
2018 LOUISIANA SEAT BELT OBSERVATION SURVEY RESULTS
LHSC Project No. 2018-20-10



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EXECUTIVE SUMMARY

Background

This report documents Louisiana’s annual Statewide Seat Belt Use Survey. The Louisiana Highway Safety Commission (LHSC) is responsible for the State of Louisiana’s Highway Safety Program. Occupant protection is among several significant program areas for which LHSC is responsible. A portion of LHSC’s occupant protection program funding comes from the Federal Government, which requires administration of a statewide survey of seat belt use that must adhere to Federal Register Guidelines (Schneider, 2012).

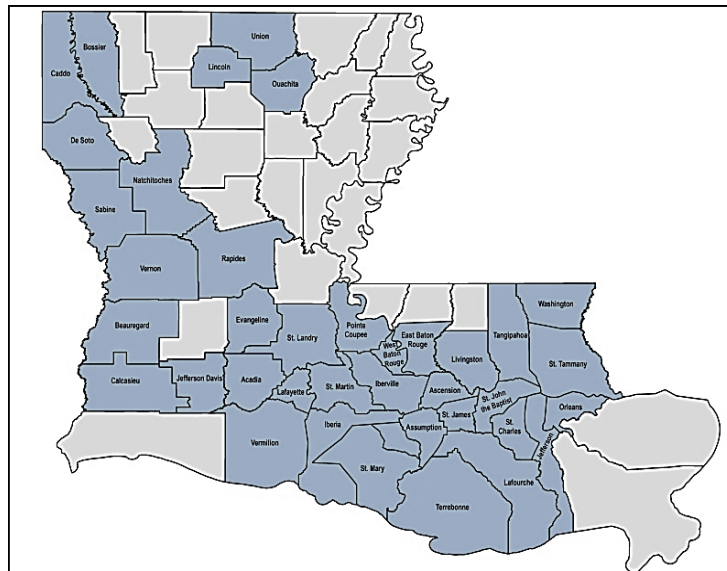
The report that follows provides results from the 2018 observational survey. The survey was conducted statewide, and it followed NHTSA procedures that determine the outboard, front-seat occupant belt use rate. Rear seat belt usage was also measured. Preusser Research Group, Inc. (PRG) was responsible for conducting the survey with the support and help of scientist and statistician, Helmut Schneider, Ph.D., of Louisiana State University.

Methodology

Every five years, NHSTA requires that statewide surveys include newly sampled survey sites based on the most recent traffic fatality counts. Dr. Schneider complied with NHTSA’s requirements. The 2018 survey design included 334 newly selected sites across 38 parishes. These sites were selected randomly to represent all the traffic on various types of roadways around the state. One-hour observations took place at each site. The survey effort began May 30 and was completed on June 16. PRG completed a majority of the survey by the end of the first week of June 2018.

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 and driver seat belt use. Observers also recorded information on passenger sex, race, and belt use when an outboard passenger was present in the front seat of the vehicle.

Parishes Included in Statewide Seat Belt Survey



Results

The State of Louisiana’s statewide belt usage rate for 2018 is 86.9 percent. The 2018 survey was conducted mid-year, like most statewide surveys in years past. The 2018 statewide use rate fell short of the historic high measured in December 2016 (87.8%), but the difference is not statistically significant. The 2018 rate was also higher compared to the last survey in June (2015) which yielded an 85.9 percent usage rate, but again the difference between the two rates was not statistically significant.

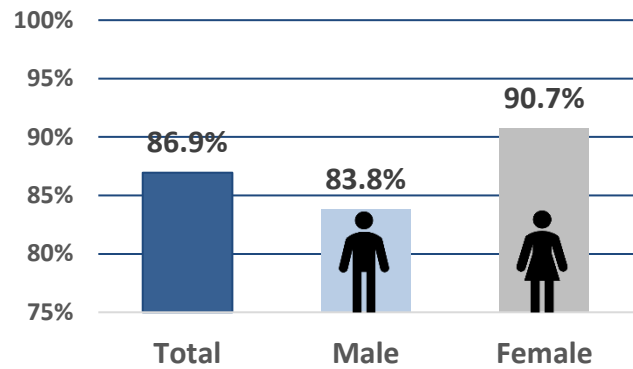
The 2018 survey included additional information including occupant sex, race/ethnicity, and vehicle type. The top figure on the right shows that belt use among male occupants is approximately seven percentage points less compared to female usage (83.8% vs. 90.7%). The figure also shows that female belt use is currently above 90 percent.

Belt usage differs by occupant race/ethnicity. Most notably, Black occupants are less likely to wear a seat belt compared to other race/ethnicities. Historically, that has always been the case.

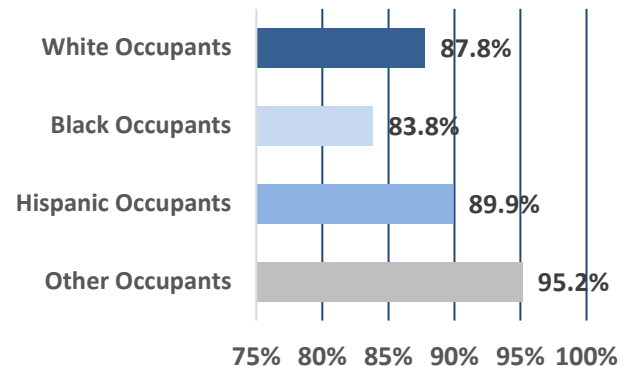
LHSC has directed resources towards improving lower minority belt use while working to improve overall belt usage. The gap in usage between Black occupants and the other races/ethnicities has shrunk in the last two years. Note that Hispanic and Other/Unknown occupant usage rates have large swings from year-to-year, due to small sample sizes.

Vehicle type also makes a difference in belt usage. Operators and passengers in pickup trucks use seat belts less often than occupants in other vehicle types. A large portion of the sample (over one-quarter) from year-to-year includes pickup trucks and that drags the overall statewide average downward. That has been the case every year of the survey.

