



Observed Safety Belt Use from December 1999 & June 2000 MiniNOPUS

Overall front seat outboard passenger shoulder belt use in the United States was estimated at 67 percent in December 1999 and at 71 percent in June 2000, according to results obtained from Mini-National Occupant Protection Use Surveys (MiniNOPUS) conducted by the National Highway Traffic Safety Administration (NHTSA). Estimates from the June 2000 MiniNOPUS also showed that overall shoulder belt use in states with standard enforcement (primary) seat belt laws was 77 percent and 63 percent in states without standard enforcement laws. This Research Note will present results from these two MiniNOPUS as well as provide a chronology of overall shoulder belt use from all nationwide shoulder belt use surveys conducted by NHTSA.

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, to support the Agency's occupant protection programs. 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. Results from these surveys have been documented in a series of Research Notes.

Because the Full NOPUS is conducted biennially, NHTSA decided that another survey was necessary to monitor overall shoulder belt use between each Full NOPUS. Additionally, the President's Buckle Up America Campaign created the need for interim measures of the progress of increasing belt use. Consequently, the Agency began conducting the MiniNOPUS, comprised only of a Moving Traffic Survey. A MiniNOPUS was conducted in December 1999 and again in June 2000. Previous MiniNOPUS were conducted in May, June, and December 1998.

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. An observational site – an exit ramp on an interstate highway, an intersection controlled by a stop sign or stop light, or an uncontrolled intersection – were identified on the sample of roadways. The roadway sample for the Full NOPUS Moving Traffic Study was 4,034 sites. The MiniNOPUS sample is a random subsample of one-half of those observational sites.

Data Collection

Data collection for the MiniNOPUS, as well as the Moving Traffic Study of the Full NOPUS, 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.

Results

Tables 1, 2, and 3 present detailed results of the December 1999 and June 2000 MiniNOPUS. Table 4 shows overall use rates for the Moving Traffic Study of each Full NOPUS and for each MiniNOPUS conducted to date.

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 in parentheses. Adding and subtracting twice the sampling error from

the corresponding estimate will produce an approximate 95 percent confidence interval. This means that one can be 95 percent confident that the true use rate lies within this interval.

Tables 1 - 3 show that shoulder belt use rates in June 2000 are almost uniformly higher than the estimates from the December 1999 MiniNOPUS. However, when the December 1999 survey estimates are considered as part of a series (see Table 4), the decreases shown in the December 1999 estimates may be due to sampling variability. Table 4 shows that the overall trend of shoulder belt use in all categories has been increasing since 1994, except for the drop in December 1999. Consequently, results must be viewed as part of an overall increasing trend rather than demonstrating a significant change from December 1999 to June 2000.

Table 1 shows overall use rates. Except for the June 2000 use rate for passengers in pickup trucks, vans, or sport utility vehicles (pickups, vans, and SUVs), shoulder belt use for drivers is generally slightly higher than for the right-front-seat passenger. Also,

shoulder belt use for occupants of passenger cars is higher than that of occupants of pickups, vans, and SUVs. These patterns of use, i.e., driver use slightly higher than passenger use and use by passenger car occupants slightly higher than that of occupants in pickups, vans and SUVs, are followed in the other tables shown in this research note.

In the June 2000 MiniNOPUS, observational sites also were grouped by the safety belt use law enforcement status of the state in which they were located in effect at the time of the survey. "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. Safety belt use in areas with standard enforcement was 12 to 16 percentage points higher than in areas with secondary enforcement. The difference was smaller for passenger cars (79 percent vs. 67 percent or 12 percentage points) than for pickups, vans, and SUVs (74 percent compared to 59 percent or a 15 percentage point difference).

Vehicle Type / Person Type	Survey			
	Dec 99	Overall	Jun 00	
			Enforcement Status	
	Overall	Overall	Standard	Secondary
All Passenger Vehicles	67 (1.3)	71 (1.6)	77 (2.0)	63 (1.4)
Drivers	67 (1.3)	71 (1.6)	77 (2.0)	63 (1.3)
Passengers	64 (1.8)	70 (1.6)	75 (2.0)	63 (1.9)
Passenger Cars	70 (1.2)	73 (1.5)	79 (1.8)	67 (1.7)
Drivers	71 (1.2)	74 (1.5)	80 (1.8)	67 (1.5)
Passengers	66 (1.7)	71 (1.7)	77 (2.1)	65 (2.6)
PickUps, Vans, SUVs	62 (1.6)	67 (2.0)	74 (2.5)	59 (1.6)
Drivers	62 (1.8)	67 (2.1)	74 (2.7)	58 (1.6)
Passengers	60 (2.1)	68 (1.9)	73 (2.2)	61 (1.9)

Table 2 shows shoulder belt use by geographic region. Safety belt use is estimated to be highest in

the West where combined driver and passenger use rates in the West was estimated at 78 percent for all passenger vehicles and at 82 percent for passenger cars. Passenger car occupants in the West are closest to meeting the Department of

Transportation's 1999 Performance Plan Goal to of 85 percent seat belt use by the end of 2000. Use rates in the Midwest were lowest. There shoulder belt use was 10 percentage points or more below those for corresponding groups in the West.

Table 2
Shoulder Belt Use by Vehicle and Person Type, Region and Survey
MINI-NATIONAL OCCUPANT PROTECTION USE SURVEYS, December 1999 and June 2000
(Estimates and Sampling Errors in Percentages)

Vehicle Type / Person Type	Region / Survey							
	Northeast		Midwest		South		West	
	Dec 99	Jun 00	Dec 99	Jun 00	Dec 99	Jun 00	Dec 99	Jun 00
All Passenger Vehicles	64 (2.6)	69 (1.3)	58 (3.7)	66 (3.3)	68 (1.8)	71 (2.8)	74 (2.6)	78 (3.1)
Drivers	65 (2.7)	70 (1.6)	59 (3.6)	66 (3.3)	69 (2.3)	71 (2.9)	75 (2.4)	79 (3.3)
Passengers	59 (2.1)	68 (1.1)	54 (4.7)	66 (3.7)	66 (2.3)	69 (2.7)	72 (3.8)	76 (2.9)
Passenger Car	67 (2.6)	71 (1.4)	60 (3.6)	68 (3.2)	73 (1.4)	75 (2.4)	78 (2.5)	82 (2.9)
Drivers	69 (2.9)	71 (1.5)	61 (3.4)	68 (3.2)	74 (1.8)	75 (2.5)	79 (2.3)	83 (2.9)
Passengers	62 (1.7)	70 (1.9)	55 (4.8)	65 (3.9)	70 (2.2)	72 (2.8)	76 (3.6)	78 (3.2)
PickUps, Vans, SUVs	57 (3.9)	66 (2.0)	65 (4.1)	63 (4.0)	63 (2.7)	66 (3.8)	70 (3.0)	74 (3.6)
Drivers	58 (4.1)	66 (2.2)	54 (4.1)	62 (4.1)	63 (3.3)	66 (4.0)	70 (2.9)	74 (3.9)
Passengers	53 (3.6)	65 (1.9)	54 (4.8)	67 (4.0)	60 (3.2)	65 (3.5)	69 (4.3)	75 (3.3)

Table 3 shows shoulder belt use rates by Day-of-Week and Time-of-Day. Shoulder belt use rates are slightly higher on Weekends than on Weekdays.

Use rates during Rush Hours are also slightly higher than during Non-Rush Hours.

Table 3
Shoulder Belt by Day of Week and Time of Day and Survey
MINI-NATIONAL OCCUPANT PROTECTION USE SURVEYS, December 1999 and June 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	
	Dec 99	Jun 00	Dec 99	Jun 00	Dec 99	Jun 00	Dec 99	Jun 00
All Passenger Vehicles	66 (1.4)	70 (1.8)	69 (1.8)	73 (1.5)	70 (2.0)	74 (1.6)	66 (1.3)	69 (1.8)
Drivers	67 (1.5)	70 (1.8)	69 (1.6)	73 (1.7)	71 (2.1)	74 (1.7)	67 (1.4)	69 (1.9)
Passengers	62 (1.6)	67 (1.9)	69 (2.8)	74 (1.5)	66 (2.3)	72 (1.6)	64 (2.0)	68 (1.9)
Passenger Cars	67 (1.3)	72 (1.7)	72 (1.7)	76 (1.3)	73 (1.8)	76 (1.6)	69 (1.3)	72 (1.8)
Drivers	71 (1.4)	73 (1.7)	72 (1.6)	76 (1.5)	74 (1.8)	77 (1.6)	70 (1.3)	72 (1.8)
Passengers	64 (1.6)	69 (2.1)	71 (2.4)	75 (1.5)	69 (2.3)	73 (1.7)	66 (2.0)	70 (2.1)
PickUps, Vans, SUVs	61 (1.9)	66 (2.2)	65 (2.4)	69 (2.1)	65 (3.0)	70 (2.0)	61 (1.7)	65 (2.2)
Drivers	62 (2.0)	66 (2.2)	64 (2.2)	68 (2.4)	66 (3.0)	70 (2.2)	62 (1.9)	64 (2.3)
Passengers	57 (2.1)	65 (2.1)	67 (3.6)	72 (2.1)	61 (3.5)	70 (2.2)	60 (2.2)	66 (2.1)

¹Weekday is defined as Monday - Friday

²Rush 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. In the table 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," is the month in which a MiniNOPUS was conducted. The data show an increasing trend for shoulder belt use in all categories since the first

Full NOPUS. Overall shoulder belt use has increased 13 percentage points, from 58 percent in Fall 1994 to 71 percent in June 2000, a relative increase of 22 percent. The increase in use by occupants of pickups, vans, and SUVs has been even more dramatic -- 17 percentage points, a relative increase of 34 percent.

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
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)
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)
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)
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)
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)
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)
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)
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)
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)

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/nca>.