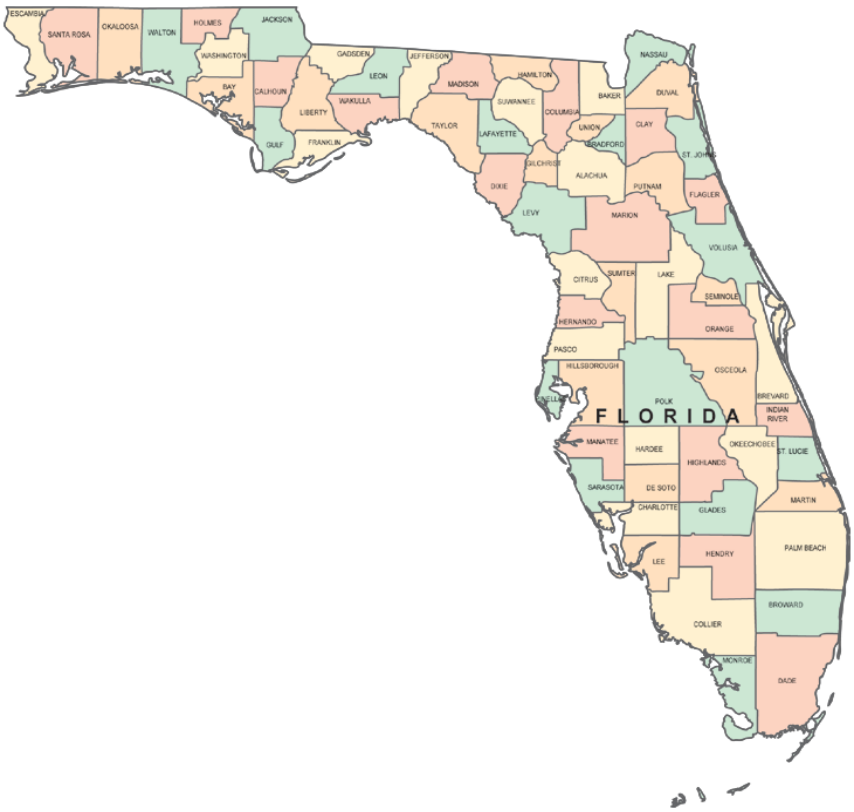
Safety Belt Use in Florida 2023

Final Report



2023 Final Report

Prepared for:
Florida Department of Transportation

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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.

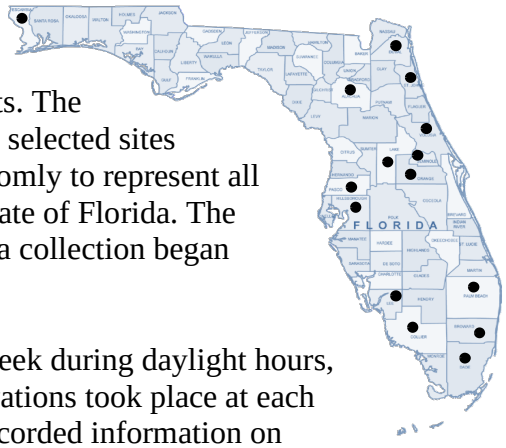
Executive Summary

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's traffic safety funding comes from the federal government, which requires administration of a statewide survey of safety belt use that adheres to Federal Register Guidelines. This report provides results from the 2023 observational survey of safety belt use. The statewide survey followed National Highway Traffic Safety Administration (NHTSA) procedures in determining the outboard, front-seat occupant belt use rate. Preusser Research Group (PRG) was responsible for conducting the survey.

Methodology

Counties Included in Statewide Safety Belt Survey



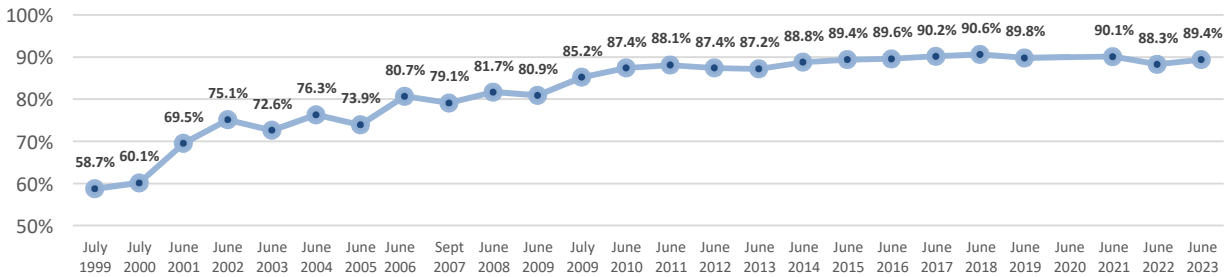
Every five years, NHTSA requires that statewide surveys include newly sampled survey sites based on the most recent traffic fatality counts. The 2022 Florida survey resample included 165 newly selected sites across 15 counties. These sites were selected randomly to represent all the traffic on various roadway types around the State of Florida. The same sites were revisited for the 2023 survey. Data collection began June 2nd and was completed on June 8th.

Observations were scheduled for all days of the week during daylight hours, between 7:00 a.m. and 6:00 p.m. One-hour observations took place at each site. During those observations, PRG observers recorded information on vehicle type, driver sex, race, age, and safety belt use. When an outboard passenger was present in the front seat, observers also recorded information on passenger sex, race, age, and belt use.

Results

Florida's statewide safety belt usage rate for 2023 is **89.4 percent**. This result is up 1.1 percentage points from the 2022 measured rate of 88.3 percent, but the difference is not considered statistically significant (*@ p =.05)*. Belt usage across Florida has improved over 30 percentage points since the first survey certified under Federal Register Guidelines was completed in 1999. The below graph shows the statewide usage rate trend line. Note that there was no survey conducted in 2020 due to the COVID-19 pandemic.

Statewide Safety Belt Usage Trend Line

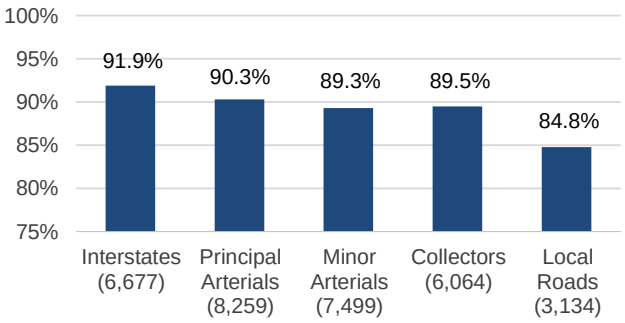


Belt Use by Road Type

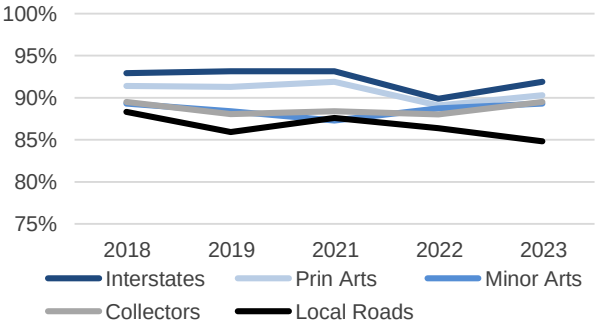
The 2023 survey results show that safety belt use differed by roadway type. Usage measured highest on Interstates (91.9%) and Principal Arterials (90.3%) which typically yield higher traffic density and higher rates of speed. Usage measured lowest on Local Roads (84.8%), followed by Minor Arterials (89.3%) and Collectors (89.5%), which are less frequently travelled roadways by comparison.

