2014 LOUISIANA SEAT BELT AND MOTORCYCLE HELMET OBSERVATION SURVEY RESULTS

-FINAL REPORT-

LHSC Project No. 2014-20-06

STATE OF LOUISIANA
Bobby Jindal, Governor

LOUISIANA HIGHWAY SAFETY COMMISSION
John A. LeBlanc, Executive Director

August 2014

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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 was completed in late May and throughout the month of June 2014. 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 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 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. Use rates climbed back to the peak level seen in 2005 by 2011. By 2013, the annual survey measured seat belt use at 82.5% (Elliott, 2013).

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% every year since (Elliott, 2013).

Statewide Survey Statistician

Dr. Helmut Schneider has developed all of 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, Chairman of Information Systems and Decision Sciences, 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 15 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 2014 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]

[1]National 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.

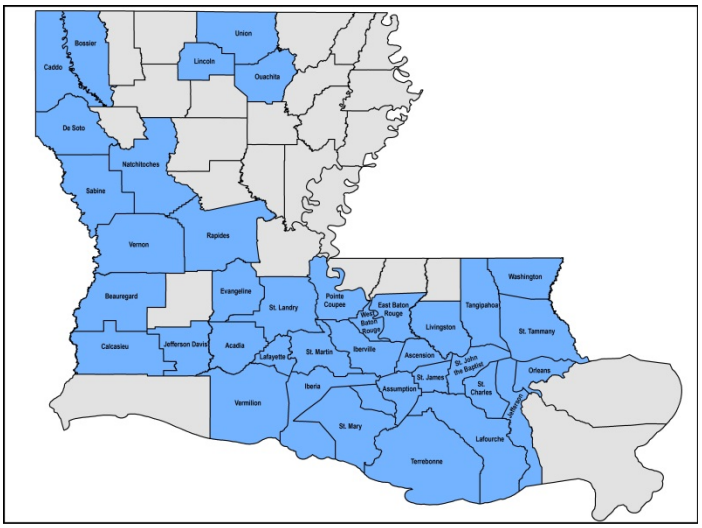
METHODOLOGY

Survey Design and Site Selection

Louisiana's 2014 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 the 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 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 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 2013 start times, name of road segment and location to observe, and direction of traffic to observe for each site. The schedules followed in 2013 were replicated in this year's survey.

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 2014 remained consistent with the 2013 survey.

Observers

Observers were hired and trained exclusively by PRG. All have 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 2013. 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. Eleven observers operated individually and three 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.). Observers used site maps created in 2013 to pinpoint exactly where to stand and conduct observations for the 2014 survey. Data collectors observed 60 minutes at each location.

Observation Site Details

For the previous two surveys, 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 the 2014 measurement.

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 (road-side) practice. 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% 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, 2014

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**

There were no sites in the 2014 survey that resulted in zero belt use observations and no sites were compromised to the point that an alternative site needed to be used.

Seat belt use information was recorded for 59,644 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. Table 3, which follows, represents the distribution of observed vehicle types by region.

TABLE 2.
Number of Louisiana Front Seat Occupants Recorded by Region, 2014

Region	Drivers	Passengers	Total
1-New Orleans	9,090	2,261	11,351
2-Baton Rouge	13,954	3,339	17,293
3-Houma	5,010	1,139	6,149
4-Lafayette	7,162	1,665	8,827
5-Lake Charles	2,491	633	3,124
6-Alexandria	1,691	429	2,120
7-Shreveport	6,914	1,612	8,526
8-Monroe	1,875	379	2,254
LA Total	**48,187**	**11,457**	**59,644**

TABLE 3.
Distribution of Vehicle Type* by Region, 2014

Region	%Car	%Truck	%SUV	%Van
1-New Orleans	41.9%	22.8%	28.9%	6.4%
2-Baton Rouge	42.7%	26.4%	26.1%	4.8%
3-Houma	37.0%	33.4%	24.6%	4.9%
4-Lafayette	41.9%	34.5%	19.0%	4.6%
5-Lake Charles	35.2%	34.1%	24.8%	5.9%
6-Alexandria	40.4%	33.2%	20.7%	5.7%
7-Shreveport	39.1%	29.9%	25.7%	5.3%
8-Monroe	39.6%	29.6%	26.6%	4.2%
LA Total	**40.7%**	**28.9%**	**25.1%**	**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.

