
NEW YORK STATE

2017 Observational Survey of Seat Belt Use



New York State Governor's Traffic Safety Committee
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2017 OBSERVATIONAL SURVEY OF SEAT BELT USE

INTRODUCTION

Implemented on December 1, 1984 and amended in November 2000 and again in November 2009, New York's seat belt law can be summarized as follows:

- ❖ Covers all front seat occupants
- ❖ Requires the use of safety belts by back seat passengers under 16 years of age (effective November 2000)
- ❖ Requires children to remain in an appropriate child restraint system until they reach the age of eight (effective November 2009).

In effect, all children under the age of four must be restrained in federally-approved child seats that are securely affixed to the vehicle; children under four must also be restrained on school buses. Children ages four to seven in any seating position of a motor vehicle are required to be restrained in a child restraint system appropriate for their height and weight. Booster seats are recommended when a child weighs more than 40 pounds and is over 40 inches in height. The Governor's Traffic Safety Committee's child passenger safety program promotes keeping all children in child restraints, regardless of age, until they are 4'9" tall and weigh 100 pounds or more.

Primary enforcement is allowed under New York's law and a fine of up to \$50.00 is imposed for violations of the law pertaining to occupants age 16 and over. A fine of not less than \$25.00 nor more than \$100.00 is assessed for violations involving occupants under age 16. The only vehicles excluded from coverage under the law are emergency vehicles, taxis and liveries, and buses, with the exception of the driver. Rural mail carriers in the process of delivering the mail are also excluded.

Since 1984, New York State has conducted periodic statewide observational surveys of seat belt use. With few exceptions, the statewide use rate has risen steadily each year. Based on this year's survey conducted June 5-20, 2017, New York's seat belt compliance rate rose to 93%.

The 2017 New York State observational survey of seat belt use was conducted using the design that was approved by NHTSA in 2012 and conducted for the first time in 2013. Adhering to the Uniform Criteria for State Observational Surveys of Seat Belt Use (23 CFR Part 1340), the design required that 1) the geographic coverage of the sampling frame be changed from a population-based exclusion criterion to a fatality-based exclusion criterion, 2) the road types required for the sampling frame be identified, and 3) the precision requirement be changed from a five percent relative error to a 2.5 percentage point standard error.

A brief description of the key components of the design used to conduct the 2013 – 2017 seat belt surveys is provided below. For a detailed description of the design, the reader is referred to the document titled *Seat Belt Use Survey Design for New York State* (revised September 2012), available from the Governor's Traffic Safety Committee.

OVERVIEW OF SAMPLING PLAN

Stage 1: Selection of Counties

New York's survey design calls for the designation of counties as the primary sampling units with all 62 counties in New York State eligible for inclusion in the survey sample. Using data obtained from the NYS Department of Motor Vehicles Accident Information System, the number of passenger vehicle occupant fatalities for the period 2006-2010 were compiled for each of the state's 62 counties. Of these 62 counties, 37 counties accounted for 85.2% of the passenger vehicle occupant fatalities and represented the first stage of sampling. The 37 counties were then stratified into six groups according to their geographic region. Two counties were selected from each of the six regions for a sample size of 12 counties. Since New York does not have VMT data by county, the 12 sample counties were selected using passenger vehicle registrations (includes pick-ups) as the measure of size. The 12 counties selected for inclusion in the survey are listed below:

| NYS Average Passenger Vehicle Occupant Fatalities by Selected County | | |
|---|---------------|---|
| Region | County | Average Fatality Count (2006 - 2010) |
| 1 | Queens | 28 |
| | Suffolk | 96 |
| 2 | Dutchess | 13 |
| | Westchester | 29 |
| 3 | Albany | 12 |
| | Rensselaer | 10 |
| 4 | Broome | 7 |
| | Onondaga | 21 |
| 5 | Monroe | 26 |
| | Wayne | 7 |
| 6 | Erie | 35 |
| | Niagara | 13 |

Stage 2: Selection of Roadway Segments

The second stage of the sampling plan was the selection of roadway segments where the observation sites would be located. Taking into account both the precision of the estimate and the survey costs associated with the sample size, it was determined that the survey should include a total of 120 sites, ten in each county. A list of road segments was created using the 2010 TIGER data developed by the U.S. Census Bureau. The road segments have been classified by the U.S. Census Bureau using the MAF/TIGER Feature Class Code (MTFCC). There are primarily three classifications: 1) Primary Roads, 2) Secondary Roads, and 3) Local Roads.

