2005
Occupant Protection
Evaluation Report
Covering the Period of Performance:
October 1, 2004, through September 30, 2005

Submitted to:
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A. Project History

The objective of the "157 Innovative and Discretionary" Projects was to increase seat belt usage for all motor vehicle drivers and front seat passengers. The Louisiana Highway Safety Commission (LHSC) conducted a seat belt program/project from October 2001 to August 2002. The purpose of this project was to evaluate whether media and enforcement efforts would cause an increase in seat belt usage and, subsequently, a reduction in traffic injuries and fatalities. Agencies of 11 parishes participated in the seat belt program initiative. The following facts highlight the key findings of the study (see the 2002 Strap-In Evaluation Report covering the period of performance: October 1, 2001, through August 31, 2002); enforcement had been increased by 14%; public awareness of enforcement was increased significantly (by about 5 percentage points); seat belt use was increased by 1.8 percentage points; the injury percentage was reduced by 0.8 percentage points. The telephone survey also revealed some interesting insights into the "perception" of drivers. Twenty percent more drivers claim they wear seat belts than observational studies indicate (90% versus 70%). Only about 3% of all drivers admit that they rarely or never wear a seat belt. Furthermore, more than 30% believe that seat belts could potentially be more harmful than helpful. These findings indicate that more public education is necessary. Overall, the project provided sufficient evidence to conclude that public education combined with significant enforcement increases seat belt usage.

Based on the successful outcome of the Year Two Project, the 3rd Year Project concentrated on determining whether paid media is more effective than earned media (media which is in form of public service announcements, not paid in contrast to paid media) with respect to increasing seat belt use and whether enhanced enforcement is more effective with earned media or with paid media. This project's objective was to study the effect of enhanced enforcement and media type on seat belt usage. The main findings were (see 2003 Report):

- *Enhanced enforcement by itself increases seat belt usage.*
- *Enhanced enforcement increases the perception that "police write more tickets" more than media messages do.*
- *Earned media is equally as effective as paid media in increasing awareness of seat belt issues.*
- *Enhancing enforcement is more effective when accompanied with paid media than with earned media.*

B. An Overview of the 2004/2005 Program

The LHSC contracted with 84 law enforcement agencies within 33 Problem ID parishes to conduct overtime enforcement during the federal budget year October 1, 2004 thru September 30, 2005. These included 39 larger agencies that worked five enforcement waves and 44 smaller agencies that worked three enforcement waves. This 2005 Analysis and Evaluation Report will include the LHSC efforts in support of NHTSA, Southwest Region and LHSC Occupant Protection waves of:

* November 14 - 28, 2004 ..... Pickup Truck OP .... 39 larger agencies only
* Dec 19 - Jan 2, 2005 ..... DWI .... all agencies
* May 23 - June 5, 2005 .....OP ..... all agencies
* June 26 - July 9, 2005 .....DWI and OP .... 39 larger agencies only
* August 19 - Sept 5, 2005 .....DWI ....all agencies

The Louisiana State Police conducted DWI and OP overtime efforts throughout all 12 months of FY 05. Due to Hurricanes Katrina and Rita and other factors, enforcement data from several agencies is incomplete at this time; but, will be updated when it becomes available.

The 33 parishes represent 81% of licensed drivers, 80% of fatal crashes and 92% of injury crashes in Louisiana. These parishes also represent 74% of all drivers killed not wearing a safety belt. Details of the crash statistics for these 33 parishes are presented in Table 1. Column 3 of Table 1 shows the licensed drivers in 2004, column 4 and 5 depict the fatal crashes and fatalities respectively. The injury crashes and injuries are shown in column 6 and 7. Column 8 depicts the number of drivers killed were wearing a seat belt and column 9 depicts the number of drivers killed which were not wearing a seat belt. The table does not show the number of drivers killed where seat belt use was unknown. Also not shown are passengers killed. The known seat belt use for killed drivers is most indicative of seatbelt use in the parish. For instance, in Tangipahoa of the 27 drivers killed for which seat belt use was known, 7 drivers were wearing a seat belt and 20 were not wearing a seat belt (74%). Overall, 56% of the drivers killed in the 33 parishes were not wearing a seat belt.

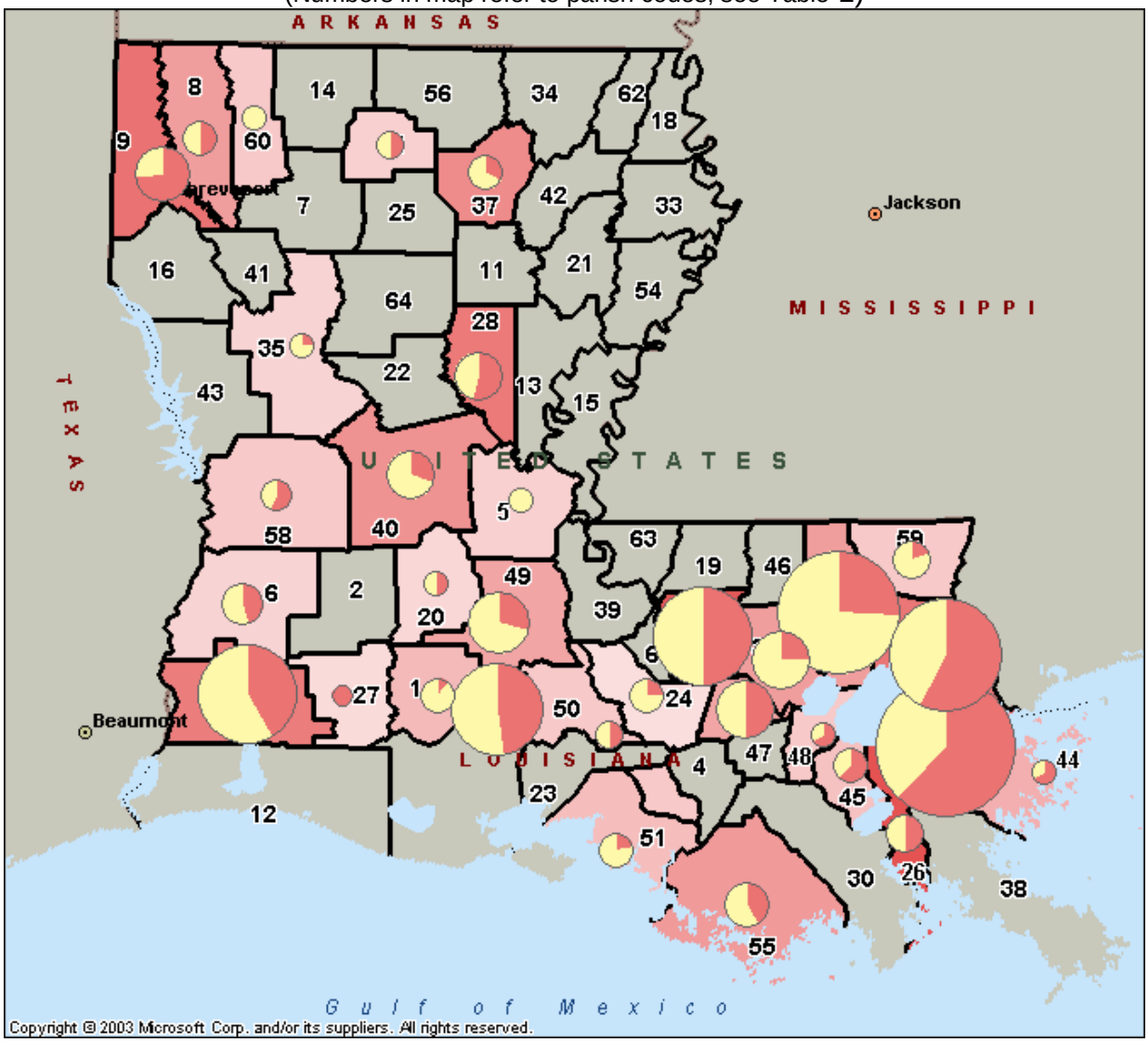
Table 1: Statistics of Selected Parishes

Parish Code	*Parish*	*Drivers*	*Fatal Crashes*	*Fatalities*	*Injury Crashes*	*Injuries*	*Seat belt usage of Drivers Killed*	
							with	*without*
1000	Acadia	37,926	13	15	537	925	1	8
3000	Ascension	57,150	27	30	926	1,514	8	8
5000	Avoyelles	25,916	10	12	398	755	0	4
6000	Beauregard	23,767	14	16	237	414	5	6
8000	Bossier	65,511	20	22	1,232	2,008	4	4
9000	Caddo	154,223	37	45	3,415	5,500	11	4
10000	Calcasieu	128,313	43	48	2,716	4,969	10	14
17000	East Baton Rouge	257,095	50	53	5,890	9,809	12	12
20000	Evangeline	21,571	6	7	350	643	2	2
24000	Iberville	19,266	9	11	311	537	2	6
26000	Jefferson	305,381	25	27	4,617	7,073	5	5
27000	Jefferson Davis	20,865	4	5	356	601	1	0
28000	Lafayette	136,294	30	34	2,659	4,239	7	6
29000	Lafourche	59,122	34	41	830	1,341	11	12
31000	Lincoln	25,171	8	10	389	647	3	3
32000	Livingston	69,604	26	28	1,158	1,955	4	12
35000	Natchitoches	23,098	9	10	485	797	1	3
36000	Orleans	232,042	74	79	7,262	13,119	18	11
37000	Ouachita	94,436	16	17	1,857	3,066	3	6
40000	Rapides	85,113	22	23	1,591	2,854	4	9
44000	St. Bernard	46,092	11	14	530	895	2	1
45000	St. Charles	33,926	10	11	510	861	5	3
48000	St. John	28,185	6	6	535	941	2	1
49000	St. Landry	57,665	24	25	911	1,661	5	12
50000	St. Martin	29,598	10	13	425	733	3	3
51000	St. Mary	35,945	13	14	455	882	2	7
52000	St. Tammany	151,274	51	60	1,753	2,793	15	11
53000	Tangipahoa	68,069	39	44	1,415	2,563	7	20
55000	Terrebonne	73,356	17	21	824	1,377	5	7
57000	Vermillion	37,173	17	17	485	817	6	5
58000	Vernon	29,450	14	18	286	454	4	3
59000	Washington	28,680	16	16	385	640	2	8
60000	Webster	28,242	3	3	356	605	0	3
	Louisiana	2,867,862	885	991	50,123	85,087	208	295
	% of Louisiana	87%	80%	80%	92%	92%	82%	74%

Figure 1 shows the driver fatalities in the selected parishes with and without a safety belt. The driver fatalities in 2004 were by far the highest in Orleans parish with 29 driver fatalities, 11 of which were not restrained by a safety belt, while 18 had been wearing a safety belt.

Figure 1: Driver Fatalities with and without Safety Belts

(with safety belts in red, without safety belts in yellow)
(Size of pie proportional to number of fatalities)
(Numbers in map refer to parish codes, see Table 1)



C. Enforcement Effort

Each contracted agency was required to report their overtime hours and number of OP Violations issued during these OP waves. Table A1 of Appendix J shows the contracted agencies listed by geographic parish, number of overtime hours worked, number of OP Citations and average number of OP Citations per overtime hour worked. Submitted agency reports show that 10,463 overtime hours were worked, 22,288 OP Citations were issued at a rate of 2.13 OP Citations per overtime hour worked. However, the ratio varies from a low of 0.58 citations per overtime hour worked to a high of 6.43 citations per overtime hour worked.

The Louisiana State Police overtime enforcement effort overlapped several of the parishes. During the year the State Police wrote 8,008 seat belt citations and reported 5,574 hours of overtime. The ratio is 1.4 seat belt tickets per hour. However, this overtime also included 2,783 speeding citations. Thus the overall ratio of citations per hour was 1.93.

During the yearlong campaign, completed reports from agencies show that so far, in the 8,956 hours of overtime, 19,216 seat belt citations were written by the participating agencies at a rate of 2.1 citations per hour. During the Safe & Sober campaign in May 2005 in 1,507 hours of overtime, 3,072 seat belt citations were written at a ratio of 2.0 citations per hour.

D. Media/Public Relations Campaign Implementation

The goal of the media campaign was to reach a statewide audience by purchasing a combination of radio and television advertisements. During the November 2004 and May 2005 OP campaigns, the LHSC contracted with Kaplan Advertising to coordinate the media buy throughout the state. Overall, the media buy included 10,731 television spots during the November 2004 campaign and 37,801 television spots during the May 2005 campaign. Details are depicted in Tables 2-4. Overall, the television spots were viewed by individuals over 93 million times. The November TV media buy occurred in three parishes: Baton Rouge, Lafayette and New Orleans. The media buy in these three parishes also included 381 radio spots. The TV May media buy took place in seven parishes: Alexandria, Baton Rouge, Lafayette, Lake Charles, Monroe, New Orleans and Shreveport.

Table 2: TV Media Buys in November 2004

City	Channel	TV $	TV Spots	Times Viewed
Baton Rouge	Cox Media	$ 15,420.99	3002	2,971,980
Baton Rouge	WGMB	$ 19,900.00	71	70,290
Lafayette	Cox Media	$ 20,576.00	3473	4,271,790
Lafayette	KADN	$ 12,370.00	37	485,235
Lafayette	KATC	$ 14,400.00	30	169,863
Lafayette	WB	$ 1,950.00	70	216,972
Lafayettte	KLFY	$ 13,625.00	30	184,992
Lafayette	Acadiana 7	$ 8,250.00	27	244,278
New Orleans	WVUE	$ 22,329.00	42	352,827
New Orleans	Cox Media	$ 49,757.00	3949	7,779,530
TOTAL		**$178,577.99**	**10731**	**16,747,757**

Table 3: Radio Media Buys in November 2005

City	**Channel**	**Radio $**	**# Spots**	**Reach/Frequency**
Baton Rouge	WEMX	$ 1,750.00	50	22.8/6.8
Baton Rouge	WFMF	$ 2,050.00	25	9.7/2.8
Baton Rouge	WYNK	$ 2,125.00	25	6.0/4.2
Lafayette	KMDL	$ 3,250.00	50	12.7/9.2
Lafayette	KRKA	$ 1,440.00	36	25.3/3.8
Lafayette	KRRQ	$ 2,400.00	80	20.1/6.2
Lafayette	KSMB	$ 1,200.00	40	13.4/3.4
New Orleans	WNOE	$ 3,750.00	25	11.1/5.6
New Orleans	WQUE	$ 6,500.00	25	37.4/3.3
New Orleans	WYLD	$ 3,800.00	25	16.8/3.6
TOTAL		**$ 28,265.00**	**381**	**-**

Table 4: TV Media Buys in May 2005

City	Channel	TV $	TV Spots	Times Viewed
Alexandria	KALB	$ 12,760.00	40	84,456
Alexandria	KLAX	$ 7,980.00	48	48,276
Alexandria	WNTZ	$ 9,400.00	44	43,740
Alexandria	KAXN	$ 3,220.00	28	17,388
Alexandria	KWCE	$ 600.00	12	3,780
Alexandria	Cox Media	$ 11,648.00	1568	423,360
Alexandria	Baldridge Dumas	$ 1,344.00	448	120,960
Baton Rouge	KZUP	$ 600.00	2	8,316
Baton Rouge	WAFB	$ 34,740.00	45	383,526
Baton Rouge	WBRZ	$ 24,925.00	43	219,582
Baton Rouge	WGMB	$ 24,500.00	35	176,913
Baton Rouge	WVLA	$ 21,725.00	33	223,146
Baton Rouge	WBXH	$ 1,200.00	12	24,156
Baton Rouge	Charter Media	$ 9,520.00	1568	1,552,320
Baton Rouge	Cox Media	$ 22,686.00	1568	1,552,320
Baton Rouge	Love Comm	$ 3,270.40	672	665,280
Lafayette	Acadiana 7	$ 6,680.00	27	118,494
Lafayette	KADN	$ 14,200.00	50	235,217
Lafayette	KATC	$ 8,350.00	19	61,222
Lafayette	KLFY	$ 23,400.00	40	244,820
Lafayette	KLWB	$ 1,180.00	28	56,387
Lafayette	Cox Media	$ 23,853.91	2912	1,983,072
Lake Charles	KPLC	$ 19,765.00	58	236,844
Lake Charles	KVHP	$ 9,950.00	47	105,162
Lake Charles	WBLC	$ 1,180.00	28	42,228
Lake Charles	Cox Media	$ 15,251.01	1568	799,680
Monroe	KARD	$ 13,700.00	62	214,710
Monroe	KNOE	$ 19,600.00	52	186,660
Monroe	KTVE	$ 17,950.00	59	224,400
Monroe	KWMB	$ 1,220.00	14	9,078
Monroe	KAQY	$ 6,250.00	31	54,723
Monroe	Cox Media	$ 4,408.00	1680	856,800
Monroe	Love Comm	$ 15,232.00	1232	628,320
New Orleans	WDSU	$ 30,120.00	38	433,794
New Orleans	WGNO	$ 22,600.00	35	278,952
New Orleans	WNOL	$ 17,300.00	71	557,510
New Orleans	WUPL	$ 6,230.00	20	126,474
New Orleans	WVUE	$ 53,250.00	37	607,548
New Orleans	WWL	$ 50,650.00	49	449,160
New Orleans	Allen's Cable	$ 7,840.00	560	1,103,200
New Orleans	Charter Media	$ 16,128.00	2912	5,736,640
New Orleans	Cox Media	$ 56,517.74	4480	8,825,600
New Orleans	Love Comm	$ 16,430.00	4032	7,943,040
Shreveport	KMSS	$ 11,600.00	11	328,635
Shreveport	KPXJ	$ 500.00	4	53,600
Shreveport	KSHV	$ 3,450.00	16	147,400
Shreveport	KSLA	$ 9,800.00	7	167,165
Shreveport	KTAL	$ 6,050.00	19	259,625
Shreveport	KTBS	$ 5,900.00	11	140,030
Shreveport	Cox Media	$ 18,856.10	6832	22,887,200
Shreveport	LifeWise Cable	$ 22,400.00	4594	15,389,900
TOTAL		**$747,910.16**	**37801**	**77,040,809**

E. Observational Survey

This survey is based on a new design approved by NHTSA. The basic design for this survey consists of a multi-stage probability sample of 417 road segments. The sampling design used the following principles:

- 35 of the 64 Parishes making up 85% of the population were eligible for inclusion in the sample.
- The survey provides results for the individual 8 regions.
- The second stage divides each region into the parishes comprising that region and falling into the group of parishes which make up the 85% of the population.
- Seat belt usage on interstates is significantly higher than seat belt usage on US highways and state roads, and seat belt usage on US highways and state roads is significantly higher than on local roads. Thus, the sample within a parish is stratified for road classes; therefore samples are taken from each road class proportionally to VMT on these roads.
- Specific locations are selected from a list of highways and local roads. The probability of selection is based on VMT.

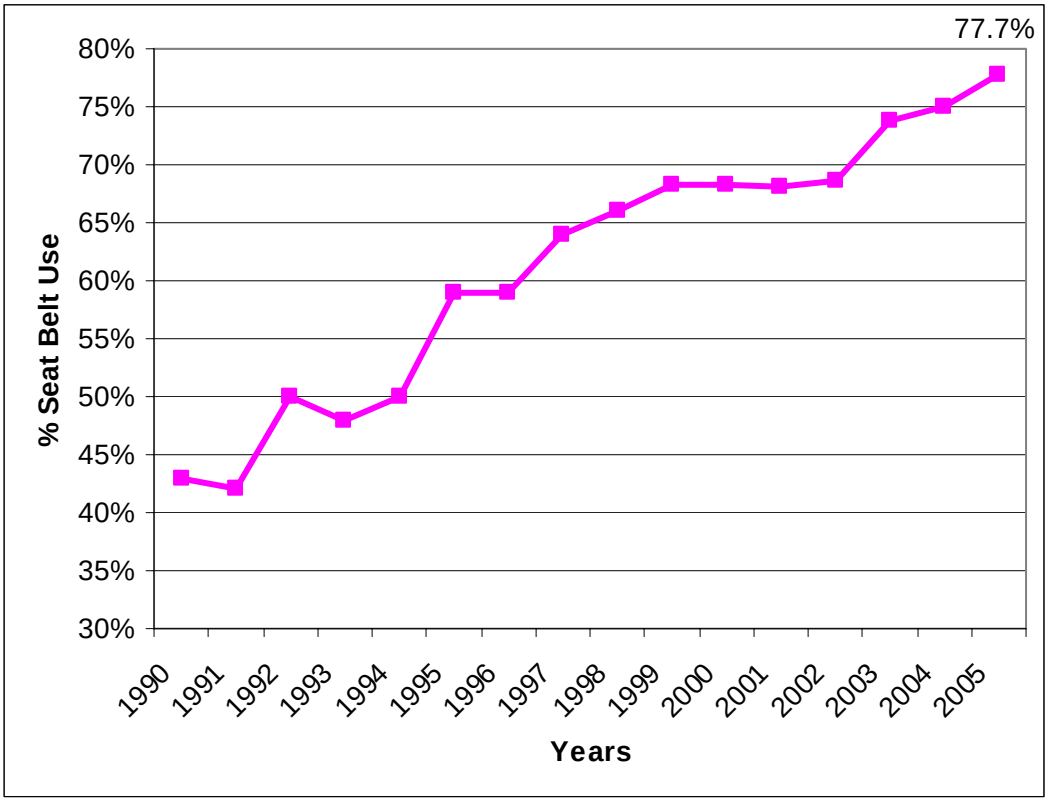
The study is based on two enforcement waves and two media campaigns; the first wave was in November 2004 and the second was in May 2005. Southern Media and Opinion Research conducted an observational survey in August of 2005. Table 5 depicts the sample size for the new design. Overall, the new design used in 2005 has an increased sample size of 40% when compared to the 2003.

Table 5: Sample Sizes of Surveys during 2003-2005

Year	Auto	PKUP	SUV	VAN	TOTAL	MTRCYC
2005	45,458	24,499	17,959	7,438	95,354	272
2004	39,967	22,945	14,700	7,245	84,857	333
2003	31,436	20,012	10,721	6,080	68,249	192
% Sample size Increase 2003-2005	45%	22%	68%	22%	40%	42%

Figure 3 shows the percentage of seat belt usage from 1990 to 2005. There was an increase of 2.7 percentage points in safety belt usage from 2004 to 2005.

Figure 3: Observational Survey Results



The increase in safety belt usage was consistent for all vehicle types (2.3% for autos, 3.6% for pickup trucks, 0.8% for SUVs, and 5.2% for vans). The standard error of the estimate was 0.3 percentage points. Hence it can be concluded that the 2.7 percentage point increase was statistically significant at the alpha=0.05 level.

F. Pre- and Post-Campaign Telephone Survey result

Two polls were developed and conducted by Southern Media & Opinion Research, Inc., for the Louisiana Highway Safety Commission in order to assess Louisiana licensed motorists' seat belt use practices, recall of recent seat belt messages, and to understand the general public's perception of using seat belts and enforcement of seat belt laws. More specifically, the objective of the polls was to measure the impact of change attributed to the May campaign consisting of three components: paid media from May 2-29, 2005; earned media from May 1-June 5; and enforcement from May 23-June 5. Two statewide polls using

the same survey instrument were conducted before and after the Memorial Day 2005 Occupant Protection Media and Enforcement Campaign.

According to the published plan of Southern Media & Opinion Research, Inc. (2) this sample design included interviewing 800 licensed motorists statewide by telephone, 400 each during two different time periods: one before Memorial Day 2005, and the other after Memorial Day 2005. During the intervening time, an occupant protection media and enforcement campaign was implemented.

The first wave (pre-Memorial Day 2005) of 400 interviews were conducted from Monday, April 25, through Wednesday, April 27, 2005. The second wave (post-Memorial Day 2005) of 401 interviews were conducted on Monday, June 6 and Tuesday, June 7, 2005. Quotas ensuring nominal male participation in the study were imposed.

The overall margin of error for the statistics obtained from the survey data in the sample of 400 licensed motorists is not greater than plus or minus 4.9 percentage points at the 95% level of confidence. In other words, there is a 95% certainty that the statistics presented for the results obtained from this survey are not more than 4.9 percentage points above or below the figure that would have been obtained if all of the licensed motorists in the state had been interviewed.

The sample error may be larger for subgroup responses, such as those based on respondents by education, age, and other demographic or attitudinal variables. There are other sources of potential error which cannot be calculated including question wording and order of question presentation.

The results of the telephone surveys conducted among licensed drivers in Louisiana indicate several significant changes occurred during the time leading up to Memorial Day 2005.

- A highly significant increase (28.8 percentage points) in the recall of having heard or seen anything recently concerning seat belts was recorded (from 45.8% to 74.6%).
- The proportion of motorists recalling a seat belt message slogan increased by 31.1 percentage points (from 14.3% to 45.4%).
- The recall of messages or ads on television also increased by 21.9 percentage points (21.0% to 42.9%) as did recall of strict enforcement messages (7.2 percentage points), checkpoints and ads concerning seat belt use in pickup trucks (1.8% to 9.0%).

- The only other statistically significant increase measured was in the proportion of motorists who "agree" with the statement that "police in my community are writing more seat belt tickets now than they were a few months ago".

Table 5. Statistical differences in questions posed in the pre- and post-Memorial Day surveys in Louisiana 2005. (Provided by SOUTHERN MEDIA & OPINION RESEARCH, Inc.)

Question	Chi-square	Statistical significance
2. What kind of vehicle do you drive most often; is it a car, a pickup truck, an SUV or a van?	.13130	not significant
3. When driving, would you say you wear your seat belt; all of the time, most of the time, some of the time, rarely, or never.	.51288	not significant
4. Do you recall having heard or seen anything recently about seat belts?	.00000	highly significant
6. Please tell me if you strongly agree, somewhat agree, somewhat disagree or strongly disagree with the following statements:		
6a. seat belts are not needed on short trips	.18356	not significant
6b. seat belts are just as likely to harm you as to help you	.38173	not significant
6c. seat belts are uncomfortable	.20301	not significant
6d. people should be free to choose if they want to wear a seat belt or not	.85667	not significant
6e. seat belts aren't needed when in a pickup truck because it is a safer vehicle due to its sheer size	.23094	not significant
6f. police in my community are writing more seat belt tickets now than they were a few months ago	.01865	significant
7. How likely do you think it is for a driver not wearing a seat belt to be stopped and ticketed: very likely, somewhat likely, somewhat unlikely or very unlikely?	.77067	not significant
8. If you were in a crash (wreck), would you want to be wearing a seat belt or not wearing a seat belt?	.35209	not significant
9. What is your age?	.74563	not significant
10. What is the highest grade or year of school you completed?	.29060	not significant
11. Are you male or female?	.41028	not significant
12. How would you describe your race or ethnic background?	.10986	not significant

In spite of the considerable increase in awareness, the percentage of motorists in the post memorial day survey who said they use their seat belt "all the time" declined from 84% to 79.6%. However, the percentage of drivers who said they would use a seat belt "all the time" or "most of the time" declined only by 0.9%. Part of the decline may be attributable to the fact that there was an increase of 6.7% of pickup truck drivers in the sample. Pickup truck drivers have a lower seat belt usage rate than drivers of other cars. Nevertheless, the increase in

awareness has not resulted in an increase in self-reported seat belt use. One should also keep in mind that the observed seat belt use is considerably (about 10%) lower than the self-reported seat belt use.

G. Crash Analysis

The reduction of injuries and fatalities is the overall goal of the seat belt campaigns. Overtime for police officers which is designated exclusively for seat belt enforcement should lead to an overall increase in seat belt enforcement. Public information and education combined with the seat belt enforcement efforts should yield a higher propensity for drivers and passengers to wear seat belts while traveling. Although these efforts do not affect the number of observed crashes, they do affect the percentages of injuries and fatalities in these crashes.

Several factors make the analysis of traffic crash data difficult:

1. Louisiana law does not require passengers in the back seat of vehicles to wear seat belts; therefore, observational surveys only observed front seat usage. Consequently, using all occupant injuries and fatality data may not be directly related to the observed safety belt usage because back-seat occupants may or may not be wearing a seat belt. Another confounding factor is the number of occupants which varies from car to car. Hence, we expect a more significant relationship between safety belt usage and injuries/fatalities when only the driver of a vehicle is taken into consideration, because the number of occupants who are not injured are not entered into the database. From 2005 on, however, all occupant data will be available.

2. In most cases, we usually know the seat belt usage for fatality occupants in motor vehicle crashes; the seat belt usage in injury and property-damage-only crashes remains unknown to a large extent, because it is most often self reported. The number of fatalities and severe injuries are likely to be a more accurate indicator of seat belt usage because the investigating officer is able to determine if a safety belt was used.

3. Although we may expect an increase in observed seat belt usage in fatal crashes as seat belt usage by all drivers increases, other factors, such as alcohol and speed, may confound this correlation. Changes in these risk factors will affect the observed percentage of seat belt use in fatal crashes. An analysis of Louisiana crash data shows that if seat belt usage were to increase by 1%, assuming that other factors remain unchanged, we would expect a yearly reduction of eight driver fatalities for Louisiana as a

whole. This calculation assumes that wearing a seat belt and getting in a fatal crash are independent events. However, there are well-known risk factors in fatal crashes such as alcohol, age and gender, which may also be correlated with not wearing a seat belt. Louisiana crash data analyses show, for instance, that seat belt usage increases with age and many drivers who have been drinking do not wear a seat belt. For this reason, an increase in seat belt use in the general population does not necessarily lead to the expected reduction in fatalities.

4. It is impossible to calculate the percentage of injured occupants in Louisiana crashes because the total number of occupants in property-damage-only crashes is not available.

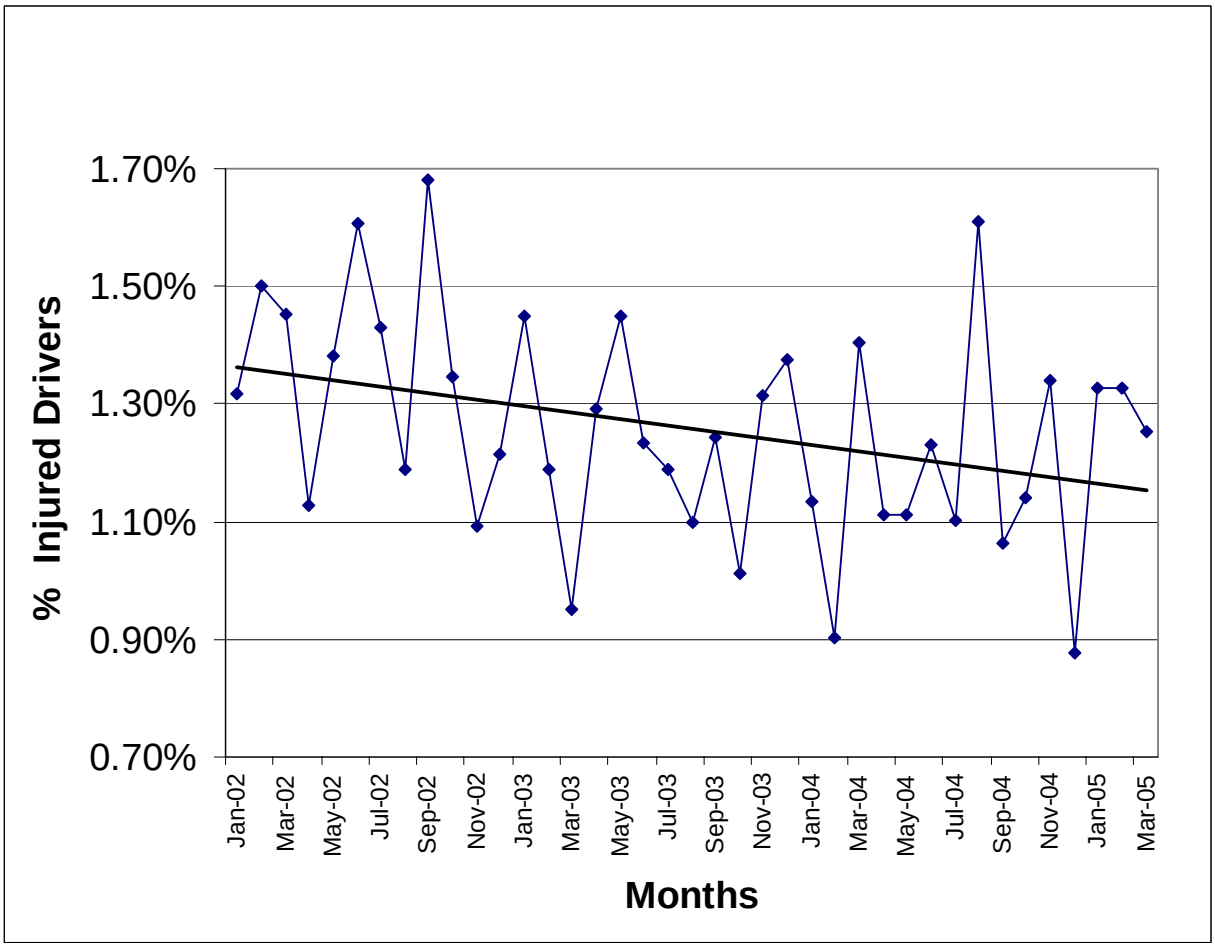
5. Observational surveys are conducted during daytime hours. However, an increase in safety belt use during daytime hours may not reflect the same increase during nighttime hours when most fatal crashes occur.

Because of the described difficulties in modeling the relationship between safety belt usage and injury/fatality rate, we will provide various approaches to analyzing the crash data.

Trend in Injuries

Louisiana's crash report uses the following injury severity codes: fatal, severe, moderate and complaint. Figure 4 displays the percentages of fatal, moderate or severely-injured drivers in all daytime (6am-6pm) crashes by month. The injury percentage declined from an average of 1.4% in 2002 to 1.2% in 2005, providing evidence of the effect of increased safety belt usage.

Figure 4: Percentage of Fatal, Severely Injured Drivers in all Daytime (6am-6pm) Crashes by Month



Trend in Injuries and Fatalities in Rollover Crashes

One particularly important type of crash in which safety belt usage has proven to be an important factor in injury severity will be studied to detect trends. Our hypothesis is that, since the safety-belt usage increased by 6% from 2002 to 2004, there should be an increase in observed safety belt usage in rollover crashes and thus a reduction in fatalities and severe injuries. Table 6 depicts the number of rollover crashes from 2000 to 2004. Since the observational survey indicates that the seat belt usage rate remained constant during 2000-2002, the average for these three years will serve as a baseline. We will compare the 2003-2004 results with this baseline. Results for 2005 are not available at this time.

The average number of vehicles rolling over during the 2000-2002 period was 2674 compared with 3067 in 2003-2004, an increase of 393 in the number of drivers at risk of injury. The seat belt usage was not known in many cases. For those cases where seat belt usage was known, there was an increase of 549 for “seat belt used” and a decline of 28 for “seat belt

not used". The observed percentage of seat belt-use use during rollover crashes had increased by 7.5% from an average of 73.1% in 2000-2002 to an average of 80.6% in 2003-2004.

Table 6: Rollover Crashes

Fatal & Severe Injuries										
	None used			Used					All	
Year	%	Injured or Killed	Total	%	Injured or Killed	Total	All Rollover Vehicles	All Injured or Killed	% injured or Killed	% Seat Belt Usage
2000	25%	111	443	1.5%	19	1237	2626	160	6.1%	73.6%
2001	20%	89	456	1.7%	20	1205	2557	126	4.9%	72.5%
2002	17%	82	480	2.8%	36	1299	2840	132	4.6%	73.0%
Average 2000-2002	20%	94	460	2.0%	25	1247	2674	139	5.2%	73.1%
2003	27%	117	437	2.3%	36	1541	2940	165	5.6%	77.9%
2004	21%	90	426	1.5%	30	2051	3194	130	4.1%	82.8%
Average 2003-2004	24%	104	432	1.8%	33	1796	3067	148	4.8%	80.6%
Fatal										
	None used			Used					All	
Year	%	Killed	Total	%	Killed	Total	All	Killed	% Killed	% Seat Belt Usage
2000	15%	68	443	0.3%	4	1237	2626	79	3.0%	73.6%
2001	12%	53	456	0.5%	6	1205	2557	66	2.6%	72.5%
2002	11%	55	480	0.7%	9	1299	2840	68	2.4%	73.0%
Average 2000-2002	13%	59	460	0.5%	6	1247	2674	71	2.7%	73.1%
2003	19%	81	437	0.8%	12	1541	2940	96	3.3%	77.9%
2004	15%	62	426	0.5%	10	2051	3194	74	2.3%	82.8%
Average 2003-2004	17%	72	432	0.6%	11	1796	3067	85	2.8%	80.5%

Table 6 also shows the risk of being killed in rollover crashes when not wearing a seat belt. For instance, of those drivers not wearing a seat belt, 20% were killed or severely injured in rollover crashes. In 2000-2002 this percentage was 2% for drivers wearing a seat belt. Also, 13% of drivers not wearing a seat belt were killed compared to 0.5% for drivers wearing a seat belt. Hence, if the number of drivers in rollover crashes and the percentage of drivers killed or injured had been constant at 20%, we should have seen a reduction of driver fatalities in rollover crashes of about 8 and driver injuries of about 5. Unfortunately, as Table 6 shows the total number of drivers killed and severely injured in rollover crashes actually increased in 2003-2004 compared to the average of 2000-2002. This is partially because the number of drivers in rollover crashes increased by 339 and the percentage of drivers killed who were not wearing a seat belt increased from 13% to 17%. The increase in the number of rollover crashes may be related to the increase in the number of SUV on Louisiana roads. While the

number of cars in rollover crashes increased by 10% from 2000-2002 to 2003, the number of SUV/Pickup trucks in rollover crashes increased by 19%.

Nighttime versus Daytime Rollover Crashes

We return to the above-mentioned risk factors contributing to a lower than expected decline in fatalities and injuries. Table 7 depicts the rollover statistics for nighttime crashes and Table 8 depicts the rollover crashes for daytime crashes. There are two important conclusions which can be drawn from the comparison of the crashes for the two different 12 hour periods. First, seat belt use is much less frequent in nighttime rollover crashes than in daytime rollover crashes. In 2003-2004, during the night on the average, 75.2% of the drivers in rollover crashes did not wear a seat belt. During the day, this percentage was 85.7% during the same time period. Second, if we compare the 2000-2002 statistics with the 2003-2004 statistics, we detect a significant increase during day and night in seat belt usage in rollover crashes.

Table 7: Rollover Crashes at Night (6pm-6am)

Fatal & Severe Injuries - Nighttime										
	None used			Used					All	
	%	Injured or Killed	Total	%	Injured or Killed	Total	All	All Injured or Killed	% injured or Killed	% Seat Belt Usage
2000	29%	78	267	2.0%	10	518	1295	113	8.7%	66.0%
2001	22%	61	276	2.0%	9	570	1345	82	6.1%	67.4%
2002	19%	55	293	2.0%	14	584	1448	81	5.6%	66.6%
Average 2000-2002	23%	65	279	2.0%	11	557	1363	92	6.8%	66.7%
2003	30%	84	284	2.0%	14	652	1440	105	7.3%	69.7%
2004	21%	56	261	1.8%	18	1002	1670	79	4.7%	79.3%
Average 2003-2004	26%	70	273	1.9%	16	827	1555	92	5.9%	75.2%
Fatal - Nighttime										
	None used			Used					All	
	%	Killed	Total	%	Killed	Total	All	Killed	% Killed	% Seat Belt Usage
2000	19%	52	267	0.6%	3	518	1295	61	4.7%	66.0%
2001	12%	34	276	0.5%	3	570	1345	42	3.1%	67.4%
2002	12%	34	293	0.3%	2	584	1448	39	2.7%	66.6%
Average 2000-2002	14%	40	279	0.5%	3	557	1363	47	3.5%	66.7%
2003	21%	59	284	1.0%	6	652	1440	68	4.7%	69.7%
2004	14%	37	261	0.5%	5	1002	1670	43	2.6%	79.3%
Average 2003-2004	18%	48	273	0.7%	6	827	1555	56	3.6%	75.2%

It is also evident from the comparison of day and nighttime rollover crashes that the risk of being killed or severely injured when NOT wearing a seat belt in a rollover crash is considerably higher during the night than during the day (26% during the night versus 18% during the day for 2003-2004). It is interesting to note that the risk of being killed or severely injured in a rollover crash when wearing a seat belt is not much different between night and day time crashes.

Table 8: Rollover Crashes during the Day (6am-6pm)

Fatal & Severe Injuries - Daytime										
	None used			Used					All	
	%	Injured or Killed	Total	%	Injured or Killed	Total	All	All Injured or Killed	% injured or Killed	% Seat Belt Usage
2000	19%	33	176	1.0%	9	719	1331	47	3.5%	80.3%
2001	16%	28	180	2.0%	11	635	1212	44	3.6%	77.9%
2002	14%	27	187	3.0%	22	715	1392	51	3.7%	79.3%
Average 2000-2002	16%	29	181	2.0%	14	690	1312	47	3.6%	79.2%
2003	14%	22	153	1.0%	6	851	1500	60	4.0%	84.8%
2004	21%	34	165	1.1%	12	1049	1524	51	3.3%	86.4%
Average 2003-2004	18%	28	159	0.9%	9	950	1512	56	3.7%	85.7%
Fatal - Daytime										
	None used			Used					All	
	%	Killed	Total	%	Killed	Total	All	Killed	% Killed	% Seat Belt Usage
2000	9%	16	176	0.6%	1	719	1331	18	1.4%	80.3%
2001	11%	19	180	0.5%	3	635	1212	24	2.0%	77.9%
2002	11%	21	187	0.3%	7	715	1392	29	2.1%	79.3%
Average 2000-2002	10%	19	181	0.5%	4	690	1312	24	1.8%	79.2%
2003	14%	22	153	0.9%	6	851	1500	28	1.9%	84.8%
2004	15%	25	165	0.5%	5	1049	1524	31	2.0%	86.4%
Average 2003-2004	15%	24	159	0.6%	6	950	1512	30	2.0%	85.7%

Multi-Car Crashes

In multiple-car crashes as well, drivers without seat belts have a higher risk of being killed. Table 9 depicts the percentage of drivers killed in multiple fatal crashes. Over 60 percent of drivers without a seat belt in fatal crashes were killed, while only about 25-30% of drivers wearing a seat belt in a fatal crash were killed. It is difficult to assess the effect of an increase in seat belt use in multiple car crashes because the data in Table 9 are based on fatal crashes only.

Table 9: Seat Belt Use in Fatal Multiple Car Crashes

(includes only crashes with cars, suvs, light trucks and vans)

		All			Killed		Killed	
Time	Year	All vehicles	No Seat Belt	With Seat Belt	No Seat Belt	With Seat Belt	No Seat Belt	With Seat Belt
All	2000	489	146	248	88	55	60%	22%
	2001	479	122	273	73	82	60%	30%
	2002	509	136	291	79	78	58%	27%
	2003	434	102	281	65	70	64%	25%
	2004	610	139	401	91	105	65%	26%

H. Conclusions

As demonstrated in earlier projects, enhanced enforcement with appropriate media coverage leads to a reduction in fatalities and injuries. This report shows that injuries continued to decline between October 2004 and September 2005. It is too early to conclude whether fatalities have declined significantly in 2005. However, the following conclusions can already be drawn:

- There was a substantial increase in awareness of the media campaigns in May-June 2005.
- The enhanced enforcement and media campaigns have had a positive affect on safety belt usage.