TABLE 4.
Distribution of Occupant Sex* by Region, 2014

Region	%Males	%Females
1-New Orleans	55.5%	44.5%
2-Baton Rouge	52.5%	47.5%
3-Houma	58.0%	42.0%
4-Lafayette	54.7%	45.3%
5-Lake Charles	53.8%	46.2%
6-Alexandria	52.7%	47.3%
7-Shreveport	54.4%	45.6%
8-Monroe	51.5%	48.5%
LA Total	**54.3%**	**45.7%**

**Unsure sex not included*

TABLE 5.
Distribution of Occupant Race/Ethnicity* by Region, 2014

Region	%White	%Black	%Hispanic	%Other
1-New Orleans	66.0%	27.8%	4.0%	2.1%
2-Baton Rouge	65.3%	29.5%	3.2%	1.9%
3-Houma	69.6%	24.0%	5.2%	1.2%
4-Lafayette	74.3%	21.5%	3.1%	1.1%
5-Lake Charles	87.5%	9.8%	1.4%	1.3%
6-Alexandria	76.2%	20.1%	2.5%	1.2%
7-Shreveport	67.6%	29.0%	1.9%	1.5%
8-Monroe	72.5%	26.0%	0.5%	1.0%
LA Total	**69.4%**	**25.9%**	**3.1%**	**1.6%**

**Unsure race/ethnicity not included*

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

The 2014 Louisiana seat belt use rate, for drivers and front seat passengers combined, is 84.1%, with a standard error of 0.63%. This 2014 weighted estimate represents Louisiana's highest recorded statewide measurement to date, up 1.6 percentage points from 2013 (82.5%). Table 6 shows use rate estimates by region, with respective standard sample error. Usage varied from a low of 70.9% in the Alexandria area to a high of 89.9% in the Lake Charles 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 lower than in 2013. It is important to note that both regions have relatively low vehicle counts compared to other regions, so the variations from year to year are large. Both regions had lower rates in 2012 as well.[2]

TABLE 6.
Front Seat Occupant Seat Belt Use Estimates by Region, 2014

Region	Estimate	STD Error
1-New Orleans	81.0%	1.3%
2-Baton Rouge	84.4%	1.4%
3-Houma	87.7%	1.9%
4-Lafayette	85.0%	1.2%
5-Lake Charles	89.9%	2.0%
6-Alexandria	70.9%	4.4%
7-Shreveport	87.9%	1.5%
8-Monroe	74.8%	3.5%
LA total	**84.1%**	**0.63%**

Table 7 examines overall occupant belt use weighted by roadway type and shows that belt use was highest on Interstates (87.8%) and US and State roadways (85.7%), which typically have higher traffic densities and higher rates of speed traveled. Observers measured the lowest usage on Local Roads (83.7%), which are roadways usually found within neighborhoods in city limits. The 2014 use rate on Local Roads increased 2.0 percentage points from the 2013 Local Road estimate (81.7%).

TABLE 7.
Louisiana Front Seat Occupant Belt Use Estimates by Road Type, 2014

Road Type	Estimate	STD Error
Interstate	87.8%	0.5%
US & State	85.7%	0.7%
Local Road	83.7%	0.8%

[2] Further examination of the data in those regions show a higher percentage of pickup trucks in the sample year to year compared to other regions. Occupants in pickup trucks tend to wear seat belts less than occupants of other vehicle types. Also, while belt use trended lower across all road types in those regions, it measured drastically lower on local roadways compared to 2013, which had a significant pull on the weighted rates.

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 71.4% to 89.9%.[3]

TABLE 8.
Louisiana Front Seat Occupant Belt Use Estimates by Troop, 2014

Troop	Estimate	STD Error
A	84.6%	1.5%
B	78.8%	1.6%
C	87.9%	2.1%
D	89.9%	2.0%
E	71.4%	4.2%
F	74.9%	3.4%
G	88.1%	1.5%
I	85.0%	1.2%
L	87.7%	1.7%

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, 2014

Parish	Driver	STD Error	Passenger	STD Error	All Front Seat	STD Error
Acadia	82.7%	2.6%	78.8%	5.0%	81.8%	2.6%
Ascension	89.2%	4.6%	80.2%	13.0%	87.4%	4.7%
Assumption	87.0%	3.2%	77.8%	13.9%	86.3%	3.3%
Beauregard	91.0%	2.5%	91.1%	4.9%	91.0%	2.6%
Bossier	92.1%	3.4%	87.4%	9.5%	91.2%	3.3%
Caddo	88.3%	1.7%	84.7%	3.8%	87.6%	1.7%
Calcasieu	89.9%	3.5%	83.0%	8.0%	88.3%	3.2%
De Soto	83.6%	2.6%	75.8%	6.7%	82.8%	2.7%
East Baton Rouge	84.3%	1.5%	87.0%	2.6%	85.2%	1.4%
Evangeline	82.6%	3.7%	82.6%	6.1%	82.6%	3.8%

[3]Troops E & F reflect the lower use rates in the Alexandria and Monroe regions.

Parish	Driver	STD Error	Passenger	STD Error	All Front Seat	STD Error
Iberia	78.5%	3.8%	80.4%	6.1%	79.0%	3.4%
Iberville	87.2%	2.0%	86.6%	4.6%	87.1%	2.0%
Jefferson	81.5%	1.3%	77.0%	3.1%	80.7%	1.3%
Jefferson Davis	87.6%	3.4%	100.0%	NA	89.2%	3.1%
Lafayette	84.3%	2.2%	83.1%	4.9%	84.1%	2.2%
Lafourche	87.8%	2.4%	87.1%	5.4%	87.7%	2.2%
Lincoln	83.2%	2.3%	73.0%	6.3%	81.8%	2.6%
Livingston	86.2%	2.9%	69.8%	7.8%	82.6%	3.6%
Natchitoches	81.6%	1.9%	82.0%	4.0%	81.7%	1.9%
Orleans	72.1%	3.2%	72.7%	5.4%	72.2%	3.4%
Ouachita	77.5%	3.7%	72.4%	7.5%	76.9%	3.7%
Pointe Coupee	80.6%	2.8%	90.3%	3.8%	83.0%	2.5%
Rapides	72.4%	4.3%	51.4%	10.3%	68.7%	4.8%
Sabine	78.1%	2.9%	83.7%	5.3%	79.5%	2.8%
St. Charles	87.4%	4.1%	88.1%	10.9%	87.5%	3.8%
St. James	86.2%	2.7%	87.2%	5.9%	86.3%	2.8%
St. John	71.3%	5.3%	62.0%	10.5%	69.2%	5.7%
St. Landry	87.4%	2.1%	87.6%	3.7%	87.5%	2.0%
St. Martin	84.3%	2.0%	88.9%	3.5%	85.4%	1.8%
St. Mary	80.6%	4.9%	73.9%	11.3%	79.6%	4.8%
St. Tammany	86.5%	2.0%	91.0%	3.0%	88.7%	1.9%
Tangipahoa	82.5%	1.3%	79.6%	3.0%	82.1%	1.3%
Terrebonne	93.8%	1.5%	87.0%	1.9%	92.8%	1.4%
Union	62.6%	10.2%	47.6%	17.4%	59.2%	9.7%
Vermillion	83.2%	1.9%	83.3%	4.2%	83.2%	1.9%
Vernon	93.2%	1.3%	93.3%	2.4%	93.2%	1.2%
Washington	80.4%	3.0%	88.8%	5.9%	82.6%	3.0%
West Baton Rouge	85.3%	2.7%	78.1%	8.0%	85.7%	3.2%

The 2014 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. Usage measured lower among male occupants compared to female occupants (79.2% vs. 89.2%). Furthermore, male passengers were less likely to be belted compared to male drivers (74.1% vs. 80.2%). Male passengers measured 6.1 points lower than their driver counterparts.

Front seat occupant belt use rates among African Americans measured lower than other races or ethnicities (78.2% vs. 86.6% for Whites and 92.7% for all other ethnic categories). 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 73.7%.

TABLE 10.
Louisiana Front Seat Belt Use Estimates by Sex, Race, and Vehicle Type, 2014

	% Use Rate					
	Driver		Passenger		All Front Seat	
	Estimate	STD Error	Estimate	STD Error	Estimate	STD Error
Sex						
Male	80.2%	0.9%	74.1%	2.4%	79.2%	0.9%
Female	89.8%	0.8%	87.3%	1.4%	89.2%	0.7%
Race						
White	86.9%	0.7%	85.4%	1.6%	86.6%	0.7%
African-American/Black	79.4%	1.3%	73.8%	2.5%	78.2%	1.3%
Hispanic	81.5%	4.5%	94.3%	3.8%	92.7%	6.1%
Other	90.9%	8.3%	98.9%	0.4%	92.7%	6.1%
Vehicle Type						
Car	86.1%	0.9%	82.2%	2.1%	85.5%	0.9%
Pick-up	79.5%	1.3%	73.7%	3.0%	78.5%	1.4%
SUV	86.2%	1.3%	88.7%	2.1%	86.8%	1.2%
Van	89.1%	2.2%	87.2%	3.9%	88.7%	1.9%

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 (the lone exception being the Lake Charles area which coincidentally had the highest overall regional use rate at 89.9%).

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, 2014

Region	CAR	STD Error	PICKUP	STD Error	SUV	STD Error	VAN	STD Error
1-New Orleans	81.1%	2.2%	74.7%	3.2%	84.5%	2.3%	86.7%	3.5%
2-Baton Rouge	86.8%	1.8%	75.4%	3.3%	89.8%	2.1%	86.3%	4.2%
3-Houma	88.9%	2.9%	84.5%	3.9%	87.5%	3.5%	94.2%	4.9%
4-Lafayette	87.7%	1.6%	80.1%	2.4%	86.6%	2.7%	88.1%	4.5%
5-Lake Charles	88.3%	3.7%	88.7%	3.6%	93.2%	3.2%	91.5%	7.2%
6-Alexandria	82.5%	5.0%	52.3%	8.2%	75.4%	9.3%	96.2%	2.2%
7-Shreveport	85.4%	2.7%	85.3%	2.8%	93.8%	1.7%	86.0%	6.6%
8-Monroe	76.9%	5.1%	71.4%	7.1%	72.1%	6.8%	95.6%	2.6%
LA total	**85.5%**	**0.93%**	**78.5%**	**1.36%**	**86.8%**	**1.20%**	**88.7%**	**1.93%**

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.[4] A total of 488 rear seat occupants were observed in the 2014 survey. Table 12 presents the distribution of rear seat observations by vehicle type.

TABLE 12.
Number of Rear Seat Observations by Vehicle Type, 2014

Auto	Pickup	SUV	Van	Total
242	92	101	53	488

[4] 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 presented in the table below display use rates by survey year and vehicle type. The use rate in 2014 is estimated to be 54.9%. This estimate is essentially the same statistically as the 2013 estimate of 54.8% but still much higher than the pre-legislation estimate of 27.2% measured in 2008.

TABLE 13.
Louisiana Rear Passenger Seat Belt Use Rate, 2008-2011 & 2013-2014

	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%

Unweighted estimates of rear seat occupant use in 2014 by region are shown below in Table 14.

TABLE 14.
Louisiana Rear Passenger Seat Belt Use Rate by Region, 2014

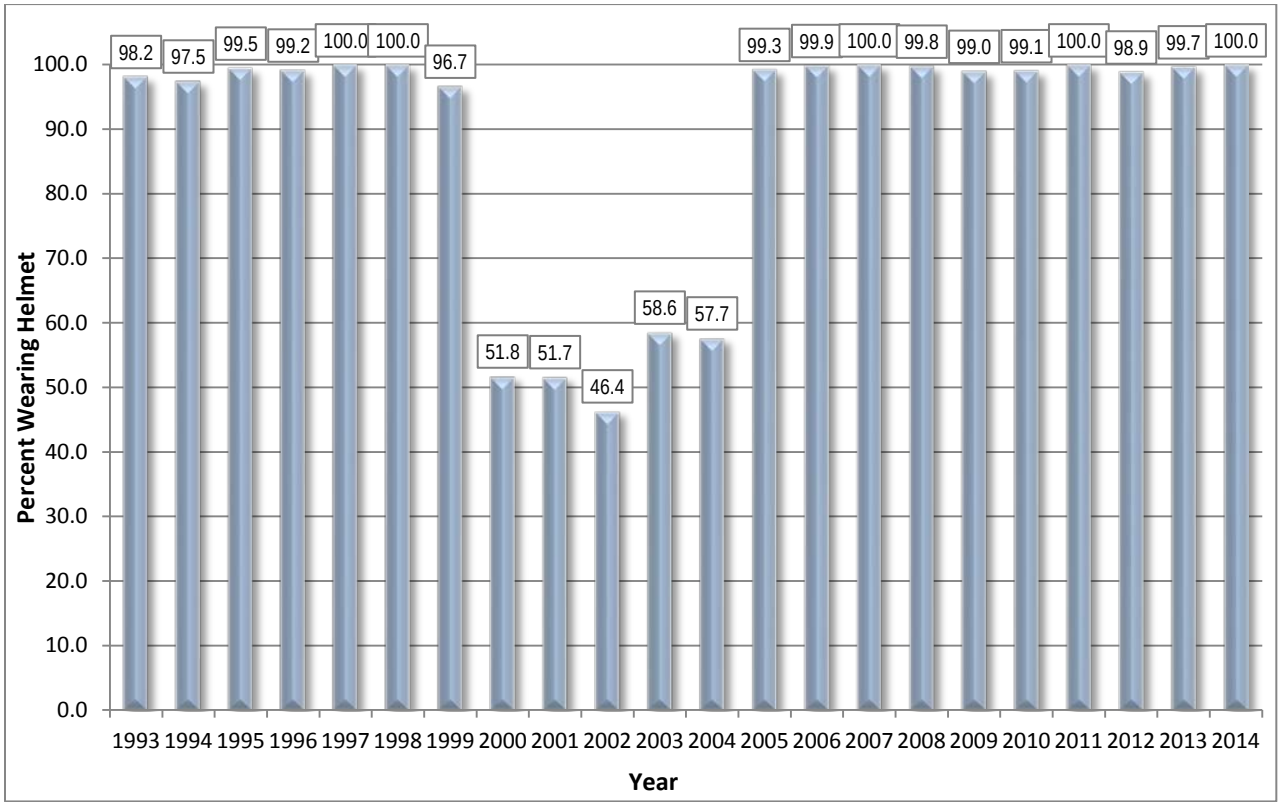
Region	Estimate*	STD Error
1-New Orleans	54.8%	5.8%
2-Baton Rouge	58.0%	4.2%
3-Houma	76.5%	10.3%
4-Lafayette	60.0%	6.9%
5-Lake Charles	55.4%	5.8%
6-Alexandria	56.1%	7.8%
7-Shreveport	56.8%	8.1%
8-Monroe	34.5%	6.2%
LA total	**54.9%**	**2.3%**

**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). In 2014, surveyors recorded information on 247 motorcycles, including 247 operators and 29 passengers. The helmet use estimate, which includes both operators and passengers, is 100%. 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, 1993-2014