The first step in the selection process was to determine the number of road segments that would be sampled from each type of road stratum. To accomplish this, the ten roadway segments were selected for each of the 12 counties based on the statewide distribution of vehicle miles traveled (VMT). In 2010, the statewide distribution of VMT by roadway type was 33.0% for primary roads, 33.7% for secondary roads and 33.3% for local roads. As a result, for the 11 counties that had all three types of roads in the data set, three primary road segments, four secondary road segments and three local road segments were selected. For the one county that did not have any primary roadway segments in the NHTSA data file, five secondary road segments and five local road segments were selected.

The second step in the process involved the selection of the 120 road segments. Using the MTFCC from the U.S. Census Bureau, the road segments within each of the 12 sample counties were classified into primary, secondary and local roads. The road segments needed for each of the three strata for each county were then randomly selected using SAS computer software.

SURVEY PROCEDURES

Observation Periods

All seat belt and booster seat use observations were conducted during weekdays and weekends between 7 a.m. and 6 p.m. The schedule included rush hour (before 9:30 a.m. and after 3:30 p.m.) and non-rush hour observations. Data collection was conducted for exactly 45 minutes at each site. Start times were staggered to ensure that a representative number of weekday /weekend/rush hour/non-rush hour sites are included. The assignment of days and times was random; however, to minimize the amount of travel between sites, sites in close proximity were assigned as data collection clusters.

Data Collection

All passenger vehicles, including commercial vehicles weighing less than 10,000 pounds, are eligible for observation. Data on seat belt use are collected for drivers and right front seat passengers (including those in booster seats). The only right front seat occupants who are excluded are child passengers who are traveling in child seats with harness straps. Copies of the data collection form cover sheet and survey observation form are provided in Appendix A.

Each observer was given a Site Assignment Sheet, county maps marked with the site locations, and a schedule indicating the date and time for conducting observations at each site. The direction of traffic to be observed at the site was predetermined and included on the list of assigned sites. The observers were instructed to only observe traffic on the assigned road segment traveling in the direction designated. They were also instructed on how to select an appropriate and safe location for conducting the observations and on the procedures to follow if the designated observation point is found to be inaccessible or unsafe. Since the sites are roadway segments and are not limited to intersections, observations can be conducted anywhere on the designated segment as long as the same traffic is observed.

SEAT BELT USAGE RATE AND VARIANCE ESTIMATES

The results of the June 2017 survey indicate a statewide seat belt use rate of 93.41%. The standard error of the estimate is 0.51% and the lower and upper limits of the use rate are 92.15% and 94.67%, at the 95% confidence interval. The estimate was based on observations made at 120 sites within six predefined regions of the state. The data used to derive the estimate are provided in Appendix B. The rate and variance estimates were calculated using the Sudaan software package.

NYS SEAT BELT USAGE RATE AND VARIANCE ESTIMATES June 2017

| Usage Rate % | Standard Error % | 95% Confidence Interval | |
|-----------------|---------------------|----------------------------|----------|
| | | % Lower | % Higher |
| 93.41 | 0.51 | 92.15 | 94.67 |

APPENDIX A

New York State Seat Belt Survey Data Collection Form Cover Sheet

Institute for Traffic Safety Management and Research, State University at Albany
Office phone #518-453-0291 // Janine Schultz cell #518-495-5546 // Jenifer Tanis cell #518-817-8656

Observer _____

Date _____

Site Identification _____

Site Location _____

Site # _____

Alternate Site Information

Is this an alternate site? (Circle one) No Yes

If yes, please provide a reason for using an alternate site from the reserve list: _____

Site Description

Assigned traffic flow: North South East West

Number of lanes observed: One

Total number of lanes in this direction: _____

Weather Conditions: (Circle one) Clear Light Fog Light Rain

Site Start and End Time

Start time for observation: _____ am/pm

End Time for observation: _____ am/pm

Total observation period must last exactly 45 minutes.

