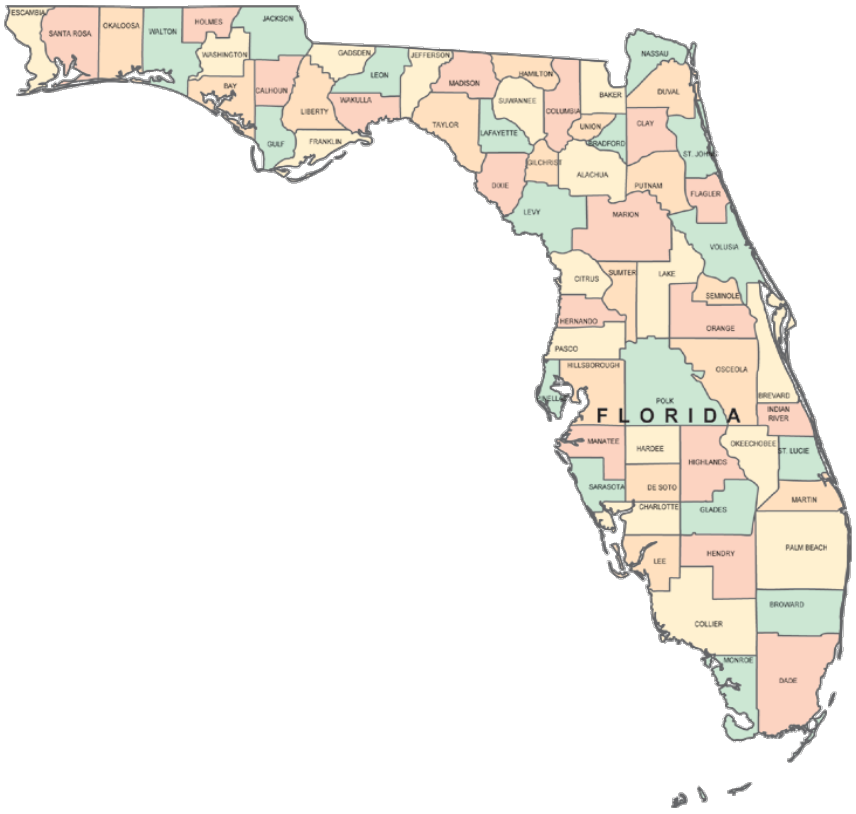
June 2017
Safety Belt Use in Florida
Final Report



2017 Final Report

Prepared for:
Florida Department of Transportation

Prepared by:
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This report was prepared for the FDOT State Safety Office, Department of Transportation, State of Florida, in cooperation with the National Highway Traffic Safety Administration, U.S. Department of Transportation and/or Federal Highway Administration, U.S. Department of Transportation. The conclusions and opinions expressed in these reports are those of the sub-recipient and do not necessarily represent those of the FDOT State Safety office, Department of Transportation, State of Florida, and/or Federal Highway Administration, U.S. Department of Transportation, or any other agency of the State or Federal Government.

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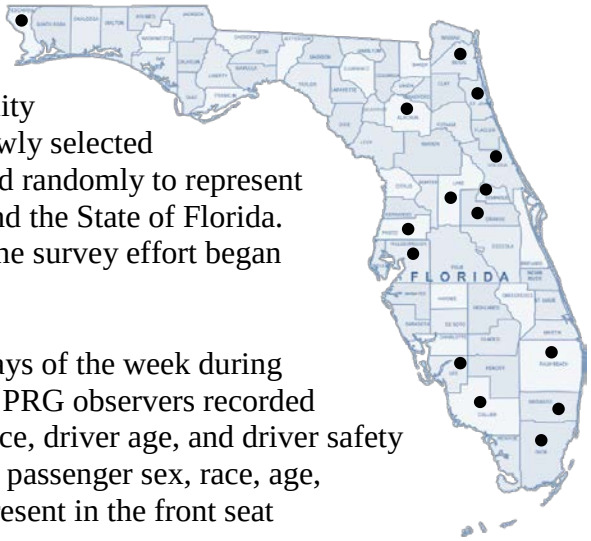
Executive Summary

Background

The following report documents Florida's annual statewide safety belt use survey. The Florida Department of Transportation (FDOT) is responsible for the State of Florida's Highway Safety Program. A portion of FDOT funding comes from the federal government, which requires administration of a statewide survey of safety belt use that adheres to Federal Register Guidelines. The information in this report provides results from the 2017 observational survey of safety belt use. The survey was conducted statewide, and it followed National Highway Traffic Safety Administration (NHTSA) procedures that determine the outboard, front-seat occupant belt use rate. Preusser Research Group (PRG) was contracted with FDOT and responsible for conducting the survey with support of statistician William Leaf, Ph.D.

Methodology

Counties Included in Statewide Safety Belt Survey



Every five years, NHSTA requires that statewide surveys include newly sampled survey sites based on the most recent traffic fatality counts. The 2017 survey design included 165 newly selected sites across 15 counties. These sites were selected randomly to represent all the traffic on various types of roadways around the State of Florida. One-hour observations took place at each site. The survey effort began June 2nd and was completed on June 8th, 2017.

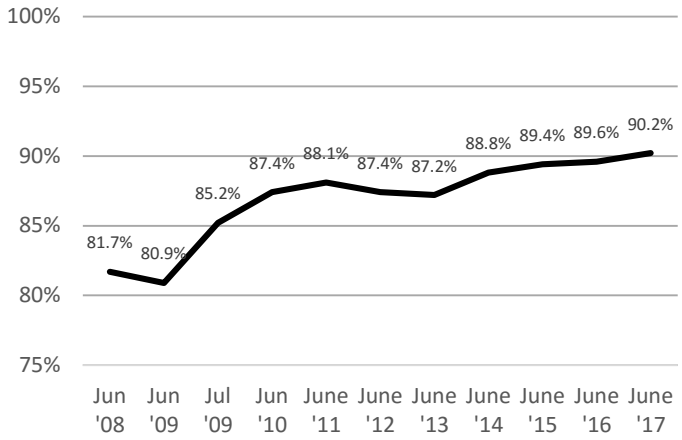
Observations were randomly scheduled for all days of the week during daylight hours, between 7:00 a.m. and 6:00 p.m. PRG observers recorded information on vehicle type, driver sex, driver race, driver age, and driver safety belt use. Observers also recorded information on passenger sex, race, age, and belt use, when an outboard passenger was present in the front seat of the vehicle.

Results

Florida's statewide safety belt usage rate for 2017 is 90.2 percent. That is the highest belt usage rate measured to date.

Safety belt usage across Florida has improved approximately eight percentage points in ten years' time, from 81.7 percent in 2008 to 90.2 percent in 2017.

Statewide Safety Belt Usage Trend Line



Belt Use by Road Type

The 2017 survey results show that safety belt use differed by roadway type. Usage measured highest on Interstates (92.4%) which typically yield higher traffic density and higher rates of speed. Usage measured lowest on local roads (87.6%) which are less frequently travelled roadways and usually found within neighborhoods in city limits.

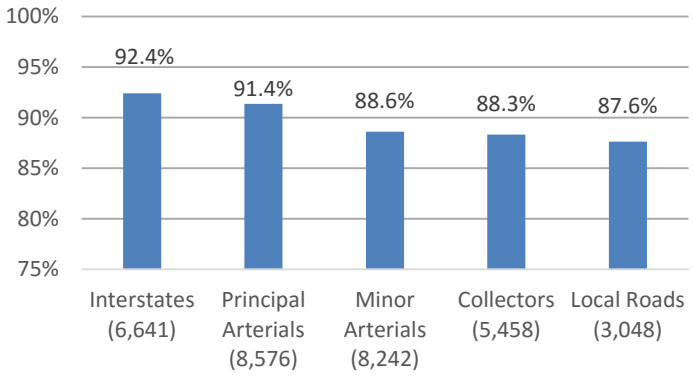
Annually, surveys typically find that local roads are where occupants are least likely buckled. Looking at the last five annual surveys (2013-2017), in general, travelers on all road types are buckling up more now compared to years past. Occupants on local roads have improved the most.

Belt Use by Vehicle Type

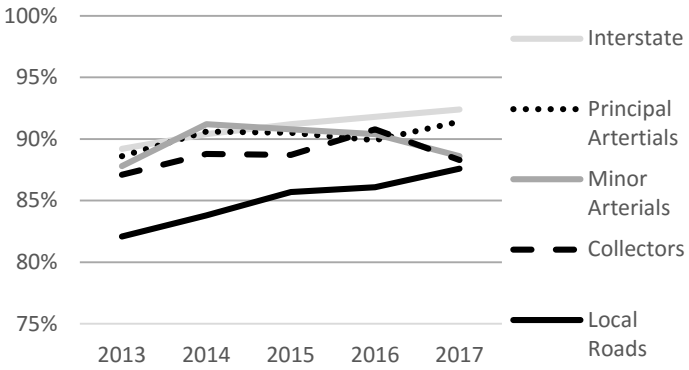
Safety belt usage also differed by vehicle type. Occupants in the cabs of pickup trucks wore belts less often (83.8%) compared to occupants in other vehicle types. Front seat occupants in sport utility vehicles wore belts most often (92.3%), followed by occupants in passenger cars (90.5%) and then vans (90.2%). Between the years 2013 to 2017, safety belt use increased in all vehicle types. However, pickup occupants still maintain a large usage gap behind occupants in the next lowest vehicle type (6.4 percentage points less than van occupants in 2017).