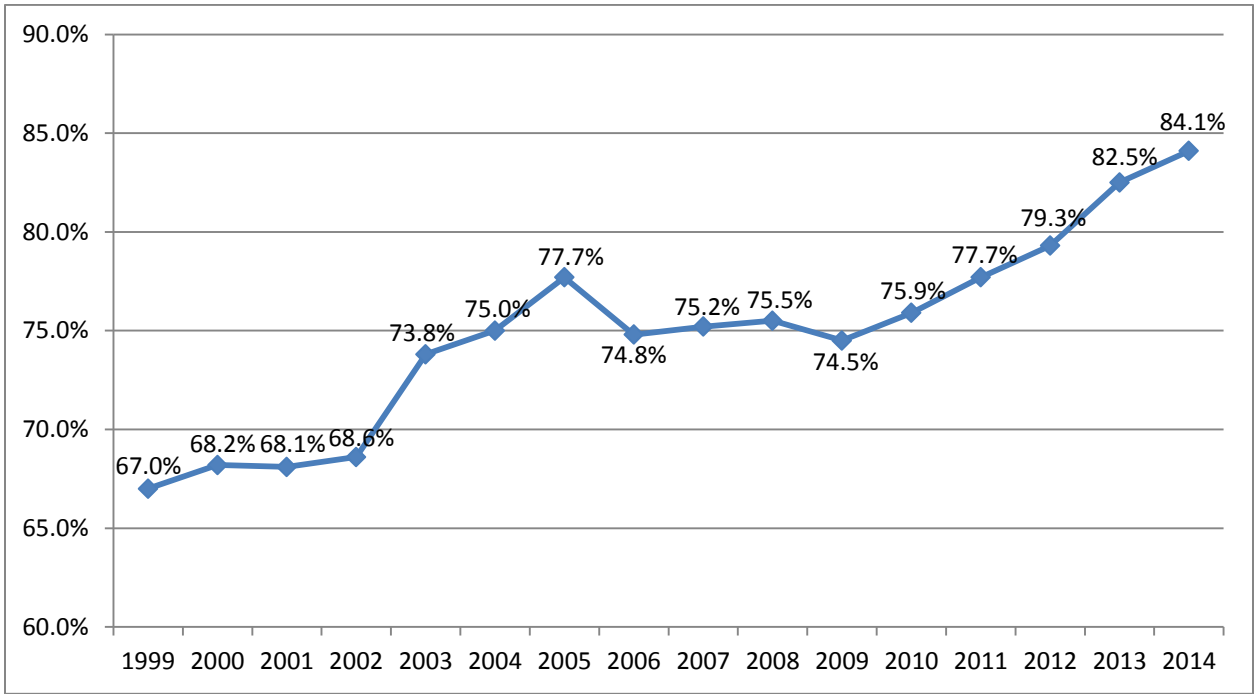


CONCLUSION

Louisiana achieved an all-time high in front seat belt use for 2014. The reported rate of 84.1% is a statistically significant increase of 1.6 percentage points from the 2013 use rate of 82.5% (Figure 3). Seat belt use in Louisiana shows an upward trend, increasing 9.6 percentage points since 2009 (74.5%). The estimate of rear seat belt use remains low at 58.9%. The 2014 rear seat estimate saw essentially no change when compared to the 2013 estimate of 58.8% (both unweighted results).

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 99.5% (2005-2014). In the Louisiana 2014 Statewide Survey, 100% of motorcyclists observed were wearing a helmet.

Figure 3.
Louisiana Seat Belt Weighted Use Rates, 1999-2014



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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** _____**NIGHTTME**

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

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

WEATHER CONDITIONS

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

	VEHICLE	DRIVER			PASSENGER			REAR SEAT
Veh. #	**Veh. Type** C=Car T=Truck S=SUV V=Van M=Motorcycle	**Sex** M=Male F=Female U=Unsure	**Race** W=White B=Black H=Hispanic O=Other U=Unsure	**Belt/ Helmet Use** + = Yes - = No U = Unsure	**Sex** M=Male F=Female U=Unsure	**Race** W=White B=Black H=Hispanic O=Other U=Unsure	**Belt/ Helmet Use** + = Yes - = No U = Unsure	**Sex/Race/Use** (13+ years old) Example: M W +
1								
2								
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Seat Belt Observation Data Form (back)

Location:_____

(Street) **(Cross Street or other landmark)**

Site #: _____

Notes:

Diagram: