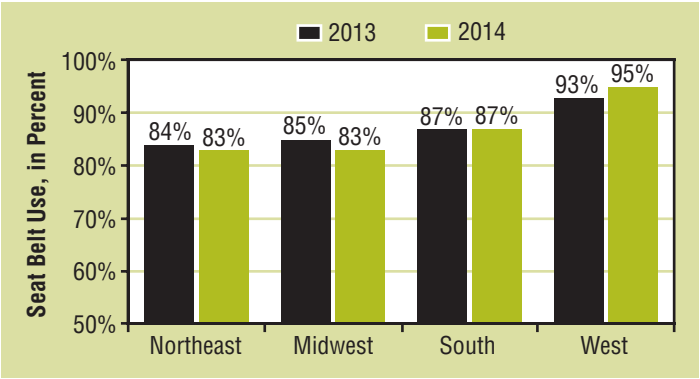
- Seat belt use for occupants in the West is higher than in the other regions, Northeast, Midwest, and South in 2014 (Figure 2).
- Seat belt use continued to be higher in the States in which vehicle occupants can be pulled over solely for not using seat belts ("primary law States") as compared with the States with weaker enforcement laws ("secondary law States") or without seat belt laws (Figure 3).
- Seat belt use for occupants in moderately dense traffic decreased significantly from 86 percent in 2013 to 84 percent in 2014 (Table 1).

Figure 1
NOPUS Seat Belt Use Rate and Daytime Percent of Unrestrained Passenger Vehicle Occupant Fatalities



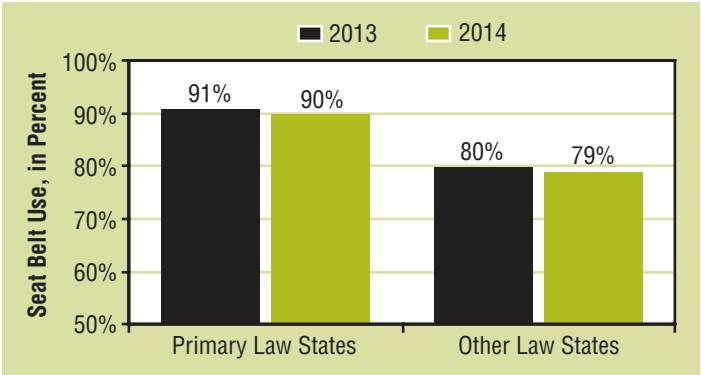
(Source: NOPUS and FARS)

Figure 2
Seat Belt Use by Region



(Source: NOPUS)

Figure 3
Seat Belt Use by Law Type



(Source: NOPUS)

[1]The 2014 data on the percentage of unrestrained passenger vehicle occupant fatalities during daytime are not yet available.

Table 1
Seat Belt Use by Major Characteristics

Occupant Group[1]	2013		2014		2013 – 2014 Change	
	Belt Use[2]	Confidence That Use Is High or Low in Group[3]	Belt Use[2]	Confidence That Use Is High or Low in Group[3]	Change in Percentage Points	Confidence in a Change in Use[4]
All Occupants	87%		87%		0	51%
Drivers	88%	**100%**	87%	**100%**	-1	80%
Right-Front Passengers	85%	**100%**	85%	**100%**	0	68%
Occupants in States With[5]						
Primary Enforcement Laws	91%	**100%**	90%	**100%**	-1	60%
Secondary Enforcement Laws	80%	**100%**	79%	**100%**	-1	40%
Occupants Traveling on						
Expressways	91%	**100%**	90%	**100%**	-1	77%
Surface Streets	84%	**100%**	84%	**100%**	0	11%
Occupants Traveling in						
Fast Traffic	90%	**100%**	89%	**99%**	-1	89%
Medium-Speed Traffic	86%	**99%**	86%	84%	0	1%
Slow Traffic	80%	**100%**	82%	**100%**	2	60%
Occupants Traveling in						
Heavy Traffic	90%	**100%**	90%	**100%**	0	15%
Moderately Dense Traffic	86%	**91%**	84%	**99%**	-2	**97%**
Light Traffic	74%	**100%**	74%	**100%**	0	22%
Occupants Traveling Through						
Light Precipitation	85%	**98%**	84%	85%	-1	29%
Light Fog	94%	**97%**	81%	**98%**	-13	**100%**
Clear Weather Conditions	87%	79%	87%	87%	0	25%
Occupants in						
Passenger Cars	88%	**100%**	88%	**100%**	0	34%
Vans and SUVs	90%	**100%**	89%	**100%**	-1	62%
Pickup Trucks	78%	**100%**	77%	**100%**	-1	46%
Occupants in the						
Northeast	84%	**92%**	83%	90%	-1	41%
Midwest	85%	**93%**	83%	**94%**	-2	86%
South	87%	56%	87%	58%	0	7%
West	93%	**100%**	95%	**100%**	2	73%
Occupants in						
Urban Areas	87%	53%	86%	58%	-1	41%
Suburban Areas	88%	**98%**	89%	**98%**	1	26%
Rural Areas	85%	**97%**	83%	**97%**	-2	71%
Occupants Traveling During						
Weekdays	87%	**99%**	86%	**95%**	-1	44%
Weekday Rush Hours	87%	82%	86%	72%	-1	**91%**
Weekday Non-Rush Hours	86%	82%	87%	72%	1	31%
Weekends	88%	**99%**	88%	**95%**	0	47%

[1] Drivers and right-front passengers of passenger vehicles with no commercial or government markings.
[2] Use of shoulder belts observed between the hours of 7 a.m. and 6 p.m.
[3] The statistical confidence that use in the occupant group (e.g., occupants in urban areas) is higher or lower than use in the corresponding complementary occupant group (e.g., occupants in suburban and rural areas). Confidences that meet or exceed 90 percent are formatted in boldface type. Confidences are rounded to the nearest percentage point, and so confidences reported as "100 percent" are between 99.5 percent and 100.0 percent.
[4] The degree of statistical confidence that the 2014 use rate is different from the 2013 rate.
[5] Use rates reflect the laws in effect at the time data were collected.
Data Source: National Occupant Protection Use Survey, National Highway Traffic Safety Administration, National Center for Statistics and Analysis

Survey Methodology

The 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 this country are buckling up.

Table 2
Sites, Vehicles, and Occupants* Observed

Numbers of	2013	2014	Percentage Change
Sites Observed	1,700	1,700	0%
Vehicles Observed	72,907	75,590	3.68%
Occupants Observed*	91,850	95,105	3.54%

*Drivers and right-front passengers only.

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 2014 NOPUS data was collected from June 2 to June 27, 2014, while the 2013 data was collected from June 3 to June 13, 2013.

The NOPUS uses a complex, multistage probability sample, statistical data editing, imputation of unknown values, and complex estimation procedures. The sample sites for the 2014 NOPUS were entirely from the 2006 NOPUS sample redesign without incorporating any sites from the old design. During the transitional years between 2006 and 2010, sample sites were chosen both from the new design and the old design. Prior to 2006, sample sites were from the old design only. Table 2 shows the observed sample sizes of the 2014 NOPUS Moving Traffic Survey. A total of 95,105 occupants were observed in the 75,590 vehicles at the 1,700 data collection sites.

Because the NOPUS sites were selected probabilistically, we can analyze the statistical significance of its results. Statistically significant increases in seat belt use between 2013 and 2014 are identified in Table 1 by having a result that is 90 percent or greater in the table's column 7. Statistical confidences that use in a given occupant group, e.g., occupants in the Midwest, is higher or lower than in the complementary occupant group, e.g., occupants in the Northeast, South, and West, are provided in columns 3 and 5 of Table 1. Such comparisons are made within categories, such as road type, delineated by changes in row shading in the table. The exception to this is the grouping "Occupants Traveling During …," in which weekdays are compared to weekends, and weekday rush hours to weekday non-rush hours.

Data collection, estimation, and variance estimation for the NOPUS are conducted by Westat, Inc., under the direction of the National Center for Statistics and Analysis of NHTSA under Federal contract number DTNH22-13-D-00284.

Table 3
States With Primary Enforcement Seat Belt Laws*

Alabama	Alaska	Arkansas	California
Connecticut	Delaware	District of Columbia	Florida
Georgia	Hawaii	Illinois	Indiana
Iowa	Kansas	Kentucky	Louisiana
Maine	Maryland	Michigan	Minnesota
Mississippi	New Jersey	New Mexico	New York
North Carolina	Oklahoma	Oregon	Rhode Island
South Carolina	Tennessee	Texas	Washington
West Virginia	Wisconsin		

*States with laws in effect as of May 31, 2014.

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" occupants must be stopped for another violation, such as an expired license tag, before being cited for seat belt nonuse. As of May 31, 2014, primary laws were in effect in 33 States and the District of Columbia, 16 States had secondary laws, and 1 State (New Hampshire) effectively has no seat belt laws. (In New Hampshire, it is legal for occupants over age 18 to ride unbelted.) Table 3 provides a list of the States with "primary enforcement laws."

"Expressways" are defined to be roadways with limited access, while "surface streets" comprise all other roadways. "Rush hours" is defined to comprise the time periods 7 – 9:30 a.m. and 3:30 – 6 p.m.

A roadway is defined to have "fast traffic" if during the observation period the average speed of passenger vehicles that pass the observer(s) exceeds 50 mph, with "medium-speed traffic" defined as 31 – 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. Please note that

this traffic density breakdown has been revised in the 2011 NOPUS to better capture the traffic patterns.

The survey uses the following definitions of geographic regions, which are defined in terms of the States contained in the region 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

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

For More Information

This Research Note was written by Timothy M. Pickrell, a mathematical statistician in the Mathematical Analysis Division, National Center for Statistics and Analysis, NHTSA, and by Eun-Ha Choi, a statistician employed by Bowhead Systems Management Inc., working with NHTSA. For questions regarding the information presented in this document, please contact timothy.pickrell@dot.gov.

Additional data and information on the survey design and analysis procedures will be available in upcoming publications to be posted at the Web site www-nrd.nhtsa.dot.gov/cats/index.aspx in 2014.

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 2012 alone, seat belts saved an estimated 12,174 lives (Traffic Safety Facts: 2012 Data, NHTSA, DOT HS 811 892). 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 2014—Overall Results," for the latest data on these topics.

For citation purposes, the suggested APA format for this document is:

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This research note and other general information on highway traffic safety may be accessed by Internet users at: www-nrd.nhtsa.dot.gov/CATS/index.aspx