I. References

(1) Memorial Day 2005 Initiative Pre- and Post-Campaign Survey Results Technical Report-CONTRACT NO. P3-05-25-00, SOUTHERN MEDIA & OPINION RESEARCH, Inc.

(2) OBSERVATION SURVEY 2005 RESULTS, CONTRACT NO. P3-05-26-00, APPLIED TECHNOLOGY RESEARCH CORPORATION, Lawrence S. McKenzie, III, President

J. Appendix – Tables

Table A1: All Programs by Parish and Agency

Parish	City/Parish	Agency	# OP OT Enf Hrs Wk	# OP OT Citations	Ratio
Ascension	Ascension	SO	136.5	243	1.78
Ascension	Gonzales	PD	40	174	4.35
Ascension Total			176.5	417	2.36
Beauregard	Beauregard	SO	245	263	1.07
Beauregard	DeRidder	PD	60	140	2.33
Beauregard Total			305	403	1.32
Bossier	Bossier	PD	595.5	1436	2.41
Bossier	Benton	PD	56	104	1.86
Bossier	Haughton	PD	60	126	2.10
Bossier Total			711.5	1666	2.34
Caddo	Caddo	SO	327	676	2.07
Caddo	Shreveport	PD	370	816	2.21
Caddo	Vivian	PD	60	108	1.80
Caddo Total			757	1600	2.11
Calcasieu	Calcasieu	SO	289	786	2.72
Calcasieu	Lake Charles	PD	296	672	2.27
Calcasieu	Sulphur	PD	50	139	2.78
Calcasieu	DeQuincy	PD	60	130	2.17
Calcasieu Total			695	1727	2.48
East Baton Rouge	East Baton Rouge	SO	117	250	2.14
East Baton Rouge	Baton Rouge	PD	196	587	2.99
East Baton Rouge	Baker	PD	36	118	3.28
East Baton Rouge	Zachary	PD	60	184	3.07
East Baton Rouge Total			409	1139	2.78
Jefferson	Jefferson	SO	52.5	190	3.62
Jefferson	Kenner	PD	234	707	3.02
Jefferson	Jean Lafitte	PD	17	24	1.41
Jefferson	Harahan	PD	24	86	3.58
Jefferson Total			327.5	1007	3.07
Lafayette	Lafayette	SO	222	503	2.27
Lafayette	Lafayette	PD	242	700	2.89
Lafayette	Broussard	PD	22	47	2.14
Lafayette	Carencro	PD	40	85	2.13
Lafayette Total			526	1335	2.54
Lafourche	Lafourche	SO	168	1081	6.43
Lafourche	Lockport	PD	60	65	1.08
Lafourche Total			228	1146	5.03
Lincoln	Lincoln	SO	206.5	422	2.04

Lincoln	Ruston	PD	180.5	355	1.97
Lincoln	Grambling State Univ	PD	31.5	49	1.56
Lincoln	Grambling	PD	60	134	2.23
Lincoln Total			478.5	960	2.01
Livingston	Livingston	SO	96	214	2.23
	Denham Springs	PD	121.25	203	1.67
Livingston	Albany	PD	60	37	0.62
Livingston Total			277.25	454	1.64
Natchitoches	Natchitoches	PD	342	727	2.13
Natchitoches Total			342	727	2.13
Orleans	New Orleans	PD	494	1153	2.33
Orleans	Causeway	PD	46	143	3.11
Orleans Total			540	1296	2.40
Ouachita	Monroe	PD	99	165	1.67
Ouachita	West Monroe	PD	206	434	2.11
Ouachita	UL - Monroe	PD	60	121	2.02
Ouachita Total			365	720	1.97
Rapides	Rapides	SO	60	99	1.65
Rapides	Pineville	PD	256	580	2.27
Rapides	Alexandria	PD	284	491	1.73
Rapides Total			600	1170	1.95
St. Bernard	St. Bernard	SO	194	397	2.05
St. Bernard Total			194	397	2.05
St. Charles	St. Charles	SO	131	264	2.02
St. Charles Total			131	264	2.02
St. John	St. John	SO	222	635	2.86
St. John Total			222	635	2.86
St. Landry	St. Landry	SO	380	547	1.44
St. Landry	Sunset	PD	37	74	2.00
St. Landry Total			417	621	1.49
St. Mary	St. Mary	SO	152	302	1.99
St. Mary	Baldwin	PD	60	92	1.53
St. Mary	Franklin	PD	8	13	1.63
St. Mary	Berwick	PD	50	68	1.36
St. Mary Total			270	475	1.76
St. Tammany	St. Tammany	SO	287	593	2.07
St. Tammany	Slidell	PD	119.5	217	1.82
St. Tammany	Covington	PD	24	62	2.58
St. Tammany	Mandeville	PD	50	149	2.98
St. Tammany Total			480.5	1021	2.12
Tangipahoa	Tangipahoa	SO	282	330	1.17
Tangipahoa	Hammond	PD	173	358	2.07
Tangipahoa	Ponchatoula	PD	60	114	1.90
Tangipahoa	Tickfaw	PD	46	39	0.85
Tangipahoa Total			561	841	1.50
Terrebonne	Terrebonne	SO	293	170	0.58

Terrebonne	Houma	PD	255	553	2.17
Terrebonne Total			548	723	1.32
Vermillion	Vermillion	SO	206	505	2.45
Vermillion	Abbeville	PD	75	102	1.36
Vermillion Total			281	607	2.16
Vernon	Leesville	PD	60	96	1.60
Vernon	Rosepine	PD	39.5	75	1.90
Vernon Total			99.5	171	1.72
Washington	Bogalusa	PD	105	261	2.49
Washington	Franklinton	PD	60	128	2.13
Washington Total			165	389	2.36
Webster	Webster	SO	246	229	0.93
Webster	Springhill	PD	50	100	2.00
Webster	Cullen	PD	60	48	0.80
Webster Total			356	377	1.06
Grand Total			10463.25	22288	2.13