Annually, surveys typically find that local roads are where occupants are least likely to be buckled up. Trending out the last five annual surveys (2018-2023)[1] shows that while occupant usage on almost all road types increased in 2023 from the previous year, travelers on Local Roads saw their usage decrease, and their gap in usage amongst occupants traveling on higher speed roadways has increased in recent years.

2023 Safety Belt Use Rate by Road Type



Safety Belt Use Rate by Road Type: 2018-2023

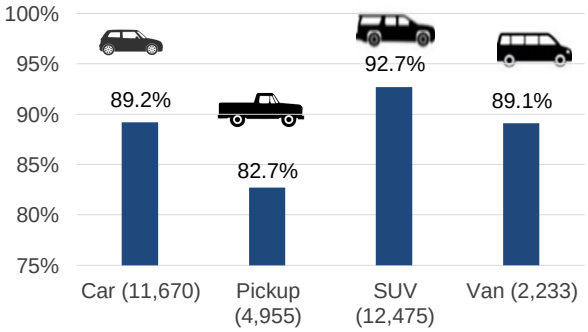


Belt Use by Vehicle Type

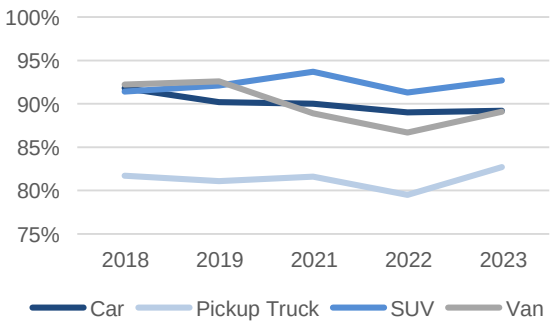
Safety belt usage also differed by vehicle type. Occupants in pickup trucks wore belts less often (82.7%) compared to occupants in other vehicle types. Front seat occupants in sport utility vehicles (SUVs) wore belts most often (92.7%), followed by passenger cars (89.2%) and then occupants in vans (89.1%). Occupants in pickup trucks have exhibited lower usage than those in other vehicle types every year of the survey, and still maintain a large usage gap behind occupants in the next lowest vehicle type (6.4 percentage points less than vans in 2023).

From 2018 to 2023, safety belt usage is consistently higher in SUVs, remained relatively steady in cars (though down from 2018 levels), and fluctuates among van occupants (due to their low volume in the sample). Belt usage in pickup trucks has remained lower than usage in all other vehicle types, even with their 2023 increase.

2023 Safety Belt Use Rate by Vehicle Type



Safety Belt Use Rate by Vehicle Type: 2018-2023



[1] Survey not conducted in 2020 due to COVID-19 pandemic.

The 2023 survey results also provided information on usage and estimated occupant gender, age, and race/ethnicity. Tracking occupant characteristics with usage information helps shape the development of future countermeasures.

Belt Use by Occupant Sex

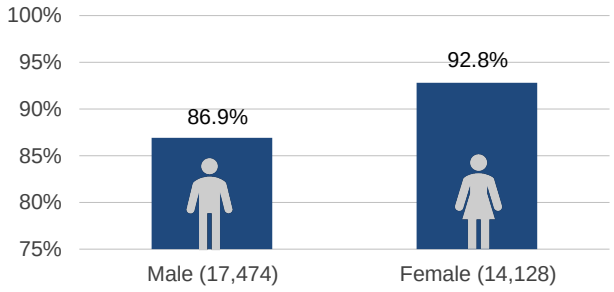
The 2023 survey results indicated that female passengers are more likely to wear a safety belt than male passengers (92.8% versus 86.9%). This has been the case every time the survey has been conducted. Usage among both males and females increased year-to-year. Since 2018, male usage appears to be decreasing; aside from a slight pull upward in 2023, while usage among females has wavered somewhat but remained relatively constant. The usage gap among the sexes also appears to be consistent over time.

Belt Use by Occupant Age Group (Unweighted Calculations)

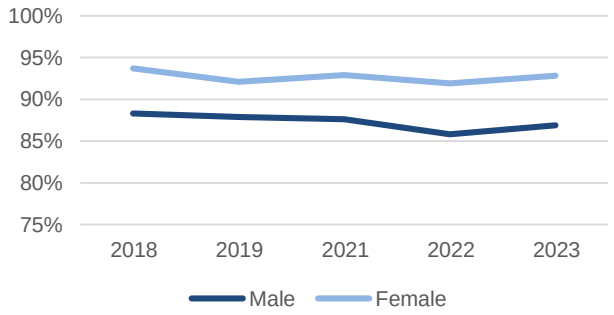
Most of the occupants observed were between the ages of 35-59. That age group was observed buckled nearly 90 percent of the time (89.6%) Occupants between the ages of 16-34 were buckled up the least (87.3%).

The oldest (age 60+) and the youngest (under age 16) occupants were the most likely to wear a safety belt (94.4 percent for occupants 60 and over and 93.4 percent for child occupants under 16). Prior surveys show a similar pattern in usage among age groups. Usage among each age group was relatively flat from the previous year, and more or less level since the 2018 measure.

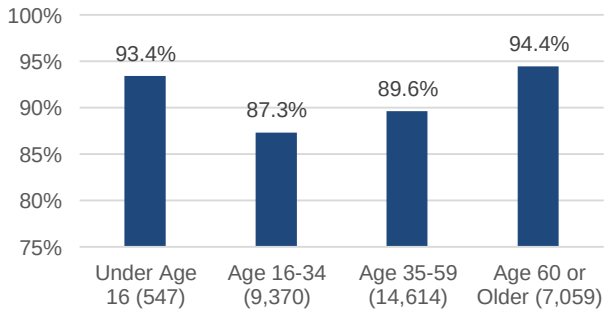
2023 Safety Belt Use Rate by Sex



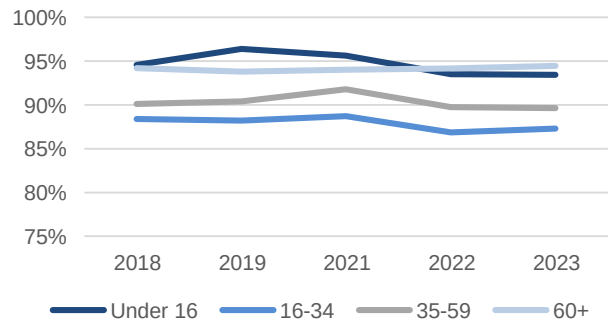
Safety Belt Use Rate by Sex: 2018-2023



2023 Safety Belt Use Rate by Age of Occupant



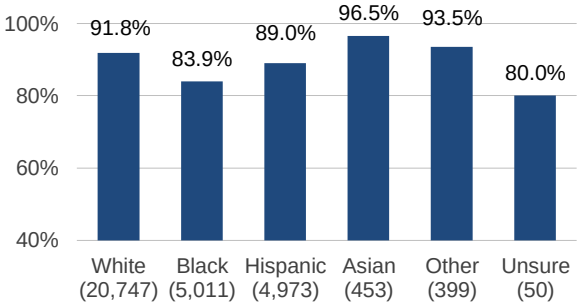
Safety Belt Use Rate by Occupant Age: 2018-2023



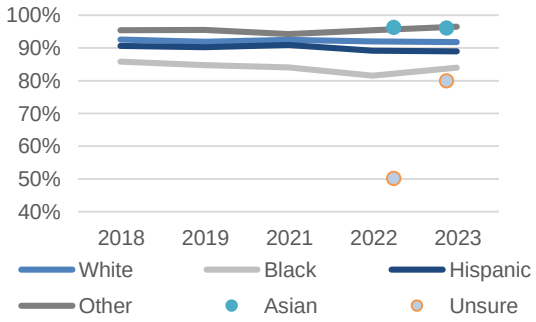
Belt Use by Occupant Race/Ethnicity (Unweighted Calculations)

Belt usage differed by occupant race/ethnicity. Asian as a category was recently introduced, as was reporting Unsure race use (both in 2022), so those results only appear as dots in the trend graph. The incidence of unknown race is rather low (50 occupants in 2023; only 36 in 2022), so those usage levels should be taken lightly. Results indicated Black occupants wore safety belts less often compared to other known race/ethnicities. This has been the case historically.

