

**2015 LOUISIANA SEAT BELT AND MOTORCYCLE HELMET
OBSERVATION SURVEY RESULTS**

-FINAL REPORT-

LHSC Project No. 2015-15-11

STATE OF LOUISIANA

Bobby Jindal, Governor



LOUISIANA HIGHWAY SAFETY COMMISSION

John A. LeBlanc, Executive Director

September 2015

-FINAL REPORT-

**2015 LOUISIANA SEAT BELT AND MOTORCYCLE HELMET
OBSERVATION SURVEY RESULTS**

LHSC Project No. 2015-15-11

Prepared for:

LOUISIANA HIGHWAY SAFETY COMMISSION

John A. LeBlanc, Executive Director

Post Office Box 66336

Baton Rouge, Louisiana 70896

by:

PREUSSER RESEARCH GROUP, INC.

Kim Elliott, Research Associate

7100 Main Street

Trumbull, CT 06611

with assistance from:

Dr. Helmut Schneider

Associate Dean of Research and Graduate Programs

Ourso Family Distinguished Professor of Information Systems and

Director of the Highway Safety Research Group

Louisiana State University, ISDS Department

Baton Rouge, LA 70803

September 2015

TABLE OF CONTENTS

INTRODUCTION AND BACKGROUND	1
Seat Belt Law and Seat Belt Use	1
Helmet Law and Helmet Use	2
Statewide Survey Statistician	2
METHODOLOGY	3
Survey Design and Site Selection	3
Scheduling	4
Observers	5
Observation Site Details	5
Data Collection Procedures	5
Quality Control	6
Building a Data Set	6
RESULTS	7
Sample Characteristics	7
Occupant Seat Belt Use Estimates and Descriptive Results	10
Rear Seat Belt Use	14
Motorcycle Helmet Use	16
CONCLUSION	17
REFERENCES	19
APPENDIX A – OBSERVATION FORM	A-1

INTRODUCTION AND BACKGROUND

This report documents Louisiana's annual Statewide Seat Belt and Motorcycle Helmet 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 and motorcycle helmet use survey work covered by this report was conducted by Preusser Research Group, Inc. (PRG). All of the survey work for Louisiana's 2015 Statewide Seat Belt and Motorcycle Helmet Use Survey was completed in late May and the first half of June, 2015. The results that follow provide an accurate and reliable estimate of front and rear seat belt use and motorcycle helmet use in Louisiana.

Seat Belt Law and Seat Belt Use

The first seat belt law passed by the Louisiana State Legislature went into effect July 1, 1986. The original 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 2008 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 15 years. From 1999 to 2002, statewide seat belt use rates increased very little from 67.0% to 68.6%. 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% 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 had an effect on seat belt use rates. By the year 2011, use rates climbed back to the peak level seen in 2005 and increased anywhere from 1.6 to 3.2 percentage points each year since (Elliott, 2014).

Helmet Law and Helmet Use

Louisiana has enacted and repealed motorcycle helmet laws several times. Louisiana first adopted an all-rider motorcycle helmet law in 1968, amended it in 1976 to require helmet use only by riders under the age of 18, and reenacted a universal helmet law in 1982. In 1999, the State amended that law to require helmet use only by motorcyclists under 18 and riders over 18 who did not have a minimum of \$10,000 in medical insurance coverage. In 2004, Louisiana reinstated its universal helmet law that required all motorcyclists, including riders and passengers, to wear helmets all the time (Gilbert, Chaudhary, Solomon, Preusser, & Cosgrove, 2004).

Helmet use rates in Louisiana have changed dramatically with changes in the helmet law. In the years 1993-1999, when the mandatory helmet law was in effect, motorcycle helmet use ranged from 96.7% to 100%. Helmet use measured almost 45 points lower (51.8%) the year after the mandatory law was amended. Helmet use rates remained low, 46.4% to 58.6%, during the five years that the law did not require mandatory use for all riders (2000-2004). After reinstatement of the universal helmet law in 2004, motorcycle helmet use increased dramatically from 57.7% (2004) to 99.3% (2005) and has remained near 99-100% every year since (Elliott, 2014).

Statewide Survey Statistician

Dr. Helmut Schneider developed all of the National Highway Traffic Safety Administration (NHTSA) approved seat belt survey designs used in the State of Louisiana, including the designs PRG 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 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).

PRG planned and implemented Louisiana's 2015 seat belt survey using Dr. Schneider's most recent redesign as a guide. The redesign is 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.