Occupants in pickups have exhibited lower usage every year of the survey. Clearly, pickup truck occupants not wearing a wearing a safety belt have a downward pull on the annual statewide usage rate.

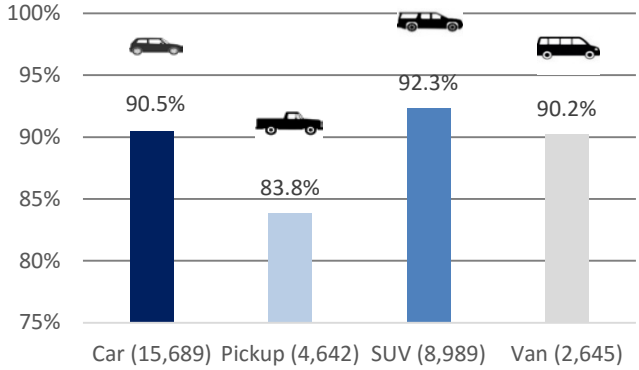
2017 Safety Belt Use Rate by Road Type



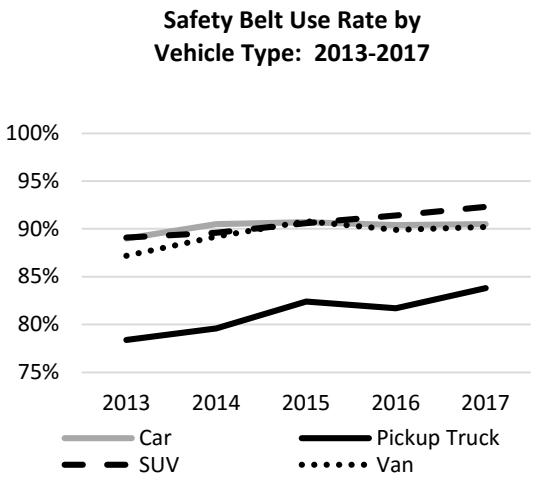
Safety Belt Use Rate by Road Type: 2013-2017



2017 Safety Belt Use Rate by Vehicle Type

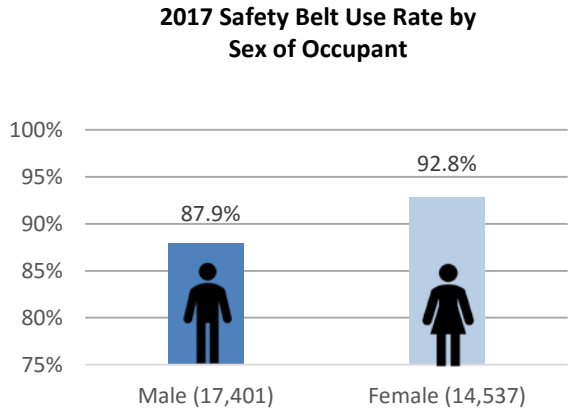


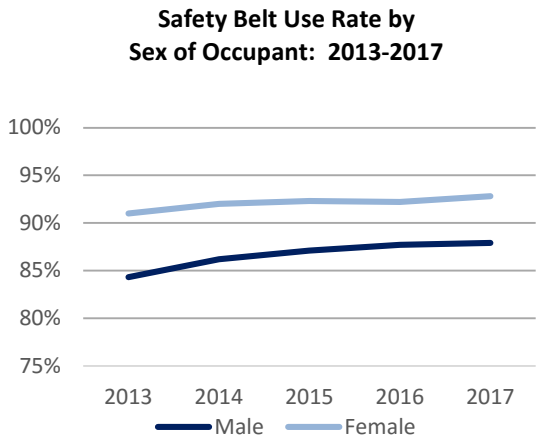
The 2017 survey results also provided information on usage and occupant sex, age, and race/ethnicity. Tracking occupant characteristics with usage information could help shape the development of countermeasures.



Belt Use by Occupant Sex

The 2017 survey results indicated that female passengers are more often wearing safety belts compared to male passengers (92.8% versus 87.9%). That is the case every time the survey is done. The 2017 survey indicated the gap in usage was 4.9 percentage points. The gap appears to have slightly narrowed in the last five years.



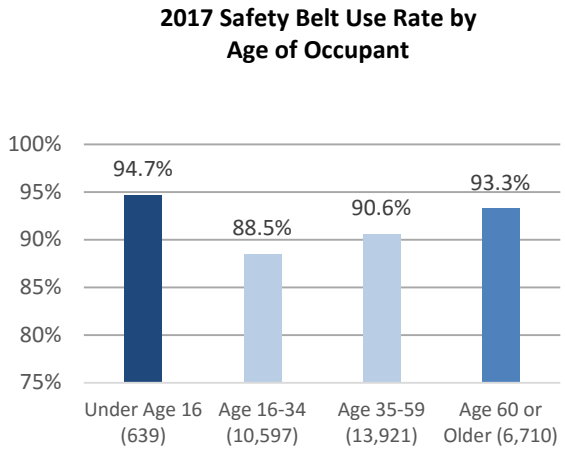


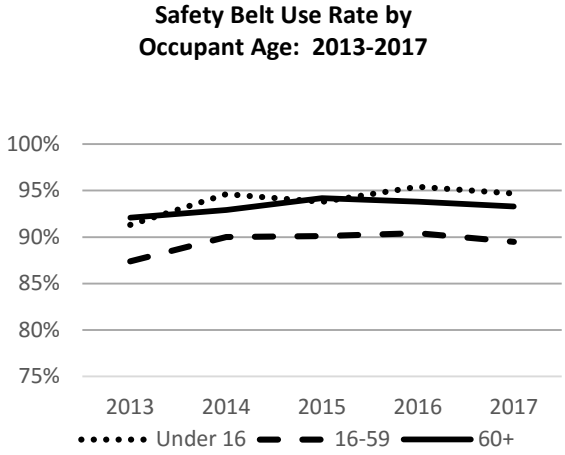
Belt Usage by Occupant Age Category[1]

A majority of the occupants observed were deemed between the ages of 16-59. Broken down, occupants between the ages 16-34 were buckled up the least (88.5%). Occupants between the ages 35-59 were buckled up slightly more than 90 percent of the time (90.6%).

The youngest (< age 16) and oldest (age 60+) occupants were most likely wearing a safety belt at 94.7 percent for < age 16 and 93.3 percent for age 60+. Annual surveys conducted over time show a similar pattern in usage among age categories. Surveys prior to 2017 did not separate 16-34 and 35-59 age categories, collapsing them into one 16-59 category instead.

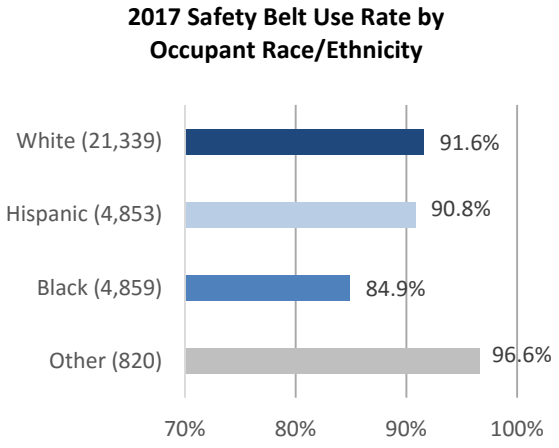
[1] The survey design approved by NHTSA does not provide weighted statewide usage estimates by age or race. Usage rates from raw counts are provided for within variable comparisons and for estimating change over time.

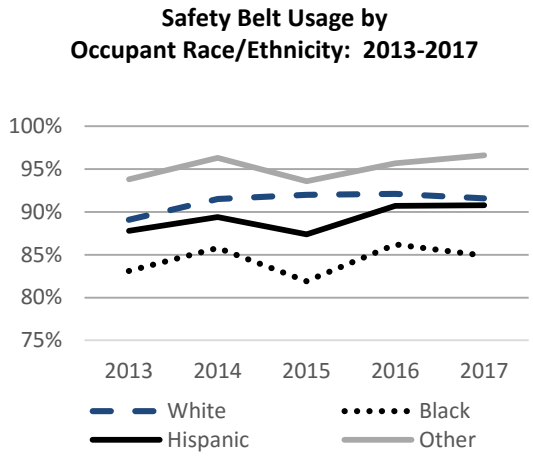




Belt Usage by Occupant Race/Ethnicity

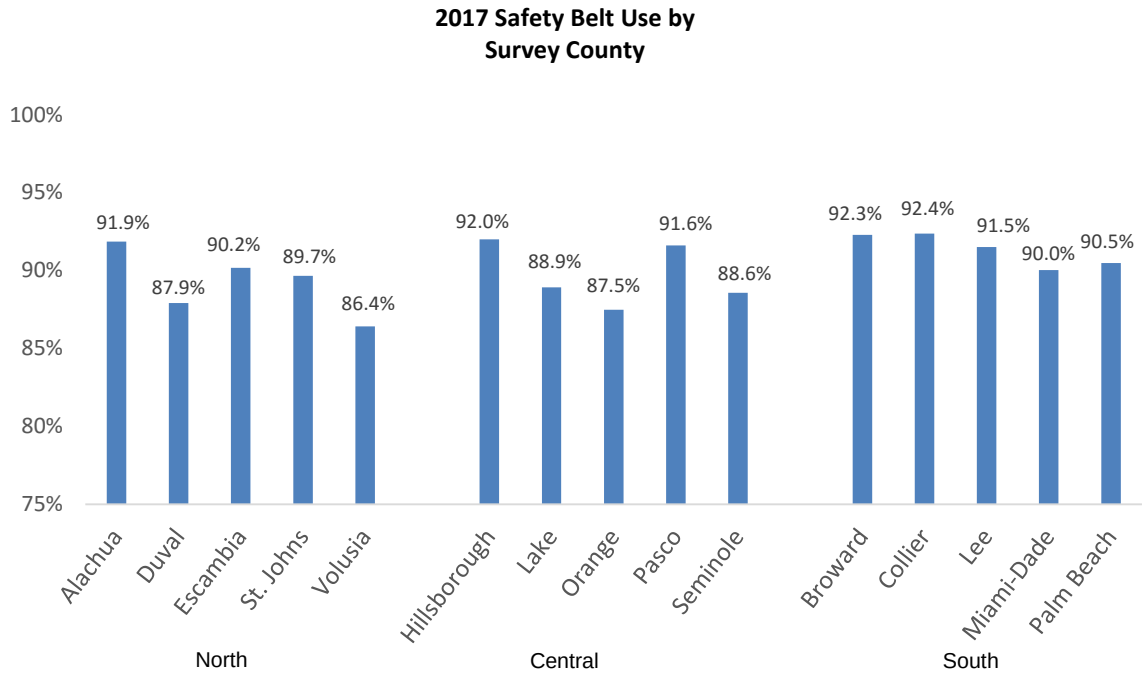
Belt usage differs by occupant race/ethnicity. Results indicate Black occupants wore safety belts less often compared to other race/ethnicities. Historically, that has always been the case and the gap has remained consistent.





Belt Usage by Survey County

The graph below presents usage for each county included the survey. The rates in the graph are based on weighted data and derived from new sample sites used for the first time in 2017 survey. It is important to note that the annual statewide safety belt survey is designed to provide a single (weighted) safety belt usage estimate for the entire State of Florida, and not individual county rates. The county rates are still useful though, as they can serve as points of reference when looking for change using future surveys.



Conclusion

Florida's statewide safety belt use rate for 2017 is 90.2 percent. For the first time, Florida topped 90 percent usage among front seat occupants in passenger vehicles.

Safety belt usage has generally shown an upward trend over time, increasing 8.5 percentage points since 2008 (81.7%). The 2017 survey results indicate that the usage rate is above 85 percent in every county included in the survey (n=15) and above 90 percent in nearly two-thirds of the survey counties (n=9).

The 2017 results show that progress has been made. The results also point to where improvement is still needed. Occupant protection programs should seek to use proven countermeasures that work to address disproportionately low use groups.

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Background

Introduction

This report documents Florida's Annual Statewide Safety Belt Use Survey. The survey was conducted in June of 2017 by Preusser Research Group, Inc. (PRG), under the direction of the Florida Department of Transportation (FDOT) State Safety Office, and under contract with University of North Florida's Institute of Police Technology and Management.

FDOT administers federal highway funds and oversees the highway safety program efforts supported by these funds through the State of Florida's Highway Safety Program. Each year FDOT develops a State Highway Safety Plan that establishes the state's highway safety goals and objectives and describes the projects recommended for funding during the year. Occupant protection is one of the primary program areas for which FDOT is responsible. The use of federal funding for occupant protection programs requires administration of a statewide survey of safety belt use that must adhere to Federal Register Guidelines.

Florida's first statewide survey certified under Federal Register Guidelines was completed in 1999 and surveys have been conducted every year since. These annual surveys have provided an accurate and reliable estimate of safety belt use in Florida, at a specific point in time (usually in June of every year). The 2017 survey is comparable to the first estimate accredited by National Highway Traffic Safety Administration (NHTSA) in 1999 and all statewide surveys conducted thereafter.

Safety Belt Law and History of Safety Belt Use in Florida

The State of Florida implemented its first adult safety belt law on July 1, 1986. The law was a secondary law, meaning that, a Florida law enforcement officer could cite a motorist for not wearing a safety belt but only after observing some other violation. Florida's observed safety belt usage rate was low (22%) before the passage of that law. Shortly after enactment, but prior to the implementation of the new law, Florida reported a somewhat higher use rate (28%). It wasn't until after the new secondary law was put into effect that the State reported considerable improvement (41%; 2nd half of 1986). The following year the State reported even higher belt usage (50%) before reporting a decline (47%) in 1988. Belt usage increased again from 1988 to 1989 (+8 points) and then again from 1990 to 1991 (+7 points). At that time, Florida participated in the "*National 70 Percent by '92 Program*," the first nationwide enforcement mobilization also known as "*Operation Buckle Down*."

Beginning in 2003, national/state "*Click It or Ticket*" (CIOT) mobilizations began, and from 1999 through 2004, Florida's observed use rate increased from 59 percent to 76 percent. In 2005, the belt usage rate declined slightly. In 2006, Florida re-designed its statewide survey and usage was measured at 81 percent, seven points higher than in 2005. By 2008, the official observed use rate in Florida was 82 percent, nearly identical to the national use rate of 83 percent. This was the last official observed rate prior to enactment of Florida's primary law upgrade.

The State of Florida passed a primary enforcement safety belt bill (SB 344) on April 29, 2009 and the Governor signed that bill into law on May 6, 2009, with an effective date of June 30, 2009. The new law created an uninterrupted change from secondary enforcement of safety belt violations to primary enforcement and gave law enforcement officers the power to observe, cite, and stop a motorist solely for not wearing a safety belt.

When Florida implemented the primary safety belt law, it already had a high baseline usage rate compared with past law upgrades. In addition, the State was engaged in a Rural Demonstration Program (RDP) to increase usage in rural areas in the northern part of the State, and it was participating in annual CIOT mobilizations. The 2009 CIOT mobilization occurred after the new law had passed but before the law was implemented. There was some evidence that the 2009 CIOT mobilization was less intense (i.e. fewer traffic citations) than in prior years, and the decrease in intensity is likely associated with the smaller gain in usage (about 3 percentage points). Immediately after the law change, PRG measured an additional 4.3 percentage point increase in safety belt usage statewide (from 80.9% post-CIOT to 85.2% post-upgrade). Perhaps most importantly, the impact of the law change was greatest among low-use groups, including males, Black occupants, and occupants in the cab of pickup trucks.

Belt use has edged upward since passage of the primary law. After the primary law was put into effect, awareness surveys indicated that 90 percent of respondents were aware of the fact that police could stop and ticket a motorist solely for a safety belt violation. In addition, this provision was supported by about three-quarters of all respondents. The 2010 CIOT mobilization was the State of Florida's first high visibility enforcement program for safety belts under a primary enforcement law. Enforcement intensity increased to levels not seen before, and that is likely associated with additional gains in statewide belt usage. Once again, increases were greatest among the lowest use subgroups.

Towards the conclusion of every annual national CIOT mobilization, an observational survey of belt use has been conducted statewide in Florida.

The following report documents the latest statewide observational survey of safety belt use conducted in Florida, in June of 2017. The statewide survey was conducted by Preusser Research Group, Inc., with the assistance of William A. Leaf. Ph.D. (Chief Statistician).

Methodology

Survey Design

Florida's 2017 statewide safety belt survey was the first iteration using new observation sites. This change was in response to a NHTSA requirement that new observation sites be selected every five years. The 2017 survey is rooted in a 2012 design developed by William A. Leaf Ph.D. (PRG, Chief Statistician). The 2012 design included 165 observation sites that were approved by NHTSA. The 2017 resample utilized a revised FDOT database including updated vehicle miles traveled (VMT) and road inventory to determine the location of new observation sites. Again, 165 sites (a.k.a "road segments") were included in the 2017 survey design. The 2017 sample of observation sites was approved for use by NHTSA (in writing) in the spring of 2017.

Site Selection

PRG determined that the same 15 counties used in past surveys could again be utilized based on a five-year fatality query. The list of counties includes: Alachua, Broward, Collier, Duval, Escambia, Hillsborough, Lake, Lee, Miami-Dade, Orange, Palm Beach, Pasco, St. Johns, Seminole, and Volusia.

Primary and alternate road segments were randomly selected from the updated database provided to PRG from FDOT. The 165 road segments (plus alternatives) were randomly selected with probabilities of selection proportional to their daily vehicle miles traveled (DVMT) and then mapped for inclusion in the survey.

Pre-collection site visits were made and if a road segment proved unusable or inferior, observers could choose an alternate segment of the road where they could more effectively observe the same traffic stream. Were that not possible, observers could choose the next available segment of a same roadway type from a list of pre-selected alternates. Given that 2017 was the first year to visit most of these segments, several primary locations were deemed unsuitable, and alternate sites were used. Ultimately, once a final site location was determined by the observer, a map was drawn as documentation for future visits.

Data Collection

Observers

Observers were hired and trained exclusively by PRG. Most have conducted safety belt observations for previous surveys, and all were trained to the specific requirements of Florida's safety belt use observation. Prior to any data collection, PRG reviewed the procedures with the observers in a training session which included street-side practice. Additionally, observers were trained how to handle various conditions, such as bad weather or temporary traffic impediments, which can require observation rescheduling and what to do to reschedule sites. They were also trained in how to substitute alternate sites should a primary site be completely unusable during the scheduled period. Eight observers operated individually and one quality control monitor was utilized.

Scheduling

Observations were conducted on all days of the week during daylight hours between 7:00 a.m. and 6:00 p.m. First preference was for all sites in a county to be organized into two or three clusters. Road segments from the same stratum were distributed equally across clusters in so far as possible. Clusters of three to five sites were scheduled for one observer on any given day, depending on site proximity and travel difficulty. For each county, the days of observation for the clusters were selected to balance observations across weekend and weekday days. Two-cluster counties included one weekend and one weekday day and three-cluster counties included one weekend and two weekday days. Within these constraints, actual day of week assignments were randomly determined.

The first site in a cluster to be observed on the scheduled day was randomly selected and the additional sites were assigned in an order which provided balance by type of site and time of day while minimizing travel distance and time. For each site, the schedule specified time of day, day of week, roadway to observe, and direction of traffic to observe. Depending on the number of sites in a cluster, the time from 7:00 a.m. to 6:00 p.m. was divided into nearly equal-length time periods. For example, for five-site days, time of day was specified as one of five time periods, such as 7:00 a.m.–9:00 a.m., 9:00 a.m.–11:00 a.m., 11:00 a.m.–2:00 p.m., 2:00 p.m.–4:00 p.m., and 4:00 p.m.–6:00 p.m. For three site days, time of day was specified as one of six time periods and split evenly for morning and afternoon, such as 7:00 a.m.–8:45 a.m., 8:45 a.m.–10:30 a.m., and 10:30 a.m.–12:15 p.m.; then 12:15 p.m.–2:30 p.m., 2:30 p.m.–4:15 p.m., and 4:15 p.m.–6:00 p.m. Timing of the periods was subject to adjustment, but ultimately resulted in approximately equal numbers of sites being observed throughout the 7:00 a.m.– 6:00 p.m. time frame. In all cases, the period of actual safety belt use observation lasted exactly one hour and was required to take place within the broader allowable time period.

Collection Procedures

Data collection was done according to the observer instructions in Appendix A. All passenger vehicles less than 10,000 pounds Gross Vehicle Weight Rating (GVWR) were eligible to be observed. Survey information was recorded on an observation data collection form (Appendix B). The form was designed so that pertinent site information could be documented, including date, day of week, time, weather condition, and direction of traffic flow. Each one-page form included space to record information on 25 vehicles, the driver of each vehicle, and the outboard, front seat passenger, if any. When more than 25 observations were made at a site, additional sheets were used and all sheets for the observation site-period were fastened together. Observations included occupant gender, age category, and race, in addition to safety belt use.

If data could not be collected at a site due to a temporary problem such as bad weather or a temporary traffic impediment, collection was rescheduled at the same site for the same time of day and, where possible, day of the week. If a site could not be used due to a more permanent factor, the next available selected alternate in the same county-stratum was been used. In future surveys, the original site will be reconsidered if possible; otherwise, the alternate site will be selected as the new, official location.

Quality Control

A single designated monitor conducted random, unannounced visits to at least 10 observation sites for quality control. The monitor ensured that the observer was in place and making observations during the observation period. Where possible, the monitor remained undetected by the observer. As noted above, PRG has had extensive experience in training safety belt use observers. All observers, whether or new or not, received training which included both classroom instruction and field (road-side) practice.

Building a Data Set

Observation data were keypunched by PRG staff. A thorough check of the data revealed minimal errors, all of which were corrected pre-analysis. Microsoft Excel was used to determine weighted results; including estimation of the overall statewide average. The data set was also analyzed using the Statistical Package for the Social Sciences (SPSS) to generate non-weighted calculations.

Calculation and Reporting of Rates

An Excel spreadsheet was developed in which raw data observations were recorded and safety belt use and variability calculations were computed. Calculation of safety belt usage rates utilized formulas approved by NHTSA. For the statewide safety belt use figure to be reported to NHTSA, all observations were included, i.e., all vehicle types, drivers, and outboard front seat passengers. For the State's own use, safety belt usage rates also were calculated for subsets of interest, e.g., drivers only, passengers only, drivers and/or passengers within vehicle type, or males or females alone. Further breakdowns of safety belt use warranted non-weighted number calculations, as the weighting of smaller levels of subgroups decreases the reliability of the results.

2017 Florida Statewide Survey Results

Observers recorded safety belt use information on 25,469 drivers and 6,496 outboard front seat passengers across 165 sample sites within 15 counties. Table 1 displays number of drivers and passengers observed per county and separates the counties by region.

Table 1. Number of Observed Front Seat Occupants per County/Region

	Drivers	Passengers	Total
North Region	**7,742**	**2,157**	**9,899**
Alachua County	1,330	431	1,761
Duval County	1,648	364	2,012
Escambia County	1,674	473	2,147
St. Johns County	1,446	420	1,866
Volusia County	1,644	469	2,113
Central Region	**7,654**	**1,909**	**9,563**
Hillsborough County	1,441	349	1,790
Lake County	1,451	431	1,882
Orange County	1,697	308	2,005
Pasco County	1,186	325	1,511
Seminole County	1,879	496	2,375
South Region	**10,073**	**2,430**	**12,503**
Broward County	1,546	314	1,860
Collier County	2,229	576	2,805
Lee County	2,297	695	2,992
Miami-Dade County	2,101	520	2,621
Palm Beach County	1,900	325	2,225
Statewide Total	**25,469**	**6,496**	**31,965**

The overall safety belt use rate for drivers and passengers combined measured **90.2** percent in June 2017 (95 Percent Confidence Interval 89.0% – 91.4%; Standard Error = 0.602%; Non-response Rate =0.153%). **This rate represents Florida's highest use level to date.** Figure 1, on the following page, shows the trend in belt use over time.

Surveys of safety belt use conducted during the 1990s indicated no sustained increase in Florida's statewide rate. After the year 2000, Florida's safety belt use rate started to improve. Increases measured over this time are due, at least in part, to the implementation of highly and widely visible efforts to enforce Florida's adult safety belt law. A substantial rate increase was measured after implementation of the Primary law (June 30, 2009), and the rate has increased each year until the 2012 measurement, when the survey was redesigned in compliance with new NHTSA guidelines. Since then, Florida's use level remained statistically the same until the 2014 increase and the rate has improved each subsequent year.

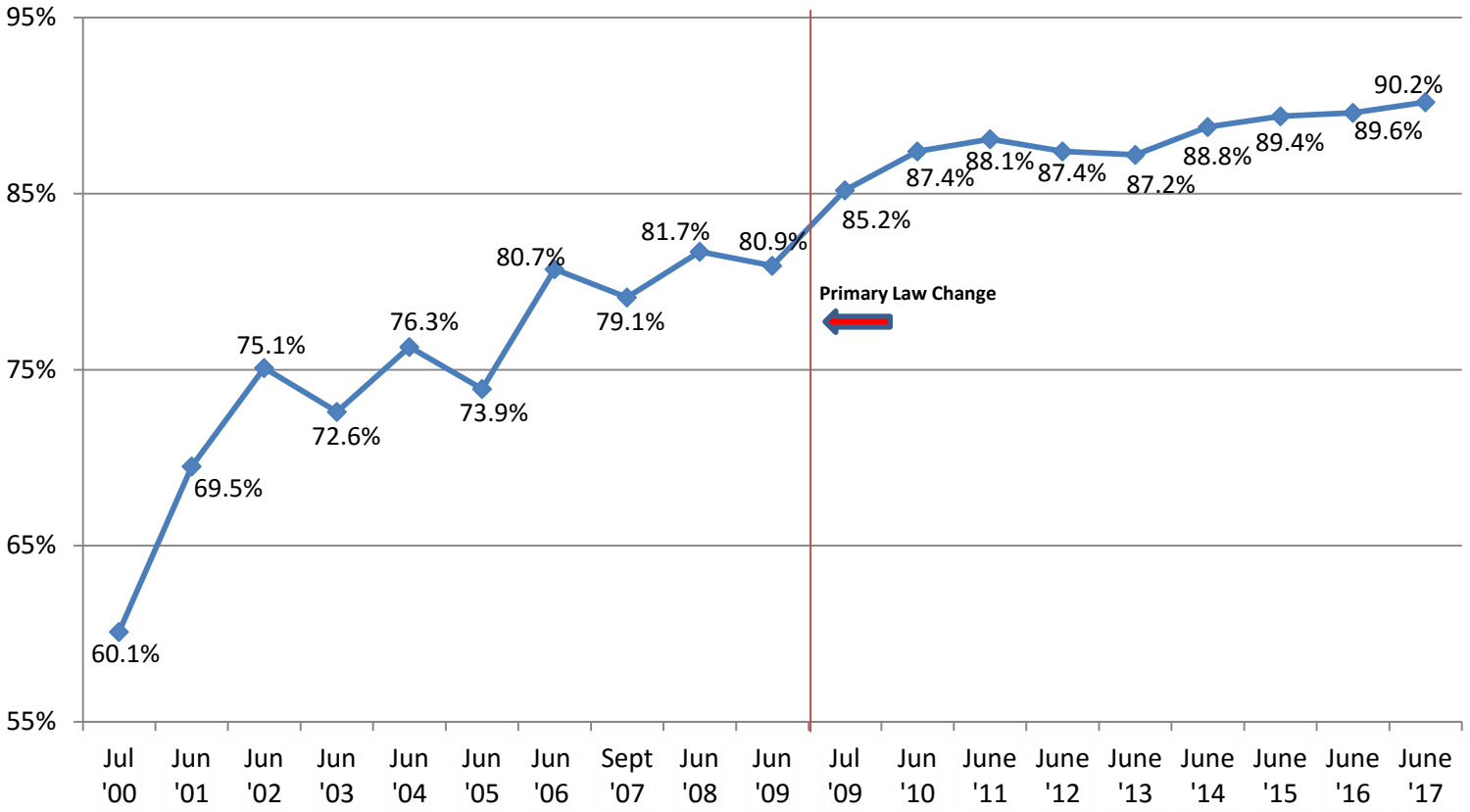

Figure 1. Florida Statewide Observational Survey of Safety Belt Use Results; July 2000 – June 2017

Descriptive Survey Information

Usage by Roadway Type

Safety belt use differed by roadway type. Figure 2 shows that safety belt use measured highest on Interstates (92.4%) which typically yield higher traffic densities with higher rates of speed. Observers measured the lowest safety belt usage on Local Roads (87.6%), which are less frequently travelled roadways, and usually found within neighborhoods in city limits. With the introduction of the Local Road functional class as part of the updated survey guidelines (2012), lower use rates and higher variability were expected. Nonetheless, local roadways improved 1.5 percentage points from the June 2016 rate of 86.1 percent to 87.6 percent in June 2017.

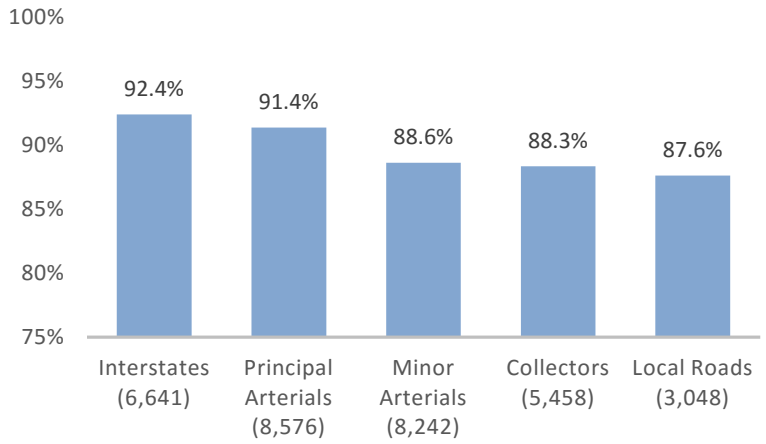

Figure 2. 2017 Observed Safety Belt Use Rate by Roadway Type

Annual surveys typically find that local roads are where occupants are least likely buckled up (Figure 3). Looking at the last five annual surveys, in general, travelers on all road types are buckling up more now compared to years past. Occupants on local roads have improved the most.

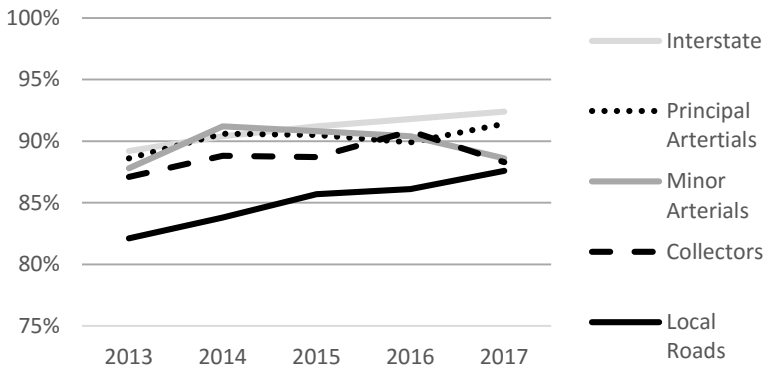

Figure 3. Observed Safety Belt Use Rate by Roadway Type: 2013-2017

Usage by Occupant Sex

The 2017 survey results indicated lower safety belt use among male occupants compared to female. Male occupants wore safety belts 4.9 percentage points less than female occupants (Figure 4). Lower belt use among male occupants is typical in observational surveys of safety belt use. Figure 5 displays the trends in male and female safety belt use over the last five Florida statewide surveys. Both male and female occupant belt use increased over time. Overall, female occupants improved 1.8 percentage points in usage from 2013 to 2017, while male occupants improved 3.6 percentage points over the same time.

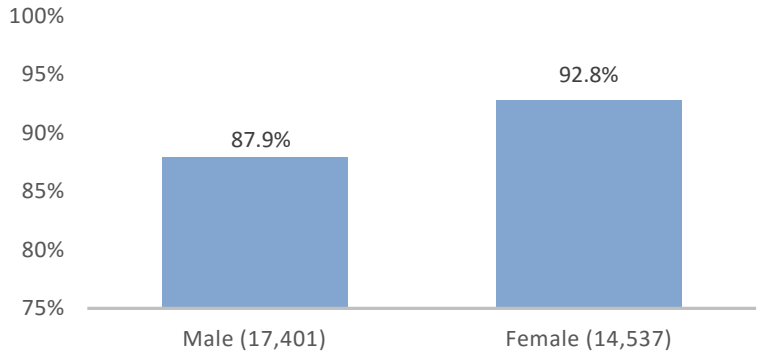

Figure 4. 2017 Observed Safety Belt Use Rate by Gender

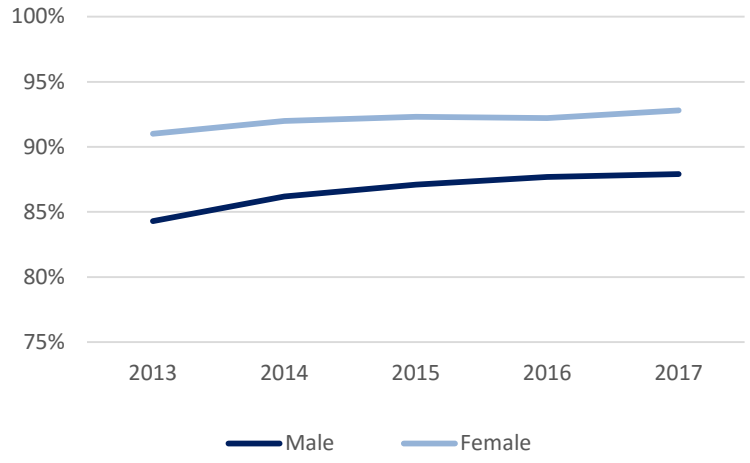

Figure 5. Observed Safety Belt Use Rate by Gender: 2013-2017

Male passengers wear safety belts slightly more compared to male drivers (Figure 6). Marginally more separation in safety belt usage is seen among female occupants when comparing by seating position.

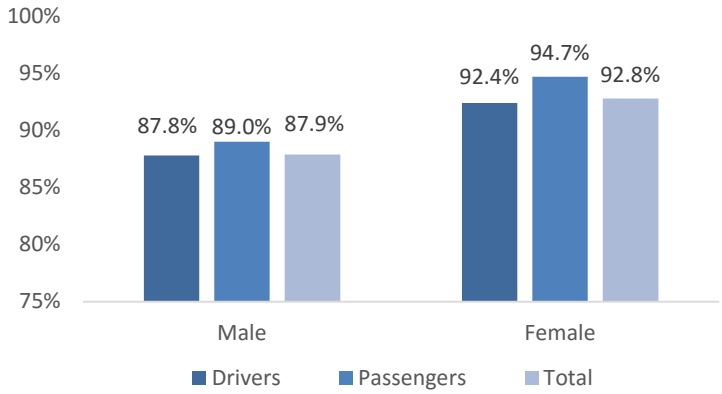

Figure 6. 2017 Observed Safety Belt Use Rate by Gender and Front Seat Position

Usage by Vehicle Type

Results from the survey indicated lower safety belt use among occupants in pickup trucks (83.8%) when compared to other vehicle types (Figure 7). Front seat occupants in sport utility vehicles were most likely to be belted (92.3%), followed by occupants in passenger cars (90.5%) and vans (90.2%). Between the years 2013-2017, safety belt use increased in all vehicle types (Figure 8). Belt usage in pickup trucks maintained a large usage gap behind occupants in the next lowest vehicle type (6.4 percentage point difference comparted to van occupants).

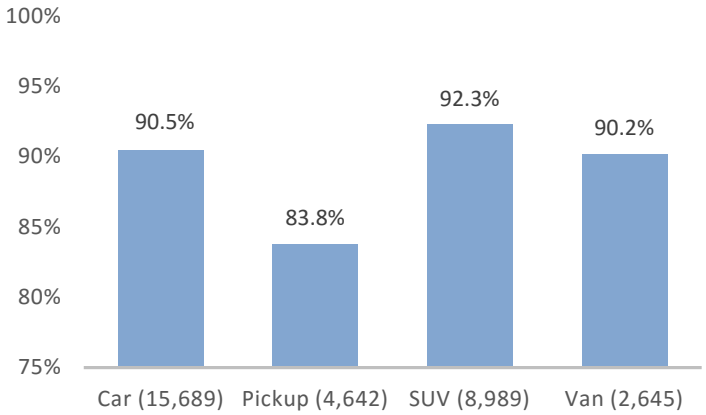

Figure 7. 2017 Observed Safety Belt Use Rate by Vehicle Type

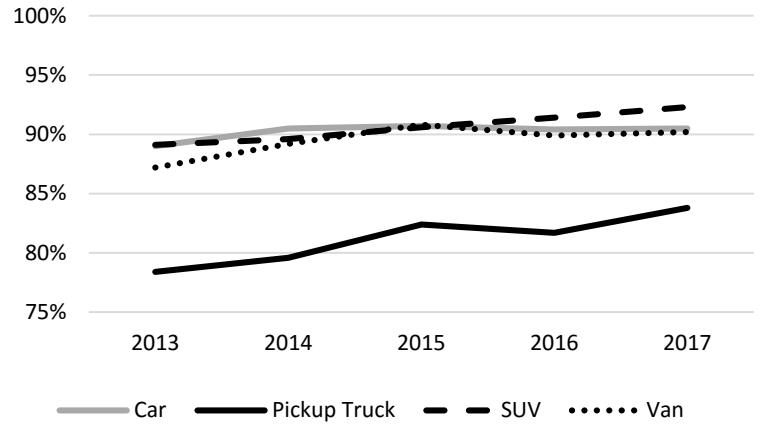

Figure 8. Observed Safety Belt Use Rate by Vehicle Type: 2013-2017

Figure 9 shows the breakdown of male and female safety belt use within vehicle type. As previously indicated, male occupants were less likely to be observed wearing a safety belt and this appears to be the case regardless of vehicle type.

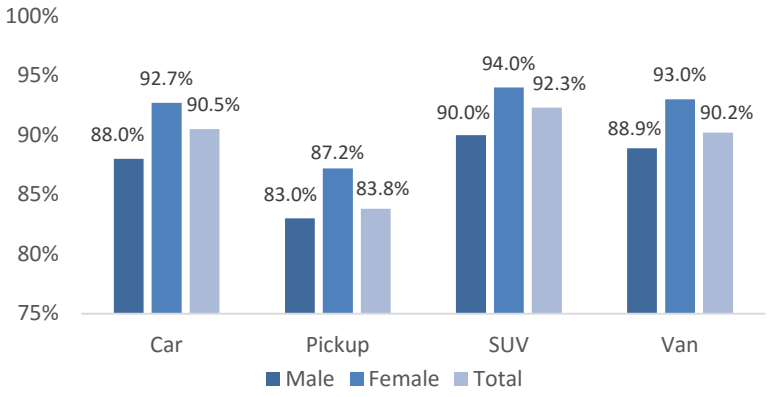

Figure 9. 2017 Observed Safety Belt Use Rate by Gender and Vehicle Type

Further evidence of the low use rate in pickup trucks can be seen when vehicle use rates are examined by occupant type (Figure 10). Drivers in pickups were observed wearing safety belts the least often out of all occupant categories (83.1%).

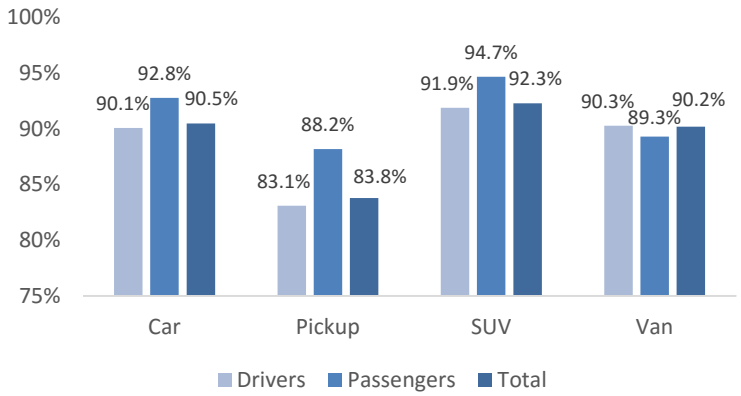

Figure 10. 2017 Observed Safety Belt Use Rate by Vehicle Type and Seating Position

Usage by Age Category[2]

The survey results presented below on age (and race/ethnicity) of occupant are based on raw counts (unweighted calculations) and are potentially skewed to higher density, typically higher safety belt use roadways. A majority of occupants observed were deemed between the ages of 16-59 (Figure 11). Broken down, occupants between the ages 16-34 were buckled up the least (88.5%). Occupants between the ages 35-59 were buckled up slightly more than 90 percent of the time (90.6%). The youngest (< age 16) and oldest (age 60+) occupants were most likely wearing a safety belt (94.7% and 93.3%, respectively).

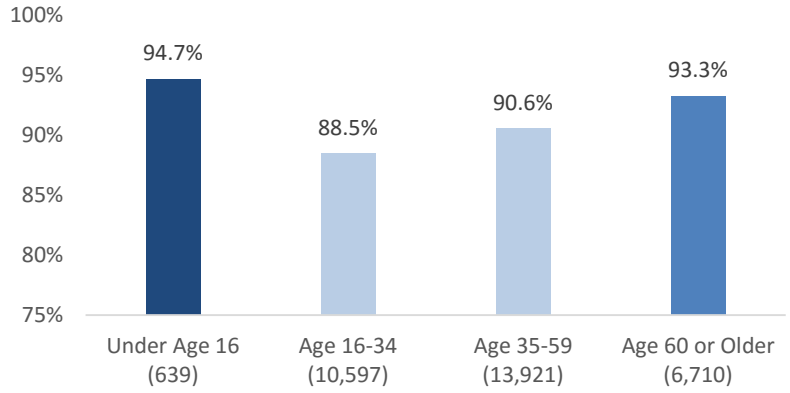

Figure 11. 2017 Observed Safety Belt Use Rate by Age Category of Occupant

[2] The survey design approved by NHTSA does not provide weighted statewide usage estimates by age or race. Usage rates from raw counts are provided for within variable comparisons and for estimating change over time.

Annual surveys conducted over time show a similar pattern in usage among age categories (Figure 12). Surveys prior to 2017 did not separate 16-34 and 35-59 age categories, collapsing them into one 16-59 category, instead.

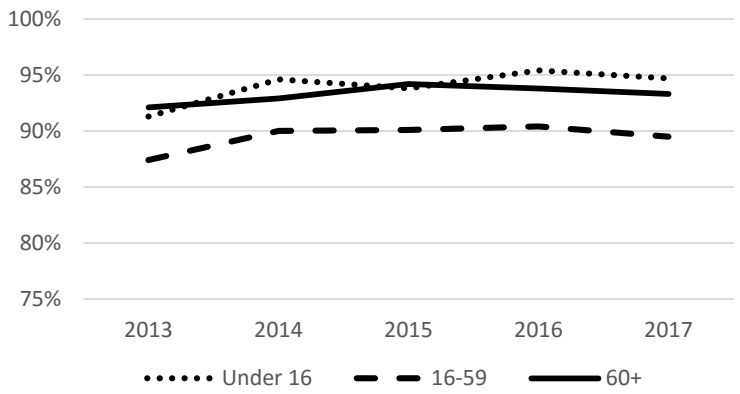

Figure 12. Observed Safety Belt Use Rate by Occupant Age Category: 2013-2017

Usage by Race/Ethnicity

Belt usage differs by occupant race/ethnicity. Results indicate Black occupants wear safety belts less often compared to other race/ethnicities (Figure 13). Historically, that has always been the case and the gap did not shrink over the past four years (Figure 14).

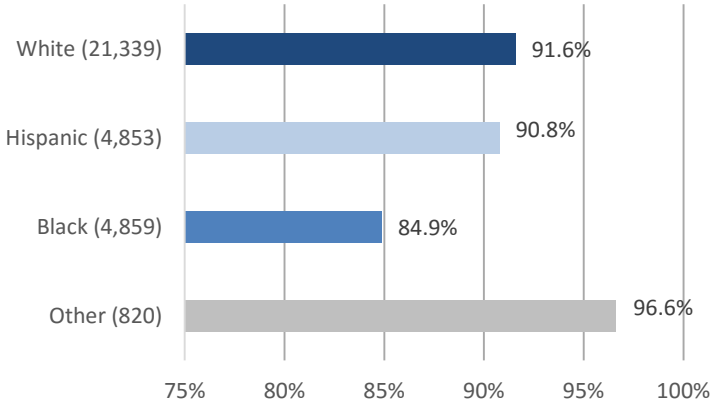

Figure 13. 2017 Observed Safety Belt Use Rate by Occupant Race/Ethnicity

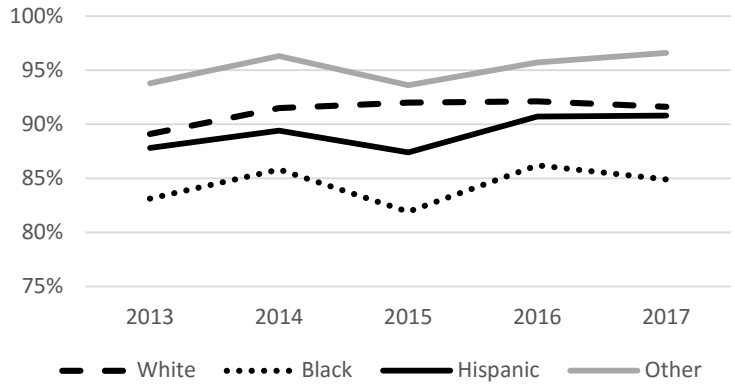

Figure 14. Observed Safety Belt Use Rate by Race/Ethnicity: 2013-2017

Usage by Survey County

Figure 15 shows occupant safety belt use by county, grouped by north, south and central regions of the State of Florida. Note that individual county rates should be interpreted with caution. The survey design is not intended to provide official county safety belt use rates but rather a single, statewide use rate.

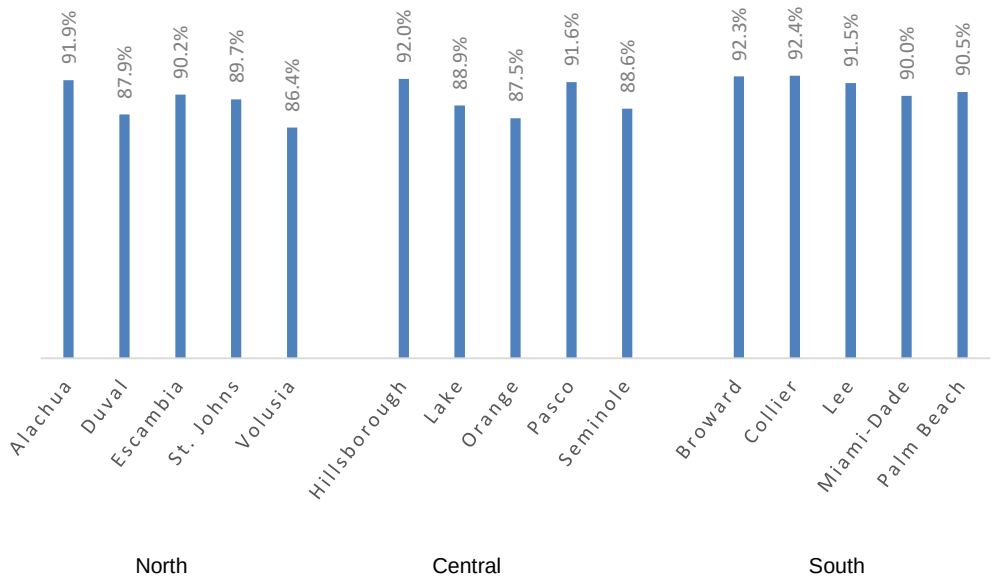

Figure 15. 2017 Observed Safety Belt Use Rate by County and Region

Conclusion

Florida's statewide safety belt use rate for 2017 is 90.2 percent. For the first time, Florida topped 90 percent usage among front seat occupants in passenger vehicles.

Safety belt usage has generally shown an upward trend over time, increasing eight percentage points since 2008. The usage rate is above 85 percent in every county included in the survey (n=15) and above 90 percent in nearly two-thirds of the survey counties (n=9).

The 2017 survey results presented here show progress has been made. The results also point to where improvement is still needed. Occupant protection programs should seek to use proven countermeasures that work to address disproportionately low use groups.

Appendix A. Safety Belt Observation Instructions

The instructions that follow describe procedures for observing safety belts. Please keep these instructions handy for quick review.

1. Observation Sites

Our Statewide sample of randomly selected controlled roads and freeway exits includes 165 observation sites across 15 counties.

This is the first time that this specific design and list of observation sites has been used. You may be the first person to actually visit the sites. If so, it will be up to you to find a suitable location for observation or, if the road segment is in some way compromised (e.g., closed or under construction) so that normal traffic can't occur, disqualify the site and move to the next alternate.

You will be given a general map of the road segment on which you are to observe (together with time for observation and direction of traffic to observe). When you get to the general location, your first task is to find a specific location for observing. We will provide a recommended location for observation; however, should it be unsuitable, you can select a different location along the road anywhere between the road segment's end points. The general map will show the end points of the road segment, or identify possible highway exit ramps, on which observations can be made.

It is recommended that you first look for a place where traffic must slow naturally, for a traffic control (stop signs are better than traffic signals) or a sharp curve on an expressway exit ramp.

Select a spot where you can observe safely, without risk to yourself or to traffic (e.g., by being a distraction or by impeding their view), and where you can readily observe drivers and outboard front seat passengers. Note that the direction of travel you must observe has already been specified.

When you have selected the exact location for observing, show the location on your general map and then make a detailed "site map" – a drawing that shows where to stand, the traffic flow you're observing, the names of the intersecting roadways, nearby buildings, etc.

2. Observation Days and Times

You will receive a schedule that has assigned observation locations with day of week and time of day. You must adhere to this schedule if at all possible. Observe in poor weather as long as you can stay dry (enough) and your ability to make accurate judgments is not compromised.

Each day is comprised of three-to-six daylight time periods, and your schedule will include three to six locations to observe. The time periods are:

3 Periods	4 Periods	5 Periods	6 Periods
7:00 – 8:45 a.m. 8:45 – 10:30 a.m. 10:30 a.m. – 12:15 p.m. OR 12:15 – 2:30 p.m. 2:30 – 4:15 p.m. 4:15 – 6:00 p.m.	7:00 – 9:30 a.m. 9:30 a.m. – 12:00 noon 12:00 a.m. –3:30 p.m. 3:30 – 6:00 p.m.	7:00 – 9:00 a.m. 9:00 – 11:00 a.m. 11:00 a.m. – 2:00 p.m. 2:00 – 4:00 p.m. 4:00 – 6:00 p.m.	7:00 – 8:45 a.m. 8:45 – 10:30 a.m. 10:30 a.m. – 12:15 p.m. 12:15 – 2:30 p.m. 2:30 – 4:15 p.m. 4:15 – 6:00 p.m.

You need to observe for one full hour at each site. The observation hour should be continuous and should fall entirely within the observation period. Use the extra time in the observation periods to move between sites, locate and document your observation positions, eat lunch, etc.

3. List of Sites

In your packet of materials is your list of observation sites, together with maps, descriptive information (road names, cross streets, direction of travel to observe, etc.), and schedule.

4. What to Do if a Site Is Unusable/Inaccessible

Alternate sites with the same information are also provided. If you determine that the primary site cannot be used, you must select an alternate site. The alternate MUST be:

- The first site in your set of alternates that "matches," i.e.:
  - In the same county.
  - Of the same Roadway Type (there are 5 types; in decreasing size and traffic volume, they are: Interstate/Expressway, Other Principal Arterial, Minor Arterial, Collector, and Local).

If you must move to an alternate site, indicate on the general map for the primary site why you can't use it, go to the alternate, pick an appropriate observation spot, document it, etc.

If you use an alternate site, you must observe at the site during the same time period and day of week as the schedule for the site it replaces.

5. Which Roadway and Direction to Observe

It is important to recognize that one can**not** simply choose to observe traffic on either of the intersecting roadways at an intersection. The roadway and direction to observe are clearly indicated on the general site map. If possible, you **must** observe traffic on this roadway traveling in the direction indicated. If the roadway is a freeway/expressway/interstate, you are to code motorists who were traveling in the direction indicated as they leave this roadway via an exit.

If you cannot observe safety belt use for the direction specified, you may switch and observe traffic in the opposite direction. Switching direction is a **last resort**. Do this only if there is no safe place for you to position yourself or observations aren't possible due to something like sun glare; if you do this you must document the reasons for switching.

6. Which Vehicles to Observe

a. Code passenger cars, vans, jeeps, pickup trucks, and sport utility vehicles (SUVs) that are less than 10,000 lbs GVWR. Within these categories, there are no exceptions; code commercial vehicles (any vehicle with a sign on the outside), government vehicles, emergency vehicles, etc. Do NOT code large buses and heavy trucks.

b. You will have selected an observation point where you expect you will be able to code nearly every qualified vehicle. If traffic is moderate and you are near a stop-sign-controlled intersection (or a roundabout, or some other location where all traffic is slowed), this is realistic. If you are near a signal-controlled intersection, you may find that free-flowing traffic on the green signal is moving too fast. In that case, go to step (c). **The goal is to have very, very few "unsure".**

c. If you need to observe traffic stopped/slowed by a red light, begin observations with the **second** vehicle in a line of vehicles stopped at the traffic signal. Code restraint use by occupants of the second vehicle, then code the third vehicle in line, etc. Continue until the vehicles begin to move too rapidly with the green signal.

d. On surface streets with multiple approaching lanes of traffic, code traffic in all approaching lanes **including** ones for right or left turns, if any. At signal-controlled intersections, begin with the second vehicle in the near lane, then the second in the next lane, etc., to the third in the near lane, etc. For the next red signal, begin with second vehicle in the lane you left off at on the preceding signal phase. If the level of traffic is too high to code all lanes, observe each lane exclusively for an equal length of time, broken into 10 or 15 minute periods (with each lane observed for the same number of periods).

e. In the case of freeway exits, find a location controlled by a sharp turn, a stop sign, or a traffic signal so that you can observe nearly all vehicles as they slow down. If possible, do not choose a location that depends on vehicles slowing because they can't merge smoothly, since that would bias your selection to that category of drivers.

7. Heavy Traffic Conditions

Heavy traffic conditions should not affect observations at signalized intersections. For example, at a red light, you should begin with the second vehicle in the near lane and code the occupant and vehicle characteristics. You should then proceed to the second vehicle in the next lane, etc., then the third vehicle in the near through lane, and so on until traffic begins to move (you can walk alongside the line of vehicles). It is likely that, in heavy traffic conditions, there will be more cars stopped than you can code before traffic begins to move.

At freeway exits, it is possible that, in heavy traffic conditions, there is an "unending" line of vehicles slowing/stopping before entering the flow of traffic. In this situation, begin with the second vehicle in line (vehicle "A"). Code the pertinent information for vehicle "A" and mark it on the coding sheet. One or more cars may have passed while you are completing the coding for vehicle "A". At the moment coding for vehicle "A" is complete, look up and identify the next slowed/stopped vehicle. Do **not** code that vehicle, but code the one behind it. Continue in this fashion throughout the coding period for that observation site.

8. How Long to Observe

Observe at each location for a full 60 minutes. A fixed observation period translates to high volume roadways contributing more observation data than low volume roadways. That's the way the study is designed.

9. Whom to Observe

a. **Front seat drivers and outboard passengers**. If there are more than two occupants in the front seat, only observe the driver and the passenger (regardless of age) closest to the passenger-side door. Thus, if there are three occupants in the front seat, the observer would ignore the middle occupant.

b. **Code everyone in the driver's seat and the outboard passenger seat except children in child safety seats**. Do include all other children including children in booster seats. Leave fields for passenger data blank only if there is no qualified passenger present.

10. Recording Data

a. Each coding sheet contains room for 25 vehicles.

b. At the top of each coding sheet is a place for indicating the site code, site name (street/road/highway and identifier such as cross street or exit number), date, day of week, weather, and time of day. At the bottom of the sheet is a place to indicate page number and how many pages of site data there are. Make sure this is filled in accurately and completely for each coding sheet. For "location code", write in **both** the site number **and** the street/road location. THE LOCATION CODE IS EXTREMELY IMPORTANT.

c. Please place the coding forms in order in envelopes to return to PRG-South. Keep all the coding sheets for a county in one envelope. Within a county, try to place the coding sheets in order from lowest to highest intersection number. For each intersection, place the pages in order (e.g., 1 of 6, 2 of 6, 3 of 6, etc.).

11. Codes

a. **Vehicle**: Indicate the type of vehicle in which the person is riding.

C = Car
V = Van, minivan or other like vehicle
T = Truck, i.e., pickup truck with a separate bed, even if enclosed
S = Sport Utility Vehicle

b. **Sex** (**S**): Note the gender of the person being observed, male (M) or female (F) or unsure (U).

c. **Age** (A): Note the age range of the person being observed.

C = Child age 15 or younger (passenger only)
Y = 16-59
O = 60 years or older
U = Unsure

d. **Race**: (**R**) Note the race of the person being observed.

W = White
B = Black
H = Hispanic
O = Other
U = Unsure

e. **Restraint Use**

Safety belts: Code if the occupant is (Y) or is not (N) wearing a safety belt. **Code based on the shoulder belt.** If the shoulder belt is visible and properly positioned, code Y. If the person is adequately visible and no shoulder belt use is seen, code N. If you cannot see the person clearly enough to determine whether or not a shoulder belt is visible, code U (uncertain). In general, try to avoid the U code.

If the shoulder belt is improperly fastened, i.e., looped behind the back or under the arm, code N for improper use.

12. Returning Materials After Completing Observations

Make sure to return all materials back to PRG-South:

a. Completed coding forms
b. Unused coding forms (only after the last survey)
c. Site maps (with any changes noted – only after the last survey)
d. Maps (with any changes noted – only after the last survey)
e. List of intersections (with any changes noted – only after the last survey)

13. General Tips

Conducting safety belt observations is not particularly hard work, but it is tedious work. Conditions are often hot and humid. Observers must make a special effort to maintain the quality of the observations. Here are some tips and recommendations based on years of conducting these observations.

1. Dress for the work. A hat, sunscreen and sunglasses are essential. If you don't have the complexion that will allow several hours in the sun, you should wear long pants and long-sleeved shirts. The discomfort that comes with the heat is much more bearable (and considerably shorter) than a severe sunburn.

2. Wear an orange safety vest at all times. Drivers are wary of people hanging around corners peering into cars, especially if they have kids in the car. The vest gives you an "official" air that may put drivers at ease. Still, don't be insulted by windows going up, doors locking, etc.

3. You will have an identification letter from DOT; keep it handy. Police officers and others will probably not be aware of the project. If anyone asks what is being done, tell them and show them the letter.

4. Be thoroughly familiar with all the procedures in this manual. Just one person consistently making the same mistakes can bias the results. The point of this research is to get an accurate reading of safety belt usage so education campaigns can be developed for low usage groups. Accurate information is of paramount importance.

5. Each observer is ultimately responsible for his/her work, as well as safety. Remember, observation requires that you stand close to traffic. Stay alert and be ready to react.

Appendix B. Florida Safety Belt Observation Form

SITE NUMBER:_____ **SITE:**_____

NOTES:_____

DATE: _____ - _____ - _____ **DAY OF WEEK:** _____

DIRECTION OF TRAFFIC FLOW (Circle one): N S E W

START TIME:_____ **(Observation period will last exactly 60 minutes)**

WEATHER CONDITIONS
1 Clear / Sunny **4 Fog**
2 Light Rain **5 Wet But Not Raining**
3 Cloudy

	VEHICLE			DRIVER		PASSENGER			
Veh. #	**Vehicle** C = car T = truck S = suv V = van	**Sex** M = male F = female U = unsure	**Age** Y = 16-34 M =35-59 O = 60 or older U = unknown	**Race** W = White B = Black H = Hispanic O = Other U = unsure	**Use** Y = yes N = no U = unsure	**Sex** M = male F = female U = unsure	**Age** C = 6-15 Y = 16-34 M = 35-59 O = 60 or older U = unknown	**Race** W = White B = Black H = Hispanic O = Other U = unsure	**Use** Y = yes N = no U = unsure
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FORM 2017

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