2023 Safety Belt Use Rate by Occupant Race/Ethnicity



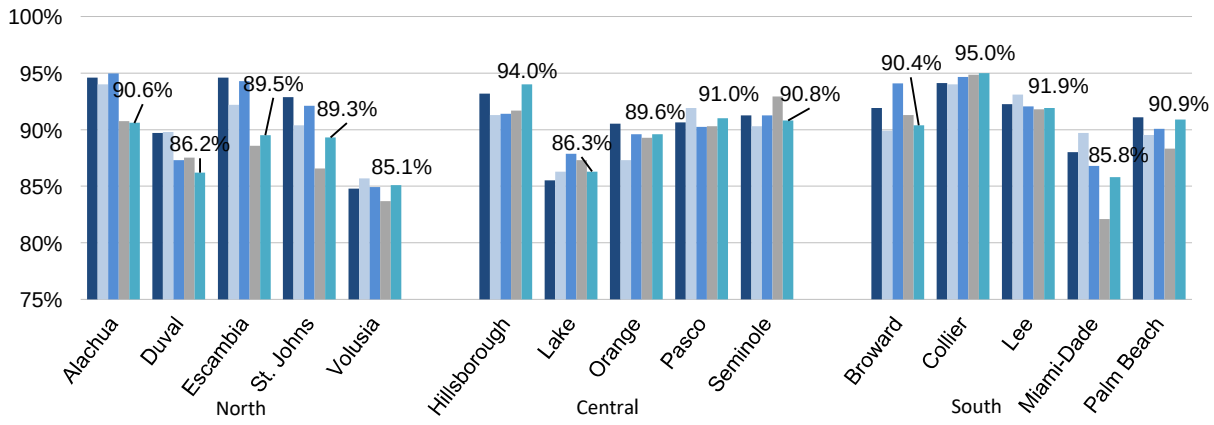
Safety Belt Use Rate by Occupant Race/Ethnicity: 2018-2023



Trend in Safety Belt Use by Survey County

The graph below presents belt usage for each county included in the survey for years 2018 through 2023. The percent values presented in the graph are for the current survey year (2023). The usage rates are based on weighted data and derived from two sets of sample sites: ones used in 2018-2021, and sites used in the 2022 and 2023 surveys. It is important to note that the annual statewide survey is primarily designed to provide a single safety belt usage estimate for the entire State of Florida and not official county rates. However, these rates are still useful as they can serve as points of reference when looking at change between years. Results indicate that in 2023, two counties measured highest-to-date usage rates for the past five survey years (Collier and Hillsborough), and two counties measured their lowest rates (Alachua and Duval). Ten out of the fifteen counties yielded year-to-year usage increases.

2018-2023 Trend in Safety Belt Use Rate by Survey County



Conclusion

Florida's statewide safety belt use rate for 2023 is **89.4 percent**. This rate is higher than the 2022 result of 88.3 percent, however the 95 Percent Confidence Intervals year to year indicate this is not a statistically significant increase.

Increases were found across most occupant groups year-to-year, though some usage levels were relatively flat from 2022 (occupant usage in cars, usage among Whites and Hispanics, and usage by occupant age). Usage on Local Roads had a measurable annual decline and decreased to a five-year low. Usage in pickup trucks increased to five-year high, though it still remains the lowest usage category.

Results point to where progress is needed to further reach and convince the traditionally low belt use groups, including males, occupants in pickup trucks, Black occupants, and occupants traveling on lower speed roadways. Occupant protection programs should seek to use the countermeasures proven to work in increasing safety belt usage among the disproportionately low use groups identified in this survey.

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Background

Introduction

This report documents Florida's annual statewide safety belt use survey. The survey was conducted in June 2023 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. Using federal funds for occupant protection programs requires administering 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, with an exception in 2020 (due to the COVID-19 pandemic). These annual surveys provide an accurate and reliable estimate of safety belt use in Florida at a specific point in time (usually in June of every year). The 2023 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 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%). The State reported considerable improvement (41%; 2nd half of 1986) after the new secondary law was put into effect. 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*."

Florida's observed use rate increased from roughly 59 percent to just over 76 percent between the years of 1999 and 2004 aided in part by the national and state "*Click It or Ticket"* (CIOT) mobilizations which began in 2003. In 2005, the belt usage rate declined slightly. In 2006, Florida re-designed its statewide survey and usage was measured at nearly 81 percent, seven points higher than in 2005. By 2008, the official observed use rate in Florida was almost 82 percent, not far from the national use rate that year 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. 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. As a primary law, Florida law enforcement officers may stop and cite a motorist solely for not wearing a safety belt in the front seat.

Florida had a high baseline usage rate when the primary safety belt law went into effect. The State was also participating in annual CIOT mobilizations as well as engaging in a Rural Demonstration Program (RDP) to increase safety belt usage in rural areas in the northern part of the State. The 2009 CIOT mobilization occurred after the new law had passed but before the law was implemented. Some evidence suggested that the 2009 CIOT mobilization was less intense than in prior years. The participating agencies worked fewer hours and issued fewer traffic citations. The decrease in intensity is likely associated with the smaller improvement 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 law change had the greatest impact among low-use groups, including males, Black occupants, and occupants in the cab of pickup trucks.

Safety 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 that police could now stop and ticket a motorist solely for a safety belt violation (i.e., primary enforcement). 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 campaign for safety belts under a primary enforcement law. Enforcement intensity increased to levels not seen before and may be 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 safety belt use has been conducted throughout the state of Florida. This report documents the results of the 2023 annual statewide safety belt use survey, conducted and completed during the month of June by PRG.

Methodology

Survey Design

Florida's 2023 statewide safety belt survey was the second iteration using observation sites selected for the 2022-2026 statewide surveys. The 2022 change was made in response to the NHTSA requirement that new observation sites be selected every five years. Recent annual surveys are rooted in a 2012 redesign developed by William A. Leaf Ph.D. (PRG, Chief Statistician). The 2012 design included 165 observation sites that were approved by NHTSA. A 2017 resample utilized a revised FDOT roadway segment database, including updated vehicle miles traveled (VMT) and road inventory, to select and determine the location of the new 165 observation sites. The 2022 survey resample was done in the same manner. This sample of observation sites was approved for use by NHTSA (in writing) in the spring of 2022.

Site Selection

PRG determined that the same 15 counties used for the 2017-2021 statewide surveys could again be used for the years 2022-2026 based on a five-year fatality query. The counties utilized were Alachua, Broward, Collier, Duval, Escambia, Hillsborough, Lake, Lee, Miami-Dade, Orange, Palm Beach, Pasco, St. Johns, Seminole, and Volusia.