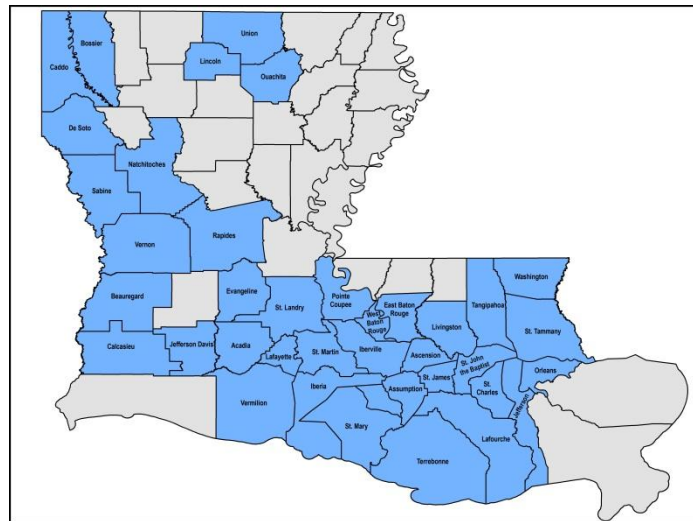
METHODOLOGY

Survey Design and Site Selection

Louisiana's 2015 Statewide Seat Belt and Motorcycle Helmet Use Survey was a replication of the 2013 statewide survey design. In 2013, the statewide survey was redesigned by Dr. Helmut Schneider and included 54 fewer sites than the 2012 design (from 390 sites in 2012 to 336 sites in 2013). The 2013 redesign was approved by NHTSA and proved to be both efficient and reliable.

Dr. Schneider used crash-related fatality data from 2006-2009 in selecting the parishes included in the 2013 redesign. According to the Fatality Analysis Reporting System (FARS), 38 of 64 parishes account for 86% of crash-related fatalities in Louisiana. These 38 parishes were selected to be included in the survey (Schneider, 2013).

Figure 1.
Parishes Included in Statewide Seat Belt Survey



The 2013 redesign divides the sampling frame into eight statewide regions, the parishes within these regions, and the highway types. Dr. Schneider used a 2010 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 highways. Local road segments were designated using simple random sampling (Schneider, 2013).

The 2012 redesign used the number of crashes on local roads as a substitute for VMT but after implementation and analysis of the 2012 survey, it was determined that crash counts on local roads should not be used as a reliable method of local road site selection due to misspellings of road names on crash reports (Schneider, 2013). As a result, the 2013 design used random sampling instead of VMT to select local road segments. This change in local road site selection resulted in the relocation of several local road sites that were used in the 2012 survey. The majority of Interstate and US and State road sites used in 2013 and 2014 remain consistent with the 2012 survey.

PRG used road segment information provided in the redesign appendix to pinpoint each site (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 (either in 2012 or 2013). Observers created a site map upon the initial visit in order to replicate exact observation locations from year to year. The site maps used to complete the 2013 survey were used in 2014 and 2015 to replicate methodology.

Scheduling

Observation sites were organized into clusters of two to seven sites based on geographical proximity. Each cluster was randomly assigned a single day of the 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 mapped 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 and location to observe, and direction of traffic to observe for each site. The schedules used in 2013 were used in both 2014 and 2015 with minimal modifications.

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 a.m. to 6 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 a.m. – 6 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. The time period and day of week of observation sites used in 2015 remained fairly consistent with the 2013 and 2014 surveys, though some minor adjustments were made due to weather and to achieve a timely completion.

Observers

Twelve observers were hired and trained exclusively by PRG. All had previously conducted seat belt observations for PRG and all were trained to the specific requirements for the Louisiana survey. Eight of the twelve observers collected data in 2014 for the Louisiana Statewide Seat Belt and Helmet Use Survey. Prior to any data collection, procedures specific to the Louisiana survey were explained to observers in a training session. Observers participated in hours of supervised street-side practice prior to conducting observations in the field. Additionally, observers were trained how to handle themselves in conditions, such as bad weather or temporary traffic impediments, which can require observation rescheduling and what to do to reschedule sites.

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.). Observers used site maps created in 2013 to replicate where to stand and conduct observations for the 2014 and 2015 surveys. Data collectors observed 60 minutes at each location.

Observation Site Details

Each location for data observation was tentatively selected based on detailed maps and available on-line 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. The same locations defined in 2013 were reused for both the 2014 and 2015 measurements, unless an alternate location was used due to weather or road construction.

Data Collection Procedures

Motorcycles and 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), rear seat passengers 13 years of age and older, as well as motorcycle operators and passengers, were observed for seat belt use or helmet use. Observers noted vehicle type (Car, Truck, SUV, Van, Motorcycle), sex of drivers and passengers, race (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 includes 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 was 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, an adjoining road segment was used.

Quality Control

As noted above, PRG has had extensive experience in training seat belt use observers. All observers, whether or not new to the task, received training which included both classroom instruction and field (roadside) practice. One trained observer served as the Quality Control Monitor (QCM) and conducted random, unannounced visits to other trained observers in the field. The QCM conducted checks at approximately 5% 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 does not reflect anything other than proper on-site seat belt use observations. Some cues to the contrary would include 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 or not observations were done properly. Invalid data would be 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 the Statistical Package for the Social Sciences (SPSS) software. 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 and motorcycle helmet use at 336 sites in 38 parishes divided into 8 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, 2015

Region	Sites per the Design	Sites Completed
1-New Orleans	62	62
2-Baton Rouge	86	86
3-Houma	32	32
4-Lafayette	54	54
5-Lake Charles	25	25
6-Alexandria	16	16
7-Shreveport	46	46
8-Monroe	15	15
State Total	336	336

No sites in the 2015 survey resulted in zero belt use observations. One site was compromised due to flooding so a predetermined alternate site was used.

Seat belt use information was recorded for 57,128 front seat occupants over the eight regions. The distribution of those occupants by region, including occupant type, is displayed on the next page in Table 2. The observed number of vehicles in 2015 declined by 4.2% from 2014. Table 3 represents the distribution of observed vehicle types by region. There were more cars (+1.03%), slightly more trucks (+0.34) and fewer SUVs (-1.37%) in the 2015 sample compared to 2014.

TABLE 2.
Number of Louisiana Front Seat Occupants Recorded by Region, 2015

Region	Drivers	Passengers	Total
1-New Orleans	8870	2093	10,963
2-Baton Rouge	12412	2738	15,150
3-Houma	5852	1292	7,144
4-Lafayette	6687	1437	8,124
5-Lake Charles	2638	680	3,318
6-Alexandria	1789	423	2,212
7-Shreveport	6838	1688	8,526
8-Monroe	1405	286	1,691
LA Total	46,491	10,637	57,128

TABLE 3.
Distribution of Vehicle Type* by Region, 2015

Region	%Car	%Truck	%SUV	%Van
1-New Orleans	44.0%	22.3%	27.3%	6.4%
2-Baton Rouge	45.5%	27.3%	22.4%	4.8%
3-Houma	39.0%	34.0%	22.5%	4.4%
4-Lafayette	41.9%	35.4%	17.8%	5.0%
5-Lake Charles	35.5%	33.6%	25.9%	5.0%
6-Alexandria	36.1%	33.4%	23.8%	6.8%
7-Shreveport	38.8%	29.4%	26.7%	5.1%
8-Monroe	38.1%	27.9%	29.3%	4.7%
LA Total	41.8%	29.3%	23.8%	5.2%

*Unknown vehicle type not included

Information was collected on 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. The 2015 sample had 1.14% more males than the 2014 sample. There was also 1.3% more Hispanics and 1.3% fewer white occupants observed in 2015 compared to 2014.

TABLE 4.
Distribution of Occupant Sex* by Region, 2015

Region	%Males	%Females
1-New Orleans	54.8%	45.2%
2-Baton Rouge	54.5%	45.5%
3-Houma	58.6%	41.4%
4-Lafayette	57.1%	42.9%
5-Lake Charles	52.2%	47.8%
6-Alexandria	57.1%	42.9%
7-Shreveport	55.0%	45.0%
8-Monroe	52.7%	47.3%
LA Total	55.4%	44.6%

*Unsure sex not included

TABLE 5.
Distribution of Occupant Race/Ethnicity* by Region, 2015

Region	%White	%Black	%Hispanic	%Other
1-New Orleans	65.6%	27.5%	5.1%	1.6%
2-Baton Rouge	63.6%	30.2%	4.1%	1.5%
3-Houma	62.9%	25.0%	10.9%	1.1%
4-Lafayette	74.7%	20.8%	3.1%	1.4%
5-Lake Charles	84.9%	11.9%	2.0%	1.0%
6-Alexandria	75.7%	20.4%	2.9%	0.7%
7-Shreveport	68.5%	27.4%	2.1%	1.9%
8-Monroe	70.7%	27.6%	0.9%	0.5%
LA Total	68.1%	25.8%	4.4%	1.4%

*Unsure race/ethnicity not included

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

The 2015 Louisiana seat belt use rate, for drivers and front seat passengers combined, is 85.9%, with a standard error of 0.57%. This 2015 weighted estimate represents Louisiana’s highest recorded statewide measurement to date, up 1.8 percentage points from 2014 (84.1%). Table 6 shows use rate estimates by region, with respective standard sample error. Usage varied from a low of 82.4% in the New Orleans area to a high of 91.2% in the Houma area. These estimates and the descriptive rates for front seat occupants that follow are based on weighted results. Both Alexandria and Monroe regions have rates noticeably higher than in 2014. Compared to 2014, the Alexandria region had an increase of 16.5 percentage points and the Monroe region had an increase of 9.5 percentage points. Both increases were statistically significant at 5%, while the changes in all other regions were not statistically significant.

TABLE 6.
Front Seat Occupant Seat Belt Use Estimates by Region, 2015

Region	Estimate	STD Error
1-New Orleans	82.4%	1.3%
2-Baton Rouge	83.0%	1.3%
3-Houma	91.2%	1.4%
4-Lafayette	82.5%	1.5%
5-Lake Charles	85.6%	2.2%
6-Alexandria	87.3%	2.3%
7-Shreveport	89.4%	1.2%
8-Monroe	84.2%	3.1%
LA total	85.9%	0.57%

Table 7 examines overall occupant belt use weighted by roadway type and shows that belt use was highest on Interstates (89.1%) and US and State roadways (87.3%), which typically have higher traffic densities and higher rates of speed traveled. Observers measured the lowest usage on Local Roads (85.5%), which are roadways usually found within neighborhoods in city limits. The 2015 use rate increased on all road types with Local Roads having the largest increase of 1.8 percentage points from the 2014 Local Road estimate (83.7%). The increase in belt use was 1.3 percentage points for Interstates and 1.6 percentage points for US & State Routes.

TABLE 7.
Louisiana Front Seat Occupant Belt Use Estimates by Road Type, 2015

Road Type	Estimate	STD Error
Interstate	89.1%	0.4%
US & State	87.3%	0.7%
Local Road	85.5%	0.7%

Louisiana has traditionally examined seat belt use rates by Louisiana State Police Troop area designations. Table 8 shows use rates per Troop area, along with the standard error. Use rate estimates by Troop ranged from 80.2% to 94.4%. Troop C, E and F had statistically significant increases in belt use compared to 2014, ranging from 6.5 percentage points in Troop C and 9.4 percentage points in Troop F to 15.8 percentage points in Troop E.

TABLE 8.
Louisiana Front Seat Occupant Belt Use Estimates by Troop, 2015

Troop	Estimate	STD Error
A	83.1%	1.4%
B	80.2%	1.7%
C	94.4%	1.4%
D	85.6%	2.2%
E	87.2%	2.2%
F	84.3%	3.0%
G	89.5%	1.2%
I	82.5%	1.5%
L	86.9%	1.5%

Table 9 presents belt use estimates for drivers, passengers, and all front seat occupants by parish. The parish use rates presented here, although weighted, 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.

TABLE 9.
Louisiana Driver & Front Seat Passenger Seat Belt Use Estimates by Parish, 2015

Parish	Driver	STD Error	Passenger	STD Error	All Front Seat	STD Error
Acadia	83.4%	2.6%	75.7%	6.3%	83.4%	2.6%
Ascension	91.9%	1.9%	88.9%	5.0%	91.9%	1.9%
Assumption	94.4%	2.4%	100.0%	0.0%	94.4%	2.4%
Beauregard	90.6%	2.6%	92.0%	4.4%	90.6%	2.6%
Bossier	87.9%	3.8%	98.7%	0.4%	87.9%	3.8%
Caddo	89.9%	1.3%	87.9%	2.8%	89.9%	1.3%
Calcasieu	82.2%	4.2%	65.6%	10.1%	82.2%	4.2%
De Soto	86.1%	3.4%	87.6%	5.9%	86.1%	3.4%
East Baton Rouge	83.7%	1.6%	81.6%	3.3%	83.7%	1.6%
Evangeline	92.8%	2.4%	96.1%	2.3%	92.8%	2.4%

Parish	Driver	STD Error	Passenger	STD Error	All Front Seat	STD Error
Iberia	68.4%	4.3%	69.9%	7.4%	68.4%	4.3%
Iberville	81.1%	2.9%	74.1%	7.7%	81.1%	2.9%
Jefferson	84.6%	1.4%	77.4%	4.2%	84.6%	1.4%
Jefferson Davis	93.8%	2.3%	85.6%	8.4%	93.8%	2.3%
Lafayette	78.9%	2.8%	78.0%	5.5%	78.9%	2.8%
Lafourche	95.1%	1.5%	92.5%	4.8%	95.1%	1.5%
Lincoln	88.3%	1.9%	82.4%	4.6%	88.3%	1.9%
Livingston	81.7%	3.1%	83.6%	6.2%	81.7%	3.1%
Natchitoches	81.7%	1.9%	80.7%	3.9%	81.7%	1.9%
Orleans	73.6%	3.0%	83.1%	4.9%	73.6%	3.0%
Ouachita	86.3%	3.4%	71.7%	10.2%	86.3%	3.4%
Pointe Coupee	83.8%	2.9%	81.1%	7.0%	83.8%	2.9%
Rapides	87.7%	2.5%	87.1%	5.0%	87.7%	2.5%
Sabine	86.3%	2.8%	86.0%	4.9%	86.3%	2.8%
St. Charles	84.2%	3.5%	77.8%	8.7%	84.2%	3.5%
St. James	82.7%	2.9%	80.4%	6.3%	82.7%	2.9%
St. John	79.5%	4.5%	63.0%	10.6%	79.5%	4.5%
St. Landry	89.1%	2.8%	87.4%	7.5%	89.1%	2.8%
St. Martin	88.0%	1.5%	82.1%	3.6%	88.0%	1.5%
St. Mary	81.4%	5.4%	87.4%	8.7%	81.4%	5.4%
St. Tammany	82.7%	1.3%	88.5%	3.9%	82.7%	1.3%
Tangipahoa	82.5%	1.3%	78.5%	2.9%	82.5%	1.3%
Terrebonne	89.7%	6.9%	92.9%	1.5%	89.7%	6.9%
Union	84.1%	7.5%	93.1%	3.2%	84.1%	7.5%
Vermillion	91.2%	1.4%	93.1%	2.8%	91.2%	1.4%
Vernon	85.1%	1.8%	82.3%	3.7%	85.1%	1.8%
Washington	77.2%	3.2%	77.5%	8.5%	77.2%	3.2%
West Baton Rouge	79.3%	3.1%	82.5%	6.6%	79.3%	3.1%

The 2015 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. While belt use among male occupants increased by a statistically significant 2.9 percentage points from 2014, usage still lagged behind female occupants (82.5% vs. 90.5%). Furthermore, male passengers were less likely to be belted compared to male drivers (79.6% vs. 82.5%).

Front seat occupant belt use rates among African Americans measured lower than other races or ethnicities (78.8% vs. 89.1% for Whites and 93.5% for all other ethnic categories). Hispanic passengers had the lowest belt use rate (69.3%). However, the small sample size (551) resulted in a relative large standard error of 9.7 percentage points. Hence, this result is not very reliable. Examination of occupant belt use by vehicle type showed rates among pickup truck occupants lagging behind the use rates of occupants in other vehicle types; the lowest subgroup being passengers in pickup trucks with a use rate of 79.5%.

TABLE 10.
Louisiana Front Seat Belt Use Estimates by Sex, Race, and Vehicle Type, 2015

	% Use Rate					
	Driver		Passenger		All Front Seat	
	Estimate	STD Error	Estimate	STD Error	Estimate	STD Error
Sex						
Male	82.5%	0.9%	79.6%	2.2%	82.1%	0.9%
Female	90.5%	0.7%	87.8%	1.5%	90.0%	0.7%
Race						
White	89.1%	0.6%	87.4%	1.5%	88.9%	0.6%
African-American/Black	78.8%	1.3%	79.0%	2.4%	78.9%	1.2%
Hispanic	84.2%	3.7%	69.3%	9.7%	81.0%	3.9%
Other	93.5%	3.4%	96.9%	0.1%	97.3%	1.2%
Vehicle Type						
Car	87.5%	0.8%	85.2%	1.9%	87.1%	0.8%
Pick-up	80.4%	1.4%	79.5%	2.9%	80.3%	1.3%
SUV	90.4%	1.0%	86.8%	2.5%	89.7%	1.0%
Van	86.8%	2.6%	84.6%	5.4%	86.3%	2.4%

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, regardless of region.

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.

TABLE 11.
Louisiana Front Seat Belt Use Estimates by Region and Vehicle Type, 2015

Region	CAR	STD Error	PICKUP	STD Error	SUV	STD Error	VAN	STD Error
1-New Orleans	82.5%	1.9%	76.9%	2.9%	85.5%	2.5%	86.3%	4.5%
2-Baton Rouge	83.9%	1.7%	79.2%	3.0%	87.7%	2.4%	78.5%	6.1%
3-Houma	96.0%	1.4%	78.5%	4.1%	96.7%	1.6%	84.5%	7.7%
4-Lafayette	83.6%	2.2%	80.0%	3.0%	83.5%	3.4%	84.2%	6.3%
5-Lake Charles	86.2%	4.1%	81.4%	4.0%	88.7%	3.7%	93.1%	6.3%
6-Alexandria	87.4%	3.3%	82.6%	6.0%	89.2%	3.9%	92.8%	6.1%
7-Shreveport	91.2%	1.7%	84.9%	2.5%	92.0%	2.3%	90.8%	5.8%
8-Monroe	81.1%	4.7%	85.0%	6.2%	89.0%	5.3%	89.0%	9.9%
LA total	87.1%	0.81%	80.3%	1.3%	89.7%	1.0%	86.3%	2.4%

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 684 rear seat occupants were observed in the 2015 survey, excluding 24 unknown belt use. Table 12 presents the distribution of rear seat observations by vehicle type.

TABLE 12.
Number of Rear Seat Observations by Vehicle Type, 2015

Auto	Pickup	SUV	Van	Total
367	127	113	77	684

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.

Unweighted estimates of belt use for rear seat occupants, thirteen years of age or older, are presented in Table 13. The estimates display use rates by survey year and vehicle type. The use rate in 2015 is estimated to be 68.9%, which is an increase of 13.9 percentage points from 2014.

TABLE 13.
Louisiana Rear Passenger Seat Belt Use Rate, 2008-2011 & 2013-2015

Year	Auto	Pickup	SUV	Van	Total
Rear Seat 2008	27.3%	12.5%	31.3%	29.4%	27.2%
Rear Seat 2010	50.0%	47.8%	77.2%	90.7%	58.4%
Rear Seat 2011	46.0%	40.3%	71.4%	93.6%	53.8%
Rear Seat 2013	50.9%	47.0%	67.1%	62.3%	54.8%
Rear Seat 2014	48.8%	42.4%	69.3%	77.4%	54.9%
Rear Seat 2015	67.9%	55.1%	80.5%	79.2%	68.9%

Unweighted estimates of rear seat occupant use in 2015 by region are shown below in Table 14.

TABLE 14.
Louisiana Rear Passenger Seat Belt Use Rate by Region, 2015

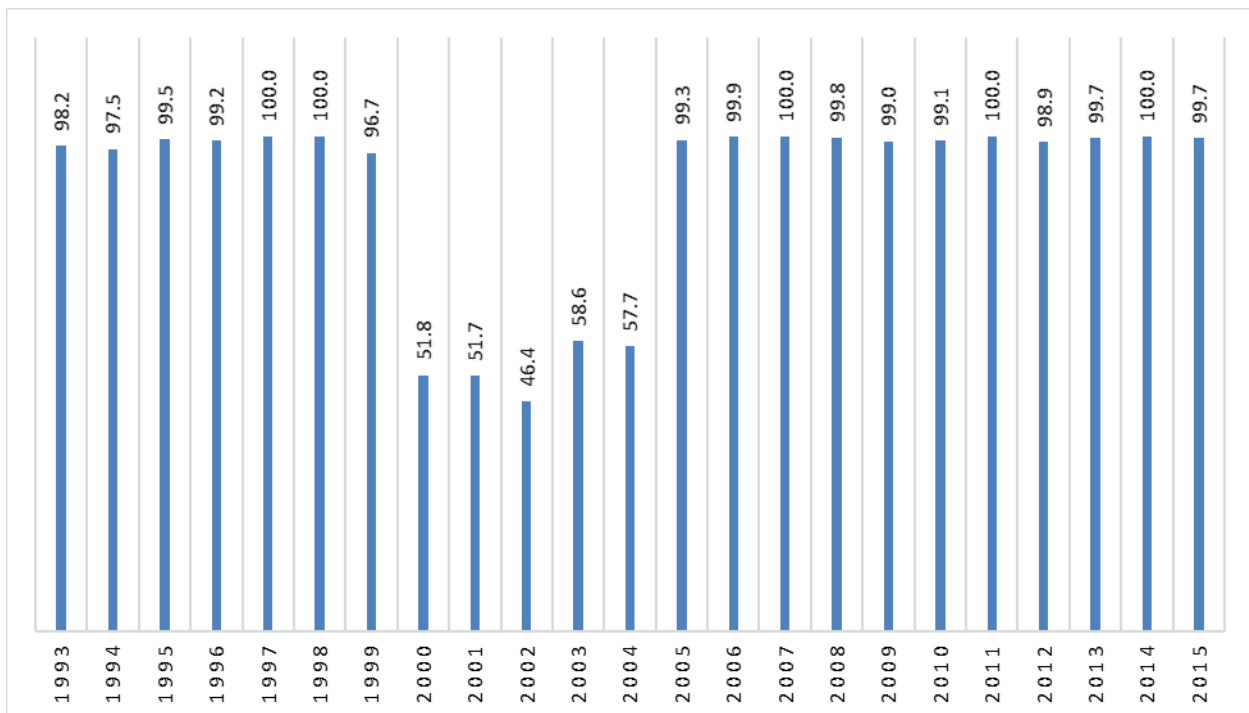
Region	Estimate*	STD Error
1-New Orleans	61.5%	4.7%
2-Baton Rouge	66.1%	3.7%
3-Houma	58.3%	8.2%
4-Lafayette	68.6%	4.2%
5-Lake Charles	75.0%	7.7%
6-Alexandria	76.6%	6.2%
7-Shreveport	73.2%	3.6%
8-Monroe	88.0%	6.5%
LA total	68.9%	1.8%

**Unweighted*

Motorcycle Helmet Use

Observed helmet use in Louisiana consistently measured at high levels from 1993 to 1999. However, soon after the 1999 measurement, the Louisiana legislature modified the then existing mandatory helmet law, providing exemption to those riders who could provide proof of adequate medical coverage. In the following year (2000), the recorded helmet use rate fell significantly and remained comparatively low until the year following the reinstatement of the law (2005). The helmet use estimate, which includes both operators and passengers, is 99.7%. This rate is in line with helmet use rates measured after the reinstatement of the mandatory helmet law in August of 2004. Figure 2 presents a trend graph of helmet use over time.

Figure 2.
Motorcycle Helmet Use Rates in Louisiana, 1993-2015



CONCLUSION

Louisiana achieved an all-time high in front seat belt use for 2015. The reported rate of 85.9% is a statistically significant increase of 1.8 percentage points from the 2014 use rate of 84.1% (Figure 3). Seat belt use in Louisiana shows an upward trend, increasing 11.46 percentage points since 2009 (74.5%). The estimate of rear seat belt use also increased to an all-time high of 68.9%, which is a statistically significant increase of 14 percentage points when compared to 2014 (both unweighted results). The Alexandria and Monroe regions had large increases of 16.5 and 9.5 percentage points, respectively. For the first time, all regions of Louisiana had a seatbelt use rate above 80% (Figure 4).

Helmet use rates in Louisiana have changed dramatically with changes in the helmet law. The average helmet use rate in Louisiana for motorcyclists and passengers following the reinstatement of the universal helmet law in 2004 is 99.6% (2005-2015). In the Louisiana 2015 Statewide Survey, 99.7% of motorcyclists observed were wearing a helmet.