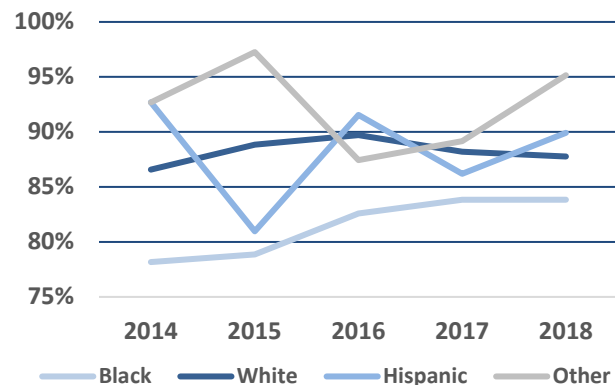
2018 Seat Belt Use Rate by Occupant Sex



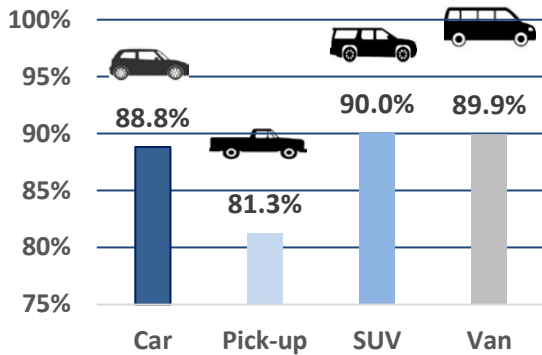
2018 Seat Belt Use Rate by Race/Ethnicity



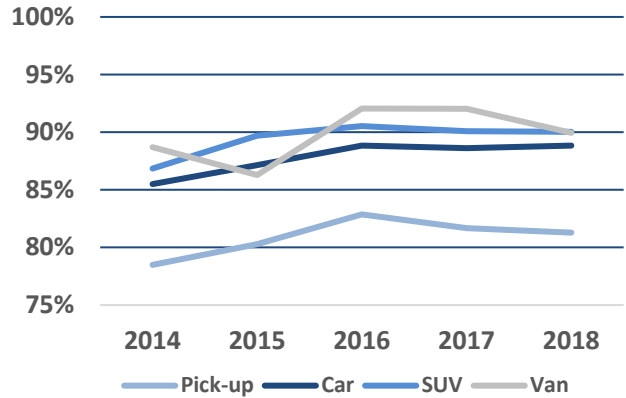
Seat Belt Usage by Race/Ethnicity: 2014-2018



2018 Seat Belt Use Rate by Vehicle Type



Seat Belt Usage by Vehicle Type: 2014-2018



Conclusion

Louisiana’s front seat belt use rate for 2018 is 86.9 percent. This rate is not statistically different from the rate determined for 2017 (87.1%), or the belt use rate for 2016 (87.8%) when Louisiana achieved an all-time high. Seat belt usage on Louisiana roadways generally shows an upward trend, increasing 12.6 percentage points since 2009 (74.5%). For a fourth year in a row, all regions of Louisiana had a seat belt use rate above 80.0 percent.

Louisiana Seat Belt Weighted Use Rates, 1999-2018

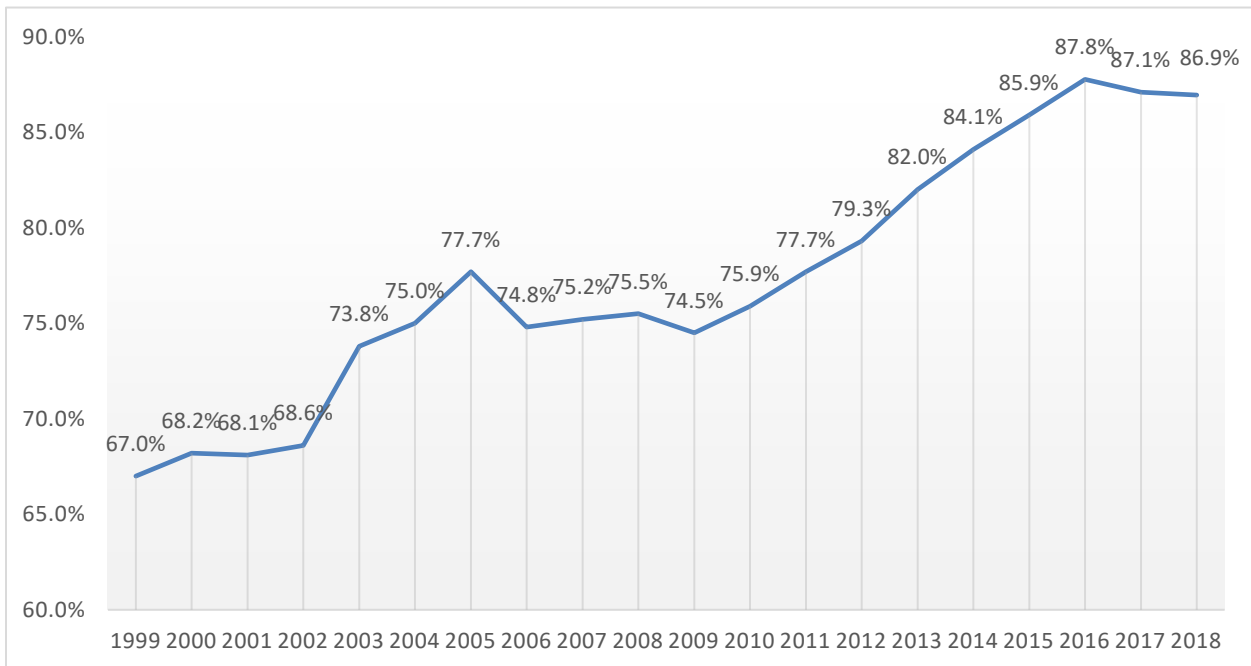


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BACKGROUND

Introduction

This report documents Louisiana's annual Statewide Seat Belt Use Survey. The Louisiana Highway Safety Commission (LHSC) is responsible for the State of Louisiana's Highway Safety Program. Occupant protection is among several significant program areas for which LHSC is responsible. A portion of LHSC's occupant protection program funding comes from the Federal Government, which requires administration of a statewide survey of seat belt use that must adhere to Federal Register Guidelines (Schneider, 2012).

The statewide seat belt survey work covered by this report was conducted by Preusser Research Group, Inc. (PRG). All the survey work was completed in late May and throughout the month of June 2018. The results that follow provide an accurate and reliable estimate of front and rear seat belt usage in the State of Louisiana.

Seat Belt Law and Seat Belt Use

The Louisiana State Legislature passed the first seat belt law in 1985 and it went into effect July 1, 1986. That law was a secondary enforcement law, meaning law enforcement officers could not stop a vehicle solely for a seat belt law violation. The law was changed to a primary enforcement law almost ten years later, in 1995, with the intention of allowing police to stop violators for the sole reason of not wearing a seat belt. However, in 1998, courts ruled that the wording of the bill did not allow violation of the law to be considered a primary offense. It was not until August 15, 1999 that a revised primary enforcement law became effective in Louisiana (McKenzie, III, 2011). An amendment was made to the law in 2009 that included rear seat passengers. According to the current Louisiana seat belt law, if a person is being transported by a motor vehicle, no matter the seating position, a proper restraint should be used. Seat belt use rates in Louisiana have fluctuated over the past 18 years. From 1999 to 2002, statewide seat belt use rates increased very little from 67.0 to 68.6 percent. Louisiana first participated in the national *Click It or Ticket* campaign in 2003 and a 5-point increase in the statewide use rate (73.8%) was measured that year (Schneider, 2004). Statewide seat belt use rates increased over the next two years peaking at 77.7 percent in June 2005. In 2006, statewide measurements of seat belt use were down 2.9 points to 74.8 (U.S. Department of Transportation, National Highway Traffic Safety Administration, July 2011). It should be noted that Louisiana sustained serious damage from Hurricane Katrina in 2005. The property damage and displacement of many of the State's residents could have influenced seat belt use rates. Use rates climbed back to the peak level seen in 2005 by 2011. By 2016, the annual survey measured seat belt use at an all-time high of 87.8 percent (Preusser Research Group, Inc., 2016).

Statewide Survey Statistician

Dr. Helmut Schneider has developed all the National Highway Traffic Safety Administration approved seat belt survey designs used in the State of Louisiana, including the designs PRG, Inc. has followed the years it has conducted the annual statewide survey. Dr. Schneider is a professor in the E. J. Ourso College of Business, Associate Dean of Research and Economic Development, Ourso Family Distinguished Professor, and Executive Director of the Highway Safety Research Group at Louisiana State University. Dr. Schneider received his degree in Operations Management and Statistics in 1978 and has taught statistics for 33 years including statistical sampling. He has published over 50 articles in peer reviewed journals and written two books. He has more than 20 years of experience in working with crash data and has analyzed Louisiana's statewide seat belt survey results since 2003 (McKenzie, III, 2011).

Preusser Research Group, Inc. planned and implemented Louisiana's 2018 seat belt survey using Dr. Schneider's most recent resample as a guide. Every five years, NHTSA requires that statewide surveys include newly sampled survey sites based on the most recent traffic fatality counts. Dr. Schneider complied with NHTSA's requirements and PRG carried out the survey effort. The 2018 resample and survey effort are compliant with NHTSA's Uniform Criteria for State Observational Surveys of Seat Belt Use.¹

¹National Highway Traffic Safety Administration. (2011) Uniform Criteria for State Observational Surveys of Seat Belt Use. 23 CFR Part 1340, Docket No. NHTSA-2010-0002, RIN 2127-AK41, Federal Register Vol. 76 No. 63, April 1, 2011, Rules and Regulations, pp. 18042 – 18059.

METHODOLOGY

Survey Design and Site Selection

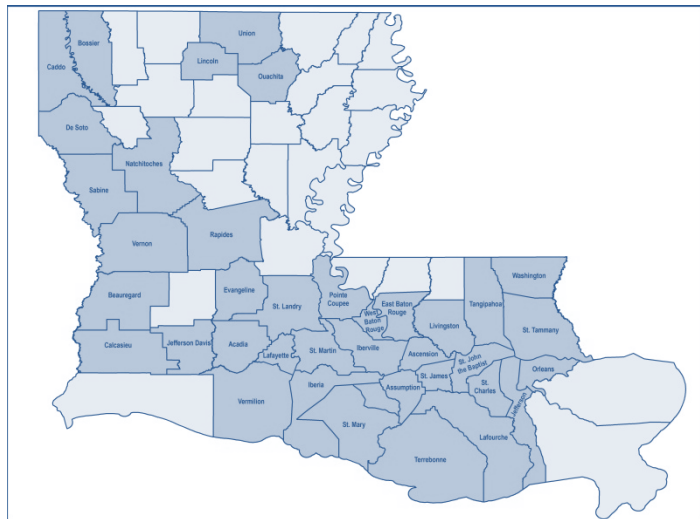
Louisiana's 2018 Statewide Seat Belt Survey was the first iteration using newly resampled site locations. This change was in response to a NHTSA requirement that new sites be selected every five years. The 2018 survey is rooted in a 2012 design developed by Dr. Helmut Schneider. The 2012 design included 390 observation sites and was approved by NHTSA. The number of observation sites was dropped to 336 in 2013 and that change was accepted by NHTSA, as it proved to be both efficient and reliable. The 2018 resample used updated VMT, number of fatalities and road inventory to determine the number and location of observation sites. The current resample includes 334 sites, two fewer than the 2013 sample. The current sample of observation sites was approved for use by NHTSA in spring of 2018.

Dr. Schneider used crash-related fatality data from 2010-2014 in selecting the parishes included in the 2018 sample. According to the Fatality Analysis Reporting System (FARS), 38 of 64 parishes account for 85 percent of crash-related fatalities in Louisiana. These 38 parishes selected for inclusion in the 2018 sample were identical to those represented in the 2013 redesign (Schneider, 2013).

The 2013 design divides the sampling frame into eight statewide regions, the parishes within these regions, and the highway types. Dr. Schneider used a 2015 TIGER file and a road file from the Louisiana Department of Transportation & Development (DOTD) to identify parish road segments. The selected road segments were classified into three types: Interstates, US & State routes, and local roads. A site number reflecting the region, parish, and highway type was assigned to each road segment. Rural roads were excluded from the sample in parishes that were not within Metropolitan Statistical Areas as well as other non-public roads, unnamed roads, unpaved roads, vehicular trails, access ramps, cul-de-sacs, traffic circles, and service drives. Probability sampling using vehicle miles traveled (VMT) in regions, parishes, and road segments was used to determine site locations for Interstates and US and State routes. Local road segments were designated using sampling proportional to the road length.

PRG used specific road segment information provided by Dr. Schneider to pinpoint observation site locations in 2013, and this was done again in 2018 for the newly selected sites (Schneider, 2013). The exact observation locations (i.e., where data collectors stood to observe vehicles) were selected by trained observers the first time the site was used for observation. Observers created a site map upon the completion of each observation to ensure replication of exact observation locations from year to year.

Figure 1.
Parishes Included in Statewide Seat Belt Survey



Scheduling

Observation sites were organized into clusters of three to six sites based on geographical proximity. Each cluster was randomly assigned a single day of week for observation. The first site to be surveyed in each cluster was also randomly assigned. A time efficient route, starting with the randomly selected first site, was developed to determine the order of the remaining sites in the cluster. Observers were given a schedule and a mapped-out route for each cluster. The schedule specified site order, and day of week to conduct observations, as well as start times, name of road segment, location to observe, and direction of traffic to observe for each site.

Observations were prescheduled for all days of the week during daylight hours between 7:00 a.m. and 6:00 p.m. Observers were provided with a time frame to use as a guide to schedule sites throughout the day. 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 – 9:00 a.m., 9:00 – 11:00 a.m., 11:00 a.m. – 2:00 p.m., 2:00 – 4:00 p.m., and 4:00 – 6:00 p.m. Also, for six-site days, time of day was specified as one-of-six, time periods, such as 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., and 4:15 – 6:00 p.m. Exact timing of the periods was subject to adjustment, but ultimately resulted in approximately an equal number of sites being observed throughout the individual 7:00 a.m. – 6:00 p.m. time frames. In all cases, each survey period lasted exactly one hour and was required to take place entirely within the broader allowable time-period.

Observers

Observers were hired and trained exclusively by PRG. All had conducted seat belt observations for PRG in previous surveys, and all were trained to the specific requirements for the Louisiana survey, though most observers remained consistent from preceding years. Prior to any data collection, procedures specific to the Louisiana survey were explained to observers in a training session. Observers also participated in hours of supervised street-side practice prior to conducting observations in the field. Additionally, observers were trained on procedures to follow in conditions such as bad weather or temporary traffic impediments which may require rescheduling of sites. Eleven observers operated individually and two quality control monitors were utilized.

Data collectors documented details of each new site location upon arrival using a Site Map Form (see Appendix A). Site maps include information about where to stand to make observations, the direction of traffic flow to observe, a point of reference, and any prominent landmarks (names of intersecting roadways, traffic lights, nearby buildings, etc.).

Observation Site Details

Most locations for data observation were tentatively selected based on available on-line mapping information such as satellite images and ground-level photos. When convenient, potential site locations were visited in advance. The complete road segments were also described by map details such as road name or number and segment length.

Preference was given to observation points where traffic appeared to naturally slow or stop. For street locations, and assuming they represent segments with generally equivalent traffic along the entire segment, a suitable observation point closest to the latitude and longitude mapped pinpoint was sought; but any location along the segment where accurate observations could be made was accepted. Preferred locations were those that are near intersections which may cause vehicles to slow, increasing

the time for observation and improving data completeness and accuracy. However, observation sites were not confined to intersections only. In some cases, traffic was observed at or near exit ramps for limited access highway segments at a point where traffic slowed enough to allow reliable and accurate observations to be made.

Data Collection Procedures

Passenger vehicles with a gross vehicle weight up to 10,000 pounds were included in the survey. Passenger vehicle drivers, right front seat passengers (excluding children in child safety seats), and rear seat passengers 13 years of age and older were observed for seat belt use. Observers noted vehicle type (Car, Truck, SUV, Van), sex of drivers and passengers, race/ethnicity (White, Black, Hispanic, other) of drivers and passengers, and belt use on the data collection form. A copy of the data collection form can be found in Appendix A.

Observers recorded pertinent site information on the data collection form including site number and exact roadway location, observer's initials, date, day of week, time, weather condition, and direction of traffic flow. Each one-page form included space to record information on 25 vehicles. 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. When qualified passengers were present, data were recorded even if "Unknown"; passenger fields in the data form are left blank only if no qualified passenger is present. Observers were instructed to reschedule data collection at the same site for the same time of day and day of week if data could not be collected at a site due to a temporary problem such as bad weather or a traffic impediment. If the site could not be used due to a more permanent factor such as construction, a pre-selected alternate road segment was used.

Quality Control

As noted above, PRG has had extensive experience in training seat belt use observers. All observers received training which included both classroom instruction and field (road-side) practice. A pair of trained observers also served as Quality Control Monitors (QCMs) and conducted random, unannounced visits to other trained observers in the field. QCMs conducted checks at approximately 5 percent of total sites and ensured that observers were in place and making observations during the scheduled observation period.

All observation data were reviewed when received and no anomalies were found, suggesting the data did not reflect anything other than proper on-site seat belt use observations. Some cues to the contrary would have included repeating patterns within the observation data, unusual proportions of vehicle type, driver or passenger sex, presence of passengers, seat belt use, excessive unknown seat belt use, or very high or low total numbers of observations. Some variation in these values is normal, of course. If any suspicious data patterns had been noted, PRG would have followed up to verify whether observations were done properly. Invalid data would have been replaced in such cases. Again, no problems were detected and thus, corrective actions were not necessary for these survey iterations.

Building a Data Set

Observation data were keypunched by PRG staff into Excel spreadsheets. PRG utilized the Statistical Package for the Social Sciences (SPSS) software to run frequencies and correlations to identify any outliers or coding errors. A thorough check of the data indicated minimal coding or key-punch errors, all of which were corrected pre-analysis. The data set was then forwarded to Dr. Schneider for analyses and the calculation of weighted rates and results.

RESULTS

Sample Characteristics

Data collectors observed seat belt use at all 334 sites across 38 parishes divided into eight regions across the State. Table 1 delineates the site distribution by region. The eight regions represent the following areas: New Orleans, Baton Rouge, Houma, Lafayette, Lake Charles, Alexandria, Shreveport, and Monroe.

TABLE 1.
Number of Observation Sites by Region, 2018

Region	Sites per the Design	Sites Completed
1-New Orleans	65	65
2-Baton Rouge	78	78
3-Houma	26	26
4-Lafayette	44	44
5-Lake Charles	24	24
6-Alexandria	23	23
7-Shreveport	49	49
8-Monroe	25	25
State Total	334	334

None of the sites in the 2018 survey resulted in zero passenger belt use observations.

Seat belt use information was recorded for 55,293 front seat occupants over the eight regions. The distribution of those occupants by region, including occupant type (driver or passenger), is displayed on the next page in Table 2. The observed number of vehicles decreased by 2.2 percent from 2017 to 2018. Table 3, presents the distribution of observed passenger vehicle types by region. The relative distribution of vehicle type changed only slightly from 2017 to 2018. There was a slightly higher percentage of cars (+0.6 percentage points) and SUVs (+0.5 percentage points), but a lower percentage of pickup trucks (-0.4 percentage points) and Vans (-0.8 percentage points) in the 2018 sample compared to 2017. It should be noted that the distribution of vehicle type in 2018 matches closely with the 2017, 2015, 2014, and 2013 surveys, which were all conducted at the same time of year as the 2018 survey. The 2016 survey took place in December and thus may be an outlier.

TABLE 2.
Number of Louisiana Front Seat Occupants Recorded by Region, 2018

Region	Drivers	Passengers	Total
1-New Orleans	9262	1897	11159
2-Baton Rouge	12728	2517	15245
3-Houma	4607	1006	5613
4-Lafayette	3931	804	4735
5-Lake Charles	2122	446	2568
6-Alexandria	4020	832	4852
7-Shreveport	5350	1528	6878
8-Monroe	3365	878	4243
LA Total	45,385	9,908	55,293

TABLE 3.
Distribution of Vehicle Type* by Region, 2018

Region	% Car	% Pickup	% SUV	% Van
1-New Orleans	39.7%	21.1%	34.3%	5.0%
2-Baton Rouge	43.6%	29.4%	23.5%	3.5%
3-Houma	38.6%	30.8%	26.3%	4.4%
4-Lafayette	42.7%	30.7%	22.4%	4.2%
5-Lake Charles	31.4%	32.6%	30.8%	5.2%
6-Alexandria	38.1%	32.3%	24.7%	4.9%
7-Shreveport	39.8%	28.1%	29.0%	3.2%
8-Monroe	34.6%	32.4%	28.9%	4.1%
LA Total	40.0%	28.4%	27.4%	4.2%

**Unknown vehicle type not included*

Observers recorded occupant sex and race/ethnicity. Tables 4 and 5 display these characteristics by region for front seat occupants. In the event a characteristic was unclear to the observer, “unsure” was recorded on the data form.

TABLE 4.
Distribution of Occupant Sex by Region, 2018

Region	%Males	%Females	%Unknown
1-New Orleans	52.8%	47.2%	0.0%
2-Baton Rouge	54.9%	44.6%	0.5%
3-Houma	55.2%	44.8%	0.0%
4-Lafayette	56.2%	43.6%	0.2%
5-Lake Charles	53.4%	46.5%	0.1%
6-Alexandria	53.3%	46.7%	0.0%
7-Shreveport	50.2%	48.1%	1.7%
8-Monroe	50.9%	49.0%	0.0%
LA Total	53.5%	46.1%	0.4%

Regarding race/ethnicity, the 2018 sample included a slightly smaller proportion of White occupants (-0.5 percentage points), and a smaller proportion of Black occupants (-0.4 percentage points) and a larger proportion of Hispanic occupants (0.6 percentage points) compared to 2017.

TABLE 5.
Distribution of Occupant Race/Ethnicity by Region, 2018

Region	% White Occupants	% Black Occupants	% Hispanic Occupants	% Other Occupants	% Unknown
1-New Orleans	67.6%	26.8%	3.8%	1.8%	0.0%
2-Baton Rouge	65.2%	28.9%	2.9%	2.2%	0.9%
3-Houma	69.7%	22.6%	6.3%	1.3%	0.0%
4-Lafayette	68.7%	25.3%	3.8%	1.8%	0.4%
5-Lake Charles	86.3%	10.6%	1.1%	2.0%	0.1%
6-Alexandria	81.9%	15.0%	2.3%	0.8%	0.0%
7-Shreveport	68.6%	27.9%	1.7%	0.5%	1.4%
8-Monroe	70.6%	26.9%	1.6%	0.8%	0.1%
LA Total	69.7%	25.2%	3.1%	1.5%	0.5%

Occupant Seat Belt Use Estimates and Descriptive Results - Based on Weighted Calculations

The 2018 Louisiana seat belt use rate, for drivers and front seat passengers combined, is 86.9 percent, with a standard error of 0.40 percent. This 2018 weighted estimate is 0.2 percentage points lower than the 2017 estimate of 87.1 percent. However, the observed decrease is not statistically significant ($p > .05$). Table 6 shows use rate estimates by region, with respective standard sample error. Usage varied from a low of 81.3 percent in the Alexandria region to a high of 91.3 percent in the New Orleans region. These estimates and the descriptive rates for front seat occupants that follow are based on weighted results. New Orleans and Baton Rouge regions have rates noticeably higher than in 2017. Compared to 2017, the Baton Rouge region had a statistically significant increase of 2.6 percentage points ($p < .02$). All other regions had no statistically significant changes ($p > 0.05$) in seat belt use from 2017 to 2018.

TABLE 6.
Front Seat Occupant Seat Belt Use Estimates by Region, 2018

Region	Estimate	STD Error	Diff 2018-2017
1-New Orleans	91.3%	0.4%	1.0%
2-Baton Rouge	87.7%	0.7%	2.6%*
3-Houma	89.3%	0.8%	1.2%
4-Lafayette	88.4%	1.3%	2.0%
5-Lake Charles	89.2%	1.6%	-3.0%
6-Alexandria	81.3%	0.6%	-1.5%
7-Shreveport	83.8%	1.1%	-2.0%
8-Monroe	85.4%	1.4%	-1.6%
LA total	86.9%	0.4%	-0.2%

**Statistically significant at $p=0.02$*

Table 7 examines overall occupant belt use weighted by roadway type and shows that belt use continues to be highest on Interstates (90.1%). There was a small observed increase of 1.1 percentage points compared with 2017, but this difference was not statistically significant at $p=0.05$. US and state routes had a belt use rate of 87.1 percent (-0.3 percentage points lower than in 2017), but this difference was not statistically significant. Belt usage on Local roadways, usually found within neighborhoods in city limits, was 86.0 percent in 2018, a decrease of 0.2 percentage points from 2017. This decrease was also not statistically significant. Hence, overall the use rate in 2018 by road type was about the same as in 2017.

TABLE 7.

Louisiana Front Seat Occupant Belt Use Estimates by Road Type, 2018

Road Type	Estimate	STD Error	Diff 2018-2017
Interstate	90.1%	0.4%	1.1%
US & State	87.1%	0.2%	-0.3%
Local Road	86.0%	0.9%	-0.2%

Louisiana has traditionally examined seat belt use rates by the nine Louisiana State Police Troop area designations. The main difference between the regions and troop areas is that regions 1 and 2 are split into three troops, A, B and L. All other regions/troops cover only slightly different Parishes. Table 8 shows use rates per Troop area, along with the standard error. Use rate estimates by Troop ranged from 84.6 percent in Troop G to 90.8 percent in Troop L. Troop A had statistically significant ($p < .01$) increases in belt use of 2.4 percentage points compared to 2017 and Troop E had a statistically significant ($p < .01$) decrease of 3.1 percentage points compared to 2017. All other troops had no statistically significant ($p > 0.05$) change from 2017.

TABLE 8.
Louisiana Front Seat Occupant Belt Use Estimates by Troop, 2018

Troop	Estimate	STD Error	Diff 2018-2017
A-Baton Rouge	87.9%	0.6%	2.4%*
B-New Orleans	89.5%	0.5%	1.1%
C-Houma	90.4%	1.0%	0.0%
D-Calcasieu	89.2%	1.6%	-3.0%
E-Natchitoches	80.6%	0.8%	-3.1%*
F-Monroe	85.1%	1.2%	-2.2%
G-Shreveport	84.6%	1.3%	-0.6%
I-Lafayette	88.4%	1.3%	2.0%
L-Hammond	90.8%	1.1%	0.9%

**Statistically significant at $p=0.005$*

Table 9 presents estimates for all front seat occupants by parish. The parish use rates presented here, should be interpreted with caution. The overall survey design was not intended to provide single parish belt use rates but rather one single, statewide use rate. There is larger variance and standard error with respect to occupant usage at the parish levels due to the lower sample sizes. The table displays the use rate for 2018 and the past four years. Some parishes have consistently high use rates while others have consistently low use rates. Parishes with consistently high use rates over the past five years include the following: Lafourche, Terrebonne, Beauregard and Jefferson Davis. Parishes with consistently low rates include Rapides, Sabine and Iberville. Some parishes have shown considerable improvements over the past year such as Washington and Union. Some parishes have improved considerably over the past two years such as Iberia and St. John.

TABLE 9.
Louisiana Front Seat Occupant Seat Belt Use Estimates by Parish, 2014 to 2018

Parish	2018	2017	2016	2015	2014	5-Year Average
Lafourche	94.4%	94.9%	94.3%	94.8%	87.7%	93.2%
Terrebonne	94.0%	93.6%	95.7%	90.0%	92.8%	93.2%
Beauregard	93.2%	96.2%	91.0%	90.9%	91.0%	92.5%
Jefferson Davis	89.7%	92.5%	93.5%	92.5%	89.2%	91.5%
St. Tammany	94.4%	92.6%	86.4%	87.9%	88.7%	90.0%
St. Charles	93.5%	92.4%	93.0%	83.1%	87.5%	89.9%
Calcasieu	92.6%	93.8%	93.4%	78.9%	88.3%	89.4%
Vermilion	93.8%	88.2%	89.4%	91.5%	83.2%	89.2%
Ascension	90.0%	87.4%	88.2%	91.3%	87.4%	88.9%
St. Landry	91.1%	86.8%	89.2%	88.9%	87.5%	88.7%
Pointe Coupee	92.0%	92.2%	92.4%	83.4%	83.0%	88.6%
St. Martin	89.5%	86.5%	92.1%	86.7%	85.4%	88.0%
Bossier	85.2%	86.9%	87.0%	89.6%	91.2%	88.0%
Evangeline	89.0%	86.7%	88.0%	93.6%	82.6%	88.0%
Caddo	84.7%	87.0%	88.9%	89.5%	87.6%	87.5%
Vernon	85.4%	87.3%	86.6%	84.5%	93.2%	87.4%
East Baton Rouge	89.3%	88.7%	89.2%	83.3%	85.2%	87.2%
Lincoln	87.5%	89.4%	88.7%	87.1%	81.8%	86.9%
Jefferson	89.5%	90.0%	88.5%	83.6%	80.7%	86.5%
Acadia	87.8%	93.2%	87.5%	82.0%	81.8%	86.4%
Lafayette	91.5%	87.6%	89.0%	78.7%	84.1%	86.2%
Livingston	89.3%	89.1%	85.8%	82.1%	82.6%	85.8%
West Baton Rouge	91.0%	86.3%	82.9%	79.9%	85.7%	85.1%
St. Mary	90.0%	91.5%	82.0%	82.6%	79.6%	85.1%
St. James	91.5%	84.6%	80.1%	82.3%	86.3%	85.0%
Tangipahoa	87.8%	87.1%	82.3%	81.9%	82.1%	84.3%
Ouachita	85.1%	87.9%	87.1%	83.9%	76.9%	84.2%
Natchitoches	83.8%	87.4%	85.5%	81.5%	81.7%	84.0%
Orleans	91.8%	89.0%	90.1%	75.5%	72.2%	83.7%
De Soto	75.9%	81.1%	92.1%	86.3%	82.8%	83.7%
Assumption	75.8%	77.4%	83.9%	94.5%	86.3%	83.6%
Iberville	77.4%	83.1%	87.1%	80.0%	87.1%	82.9%
Washington	95.5%	79.3%	76.9%	77.3%	82.6%	82.3%
Sabine	73.7%	83.6%	85.9%	86.2%	79.5%	81.8%
Iberia	88.8%	88.3%	84.0%	68.8%	79.0%	81.8%
St. John	87.1%	86.4%	82.2%	76.0%	69.2%	80.2%
Rapides	78.9%	80.9%	82.0%	87.5%	68.7%	79.6%
Union	90.8%	75.8%	76.2%	86.0%	59.2%	77.6%

The 2018 survey also captured occupant gender and race/ethnicity characteristics along with vehicle type. Table 10 provides both driver and passenger use rate estimates for these occupant types. The table shows that male occupant belt usage lags female occupant usage (83.9% vs. 90.7%) and male passengers were less likely to be belted compared to male drivers (83.1% vs. 83.9%).

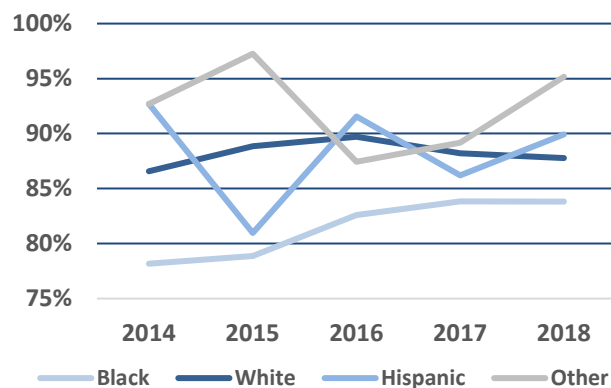
TABLE 10.
Louisiana Front Seat Belt Use Estimates by Sex, Race, and Vehicle Type, 2018

	% Use Rate					
	Driver		Passenger		All Front Seat	
	Estimate	STD Error	Estimate	STD Error	Estimate	STD Error
Occupant Sex						
Male	83.9%	0.6%	83.1%	1.5%	83.8%	0.6%
Female	90.7%	0.6%	90.8%	0.8%	90.7%	0.5%
Occupant Race						
White	87.4%	0.5%	89.5%	0.9%	87.8%	0.5%
Black	84.3%	0.8%	81.3%	1.9%	83.8%	0.8%
Hispanic	91.0%	1.0%	86.4%	1.7%	89.9%	1.8%
Other	95.1%	0.9%	95.4%	0.5%	95.2%	1.1%
Vehicle Type						
Car	88.7%	0.6%	89.5%	1.1%	88.8%	0.6%
Pick-up	81.3%	0.9%	81.3%	2.0%	81.3%	0.8%
SUV	89.9%	0.7%	90.5%	1.2%	90.0%	0.7%
Van	90.5%	1.7%	88.1%	3.9%	89.9%	1.6%

Usage among Black occupants measured lower compared to other races/ethnicities (83.8% for Black occupants vs. 87.8% for White occupants vs. 89.9% for Hispanic occupants and 95.2% among “Other” occupants). Historically that’s been the case (Figure 2). However, there was a 1.2 percentage point increase in seat belt use among Black occupants in 2017, in addition to a 3.7 percentage point increase in 2016. Although this increase was not statistically significant it suggests that the gap in belt use between Black and White Occupants has decreased over time, and notably from 10.0 percentage points in 2015 to just 4.0 percentage points in 2018. Note that

FIGURE 2.

Seat Belt Usage by Vehicle Type: 2014-2018



Hispanic and Other/Unknown occupant usage rates have some large year-to-year swings due to small sample sizes.

Vehicle type also makes a difference in belt usage. Operators and passengers in pickup trucks use seat belts less often than occupants in other vehicle types. Every year a sizeable portion of the sample includes occupants in pickups which drags the overall statewide average downward. That has been the case every year of the survey (Figure 3).

The 2018 survey once again verified that occupant usage in pickup trucks lags compared to other vehicle types. Belt use rates by vehicle type in 2018 were not statistically different from belt use rates in 2017. All, except passenger cars, showed a slight decline, with van occupants having the largest decline of 2.1 percentage points. However, the van sample size is relative small and thus large variations are observed from year to year.

A regional breakdown of occupant belt use by vehicle type (shown below in Table 11) found a fairly consistent pattern of lower observed belt use among occupants in pickup trucks compared to the average of all other vehicle occupants in all regions. Differences in usage rates range from -3.4 percentage points in the Lake Charles Region to -14.2 percentage points in the Shreveport Region. The average gap in belt use between pickup truck occupants and other vehicle occupants for Louisiana was -8.3 percentage points.

However, as with previous tables, it is important to note the larger standard errors associated with occupant usage estimates at these levels; in some cases, due to the lower sample sizes and higher variances. Data breakdowns presented here should also be carefully interpreted.

FIGURE 3.

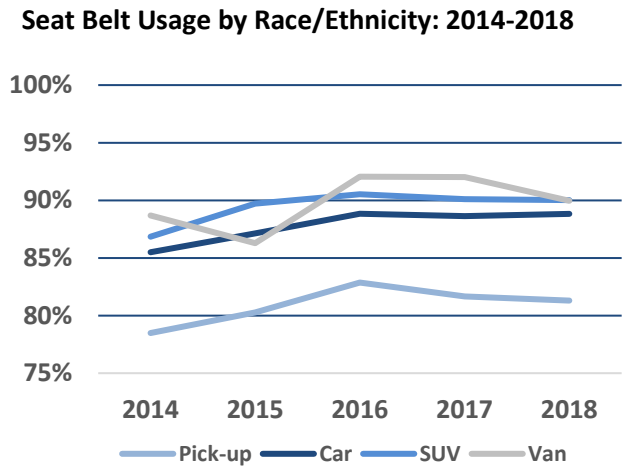


TABLE 11.
Louisiana Front Seat Belt Use Estimates by Region and Vehicle Type, 2018

Region	CAR	STD Error	PICKUP	STD Error	SUV	STD Error	VAN	STD Error	AVG* Diff PKUP
1-New Orleans	92.1%	0.5%	86.9%	1.2%	93.2%	0.6%	91.7%	2.8%	-5.4%
2-Baton Rouge	88.1%	1.0%	83.5%	1.5%	91.2%	1.2%	93.7%	1.2%	-7.5%
3-Houma	89.8%	1.2%	85.8%	1.6%	93.6%	1.3%	85.9%	4.9%	-4.0%
4-Lafayette	87.4%	2.4%	85.9%	1.8%	91.7%	1.9%	94.2%	3.2%	-5.2%
5-Lake Charles	92.8%	1.9%	87.2%	2.6%	88.3%	4.0%	90.7%	5.6%	-3.4%
6-Alexandria	85.2%	0.9%	75.2%	1.3%	83.2%	1.3%	83.9%	2.6%	-8.9%
7-Shreveport	87.5%	1.0%	75.5%	2.2%	85.3%	1.9%	96.3%	1.2%	-14.2%
8-Monroe	89.0%	2.2%	76.2%	2.9%	92.8%	1.6%	79.3%	7.0%	-10.8%
LA total	88.8%	0.6%	81.3%	0.8%	90.0%	0.7%	89.9%	1.6%	-8.3%

*Differences of belt usage rate between pickup trucks and the average of all other vehicles

Rear Seat Belt Use

The estimation of rear seat belt use in Louisiana began in response to Regular Session 2008, Senate Resolution No. 165 by Senator Walsworth.² A total of 557 rear seat occupants were observed in the 2018 survey. Table 12 presents the distribution of rear seat observations by vehicle type.

TABLE 12.
Number of Rear Seat Observations by Vehicle Type, 2018

CAR	PICKUP	SUV	VAN	TOTAL
305	99	115	38	557

Unweighted estimates of belt use for rear seat occupants, thirteen years of age or older, are presented in Table 13. The estimates presented in the table below display use rates by survey year and vehicle type. The use rate in 2018 is estimated to be 65.5 percent, which is a decrease of 0.1 percentage points from 2017. However, this decrease is not statistically significant.

TABLE 13.
Louisiana Rear Passenger Seat Belt Use Rate, 2008-2011 & 2013-2018

	CAR	PICKUP	SUV	VAN	TOTAL
2008	27.3%	12.5%	31.3%	29.4%	27.2%
2010	50.0%	47.8%	77.2%	90.7%	58.4%
2011	46.0%	40.3%	71.4%	93.6%	53.8%
2013	50.8%	47.0%	67.1%	62.3%	54.8%
2014	48.8%	42.4%	69.3%	77.4%	54.9%
2015	67.9%	55.1%	80.5%	79.2%	68.9%
2016	70.9%	45.8%	80.5%	84.1%	68.8%
2017	65.8%	50.0%	71.2%	77.8%	65.6%
2017	62.0%	57.6%	73.9%	89.5%	65.5%

² Senate Resolution No. 165 (2008) directed the Louisiana Highway Safety Commission to study the need for all occupants of a motor vehicle thirteen years of age and older to wear a safety belt. An amendment to Louisiana's seat belt law was made during the 2009 regular session of the Louisiana Legislature. The amendment expanded the State's primary seat belt law to include rear seat occupants 13 years of age and older and went into effect August 15, 2009 (McKenzie, III, 2011). Prior to the law change, in 2008, rear seat belt use among rear seat passengers was estimated. The 2010 statewide survey was the first full-scale Louisiana statewide survey to cover both front and rear seat passengers. Statewide surveys in 2011, 2013, and 2014 also include rear seat occupants.

CONCLUSION

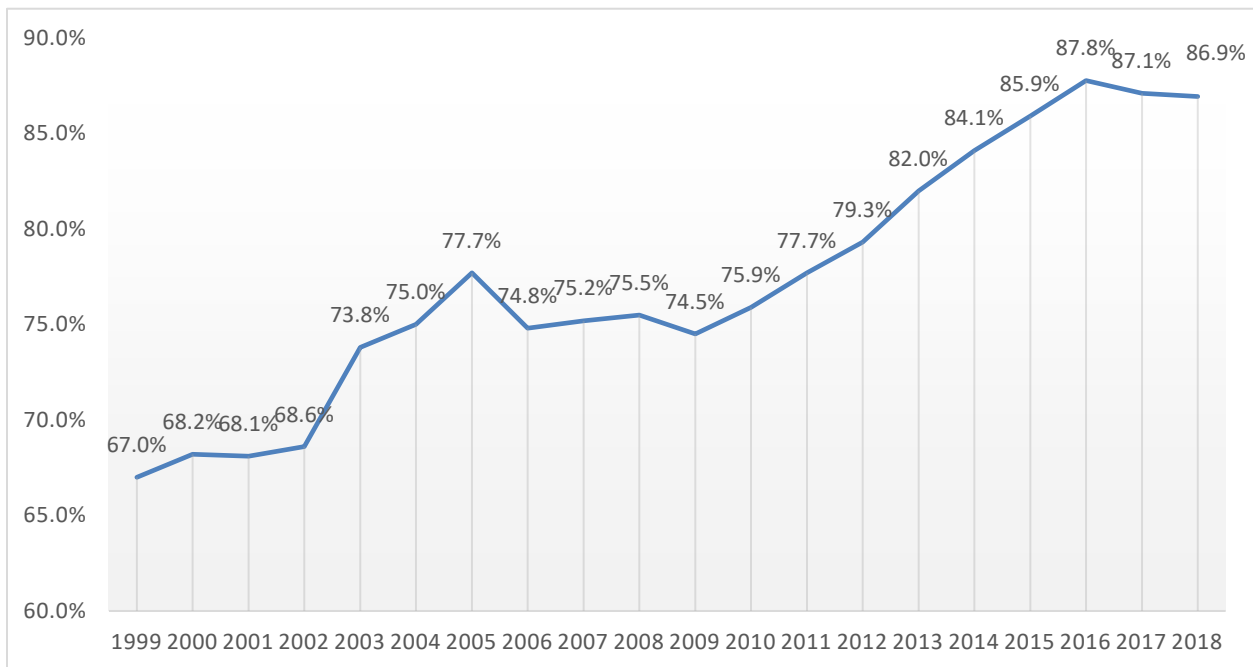
The State of Louisiana’s statewide seat belt use rate for 2018 is 86.9 percent. The 2018 survey was conducted mid-year, like most statewide surveys in years past. The 2018 statewide use rate fell short of the historic high measured in December 2016 (87.8%), but the difference is not statistically significant. The 2018 rate was also higher compared to the next most recent June survey, in 2015, which yielded an 85.9 percent usage rate, and the difference between those two years was also not statistically significant.