PRG selected both primary and alternate road segments from the updated database provided by FDOT. The 165 road segments (plus alternates) were selected at random, with probabilities of selection proportional to their daily vehicle miles traveled (DVMT), and then mapped for inclusion in the survey.

Observers visited each site prior to conducting the observation to determine if the road segment was usable. If a road segment proved unusable or inferior, observers chose 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 the same roadway type from a list of pre-selected alternates. Since 2022 was the first year to visit most of the segments, several primary locations were deemed unsuitable and alternate sites were used. Once any final observation location was determined, the observer drew a map as documentation for future visits. The 2023 survey utilized all the same segments from the 2022 survey collection effort with two exceptions. The two 2023 replacements were mapped and documented for use in future measures.

Data Collection

Observers

Observers were hired and trained exclusively by PRG. All observers conducted safety belt observations for previous Florida surveys, and all were trained to the specific requirements of Florida's safety belt use observation. Additionally, observers were trained how to handle various conditions such as bad weather, temporary traffic impediments, and other unforeseeable issues that could necessitate rescheduling an observation. They were also trained in how to substitute alternate sites if a primary site was unusable during the scheduled period. Eight observers operated individually, and one staff member monitored for quality control. All eight observers from the 2022 iteration observed their exact same counties for the 2023 survey.

Scheduling

Observers collected data on all days of the week 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. Observations were balanced across weekends and weekdays for each county. Two-cluster counties included one weekend and one weekday day, while three-cluster counties included one weekend and two weekday days. Within these constraints, day of week assignments were randomly determined.

The first observation site on a scheduled day was randomly selected and the additional sites in the cluster were assigned in an order that provided balance by type of site, time of day, travel distance, and time. Each scheduled site was given a specific time of day, day of week, road segment, and direction of traffic to observe. Observation times, from 7:00 a.m. to 6:00 p.m., were divided into nearly equal-length time periods according to the number of sites within a cluster. On days where five sites were scheduled, time of day was one of five time periods: 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 one of six time periods, split evenly for morning and afternoon: 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. This method resulted in approximately equal numbers of sites observed throughout the 7:00 a.m.– 6:00 p.m. time frame. In all cases, the period of 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 to document all pertinent site information 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. Additional sheets were used if more than 25 cars were observed and all sheets for the observation site period were fastened together. The data collected 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. However, no such instances occurred during the 2023 collection. In the event a site could not be used due to a more permanent factor, the next available selected alternate in the same county-stratum was 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 proper 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 received training that included both classroom instruction and field (roadside) practice. The monitor provided extra assurance that observers grasped the training protocol.

Building a Data Set

PRG staff members keypunched observation data. 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

PRG developed an Excel spreadsheet 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 including vehicle types, drivers, and outboard front seat passengers were included. For the State's internal use, safety belt usage rates were calculated for subsets of interest, including drivers only, passengers only, drivers and/or passengers within vehicle type, or males or females alone. Because weighting certain subgroups decreases the reliability of the results, some breakdowns of safety belt use warranted non-weighted number calculations.

Results

Observers recorded safety belt use information on 25,896 drivers and 5,737 outboard front seat passengers across 165 sample sites within 15 counties. Table 1 displays number of drivers and passengers observed per county, grouped by region.

Table 1. 2023 Number of Observed Front Seat Occupants per County/Region

	Drivers	Passengers	Total
North Region	**7,320**	**1,873**	**9,193**
Alachua County	1,300	292	1,592
Duval County	1,578	261	1,839
Escambia County	1,524	460	1,984
St. Johns County	1,543	439	1,982
Volusia County	1,375	421	1,796
Central Region	**7,191**	**1,645**	**8,836**
Hillsborough County	1,012	163	1,175
Lake County	2,088	632	2,720
Orange County	1,584	339	1,923
Pasco County	1,125	203	1,328
Seminole County	1,382	308	1,690
South Region	**11,385**	**2,219**	**13,604**
Broward County	2,178	392	2,570
Collier County	1,868	502	2,370
Lee County	2,640	519	3,159
Miami-Dade County	2,379	395	2,774
Palm Beach County	2,320	411	2,731
Statewide Total	**25,896**	**5,737**	**31,633**

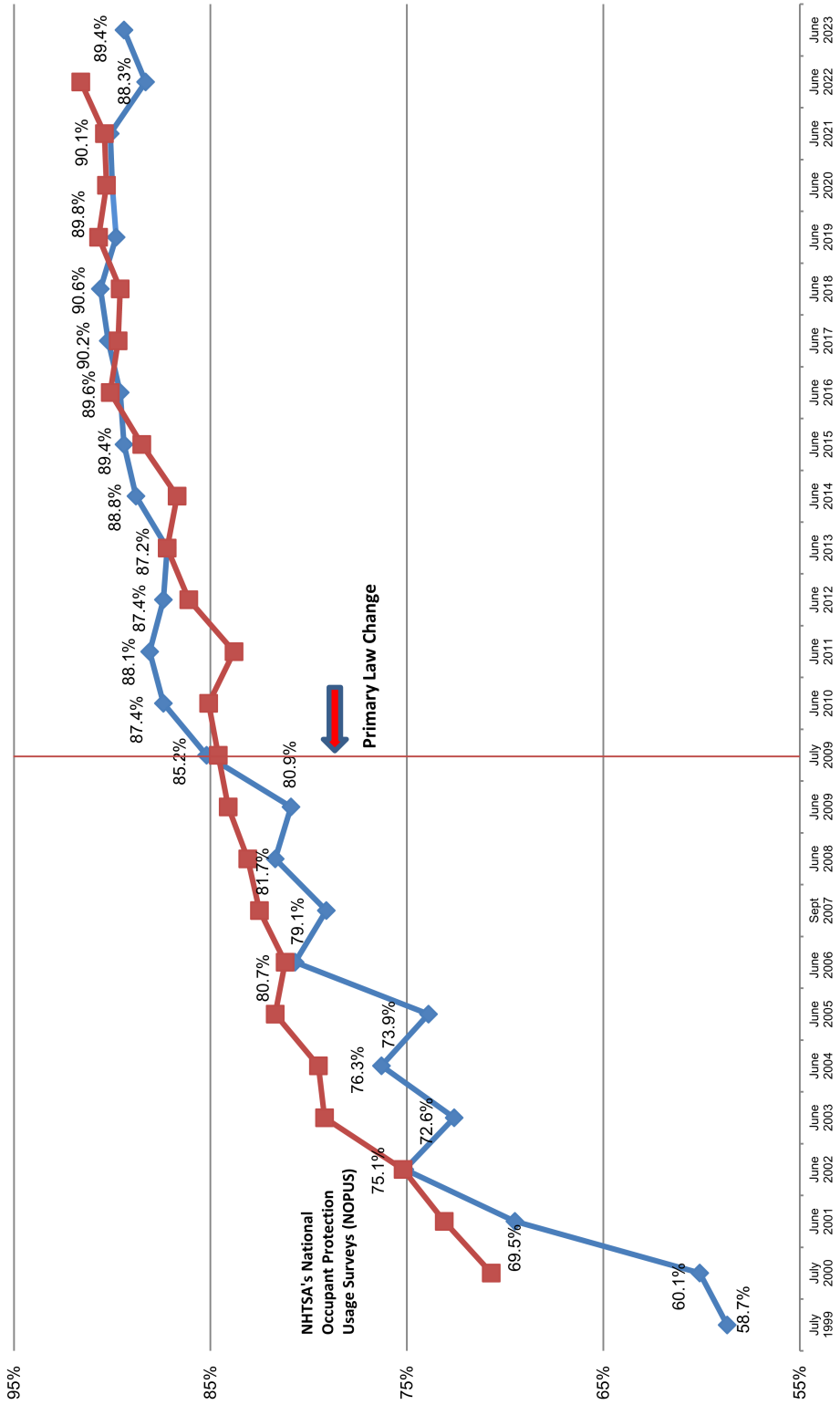
The safety belt use rate for all occupants combined measured **89.4 percent** in 2023 (95 Percent Confidence Interval 88.1% – 90.8%; Standard Error = 0.675%; Non-Response Rate = 0.262%).

Surveys of safety belt use conducted during the 1990s indicated no sustained increase in Florida's statewide rate. Rates started to improve after the year 2000 (see Figure 1 on the subsequent page). Increases over this time are due, in part, to the implementation of highly and widely visible efforts to enforce Florida's adult safety belt law. A substantial rate increase occurred after implementation of the primary enforcement seat belt law (June 30, 2009) and the rate rose each year until 2012, the first measure after the survey redesign. Since then, Florida's usage steadily improved each year until 2019. While the 2021 measure saw the rate rebound, usage declined in 2022 (after the most recent site resample) but in 2023 returned to 2019 levels. Nevertheless, the statewide usage rate has been in the same statistical range since 2014.

Figure 1 also shows Florida's statewide use rate tracked lower than NHTSA's Nationwide Occupant Protection Usage Surveys (NOPUS) before adopting the primary law. Since then, the statewide rate has measured higher or comparable to NOPUS levels[2].

[2] NOPUS appears in red. Rates shown are Florida's. In 2020, NOPUS occurred but there was no Florida survey.

Figure 1. Florida Statewide Observational Survey of Safety Belt Use Results; July 1999 – June 2023



Descriptive Survey Information

Usage by Roadway Type

Safety belt use differed by roadway type. Figure 2 shows that safety belt usage was highest on Interstates (91.9%) and Principal Arterials (90.3%). These roadways typically yield higher traffic densities and higher rates of speed. On the Local Road functional class (roadways less frequently travelled and usually found within neighborhoods), introduced in 2012 as part of the updated survey guidelines, observers typically measure lower usage rates compared to other road types and this was the case again for 2023 with usage measuring 84.8 percent. That said, higher variability in usage is expected due to the lower volume. Usage on Local Roads reached as high as 88.3 percent in 2018. The last five annual surveys[3] show some fluctuation (partly due to the 2022 site resample) but in general, travelers on higher speed road types are buckle up more than those on lower speed, or lower density roadways (Figure 3).

Figure 2. 2023 Observed Safety Belt Use Rate by Roadway Type

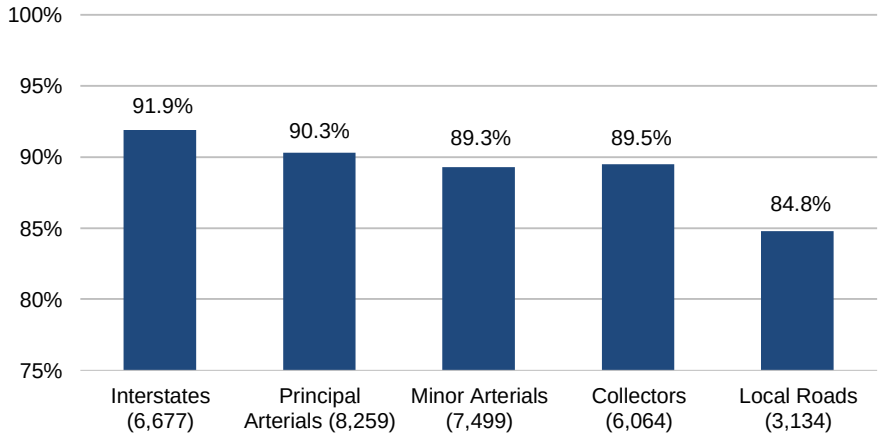
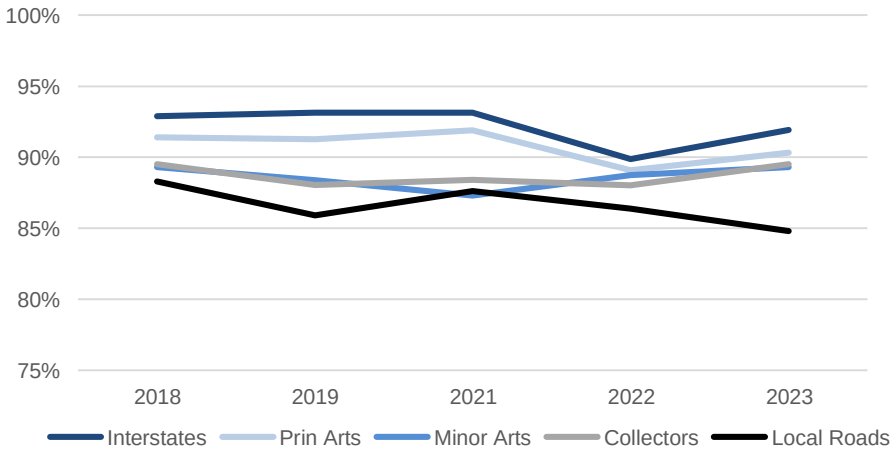


Figure 3. Observed Safety Belt Use Rate by Roadway Type: 2018-2023



[3] Survey was not conducted in 2020 due to COVID-19.

Usage by Occupant Sex

The 2023 survey results indicated lower safety belt use among male occupants (86.9%) compared to female occupants (92.8%; Figure 4). Males wore safety belts 5.8 percentage points less than females. This was only slightly less than the 6.1 percentage point difference measured in 2022. Both sexes had their usage increase from the previous year, and male usage increased slightly more than female usage (males were 85.8%; females 91.9% in 2022). Lower belt usage among male occupants is typical in observational surveys of safety belt use. Figure 5 displays the trend in male and female safety belt use over the last five Florida statewide surveys, and the usage gap between the sexes has remained relatively constant.

Figure 4. 2023 Observed Safety Belt Use Rate by Sex

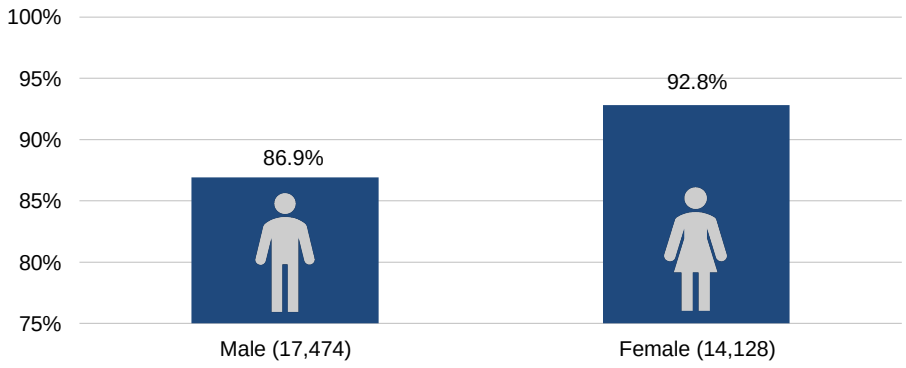
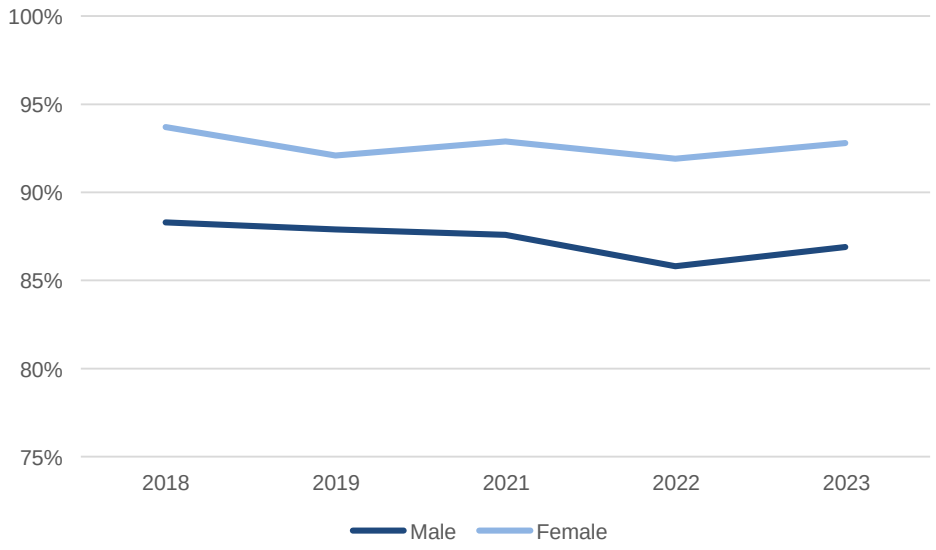
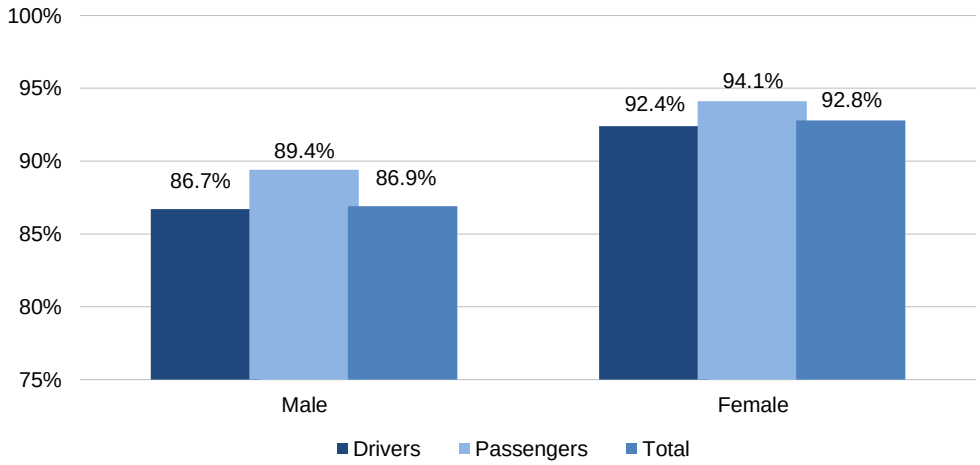


Figure 5. Observed Safety Belt Use Rate by Sex: 2018-2023



Similar to the past couple of measures, male passengers observed in the 2023 survey wore safety belts more compared to male drivers, mirroring female passengers who are usually observed wearing safety belts more often than their driver counterparts. (Figure 6). The largest difference in usage from 2022 to 2023 was this very same group; with male passenger use increasing 3.5 percentage points year-to-year (85.9% to 89.4%), erasing the 2021 to 2022 decrease in that group. Male driver usage also increased from 2022 (85.7% to 86.7%; 1 percentage point). Usage among females increased 1.3 percentage points for drivers (91.1% in 2022) but fell 1 point for passengers (95.1% in 2022) year-to-year.

Figure 6. 2023 Observed Safety Belt Use Rate by Sex and Front Seat Position



Usage by Vehicle Type

As in all previous measures, results from the 2023 survey indicated continued lower safety belt usage among occupants in pickup trucks (82.7%) when compared to other vehicle types (Figure 7). Occupants in sport utility vehicles (SUVs) were most likely to be belted (92.7%), followed by occupants in passenger cars (89.2%) and vans (89.1%). Usage increased all vehicle types from 2022 but increased most in pickup trucks to a five-year high (Figure 8). Nonetheless, the usage gap between pickups and other vehicle types remains consistent over time.

Figure 7. 2023 Observed Safety Belt Use Rate by Vehicle Type

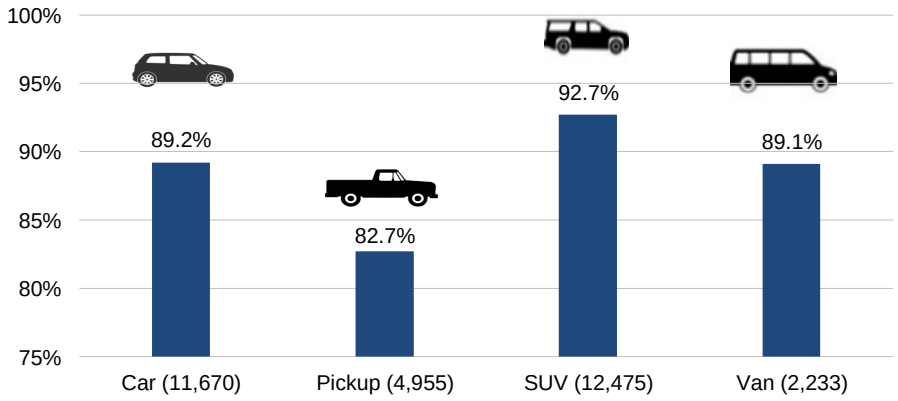


Figure 8. Observed Safety Belt Use Rate by Vehicle Type: 2018-2023

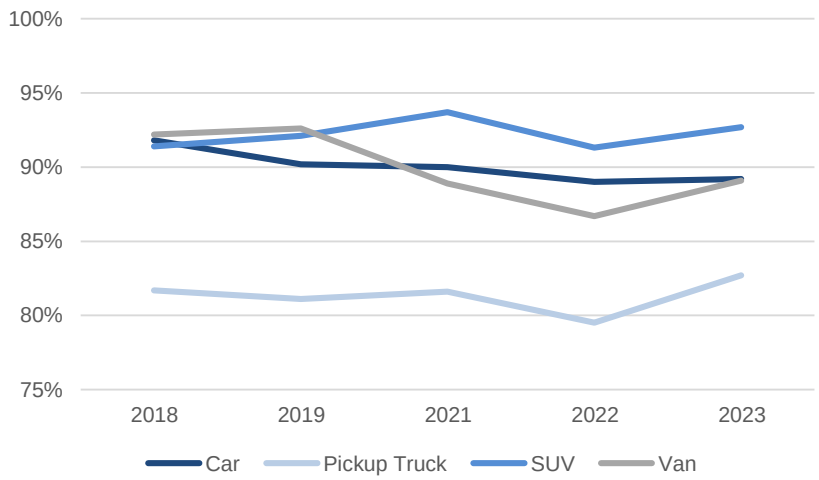
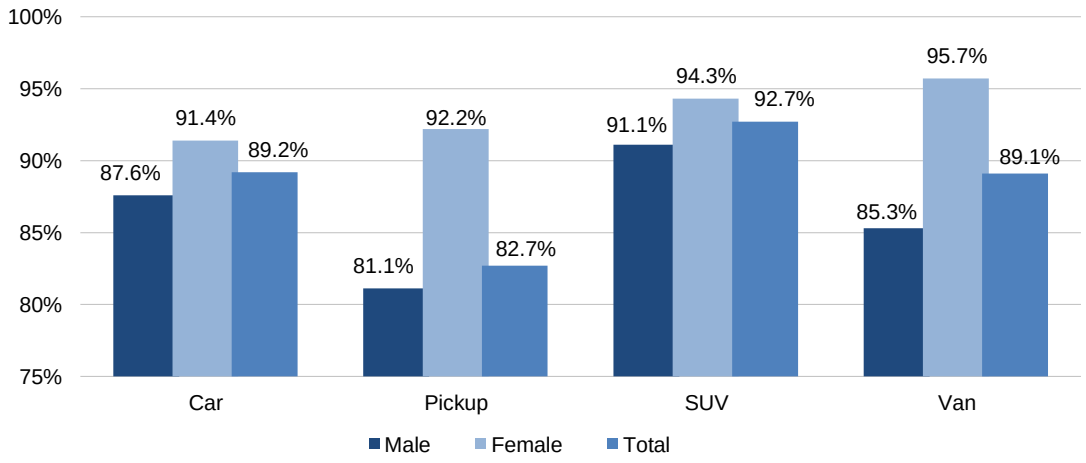


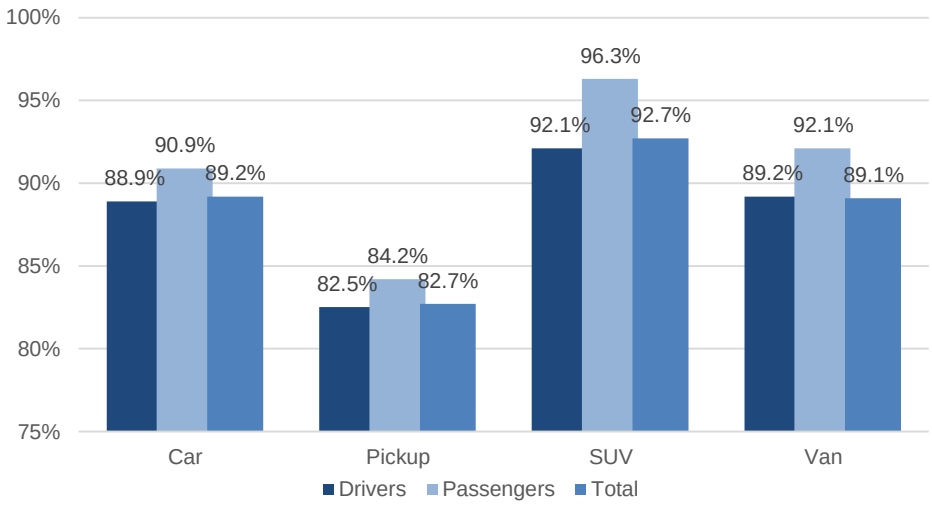
Figure 9 shows the breakdown of safety belt use by occupant sex and vehicle type. As previously indicated, the survey found male occupants wore safety belts less often than females and that is true regardless of vehicle type. In 2023, female usage in all vehicle types surpassed 90 percent, while male usage only exceeded that benchmark in SUVs (91.1%).

Figure 9. 2023 Observed Safety Belt Use Rate by Sex and Vehicle Type



Further evidence of the low usage in pickup trucks can be seen on the following page where use rates are examined by vehicle type and occupant seating position (Figure 10). Passengers have higher usage rates than drivers regardless of vehicle type. Occupants in pickups were observed wearing safety belts the least irrespective of occupant position.

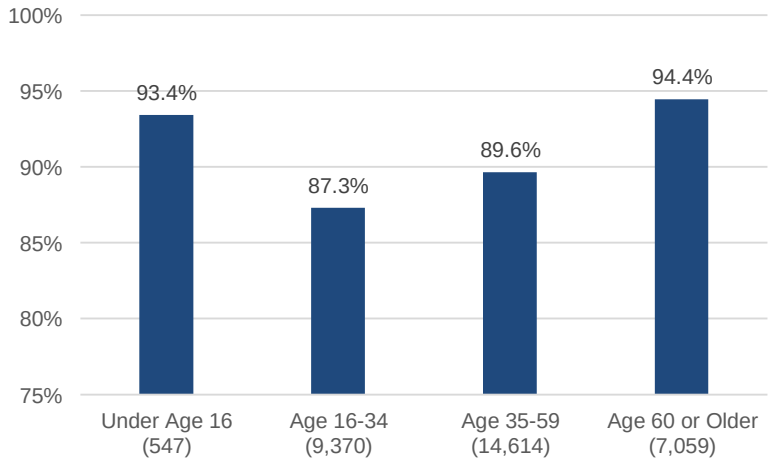
Figure 10. 2023 Observed Safety Belt Use Rate by Vehicle Type and Seating Position



Usage by Age Group (Unweighted Calculation)

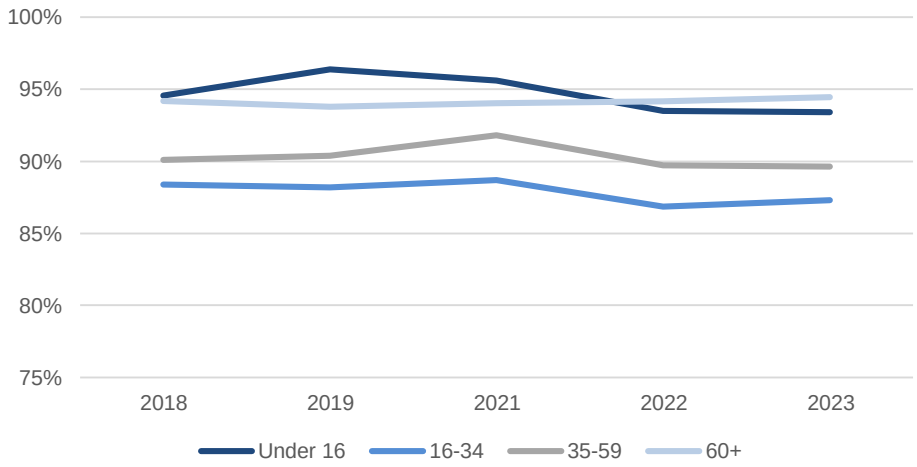
The survey results presented below are based on raw counts (unweighted calculations) and as such are skewed to the higher density, higher travelled, and higher belt usage roadways where the majority of the sample volume occurs. Almost half of the occupants observed in the sample were deemed between the ages of 35-59 (Figure 11) and were buckled up 89.6 percent of the time (down only slightly from 89.7% in 2022). Occupants between the ages 16-34 were buckled up the least (87.3%). The oldest (age 60+) and youngest (< age 16) occupants were most likely observed wearing a safety belt (94.4% and 93.4%, respectively).

Figure 11. 2023 Observed Safety Belt Use Rate by Age Category of Occupant



Annual surveys conducted over time show a similar pattern in usage among age groups, with highest usage among the oldest and youngest occupants (Figure 12).

Figure 12. Observed Safety Belt Use Rate by Occupant Age Category: 2018-2023



Usage by Race/Ethnicity (Unweighted Calculation)

As with age, results presented below on usage by race/ethnicity of occupant are based on raw numbers (Figure 13). Usage for unknown race is shown as well, but their incidence is very low (50 occupants). On the trend graph (Figure 13), Asian usage appears as dots since they were only introduced as a category in 2022. Unknown race use does also because their rate has only been reported since 2022. The increase year-to-year for Unsure race should be taken lightly due to the low sample size each year (only 36 occupants in 2022). Results indicate Black occupants wear safety belts least often compared to other known race/ethnicities. Historically, that has always been the case and the gap has remained fairly consistent, even with the annual increase (2.4 percentage points; their usage was 81.5% in 2022).

Figure 13. 2023 Observed Safety Belt Use Rate by Occupant Race/Ethnicity

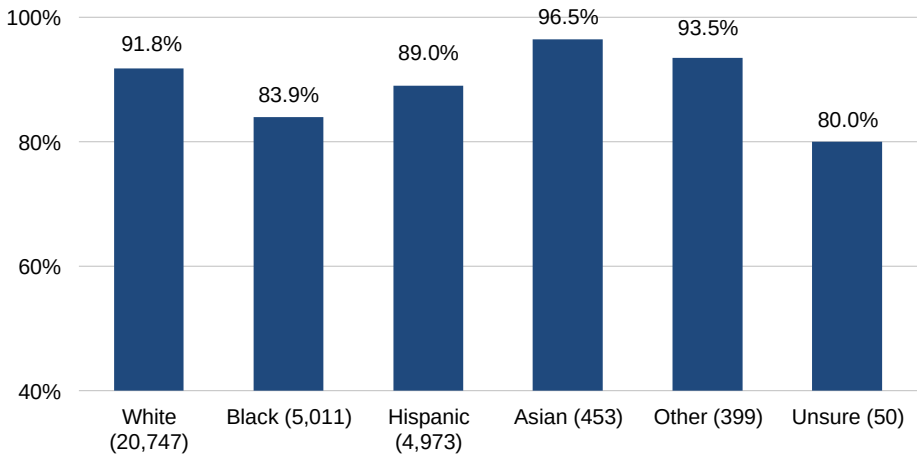
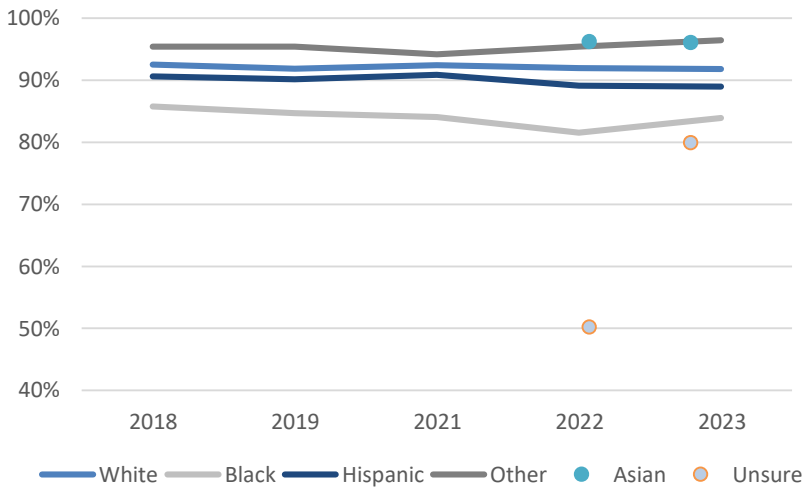


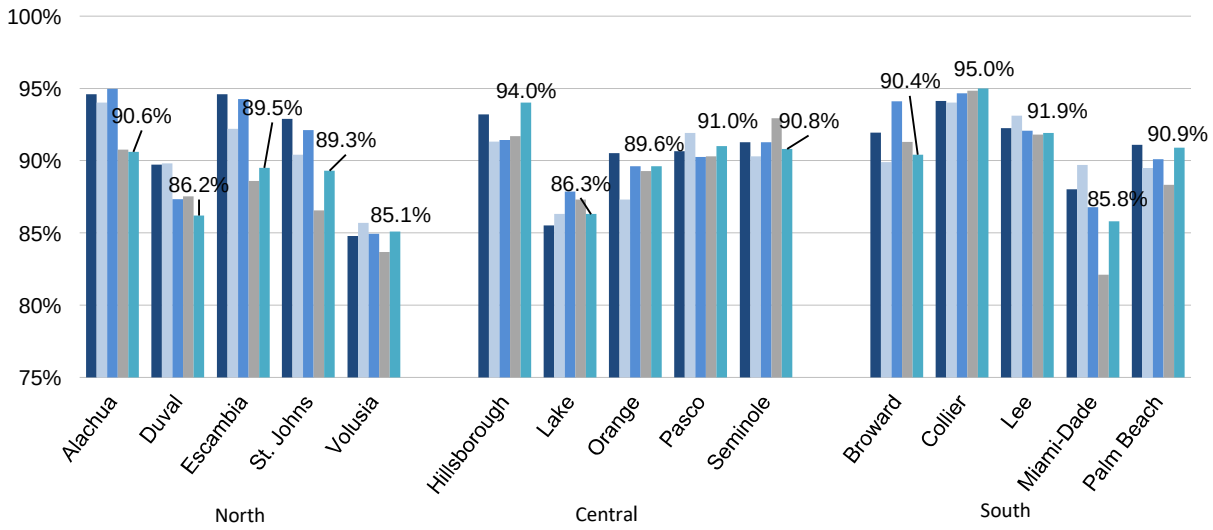
Figure 14. Observed Safety Belt Use Rate by Race/Ethnicity: 2018-2023



Trend in Safety Belt Usage by Survey County

Figure 15 shows safety belt use levels by county for the last five annual statewide surveys. The rates displayed in the graph are for the current survey year (2023). It is important to note that the statewide survey design is not intended to provide official county rates but rather a single, statewide safety belt use rate. However, conducting the annual survey in the same way each year enables the examination of trends in usage per county. Note that the site locations changed in 2022 (for the 2018-2021 surveys, sites remained the same) so this adds some disruption. The 2023 results indicate that two counties measured highest-to-date usage rates for the past five survey years (Collier and Hillsborough), and two counties measured their lowest rates (Alachua and Duval). Ten out of the fifteen counties yielded year-to-year usage increases (Collier, Escambia, Hillsborough, Lee, Miami-Dade, Orange, Palm Beach, Pasco, St. Johns, and Volusia).

Figure 15. Trend in Safety Belt Use Rate by County: 2018-2023



Conclusion

Florida's statewide safety belt use rate for 2023 is **89.4 percent**. While this rate is higher than the 2022 result of 88.3 percent, the 95 Percent Confidence Intervals year to year indicate this is not a statistically significant increase.

The 2023 survey includes site locations that were newly selected (resampled) and observed for the 2022 measure but are within the same counties used in prior surveys (since 2012). Increases in usage were found across most occupant groups year-to-year, though some usage levels were relatively flat from 2022 (occupant usage in cars, usage among Whites and Hispanics, and usage by occupant age). Only usage on Local Roads had a measurable annual decline, and it decreased to a five-year low. However, usage in pickup trucks increased to five-year high – though it still remains the lowest usage category we measure, mainly due to the pickup drivers.

Results point to where progress is still needed to further reach and convince the traditionally low belt use groups, including males, drivers in pickup trucks, Black occupants, and occupants traveling on lower speed roadways. Occupant protection programs should seek to use the countermeasures proven to work in increasing safety belt usage among the disproportionately low use groups identified in this survey.

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 second time that this specific design and list of observation sites has been used. You should have drawn maps indicating the observation spot along the segment. If not, 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.

For any new location, 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 aged 15 or younger (passenger only)
Y = 16-34
M = 35-59
O = 60 years or older
U = Unsure

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

W = White
B = Black
H = Hispanic
A = Asian
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 A = Asian 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 A = Asian O = Other U = unsure	**Use** Y = yes N = no U = unsure
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