New York State Seat Belt Survey-Observation Form

Site # _____

Institute for Traffic Safety Management and Research, University at Albany, 518-453-0291

Page _____ of _____

Key: Yes = 1 No = 0 Unknown = U No Passenger: Leave Blank

| Vehicle # | Driver Seatbelt Use | Pass. Seatbelt Use | Vehicle # | Driver Seatbelt Use | Pass. Seatbelt Use | Vehicle # | Driver Seatbelt Use | Pass. Seatbelt Use | Vehicle # | Driver Seatbelt Use | Pass. Seatbelt Use | Vehicle # | Driver Seatbelt Use | Pass. Seatbelt Use | Vehicle # | Driver Seatbelt Use | Pass. Seatbelt Use |
|-----------|---------------------|--------------------|-----------|---------------------|--------------------|-----------|---------------------|--------------------|-----------|---------------------|--------------------|-----------|---------------------|--------------------|-----------|---------------------|--------------------|
| 1 | | | 26 | | | 51 | | | 76 | | | 101 | | | 126 | | |
| 2 | | | 27 | | | 52 | | | 77 | | | 102 | | | 127 | | |
| 3 | | | 28 | | | 53 | | | 78 | | | 103 | | | 128 | | |
| 4 | | | 29 | | | 54 | | | 79 | | | 104 | | | 129 | | |
| 5 | | | 30 | | | 55 | | | 80 | | | 105 | | | 130 | | |
| 6 | | | 31 | | | 56 | | | 81 | | | 106 | | | 131 | | |
| 7 | | | 32 | | | 57 | | | 82 | | | 107 | | | 132 | | |
| 8 | | | 33 | | | 58 | | | 83 | | | 108 | | | 133 | | |
| 9 | | | 34 | | | 59 | | | 84 | | | 109 | | | 134 | | |
| 10 | | | 35 | | | 60 | | | 85 | | | 110 | | | 135 | | |
| 11 | | | 36 | | | 61 | | | 86 | | | 111 | | | 136 | | |
| 12 | | | 37 | | | 62 | | | 87 | | | 112 | | | 137 | | |
| 13 | | | 38 | | | 63 | | | 88 | | | 113 | | | 138 | | |
| 14 | | | 39 | | | 64 | | | 89 | | | 114 | | | 139 | | |
| 15 | | | 40 | | | 65 | | | 90 | | | 115 | | | 140 | | |
| 16 | | | 41 | | | 66 | | | 91 | | | 116 | | | 141 | | |
| 17 | | | 42 | | | 67 | | | 92 | | | 117 | | | 142 | | |
| 18 | | | 43 | | | 68 | | | 93 | | | 118 | | | 143 | | |
| 19 | | | 44 | | | 69 | | | 94 | | | 119 | | | 144 | | |
| 20 | | | 45 | | | 70 | | | 95 | | | 120 | | | 145 | | |
| 21 | | | 46 | | | 71 | | | 96 | | | 121 | | | 146 | | |
| 22 | | | 47 | | | 72 | | | 97 | | | 122 | | | 147 | | |
| 23 | | | 48 | | | 73 | | | 98 | | | 123 | | | 148 | | |
| 24 | | | 49 | | | 74 | | | 99 | | | 124 | | | 149 | | |
| 25 | | | 50 | | | 75 | | | 100 | | | 125 | | | 150 | | |

APPENDIX B

NEW YORK STATE 2017 OBSERVATIONAL SURVEY OF SEAT BELT USE

| County | | Number of Front Seat Occupants Belted | Number of Front Seat Occupants Unbelted | Total Front Seat Occupants | Unweighted County Usage Rate | Weighted Statewide Usage Rate |
|-------------|-------------|---------------------------------------|---|----------------------------|------------------------------|-------------------------------|
| 1 | Queens | 2,324 | 155 | 2,479 | 93.75% | |
| 2 | Suffolk | 2,439 | 204 | 2,643 | 92.28% | |
| 3 | Dutchess | 2,298 | 133 | 2,431 | 94.53% | |
| 4 | Westchester | 2,275 | 178 | 2,453 | 92.74% | |
| 5 | Albany | 2,451 | 75 | 2,526 | 97.03% | |
| 6 | Rensselaer | 1,958 | 96 | 2,054 | 95.33% | |
| 7 | Broome | 2,215 | 144 | 2,359 | 93.90% | |
| 8 | Onondaga | 1,466 | 86 | 1,552 | 94.46% | |
| 9 | Monroe | 1,833 | 92 | 1,925 | 95.22% | |
| 10 | Wayne | 1,229 | 49 | 1,278 | 96.17% | |
| 11 | Erie | 2,996 | 232 | 3,228 | 92.81% | |
| 12 | Niagara | 3,298 | 143 | 3,341 | 95.84% | |
| State Total | | 26,782 | 1,587 | 28,369 | 94.41% | 93.41% |

Standard Error of Statewide Usage Rate: 0.51