Figure 3.
Louisiana Seat Belt Weighted Use Rates, 1999-2015

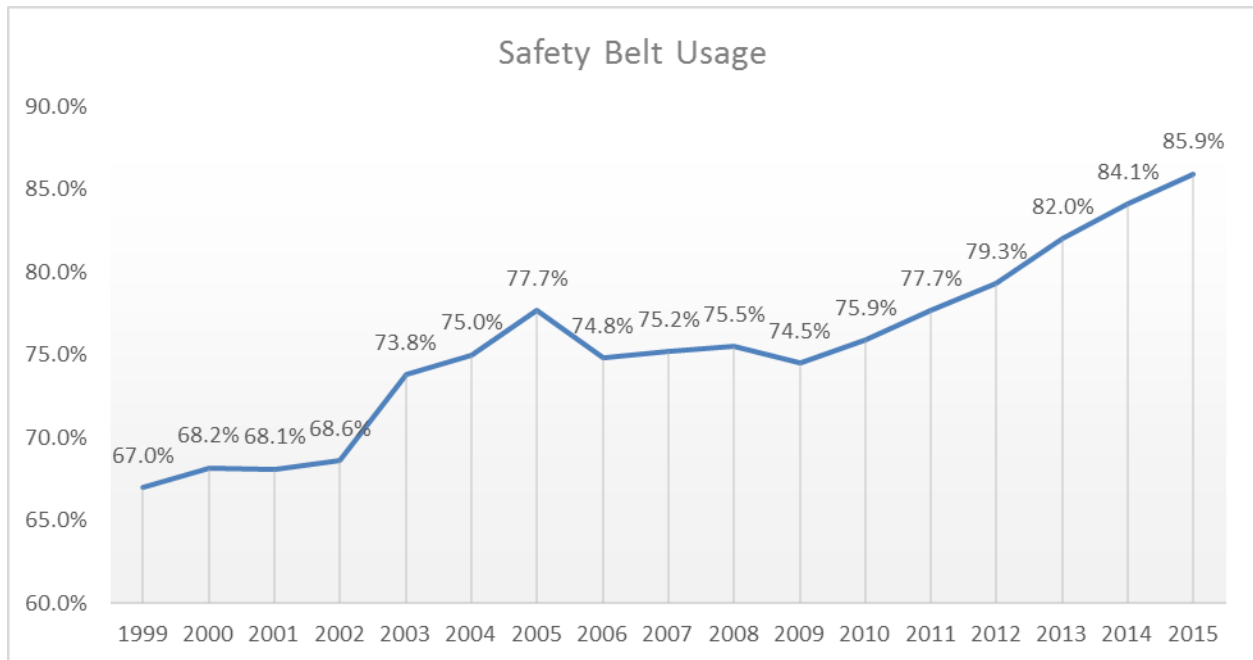
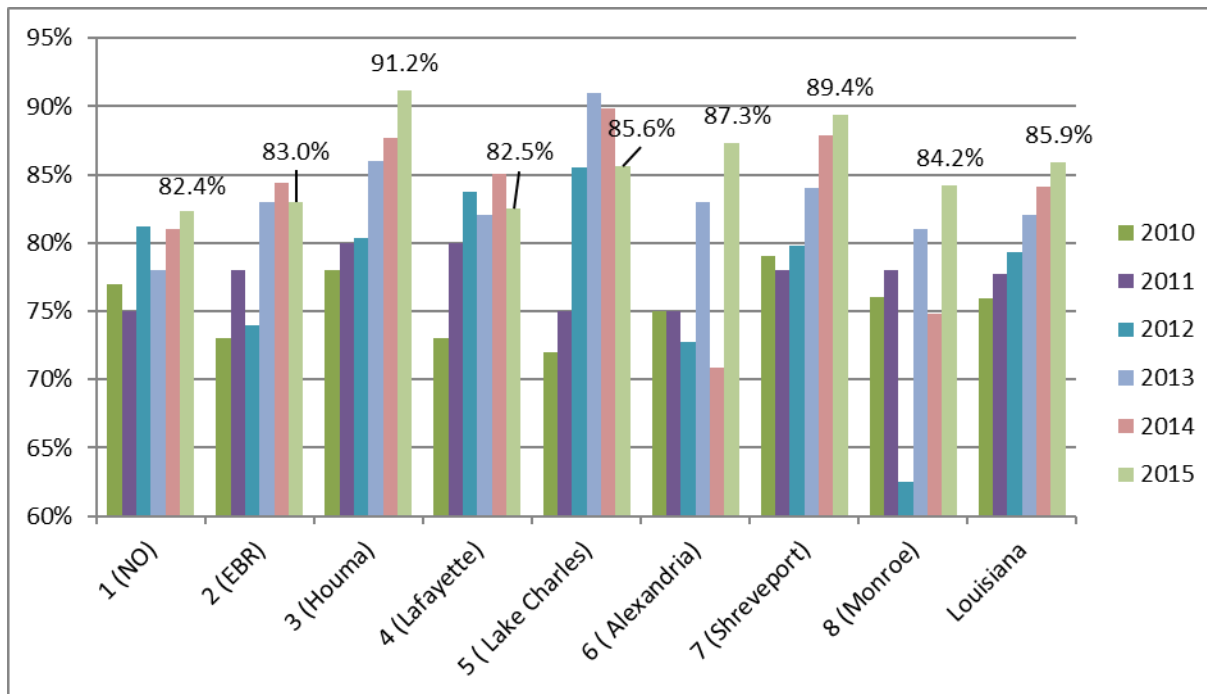


Figure 4.
Louisiana Seat Belt Weighted Use Rates by Region, 2010-2015



REFERENCES

- Elliott, K. R. (2014). *2014 Louisiana Seat Belt and Motorcycle Helmet Use Observation Survey Results*.
- Gilbert, H., Chaudhary, N., Solomon, M., Preusser, D., & Cosgrove, L. (2004). *Evaluation of the Reinstatement of the Universal Helmet Law in Louisiana*.
- McKenzie, III, L. S. (2011). *Louisiana Safety Restraint (Front and Rear Seat Safety Belt) Use Observation Survey 2011 Results*. Baton Rouge, LA: Applied Technology Research Corporation.
- Schneider, H. (2004). *2004 Occupant Protection Evaluation Report*. Louisiana State University, Baton Rouge, LA.
- Schneider, H. (2012). *Seat Belt Use Survey Design For Louisiana - Sampling, Data Collection and Estimation Plan 2012*.
- Schneider, H. (2013). *Seat Belt Use Survey Design for Louisiana - Sampling, Data Collection and Estimation Plan 2013*.
- U.S. Department of Transportation, National highway Traffic Safety Administration. (April 2009). *Traffic Safety Facts - Seat Belt Use in 2008 - Use Rates in the States and Territories*. Washington, DC: NHTSA's National Center for Statistics and Analysis.
- U.S. Department of Transportation, National Highway Traffic Safety Administration. (July 2011). *Traffic Safety Facts - Seat Belt Use in 2010 - Use Rates in the States and Territories*. Washington, DC: NHTSA's National Center for Statistics and Analysis.

Appendix A

Copy of:

Seat Belt/Helmet Use Observation Data Form

Seat Belt/Helmet 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 M=Motorcycle	<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								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

Seat Belt Observation Data Form (back)

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

Site #: _____

Notes:

Diagram:

