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

Research Note

February 2001

Observed Safety Belt Use
Fall 2000 National Occupant Protection Use Survey

Overall front seat outboard passenger shoulder belt use in the United States was estimated at 71 percent in the Fall of 2000, according to results obtained from the National Occupant Protection Use Survey (NOPUS) conducted by the National Highway Traffic Safety Administration (NHTSA). Estimates from the survey, conducted over six weeks during October and November 2000, also show that overall shoulder belt use in states with standard enforcement (primary) seat belt laws was 77 percent compared with 64 percent in states without standard enforcement laws.

Background

NHTSA began conducting National Occupant Protection Use Surveys (Full NOPUS) in the Fall of 1994 to obtain nationwide estimates of shoulder belt use and of characteristics of their users. The Full NOPUS, which was also conducted in the Fall of 1996 and the Fall of 1998, is composed of two separate studies: the *Moving Traffic Study*, which provides information on overall shoulder belt use; and the *Controlled Intersection Study*, which provides detailed information about shoulder belt use by vehicle type, characteristics of the belt users and child restraint use. This Research Note presents results from the Moving Traffic Study conducted in the Fall (October - November) 2000.

Because the Full NOPUS is conducted biennially, NHTSA also conducts the MiniNOPUS, comprised only of a Moving Traffic Study. MiniNOPUS were conducted in May, June, and December 1998, in December 1999 and in June 2000. NOPUS and MiniNOPUS results have been used to measure the progress of increasing belt use, a priority of the President's Buckle Up America Campaign.

Survey Design

The National Occupant Protection Use Survey, both the Full NOPUS and the MiniNOPUS, was designed as a multi-stage probability sample to ensure that the results would represent occupant protection use in the country as a whole. In the first stage, counties were grouped by region (Northeast, Midwest, South, West), level of urbanization (metropolitan or not), and level of belt use (high, medium, or low). Fifty counties or groups of counties (called primary sampling units or PSUs) were selected, within the resulting strata, based on the vehicle miles of travel. In the next stage, within each PSU a probability based sample of roadways was selected from two categories: major roads and local roads. Observational sites – an exit ramp on an interstate highway, an intersection controlled by a stop sign or stop light, or an uncontrolled intersection – were identified on each of the sampled roadways. The roadway sample for the Full NOPUS Moving Traffic Study conducted in Fall 2000 was 2,063 sites.

Data Collection

Data collection for the Moving Traffic Study of the Full NOPUS, as well as the MiniNOPUS, consists of observing shoulder belt use in passenger motor vehicles. Observers were stationed for 30 minutes at each selected observational site. Shoulder belt use was obtained for drivers and right-front passengers only (front outboard seating positions) in passenger cars, pickup trucks, vans, minivans, and sport utility vehicles (SUVs). Commercial and emergency vehicles were excluded. Every day of the week and all daylight hours (8 a.m. to 6 p.m.) were covered.

In the Fall 2000 NOPUS Moving Traffic Study, a total of 157,694 passenger vehicles were observed: 93,916 passenger cars; 39,031vans and sport utility vehicles (SUVs); and, 24,747 pick-up trucks. Additionally, 645 motorcycles were observed.

Sampling Error

Estimates from the NOPUS are based on a sample, are statistically weighted according to the sample design and therefore are subject to sampling error. Each estimate in the following tables is shown with its corresponding sampling error (expressed in percentage points) in parentheses. Thus, adding and subtracting twice the sampling error from the corresponding estimate will produce an approximate 95 percent confidence interval for the estimate. This means that one can be 95 percent confident that the true use rate lies within this interval.

Results

Tables 1, 2, and 3 present detailed results for passenger vehicle occupants from the Fall 2000 NOPUS. Tables 1 and 2 also include helmet use rates for motorcycle riders. Table 4 shows overall use rates for the Moving Traffic Study portion of each Full NOPUS and for each MiniNOPUS conducted to date.

Table 1 shows overall National use rates for shoulder belts and motorcycle helmets. The table also shows shoulder belt use rates by the enforcement status of the state safety belt use laws in effect at the time of the survey. Use rates for occupants of pickup trucks were significantly lower (13 to 17 percentage points) than use rates for occupants of other passenger vehicles.

Driver use was slightly higher than passenger use for all vehicles. Motorcycle helmet use by drivers also was higher than that of motorcycle passengers (72 percent vs. 62 percent).

Shoulder belt use in areas with standard enforcement was higher than in areas with secondary enforcement. The biggest differences (21 to 22 percentage points) were observed for occupants of pickup trucks. In the Table, "Standard" enforcement means that motor vehicle occupants can be stopped and cited for not wearing their safety belts without any other infraction having occurred. In states with "Secondary" enforcement, the vehicle must have been stopped for another infraction before an occupant can be cited for not wearing a belt.

Table 1
Shoulder Belt and Motorcycle Helmet Use Rates
by Vehicle and Person Type and Enforcement Status
NATIONAL OCCUPANT PROTECTION USE SURVEY, Moving Traffic Study, Fall 2000
(Estimates and Sampling Errors in Percentages)

Vehicle Type /Person Type	Overall	Enforcement Status	
		Standard	Secondary
Shoulder Belt Use			
All Passenger Vehicles	71 (1.4)	77 (1.7)	64 (1.9)
Drivers	72 (1.5)	78 (1.7)	65 (2.1)
Passengers	68 (1.5)	73 (2.2)	62 (1.7)
Passenger Cars	74 (1.5)	79 (1.8)	68 (2.0)
Drivers	75 (1.6)	81 (1.8)	68 (2.2)
Passengers	70 (1.5)	74 (2.2)	65 (1.8)
Vans and SUVs	74 (1.7)	79 (1.6)	67 (1.7)
Drivers	75 (1.9)	80 (1.9)	67 (2.0)
Passengers	72 (1.4)	76 (1.5)	66 (1.4)
Pickups	59 (3.5)	68 (3.0)	46 (2.9)
Drivers	61 (3.5)	69 (3.2)	48 (3.0)
Passengers	55 (3.4)	64 (2.9)	42 (3.1)
Motorcycle Helmet Use			
Drivers	72 (5.2)	n/a	n/a
Passengers	62 (9.9)	n/a	n/a

Table 2 shows shoulder belt use by geographic region. Safety belt use was estimated to be highest in the West where the combined driver and passenger use rate was 80 percent for all passenger vehicles and 83 percent for passenger cars. Passenger car occupants in the West were the group closest to meeting the Department of Transportation's 1999 Performance Plan Goal of 85 percent seat belt use by the end of 2000.

Overall use rates in other Regions were essentially the same except for Pickups. Use rates for Pickups in the Northeast were more than 20 percentage points lower than in the West and more than 10 percentage points lower than in the Midwest and South. Motorcycle helmet use varied by Region, but these differences are likely a result of small sample sizes and large sampling error.

Table 2 Shoulder Belt and Motorcycle Helmet Use by Vehicle and Person Type and Region NATIONAL OCCUPANT PROTECTION USE SURVEY, Moving Traffic Study, Fall 2000 (Estimates and Sampling Errors in Percentages)				
Vehicle Type / Person Type	Region			
	Northeast	Midwest	South	West
Shoulder Belt Use				
All Passenger Vehicles	67 (2.7)	68 (3.4)	69 (2.0)	80 (2.2)
Drivers	68 (3.0)	68 (3.6)	71 (1.9)	81 (2.7)
Passengers	63 (3.1)	68 (3.2)	65 (2.9)	75 (1.1)
Passenger Car	68 (2.8)	70 (3.5)	73 (2.1)	83 (2.3)
Drivers	69 (3.1)	70 (3.7)	75 (2.0)	85 (2.8)
Passengers	65 (3.2)	69 (3.2)	67 (3.0)	78 (1.2)
Vans and SUVs	71 (5.0)	70 (3.1)	72 (2.4)	82 (3.1)
Drivers	73 (5.9)	70 (3.5)	73 (2.6)	82 (3.4)
Passengers	65 (1.3)	71 (2.2)	69 (2.2)	81 (2.5)
Pickups	45 (6.6)	58 (6.7)	56 (4.1)	68 (7.1)
Drivers	47 (6.7)	58 (6.5)	57 (4.2)	71 (7.5)
Passengers	39 (6.8)	57 (8.0)	52 (4.2)	62 (6.3)
Motorcycle Helmet Use				
Drivers	82 (8.8)	66 (8.9)	63 (12.1)	80 (9.7)
Passengers	60 (28.4)	61 (23.0)	58 (17.2)	84 (21.2)

Shoulder belt use was slightly higher on Weekends than on Weekdays (Table 3). Use rates during Rush Hours are also slightly higher than during Non-Rush Hours.

Table 3 Shoulder Belt by Vehicle and Person Type, Day of Week and Time of Day NATIONAL OCCUPANT PROTECTION USE SURVEY, Moving Traffic Study, Fall 2000 (Estimates and Sampling Errors in Percentages)				
Vehicle Type / Person Type	Day of Week[1]		Time of Day[2]	
	Weekday	Weekend	Rush Hour	Non-Rush Hour
All Passenger Vehicles	71 (1.5)	73 (1.7)	73 (1.6)	70 (1.5)
Drivers	72 (1.6)	74 (1.9)	74 (1.7)	71 (1.6)
Passengers	66 (1.8)	71 (1.8)	69 (1.7)	67 (1.7)
Passenger Cars	73 (1.6)	76 (1.8)	75 (1.7)	73 (1.6)
Drivers	75 (1.7)	77 (2.0)	77 (1.8)	74 (1.6)
Passengers	68 (1.8)	74 (1.9)	71 (1.7)	69 (1.7)
Vans and SUVs	73 (1.8)	76 (2.0)	75 (2.1)	72 (1.6)
Drivers	74 (2.0)	76 (2.0)	76 (2.5)	73 (1.8)
Passengers	70 (1.3)	75 (2.3)	74 (1.6)	70 (1.5)
Pickups	58 (3.2)	62 (4.9)	61 (3.9)	57 (3.4)
Drivers	59 (3.4)	65 (4.7)	62 (3.9)	59 (3.6)
Passengers	55 (2.9)	55 (5.7)	57 (4.6)	54 (3.5)

[1]Weekday is defined as Monday - Friday

[2]Rush Hour is defined as the hours from 8 a.m. - 9:30 a.m. and 3:30 p.m - 6 p.m. on Weekdays.

Table 4 shows overall shoulder belt use estimates for each NOPUS. A designation of "Fall," i.e., "Fall 94," is the time period when a Full NOPUS was conducted, generally October - November for the year indicated. Those designated by a month, i.e., "June 98," refer to the month in which a MiniNOPUS was conducted.

The data show an increasing trend in shoulder belt use in all categories since the first full NOPUS was conducted. Overall, shoulder belt use has increased 13 percentage points, from 58 percent in Fall 1994 to 71 percent in Fall 2000. The large increase in use by occupants of pickups, vans, SUVs – 17 percentage points – is likely related to an increase in the number of vans and sport utility vehicles.

Table 4
Shoulder Belt Use by Vehicle and Person Type, and Survey
NATIONAL OCCUPANT PROTECTION USE SURVEYS, 1994 through 2000
(Estimates and Sampling Errors in Percentages)

Vehicle / Person Type	Survey								
	Fall 94	Fall 96	May 98	Jun 98	Fall 98	Dec 98	Dec 99	Jun 00	Fall 00
All Passenger Vehicles	58 (1.9)	61 (2.0)	62 (2.6)	65 (1.9)	69 (1.7)	70 (2.2)	67 (1.3)	71 (1.6)	71 (1.4)
Drivers	59 (1.9)	62 (1.8)	63 (2.4)	66 (1.9)	70 (1.8)	70 (2.2)	67 (1.3)	71 (1.6)	72 (1.5)
Passengers	55 (1.8)	59 (3.3)	60 (3.3)	63 (2.0)	65 (1.9)	69 (2.3)	64 (1.8)	70 (1.6)	68 (1.5)
Passenger Cars	63 (1.9)	65 (2.1)	66 (2.8)	69 (1.5)	71 (1.7)	72 (2.3)	70 (1.2)	73 (1.5)	74 (1.5)
Drivers	64 (1.8)	65 (2.1)	67 (2.5)	70 (1.5)	72 (1.9)	73 (2.4)	71 (1.2)	74 (1.5)	75 (1.6)
Passengers	59 (2.2)	62 (2.3)	62 (3.8)	66 (1.7)	68 (2.0)	72 (2.1)	66 (1.7)	71 (1.7)	70 (1.5)
Pickups, Vans, SUVs	50 (1.8)	56 (2.0)	56 (2.4)	60 (2.6)	66 (2.0)	66 (2.4)	62 (1.6)	67 (2.0)	68 (1.7)
Drivers	51 (1.9)	58 (1.6)	57 (2.6)	61 (2.7)	67 (2.1)	67 (2.4)	62 (1.8)	67 (2.0)	69 (1.9)
Passengers	49 (1.8)	53 (5.2)	55 (2.7)	58 (2.7)	61 (2.3)	65 (2.8)	60 (2.1)	68 (1.9)	65 (1.4)

For additional copies of this research note, please call 202. 366.4198 or fax your request to 202.366.7078. For questions regarding the data reported in this research, contact Nancy Bondy [202.366.5353] or Dennis Utter [202. 366.5351] of the National Center for Statistics and Analysis. This research note and other general information on highway traffic safety may be accessed by Internet users at *http://www.nhtsa.dot.gov/people/ncsa.*

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