The proportion of pickup truck occupants in the 2018 survey is similar compared to previous June statewide surveys (2012-2015 and 2017). Interestingly, there was a smaller proportion of pickup truck occupants compared to the previous year’s sample, conducted December 2016. Lower usage among pickup truck occupants has a downward pull on the overall statewide rate. In other words, when there are more pickup truck occupants in the sample, there is likely more of a downward pull on the overall use rate and when there are fewer there is less of a pull downward. The December 2016 survey had fewer pickup trucks and less of a pull.

It is also worth noting that lower usage among Black occupants is much improved now compared to recent years. The gap between Black and White occupant belt use has shrunk from 10.0 percentage points in 2015 to only 4.0 points in 2018.

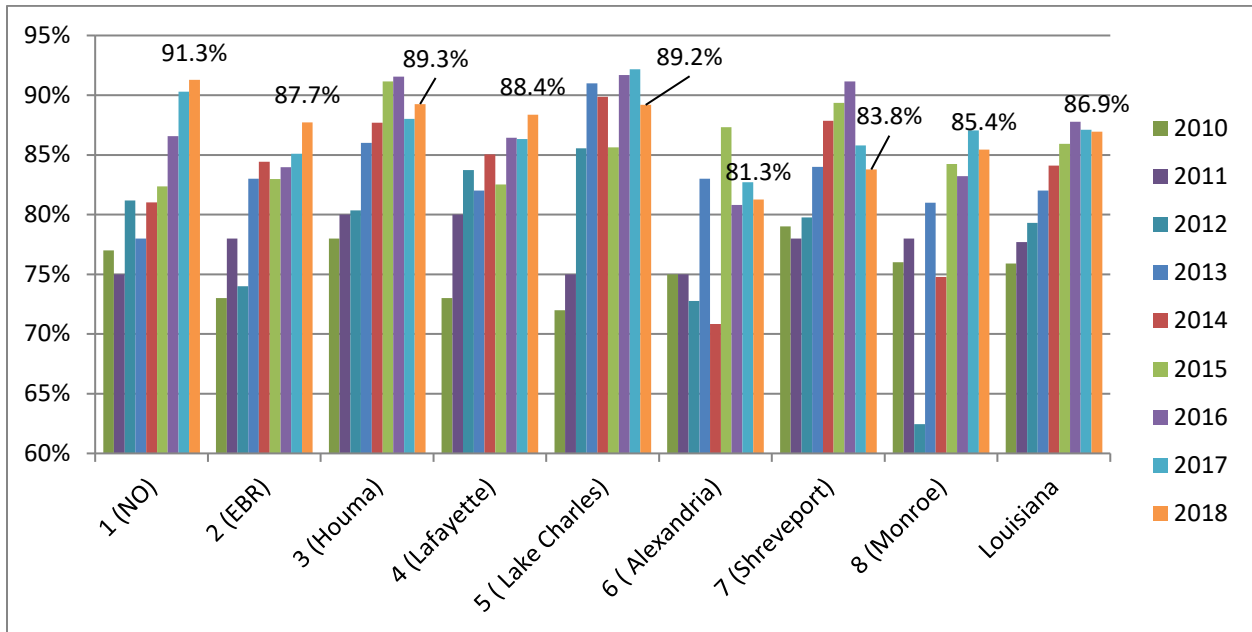
Overall seat belt use in Louisiana generally shows an upward trend (Figure 4), increasing 12.4 percentage points since 2009 when only three-in-four were observed wearing a seat belt (74.5%).

Figure 4.
Louisiana Seat Belt Weighted Use Rates, 1999-2018



Every region in the State of Louisiana has experienced improvement in seat belt usage since 2010. Comparing 2010 to 2018, the Lake Charles region had a large increase of 17.2 percentage points, followed by Lafayette region with an increase of 15.4 percentage points. The Shreveport and Alexandria region had the smallest increases with 4.8 and 6.3 percentage points, respectively. For the fourth year, all regions of Louisiana had a seatbelt use rate above 80 percent. In 2018, all but two regions were above 85 percent (Figure 5).

Figure 5.
Louisiana Seat Belt Weighted Use Rates by Region, 2010-2018



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Appendix A

Copy of:

Seat Belt Use Observation Data Form

Seat Belt Use Observation Data Form

SITE NUMBER: _____ SITE: _____ OBSERVER INITIALS: _____

DIRECTION OF TRAFFIC FLOW: N S E W

CHECK ONE: _____ DAYTIME _____ NIGHTTIME

DATE: ____ - ____ - ____ DAY OF WEEK: _____

START TIME: _____ AM / PM (Observation period will last exactly 60 minutes)

WEATHER CONDITIONS

1. Clear/Sunny	4. Fog
2. Light Rain	5. Wet (Not Raining)
3. Cloudy	

Veh. #	VEHICLE	DRIVER			PASSENGER			REAR SEAT
	<u>Veh. Type</u> C=Car T=Truck S=SUV V=Van	<u>Sex</u> M=Male F=Female U=Unsure	<u>Race</u> W=White B=Black H=Hispanic O=Other U=Unsure	<u>Belt/ Helmet Use</u> + = Yes - = No U = Unsure	<u>Sex</u> M=Male F=Female U=Unsure	<u>Race</u> W=White B=Black H=Hispanic O=Other U=Unsure	<u>Belt/ Helmet Use</u> + = Yes - = No U = Unsure	<u>Sex/Race/Use</u> (13+ years old) Example: M W +
1								
2								
3								
4								
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24								
25								

Seat Belt Observation Data Form (back)

Location: _____
(Street) (Cross Street or other landmark)

Site #: _____

Notes: _____

Diagram:

