June 2012
Seat Belt Use in Florida

Final Report

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Prepared for:
Florida Department of Transportation

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Introduction

This report documents Florida's annual Statewide Seat Belt Use Survey. The survey was conducted in April and again in June of 2012 by Preusser Research Group, Inc. (PRG), under the direction of the Florida Department of Transportation, and under contract with Tallahassee Community College.

The Florida Department of Transportation (FDOT) is responsible for the State of Florida's Highway Safety Program. Occupant protection is among several significant program areas for which FDOT is responsible. A portion of FDOT's occupant protection program funding comes from the Federal Government, which requires administration of a statewide survey of belt use that must adhere to Federal Register Guidelines. Florida's first statewide survey certified under Federal Register Guidelines was completed in 1999. Surveys adhering to Federal Register Guidelines have been completed every year since. The survey first and foremost covered by this report was conducted in June 2012, and it succeeds in providing an accurate and reliable estimate of seat belt use in Florida, at a specific point in time, and is comparable to the first estimate accredited by National Highway Traffic Safety Administration (NHTSA) in 1999 and all statewide surveys conducted thereafter.

In spring of 2006, FDOT contracted with PRG to redesign the statewide survey, conduct observations, and develop an analysis methodology to determine a statewide seat belt use rate for the State of Florida for year 2006. Florida had an approved sampling plan in place since 1999, based on 351 sites across 13 counties.[1] That plan was based on earlier population figures and needed updating. Rather than simply redraw the road sample, a modified design was developed using a new sample of counties and a smaller number of sites. The smaller number of sites in the 2006 design (151 versus 351) still provided an overall belt use estimate with much tighter variability than specified in NHTSA's 1998 TEA 21 Sample Design requirements, while reducing costs to the State and NHTSA and still meeting all Federal Register requirements.

The design developed by PRG in 2006 was also used for conducting statewide surveys in 2007, 2008, 2009, 2010 and 2011, all for pre and post Click It or Ticket (CIOT) measurements. The State of Florida passed a primary enforcement seat belt bill (SB 344) on April 29, 2009, and the Governor signed that bill into law on May 6, 2009, with an effective date of June 30, 2009. The new law created an uninterrupted change from secondary enforcement of seat belt violations to primary enforcement. As a result, PRG utilized the design yet again in 2009 for a post-primary law change measurement in July.

In 2011, FDOT once again contracted with PRG to redesign the statewide survey in order to meet new NHTSA design requirements for 2012 [2]. The resulting design built upon our earlier design. In the period 2005 – 2009, Florida had a total of 9,348 passenger vehicle occupant

[1] Florida Department of Transportation. (1999) 1999 Observational Survey of Seat Belt and Child Restraint Use in Florida. Project OP-99-02-26-01.

[2] 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.

fatalities, on a steadily downward trend, from 2,207 in 2005 to just 1,515 in 2009. Florida has a total of 67 counties. The 35 counties with the greatest numbers of these fatalities account for 85.4 percent of the passenger vehicle occupant fatalities. We utilized 15 of those counties, a number consistent with NHTSA's (1998) sampling recommendations and 3 more than in the previous design.

The State of Florida provided a database with all national, State, and major city and county road segments, by county.[3] This database was exhaustive for all roadways that are Collectors or larger and was used for segment selections for those roadway strata. Florida also provided a complete census of local roadways for each of the 15 counties selected for the design, and those databases were used to select local road segments.[4] All of the databases include segment identifiers, length, AADT, and DVMT values for each segment. Segments are also classified by road function type and urban/rural location. This allowed development of road type strata.

The result is that all necessary information was provided for developing a sampling plan according to NHTSA guidelines. We selected 165 observation sites, 11 from each county, distributed across 5 roadway functional categories, or strata.

In order to assess the equivalence of the sampling design to the current plan, Florida measured belt use twice in June 2011, once following the previous plan and once following an example of what ultimately became the proposed plan. By comparing the results of the two plans, we were able to test for any systematic change in belt use figures due to the new observation plan. Ultimately, we measured a weighted use rate of 87.4 percent using the estimate plan; a result 0.7 percentage points below, but not statistically significantly different than the 2011 reported rate of 88.1 percent utilizing the previous design.

Once the redesign plan was approved by NHTSA, PRG implemented the new survey in both April and June of 2012 to help verify CIOT program effects as well as determine a current seat belt use rate for Florida. The results that follow primarily reflect the June 2012 measurement; however a summary section of select pre-post CIOT findings is provided as well.

Procedures

Overall Design

The overall design was implemented in four steps:

1. Counties for observations were selected from the 35 counties with the most passenger vehicle occupant fatalities and which total more than 85 percent of the State's total passenger vehicle occupant fatalities. 15 of the 35 counties were selected, with probabilities generally proportional to their DVMT.

2. Roads were stratified by combining related functional use classes within each county, resulting in five strata. Two sites per stratum were allocated in each county for the busier road types, three sites for local roads in each county.

3. Specific road segments were selected, within stratum within county, by randomly selecting from all segments with probabilities proportional to their DVMT.

4. Belt use estimation procedures and computations were developed reflecting the design and NHTSA reliability requirements.

County Selection

Table 1 lists the 35 Florida counties with the greatest numbers of passenger vehicle occupant fatalities in 2005-2009. These 35 counties account for 85.4 percent of the State's total passenger vehicle occupant fatalities.[2] The table also includes total DVMT tallies, derived from table PubVMT2010[3], a tally of mileage and DVMT figures by Florida roadway type and county. These DVMT figures cover all roadways in the State. These 35 counties account for 89.8 percent of all DVMT. Fatality and DVMT figures for the other 32 counties are given in Appendix A.

We sampled 15 counties for this design, a figure consistent with recommendations in NHTSA's 1998 seat belt use measurement requirements and 20% greater than the 12 counties in the current design. Sampling was probabilistic, based on total county DVMT.

The sample of the 15 counties selected is highlighted in Table 1 and in Figure 1. The selection procedure involved simultaneous random selection with the odds of selection proportional to the county's total DVMT. Selection probabilities for those 15 counties, explained in detail below, are shown in Table 1.

[2] Obtained from FARS website, http://www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/STSI/12_FL/2009/Florida_Map_13_DATA_2009.PDF for passenger car occupant fatalities and http://www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/STSI/12_FL/2009/Florida_Map_14_DATA_2009.PDF for light truck and van occupant fatalities; most recently referenced, 11/3/2011.

[3] Provided by Tina Hatcher, Florida HPMS Coordinator, Transportation Statistics Office, April 29, 2011.

Table 1. 35 Counties with Most Passenger Vehicle Occupant Fatalities, 2005-2009

County	Region	N Fatal	% all FL	Cum %	Total DVMT[1]	% Top 35	Cum %	SeInProb
Miami-Dade	South	790	8.5%	8.5%	53,565,270	11.1%	11.1%	100.0%
Broward	South	640	6.8%	15.3%	43,259,153	9.0%	20.1%	100.0%
Palm Beach	South	561	6.0%	21.3%	33,164,685	6.9%	27.0%	100.0%
Hillsborough	Central	484	5.2%	26.5%	34,745,256	7.2%	34.2%	100.0%
Orange	Central	477	5.1%	31.6%	35,657,527	7.4%	41.6%	100.0%
Polk	Central	421	4.5%	36.1%	16,442,305	3.4%	45.0%	
Duval	North	392	4.2%	40.3%	28,718,919	6.0%	50.9%	100.0%
Volusia	North	297	3.2%	43.5%	15,419,863	3.2%	54.1%	54.5%
Lee	South	296	3.2%	46.6%	17,579,278	3.6%	57.8%	62.1%
Pasco	Central	274	2.9%	49.6%	10,682,222	2.2%	60.0%	37.7%
Marion	North	249	2.7%	52.2%	11,067,331	2.3%	62.3%	
Pinellas	Central	234	2.5%	54.7%	23,138,726	4.8%	67.1%	
Brevard	Central	227	2.4%	57.1%	17,125,596	3.6%	70.6%	
Lake	Central	192	2.1%	59.2%	8,054,672	1.7%	72.3%	28.5%
Osceola	Central	191	2.0%	61.2%	8,639,272	1.8%	74.1%	
Escambia	North	172	1.8%	63.1%	9,294,940	1.9%	76.0%	32.8%
Collier	South	160	1.7%	64.8%	8,943,065	1.9%	77.9%	31.6%
Manatee	Central	158	1.7%	66.5%	9,054,778	1.9%	79.8%	
Sarasota	Central	155	1.7%	68.1%	11,130,726	2.3%	82.1%	
St. Lucie	Central	144	1.5%	69.7%	8,422,931	1.7%	83.8%	
Alachua	North	132	1.4%	71.1%	7,827,483	1.6%	85.5%	27.7%
Hernando	Central	117	1.3%	72.3%	4,903,024	1.0%	86.5%	
Columbia	North	109	1.2%	73.5%	3,535,088	0.7%	87.2%	
Seminole	Central	104	1.1%	74.6%	10,249,225	2.1%	89.3%	36.2%
Leon	North	101	1.1%	75.7%	7,505,976	1.6%	90.9%	
St. Johns	North	97	1.0%	76.7%	6,177,139	1.3%	92.2%	21.8%
Charlotte	South	96	1.0%	77.8%	6,004,256	1.2%	93.4%	
Indian River	Central	93	1.0%	78.8%	4,036,566	0.8%	94.3%	
Walton	North	93	1.0%	79.8%	3,160,655	0.7%	94.9%	
Citrus	Central	92	1.0%	80.7%	4,408,684	0.9%	95.8%	
Martin	South	91	1.0%	81.7%	5,706,686	1.2%	97.0%	
Okaloosa	North	90	1.0%	82.7%	5,660,863	1.2%	98.2%	
Sumter	Central	86	0.9%	83.6%	3,629,402	0.8%	98.9%	
Gadsden	North	84	0.9%	84.5%	2,191,132	0.5%	99.4%	
Jackson	North	82	0.9%	85.4%	2,946,336	0.6%	100.0%	
Total, Top 35		7,981		85.4%	482,049,032		100.0%	
Florida Total		9,348		100.0%	536,315,479			

[1] *2010 DVMT figures from PUB2010VMT, the annual State report to FHWA; includes all Florida roadways*

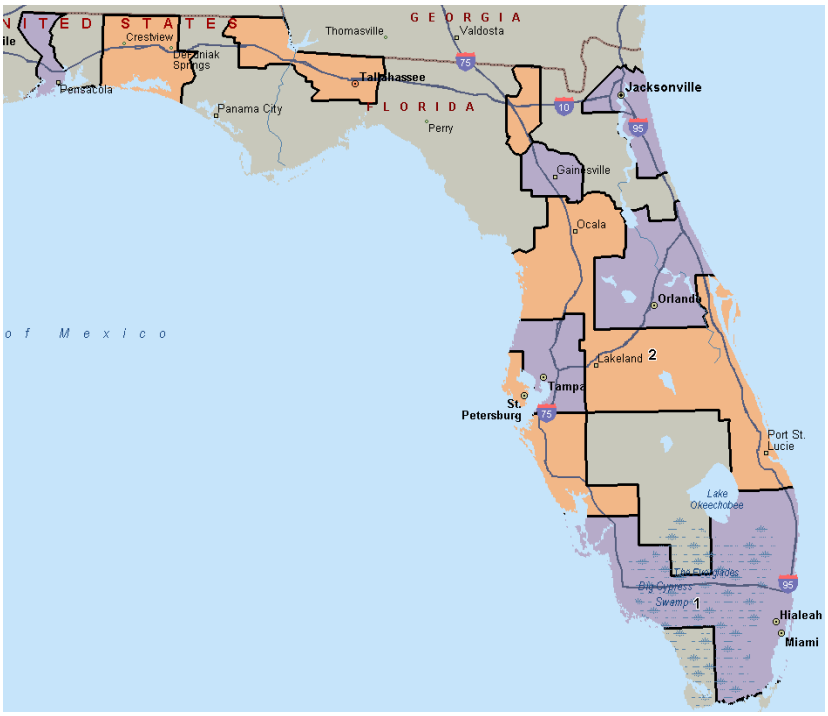

Figure 1. Florida counties for sampling: purple = selected, peach = unselected, gray = excluded counties with less than 15% of all fatalities, 2005 – 2009.

The first step involved identifying counties which, by virtue of high proportions of total DVMT, would certainly be selected by the PPS procedure, and including them in the sample. DVMT percentages ("p") for the 35 counties were calculated, from 11.1% (of the top-35 county total) for Miami-Dade through 0.5% for Jackson. The percentages were multiplied by the total number of counties ("n") to be selected, 15. Five counties had n*p greater than 1.0 and were deemed selected with certainty: Miami-Dade, Broward, Palm Beach, Hillsborough, and Orange. These counties were set aside, and DVMT percentages for the remaining 30 counties were calculated. These values were multiplied by n = 10, the number of counties remaining to be selected. One county, Duval, had n*p greater than 1.0 and also was deemed selected with certainty.

The remaining 29 counties had their DVMT percentages recalculated and multiplied by 9, the number remaining to be selected. No additional counties had n*p $\geq$ 1.0. The counties were randomly ordered, to eliminate sequential dependencies and cumulative values of the DVMT percentages*9 were computed.

A random number from a rectangular distribution between 0 and 1.0 was drawn, and 9 counties were selected: the first county whose cumulative DVMT percentage*9 was equal to or greater than the random number, the first whose cumulative DVMT percentage*9 was equal to or greater than the (random number+1), …, and the first whose cumulative DVMT percentage*9 was equal to or greater than the (random number+8). This produced a sample of 15 counties. Six had probability (selection) = 1.0; the remaining had probability (selection) = 9 times their DVMT proportion of the DVMT of the final group of 29 counties. Those selection probabilities are shown in Table 1.

Road Segment Sampling Plan Development

The next step was to determine the distribution of the number of observation sites across counties. In the previous plan, road functional classes are combined into four strata: Interstates and Other Expressways, Other Principal Arterials, Minor Arterials, and Collectors. We retained these strata and add a fifth stratum for Local Roads.

We distributed sites equally across counties and by strata within counties except for Local Roads. Our number of sites per stratum within counties is three for Local Roads and two for all other strata. This provides coverage for the four strata in the previous design, and is generally comparable, but provides somewhat greater emphasis for Local Roads, where one may expect fewer observations per observation period and thus larger error variance for the individual sites.

The State of Florida provided multiple databases of road segments, a Statewide database with all roadways that are Collectors or larger, plus a small number of local road segments, and separate TeleAtlas databases for each of the 15 selected counties that include all Local Roads. We drew segment samples for Collectors and larger from the Statewide database, for Local Roads from the separate county local road databases.

The Statewide road segment database includes more than 34 thousand linear miles of roads with total DVMT of more than 424 million vehicle miles traveled. The Statewide database is essentially a complete census of all roads other than local roads, as confirmed by comparing the road segment database to the PubVMT2010 table[4]. The Statewide database includes about 98 percent of Interstates and Other Expressways, 99 percent of Other Principal Arterials, 99 percent of Minor Arterials, and 96 percent of Collectors, based on mileage traveled. DVMT from the PubVMT2010 table for these roadway categories is more than 419 million miles; from the Statewide database, it is 416 million miles, or more than 99 percent. Part of any discrepancies may be due to recording differences between two separate databases. It is reasonable to consider the Statewide road segment database as an exhaustive listing of all except local roads.

By contrast, the Statewide database includes just 3,355 miles of local roads and 4.9 million DVMT, compared to over 92,000 miles and 117 million DVMT in PubVMT2010, about 4 percent of each. As an alternative source of local road segments, the State provided separate databases (TeleAtlas, version 10.2) for each selected county. The county databases include all Local Road segments in the county; we used those databases to draw samples of Local Roads.

Of the road segments listed in the Statewide database, 10,488 road segments with total length of 12,181 miles and 257 million DVMT (excluding local roadways) lie within the sampled counties. The road segments in the sample counties are shown by county in Table 2.

[4] The annual VMT report from the State to FHWA. It includes mileage and VMT broken down by county and by roadway functional classification within county.

Table 2. Road Segment and Traffic Volume Distribution[1]

County	Region	Road Segments				Traffic Volume	
		Number	Percent	Length (mi)	Percent	DVMT	Percent
Miami-Dade	South	1,380	13.2%	1,424.21	11.7%	42,854,729	16.7%
Broward	South	1,350	12.9%	1,124.64	9.2%	36,071,608	14.0%
Palm Beach	South	1,219	11.7%	1,208.63	9.9%	28,561,904	11.1%
Hillsborough	Central	933	8.9%	1,151.44	9.5%	27,290,452	10.6%
Orange	Central	1,077	10.3%	1,193.59	9.8%	28,661,228	11.1%
Duval	North	842	8.1%	896.53	7.4%	22,443,936	8.7%
Volusia	North	812	7.8%	862.74	7.1%	11,759,301	4.6%
Lee	South	443	4.2%	641.90	5.3%	11,953,637	4.7%
Pasco	Central	371	3.6%	543.77	4.5%	7,917,283	3.1%
Lake	Central	437	4.2%	695.12	5.7%	6,487,568	2.5%
Escambia	North	412	3.9%	527.13	4.3%	6,499,556	2.5%
Collier	South	207	2.0%	485.16	4.0%	7,007,117	2.7%
Alachua	North	438	4.2%	699.60	5.7%	6,729,972	2.6%
Seminole	Central	306	2.9%	339.15	2.8%	7,558,820	2.9%
St. Johns	North	221	2.1%	387.53	3.2%	5,263,498	2.0%
Total, 15 Sample Counties		10,448	100.0%	12,181.14	100.0%	257,060,609	100.0%

[1] *In Florida Statewide Road Segment Database; excludes Local Roads*

Also shown in Table 2 are Region assignments for the 15 counties. In past belt use reports, Florida was divided into North, Central, and South Regions for reporting purposes, and we will continue that activity. The "region" designations are informal; region has not been considered in the selection of sample counties.

The distribution of road segments in the Statewide database across the 10 largest road functional use classifications, excluding Rural Local and Urban Local, in the 15 sample counties is shown in Table 3. Some of these road segment categories are quite small. In order to produce categories which have significant numbers while still retaining meaningful distinctions, we collapsed the road segment categories into four strata: Interstates and Other Expressways (n = 592), Other Principal Arterials (other than interstates/expressways) (n = 2,345), Minor Arterials (n = 2,734), and Collectors (n = 4,777). This categorization is the same as used in previous Florida reports.

Table 3. Numbers of Road Segments by Functional Class and Sample County[1]

	FHWA/Florida Roadway Functional Class										
County	1 Rur prin art intst	2 Rur prin art othr	6 Rur minor art	7 Rur major coll	8 Rur minor coll	11 Urb prin art intst	12 Urb prin art xway	14 Urb prin art othr	16 Urb minor art	17 Urb coll	Total
Miami-Dade	0	15	4	18	2	24	88	244	420	565	1,380
Broward	2	1	0	1	0	39	24	322	405	556	1,350
Palm Beach	0	14	8	15	10	21	11	278	313	549	1,219
Hillsborough	1	7	17	22	9	45	36	240	241	315	933
Orange	0	10	4	5	18	13	58	166	280	523	1,077
Duval	3	2	4	3	0	68	61	133	265	303	842
Volusia	7	27	8	15	29	15	0	181	133	397	812
Lee	1	4	20	42	0	10	3	111	111	141	443
Pasco	3	19	6	22	18	6	2	87	35	173	371
Lake	0	22	18	49	53	0	1	53	46	195	437
Escambia	2	8	10	2	20	8	0	102	124	136	412
Collier	3	12	8	10	13	5	0	30	45	81	207
Alachua	5	53	20	56	58	5	0	79	58	104	438
Seminole	0	4	1	3	4	6	8	85	69	126	306
St. Johns	7	17	14	14	28	1	0	19	47	74	221
Total	34	215	142	277	262	266	292	2,130	2,592	4,238	10,448

[1] *From Florida Statewide database; Local Roads are excluded*

DVMT figures are available for all of the road segments in the Florida Statewide database and in the 15 TeleAtlas local road databases. Table 4 presents the distribution of road strata across counties and shows for each the number of segments and the sum of segment DVMTs. In Table 4, the values for Local Roads are based on all road segments listed in the TeleAtlas individual-county databases, and all other values are from the Statewide database.

There are adequate numbers of road segments within each county-road type stratum to support the targeted sample size, with one exception. Lake County has just one listed expressway, a short segment of the Florida Turnpike. We used that segment as the required two segments, coding belt use in one direction and, separately at a different time of day and day of week, coding belt use in the other direction.

Table 4. Roadway Functional Strata by County, Road Segments and DVMT

County		Roadway Functional Strata					
		Interstate or Freeway	Other Principal Arterials	Minor Arterials	Collectors	Local Roads [1]	Total
Miami-Dade	# Segments	112	259	424	585	98,737	100,117
	DVMT	15,582,743	10,569,541	10,630,366	6,072,079	6,310,284	49,165,013
Broward	# Segments	65	323	405	557	80,734	82,084
	DVMT	15,172,809	10,634,556	6,733,799	3,530,444	7,010,602	43,082,210
Palm Beach	# Segments	32	292	321	574	75,968	77,187
	DVMT	10,346,728	8,485,294	5,277,877	4,452,005	4,066,320	32,628,224
Hillsborough	# Segments	82	247	258	346	70,062	70,995
	DVMT	10,381,517	7,447,429	5,346,529	4,114,977	4,137,610	31,428,062
Orange	# Segments	71	176	284	546	64,133	65,210
	DVMT	10,303,335	7,195,048	6,908,607	4,254,238	4,031,426	32,692,654
Duval	# Segments	132	135	269	306	45,210	46,052
	DVMT	11,811,645	3,563,520	3,802,238	3,266,533	3,042,158	25,486,094
Volusia	# Segments	22	208	141	441	41,174	41,986
	DVMT	4,161,361	4,445,754	1,637,236	1,514,950	2,210,269	13,969,570
Lee	# Segments	14	115	131	183	60,915	61,358
	DVMT	2,441,953	3,222,839	4,270,325	2,018,520	2,324,784	14,278,421
Pasco	# Segments	11	106	41	213	35,129	35,500
	DVMT	1,111,827	4,218,311	1,242,511	1,344,634	1,320,445	9,237,728
Lake	# Segments	1	75	64	297	31,606	32,043
	DVMT	14,057	3,559,462	918,679	1,995,370	636,124	7,123,692
Escambia	# Segments	10	110	134	158	18,104	18,516
	DVMT	1,060,574	2,159,520	1,903,318	1,376,144	1,186,436	7,685,992
Collier	# Segments	8	42	53	104	22,581	22,788
	DVMT	1,663,074	1,367,639	2,268,699	1,707,705	2,238,924	9,246,041
Alachua	# Segments	10	132	78	218	19,259	19,697
	DVMT	1,991,623	2,381,989	1,216,768	1,139,592	858,867	7,588,839
Seminole	# Segments	14	89	70	133	28,578	28,884
	DVMT	2,452,241	2,418,510	1,455,150	1,232,919	1,312,404	8,871,224
St. Johns	# Segments	8	36	61	116	16,556	16,777
	DVMT	2,054,038	1,168,942	1,122,263	918,255	951,557	6,215,055
Total	# Segments	592	2,345	2,734	4,777	708,746	719,194
	DVMT	90,549,525	72,838,354	54,734,365	38,938,365	41,638,210	298,698,819

[1] *Based on all valid local road segments in the 15 individual-county databases*

Road Segment Selection

The previous Florida belt use plan called for 151 total sites. In the surveys using that plan, the observed standard errors of estimate ranged from 0.5% to 1.2%, well within NHTSA's requirement of no more than 2.5%. We felt a new design of similar size would also have readily met precision requirements. However, adding Local Road observation sites, with likely relatively few observations per site, may increase the overall standard error. Therefore, we proposed to increase by about 10% the number of sites to 165. A test of this proposed design, conducted in June 2011 with a slightly different group of counties, produced a standard error of measurement of 0.55 percent, well within NHTSA's requirement of 2.5 percent. Ultimately, each of the April and June 2012 surveys yielded a standard error of less than 1 percent.

The sample of roadway segments used as seat belt use observation sites was selected following specific NHTSA-approved, PPS (probability proportional to size) procedures. The objective in sampling was to randomly draw segments from within county-road type stratum populations of road segments, with the probability of drawing any segment generally proportional to its proportion of the total DVMT within the county-stratum. Sampling called for selecting twice the number of road segments required, retaining order of selection, in order to provide for the necessary sample and an equal number of alternates, or "spares". Local Road segments were oversampled. That is, 10 road segments were drawn from each county's TeleAtlas database. This allowed a safety cushion of up to 4 segments which could be discarded, while still allowing for 3 primary and 3 spare segments, because they were segment types that could be excluded under NHTSA guidelines, i.e., unnamed roads, cul-de-sacs, etc., as specified in Part 1340.5.a.2.iii.

As noted earlier, the sites for Interstates/expressways, other Principal Arterials, Minor Arterials, and Collectors were drawn from the Statewide database. The Local Road segments were drawn from the individual-county local road TeleAtlas databases.

In nearly all cases, there were no "certainty segments," ones with so great a fraction of the county-stratum's total DVMT that they had to be selected with certainty. All cases with certainty segments were in the Interstate or Freeway stratum. Alachua, Collier, Pasco, and Seminole Counties each had one certainty road segment, each slightly above the cutoff criterion. Lake County, of course, as noted before, had just one Interstate/Freeway segment, and the sample of two segments will use the same roadway in each travel direction.

Of the primary segments selected, six proved unsuitable in the field either due to temporary construction or other access concerns. These segments were replaced with those next in the selection order from the spare segments of the same county-stratum. The segments ultimately used for the 2012 implementation of the survey are listed in Appendix D.

Site Selection

Prior to actual data collection, specific locations for data observations were tentatively selected based on visits to the locations, maps, and/or on-line road level images. The direction of travel observed was randomly determined for each segment/site.

Sites were selected for observer and traffic safety, and where the observer appeared to have a clear view of the vehicles to be coded. Where possible, sites were selected where traffic naturally slows, though our highly trained observers are capable of making accurate seat belt use observations for moving traffic. In cases where specific site locations prove unusable or inferior, observers were able to choose alternate locations within the road segment where they can more effectively observe the same traffic stream.

Seat Belt Usage Rate and Variability Calculations

Calculation of Overall Seat Belt Usage Rate

Seat belt use rates were calculated using formulas based on the proportion of the State's total DVMT "represented" by the site. Seat belt use rate calculations followed a three-step process.

First, estimated rates were calculated for each of the five road type strata within each county.

The general formula for combining observed belt use rates from observation sites on individual segments, for a single county-stratum, is shown in Formula 1. It is used when the county-stratum contains certainty segments. The contribution of each segment to the overall county-stratum rate is proportional to the "size" of the segment's contribution to the entire county-stratum traffic, i.e., its DVMT, adjusted by the inverse of the probability of the segment's being selected into the sample:

$$p_{ij} = \frac{\sum_k DVMT_{ijk} W_{ijk} p_{ijk}}{\sum_k DVMT_{ijk} W_{ijk}} \qquad (1)$$

where $DVMT_{ijk}$ = DVMT for segment k in county-stratum ij; p_{ijk} = the observed seat belt use rate at site $ijk = B_{ijk}/O_{ijk}$, where B_{ijk} = total number of belted occupants (drivers and outboard front-seat passengers) observed at the site and O_{ijk} = total number of occupants with known belt use observed at the site; and W_{ijk} = the inverse of the probability of segment k's selection, as described in Appendix B:

$$\text{(certainty segments) } W_{ijk} = 1.00 \quad \text{or (random segments) } W_{ijk} = \frac{\sum_{l=1}^{N} DVMT_{ijl}}{n * DVMT_{ijk}}$$

where N = total number of segments in county-stratum ij excluding the certainty segments and n = number of segments to be randomly selected including spares and oversampling.

In the case where there are no certainty segments in the county-stratum, as shown in Appendix B, formula (1) reduces to the simple Formula 1a:

$$p_{ij} = \sum_{k=1}^{n_{ij}} p_{ijk} / n_{ij} \quad (1a)$$

where i = stratum, j = county, k = site within stratum and county, n_{ij} = number of sites within the stratum-county, and p_{ijk} = the observed seat belt use rate at site $ijk = B_{ijk}/O_{ijk}$, where B_{ijk} = total number of belted occupants (drivers and outboard front-seat passengers) observed at the site, and O_{ijk} = total number of occupants with known belt use observed at the site.

Next, stratum-county seat belt use rates will be combined across strata within counties, weighted by the stratum's relative contribution to total county DVMT, to yield a county-by-county seat belt use rate p_j:

$$p_j = \frac{\sum_i DVMT_{ij}\, p_{ij}}{\sum_i DVMT_{ij}} \quad (2)$$

where i = stratum, j = county, $DVMT_{ij}$ = DVMT of all roads in stratum i in county j from Table PubVMT2010, and p_{ij} = seat belt use rate for stratum i in county j.

Finally, rates from the 15 counties will be combined by weighting them by their Statewide DVMT values $DVMT_j$ times W_j:

$$p = \frac{\sum_j DVMT_j W_j\, p_j}{\sum_j DVMT_j W_j} \quad (3)$$

where $DVMT_j$ = total DVMT for county j from Table PubVMT2010 and W_j = the inverse of the probability of their selection, as described above:

$$\text{(6 counties) } W_j = 1.00 \quad \text{or (9 counties) } W_j = \frac{\sum_{l=1}^{29} DVMT_l}{9 * DVMT_j}$$

The result will be a weighted combination of the individual site seat belt use rates.

Estimates of subgroups of occupants, such as male drivers, female passengers, male drivers of pickup trucks, etc., which are of particular interest to the State can be calculated in the same way.

Calculation of the Standard Error of the Overall Seat Belt Use Rate

Standard error of estimate values were estimated through a jackknife approach, based on the general formula:

$$\hat{\sigma}_{\hat{p}} = [\frac{n-1}{n}\sum_{i=1}^{n}(\hat{p}_i - \hat{p})^2]^{1/2} \quad (4)$$

where $\hat{\sigma}_{\hat{p}}$ = standard deviation (standard error) of the estimated Statewide seat belt use proportion $\hat{p}$ (equivalent to *p* in the notation of formulas 1-3), *n* = the number of sites, i.e., 165, and $\hat{p}_i$ = the estimated Statewide belt use proportion with site *i* excluded from the calculation. The 95% confidence interval, i.e., $\hat{p} \pm 1.96\hat{\sigma}_{\hat{p}}$, was also calculated. These values are reported along with the overall Statewide seatbelt use rate.

Data Collection

Observers

Observers were hired and trained exclusively by PRG. Most have conducted safety belt observations for us in previous surveys, and all were trained to the specific requirements of Florida belt use observation. Prior to any data collection, we reviewed the procedures with the observers in a training session which includes street-side practice. 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. They were also trained in how to substitute alternate sites should a primary site be completely unusable during the week or so long schedule period. Ten observers operated individually, and three quality control monitors were utilized.

Scheduling

Observations were conducted on all days of the week during daylight hours between 7:00 a.m. and 6:00 p.m. Clusters of three to six sites were scheduled for one observer on any day, depending on how close the sites were together and how difficult travel between sites was expected to be. First preference was for all sites in a county to make up their own two or three clusters. Road segments from the same stratum were distributed across clusters. For each county, the days of observation for the clusters were selected to balance observations across weekend and weekday days, with two-cluster counties including one weekend and one weekday day and three-cluster counties including one weekend and two weekday days. Within these constraints, actual day of week assignments were randomly determined.

The first site in a cluster to be observed on the scheduled day was randomly selected and the additional sites were assigned in an order which provided balance by type of site and time of day while minimizing travel distance and time. For each site, the schedule specified time of day, day of week, roadway to observe, and direction of traffic to observe.

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 – 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. Fewer sites in the cluster generally result in more time in each period. Exact timing of the periods was subject to adjustment, but ultimately resulted in approximately equal numbers of sites being observed throughout the 7 a.m. – 6 p.m. time frame. In all cases, the period of actual seat belt use observation lasted exactly one hour and was required to take place within the broader allowable time period.

Observation Site Details

As described above, in advance of actually going to the sites to collect data, 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. Where convenient, potential site locations were visited in advance. Potential sites were described by location, possible observation points, and direction of travel to be observed (selected randomly in advance). The complete road segments were also described by map details such as road name or number and segment begin and end points, so that, if an alternative observation site needed to be selected, the observer knew the range of alternatives that could be considered.

Because of the extent of data to observe on each vehicle (see below), we gave preference 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, we sought out suitable observation points toward the middle of the segments but accepted any location along the segment. Preferred locations are those that are near intersections which may cause vehicles to slow, increasing the time for observation and improving data completeness and accuracy. For limited access highway segments, we captured traffic at or near exit ramps where traffic will be slow enough to allow reliable and accurate observations to be made.

Data Collection Procedures

Data collection was done according to the instructions in Appendix B. All passenger vehicles less than 10,000 lbs GVWR are eligible to be observed. Survey information was recorded on an observation data collection form (Appendix C). The form is designed so that pertinent site information can be documented, including county name, city/town/area identifier, exact roadway location, date, day of week, time, weather condition, and direction of traffic flow and lane(s) observed. Each one-page form includes space to record information on 25 vehicles, the driver of that vehicle, and the outboard, front seat passenger, if any. 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. Observations included person gender, age category, and race in addition to belt use. When qualified passengers (outboard front seat, all except children in child restraint seats) were present, data was recorded even if "Unknown"; passenger fields in the data form are left blank only if no qualified passenger is present.

If data could not be collected at a site due to a temporary problem such as bad weather or a very temporary traffic impediment, data collection was rescheduled at the same site for the same time of day and day of the week. If the site could not be used due to a more permanent factor such as construction, the next available alternate in the same county-stratum was used. In future surveys, the original site will be used if possible; if not, the substitute site will be used and a new alternate site will be selected.

Quality Control

Quality control monitors conducted random, unannounced visits to at least 10 observation sites for the purpose of quality control. The monitors ensured that the observer was in place and making observations during the observation period. Where possible, the monitors remained undetected by the observer. 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 includes both classroom instruction and field (road-side) practice.

Data was reviewed as received and no anomalies were found, suggesting the data do 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, we would have followed up to verify whether observations were done properly or not. 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 Preusser Research Group, Inc staff. A thorough check of the data yielded minimal errors, all of which were corrected pre-analysis. The data set was analyzed using the Statistical Package for the Social Sciences (SPSS) and, for weighted analyses, used to estimate the overall statewide average, Microsoft Excel.

Calculation of Seat Belt Usage Rate

As indicated above, an Excel spreadsheet was developed in which raw data observations were recorded and belt use and variability calculations were performed. Calculation of seat belt usage rates follow the formulas provided above. For the Statewide belt use figure to be reported to NHTSA, all observations will be included, i.e., all vehicle types, drivers, and outboard front seat passengers. For the State's own use, seat belt usage rates will also be calculated for subsets of interest, e.g., drivers alone, passengers alone, drivers and/or passengers within vehicle type, or males or females alone. The same calculations performed for the overall rate can be done for subsets of interest, substituting for the site p_{ijk} the site-subset p_{ijk}.

June 2012 Florida Statewide Use Rate Survey Results

Observers recorded belt use information on 30,959 drivers and 6,589 outboard front seat passengers observed across 165 sample sites within 15 counties. Table 5 displays number of drivers and passengers observed per county, and in addition, separates the counties by region.

Table 5. Number of Observed Front Seat Occupants per County/Region

	Drivers	Passengers	Total
North Region	**10,069**	**2,253**	**12,322**
Alachua County	1,544	368	1,912
Duval County	2,395	512	2,907
Escambia County	1,995	457	2,452
St. Johns County	2,396	690	3,086
Volusia County	1,739	226	1,965
Central Region	**9,981**	**1,850**	**11,831**
Hillsborough County	2,151	465	2,616
Lake County	1,502	153	1,655
Orange County	1,995	381	2,376
Pasco County	1,800	505	2,305
Seminole County	2,533	346	2,879
South Region	**10,909**	**2,486**	**13,395**
Broward County	3,023	676	3,699
Collier County	1,774	424	2,198
Lee County	1,947	536	2,483
Miami-Dade County	1,882	416	2,298
Palm Beach County	2,283	434	2,717
Statewide Total	**30,959**	**6,589**	**37,548**

The overall belt use rate, for drivers and passengers combined, measured **87.4** percent in June 2012 (Standard Error = 0.882%; 95 Percent Confidence Interval 85.7% – 89.1%). Figure 1, on the subsequent page, shows the trend in belt use over time.

Surveys of belt use conducted during the 1990s indicated no sustained increase in Florida's statewide use rate. Florida's seat belt use rate then improved over time after the year 2000. Increases measured over this time are due, at least in part, to the implementation of highly and widely visible efforts to enforce Florida's adult seat belt law. A substantial rate increase was measured after implementation of the Primary law (June 30, 2009), and the rate has increased in each year since until the 2012 measurement, when the survey was redesigned in compliance with new NHTSA guidelines. Belt use has essentially been the same since 2010; the minor fluctuations are not statistically significant.

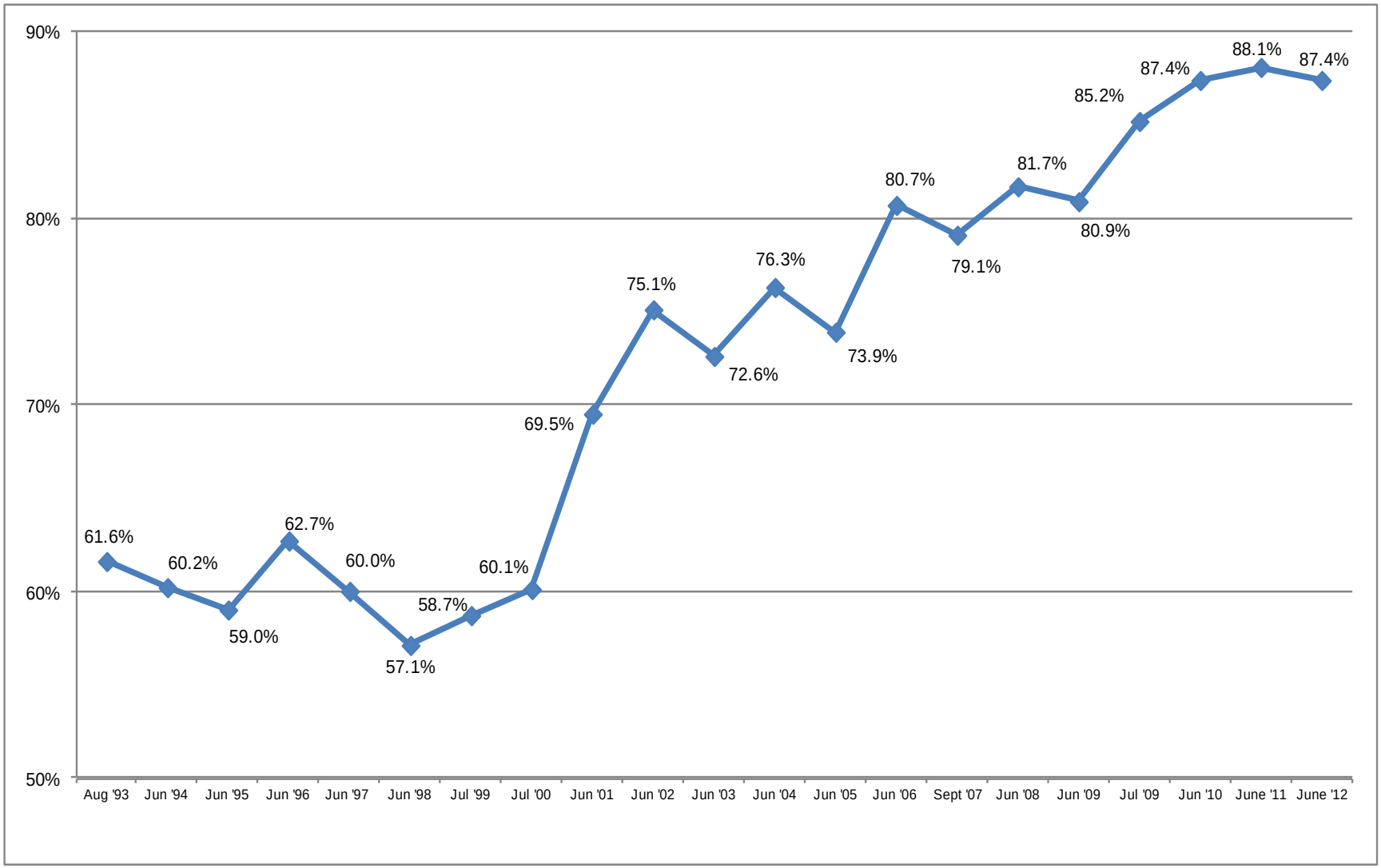

Figure 1. Florida Statewide Observational Survey of Belt Use Results; 1993 – June 2012

Descriptive Information – Based on Weighted Calculations

Belt use differed by roadway type. Figure 2 shows that belt use was highest on Interstates (90.3 percent) and Principal Arterials (88.1 percent), which typically have higher traffic densities and higher rates of speed traveled. Observers measured the lowest usage on Local Roads (81.8 percent), which are roadways usually found within neighborhoods in city limits. This pattern of results has been similar year to year, but with the introduction of the Local Road functional class as part of the new survey guidelines, lower use rates and higher variability were expected.

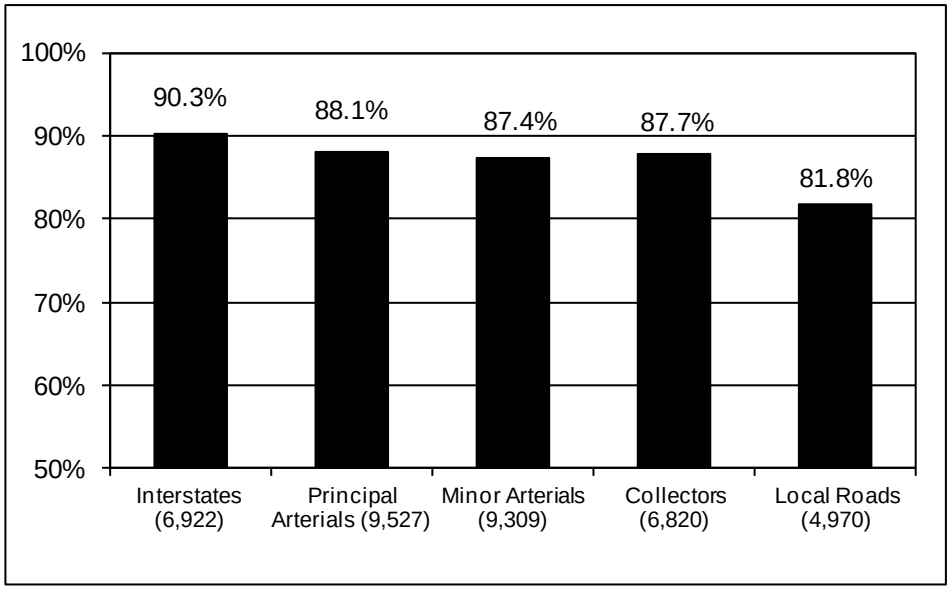

Figure 2. Observed Belt Use Rate by Roadway Type

The survey results indicated that belt usage measured lower among male occupants compared to female occupants (Figure 3). Male passengers were less likely belted compared to male drivers (Figure 4). Male passengers measured 2.5 points lower than their driver counterparts (83.1 percent vs. 85.6 percent, respectively). Female passengers yielded a slightly higher rate (91.9 percent) than the female drivers (90.2 percent), which likely contributed to the higher overall passenger use rate compared to the overall driver use rate (88.0 percent vs. 87.4 percent).

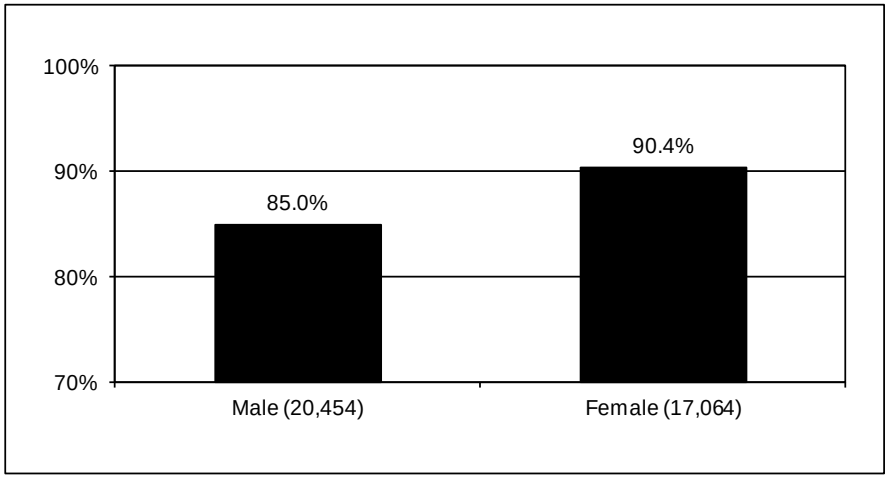

Figure 3. Observed Seat Belt Use Rate by Gender

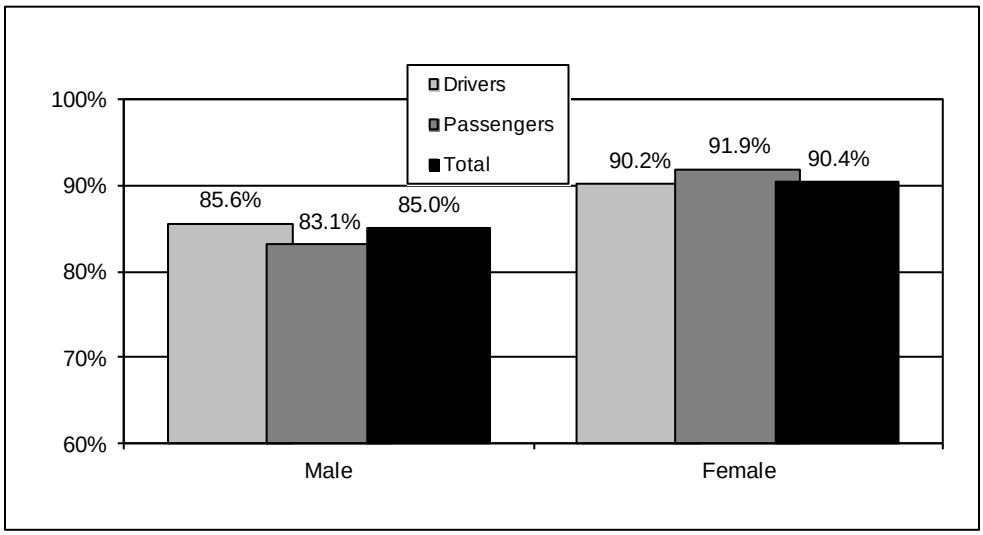

Figure 4. Observed Seat Belt Use Rate by Gender and Front Seat Position

Results from the survey indicated lower belt use among occupants in pickup trucks (80.1 percent) when compared to other vehicle types (Figure 5). Front seat occupants in sport utility vehicles were most likely to be belted (89.7 percent), followed closely by occupants in passenger cars (88.8 percent) and vans (87.9 percent). Occupants in pickup trucks were overwhelmingly male (85.1 percent) when compared the genders of occupants in other vehicle types. As previously indicated, male occupants were less likely to be observed wearing a seat belt.

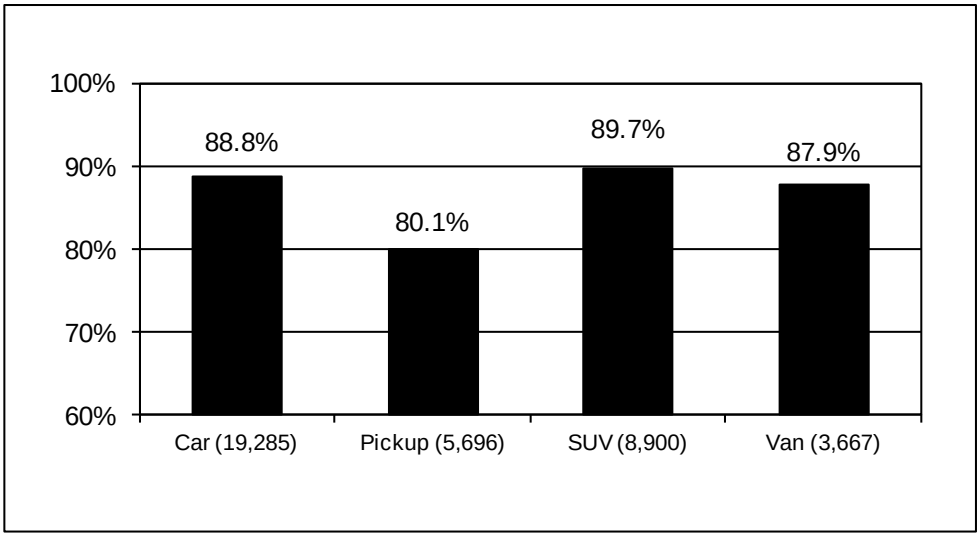

Figure 5. Observed Seat Belt Use Rate by Vehicle Type

Further evidence of the low use rate in pickup trucks can be seen below, where vehicle use rates are examined by occupant type. The trend of slightly higher passenger use did not extend to pickups (Figure 6). Passengers in pickups were observed wearing seat belts the least often of all occupants (77.7 percent).

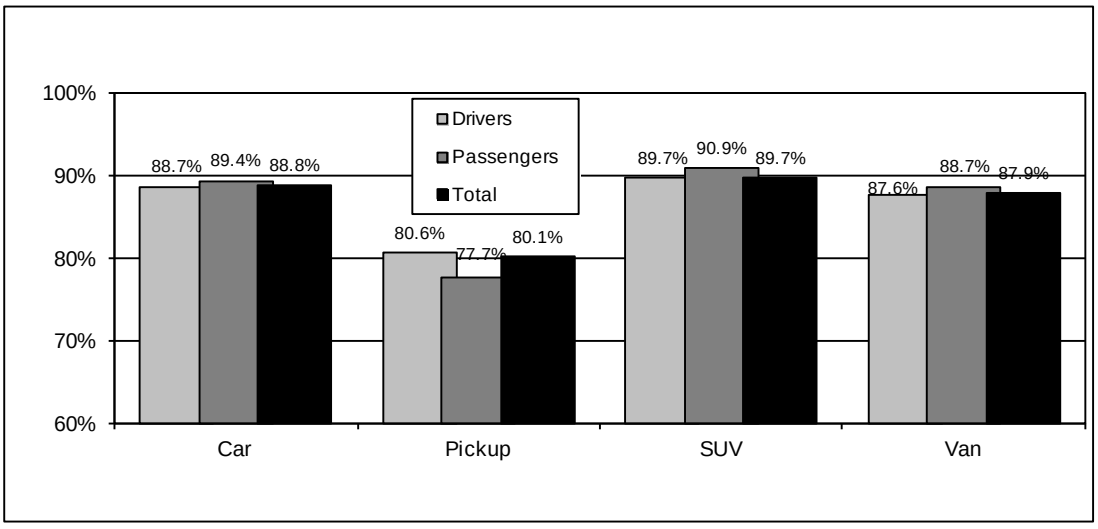

Figure 6. Observed Seat Belt Use Rate by Vehicle Type and Seating Position

Regional Information – Additional Weighted Results

The graphs that follow represent regional findings and are also based on weighted calculations. Figure 7 shows total (overall) occupant belt use by county, grouped by region. The county use rates presented here, although weighted, should be interpreted with caution. The survey design was not intended to provide official county belt use rates but rather a single, statewide use rate. Figure 8 summarizes belt use by region, showing a substantially lower rate in the South.

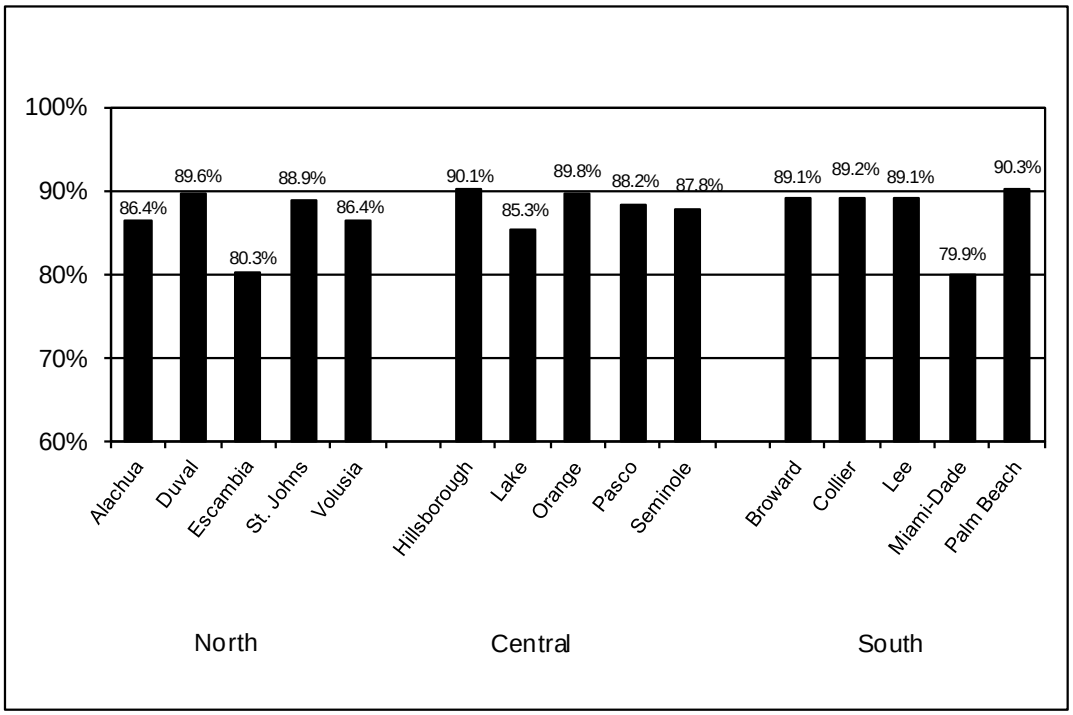

Figure 7. Observed Seat Belt Use Rate by County and Region

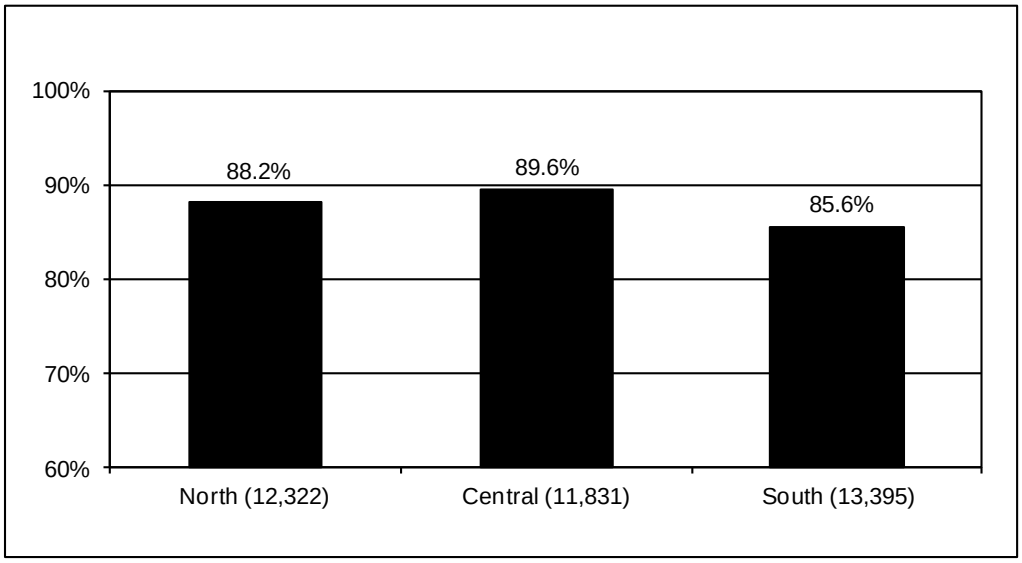

Figure 8. Observed Seat Belt Use Rate by Region

Figure 9 shows the consistency on a regional level in lower belt use of males when compared to females.

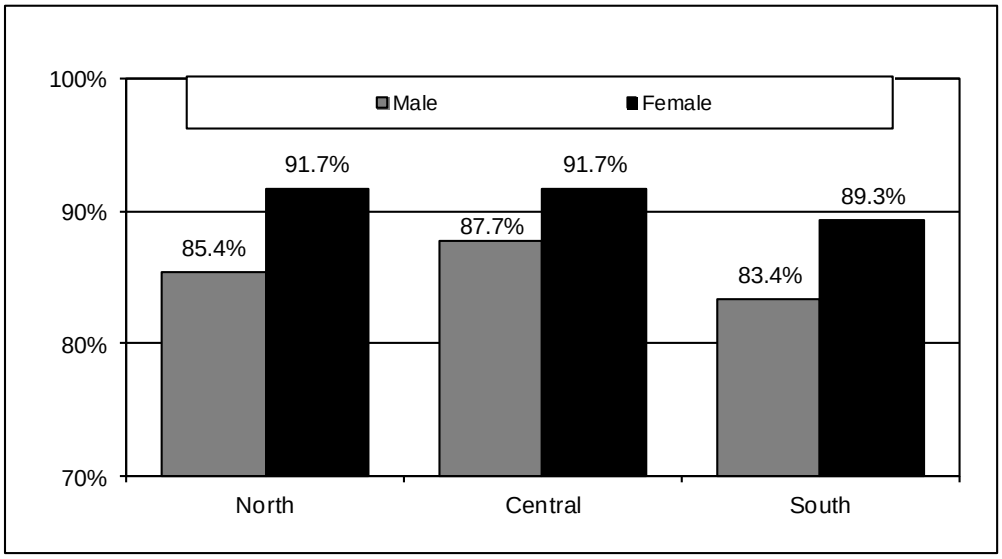

Figure 9. Observed Belt Use Rate by Gender of Occupant and Region

The statewide survey also found a consistent pattern of lower observed belt use among occupants in pickup trucks, regardless of region (Figure 10). Belt use among occupants in pickup trucks was at least 4.1 percentage points lower than the next lowest vehicle type measurement in each of the three regions, with a 10.5 point differential in the North region.

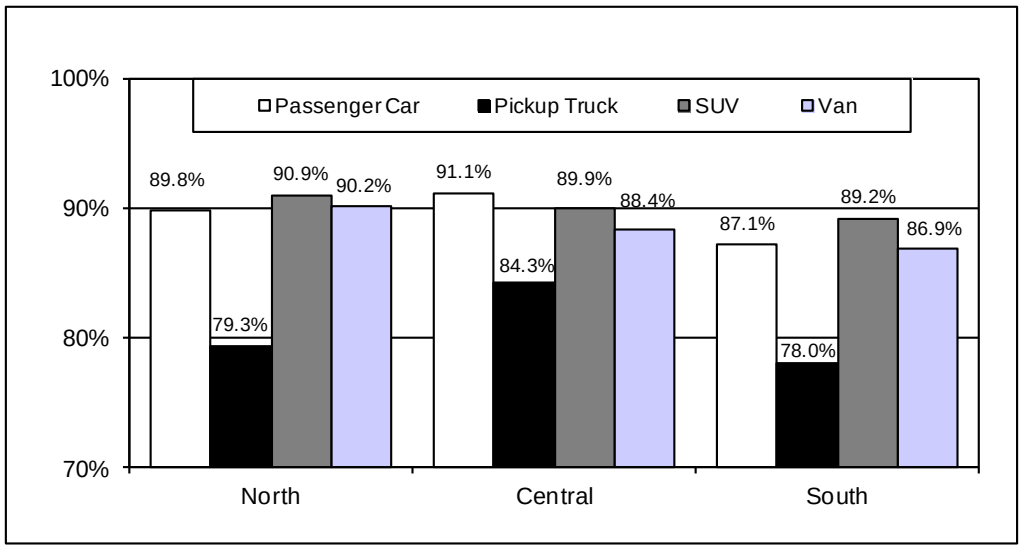

Figure 10. Observed Belt Use Rate by Vehicle Type and Region

Pre vs. Post CIOT 2012 – Descriptives Based on Raw Results

PRG conducted a Baseline statewide survey just prior to CIOT in April 2012. Results from this survey and the Post survey in June 2012 were compared to estimate the effects of the CIOT program under a primary law environment in Florida. Table 6 displays the weighted and unweighted use rates results of each survey. The weighted results indicate an overall increase of 2.4 percentage points between pre- to post-CIOT rates. The breakdown of the unweighted (raw) data counts show that both drivers and passengers increased their use rate following the mobilization. Table 7 provides further information on occupant characteristics based on raw data counts. All these use rates increased pre to post CIOT.

Table 6. Seat Belt Use Rate Pre-Post CIOT 2012

Weighted	**Pre-CIOT April 2012**		**Post-CIOT June 2012**		Pre to Post Difference
	Percent Use	N	Percent Use	N	
Statewide, All Occupants	85.0%	39,225	87.4%	37,548	**+2.4**
Unweighted	**Pre-CIOT April 2012**		**Post-CIOT June 2012**		Pre to Post Difference
	Percent Use	N	Percent Use	N	
Occupant Type					
Driver	85.3	31,515	88.0	30,959	+2.7
Passenger	86.1	7,710	88.7	6,589	+2.6

Table 7. Pre-Post CIOT Unweighted Use Rates by Gender, Age, Race, and Vehicle Type

	Pre-CIOT April 2012		**Post-CIOT June 2012**		Pre to Post Difference
	Percent Use	N	Percent Use	N	
Sex					
Male	82.7	21,427	85.5	20,454	+2.8
Female	88.8	17,759	91.3	17,064	+2.5
Age					
16-59	84.3	30,025	87.4	30,527	+3.1
60 or older	89.2	8,561	91.5	6,415	+2.3
Under 16 (passenger only)	88.3	549	92.1	560	+3.8
Race/Ethnicity					
White	86.4	28,212	88.9	26,631	+2.5
Black	77.9	4,302	82.4	4,218	+4.5
Hispanic	85.6	5,588	88.2	5,747	+2.6
Other	90.4	1,020	92.7	876	+2.3
Vehicle Type					
Car	86.6	20,284	89.4	19,286	+2.8
Truck	76.0	5,830	80.1	5,696	+4.1
SUV	87.7	9,214	90.3	8,901	+2.6
Van	88.0	3,897	89.0	3,667	+1.0

Although all genders, ages, and races/ethnicities showed improvements post-CIOT (especially among those with the most room for growth), the most notable increase in belt use was among Black occupants (4.5 percent). However, most major differentials within the groups remained. It is also important to note the introduction of child passengers to the 2012 survey design. Not only was the pre-post CIOT belt increase in that group substantial, their new presence in the measurement likely contributed to the higher passenger use rate, in general.

An examination of occupant belt use by vehicle type also showed increases pre to post CIOT among all categories, with occupants in trucks demonstrating the greatest rise in belt use (4.1 percent) among vehicle types. Even with that increase, occupant belt use rates in pickup trucks continue to lag behind the use rates of occupants in other vehicle types.

The unweighted data presented in Table 8 concern location and daily travel characteristics. Nearly all the individual raw rates indicate higher belt use post-mobilization. Increases were measured across all (the North, Central, and South) regions as a whole. Further breakdowns show there to be only one slightly negatively-performing county (Miami-Dade), and increases in belt use were found in 13 of the 15 counties observed (ranging from 0.3 to 5.8 percentage point increases). This is an improvement over CIOT 2011 when pre to post increases in belt use were found in 75 percent of the counties measured.

Table 8. Unweighted (Raw) Seat Belt Use Rates by Region, County, Road Type, and Day of Week Pre-Post CIOT 2012

	Pre-CIOT April 2012		**Post-CIOT June 2012**		Pre to Post Difference
	Percent Use	N	Percent Use	N	
Region and County					
North	**82.8**	**12,919**	**86.8**	**12,322**	**+4.0**
Alachua County	81.9	1,753	85.6	1,912	+3.7
Duval County	83.8	3,061	89.6	2,907	+5.8
Escambia County	75.1	2,817	80.8	2,452	+5.7
St. Johns County	86.9	3,156	89.5	3,086	+2.6
Volusia County	86.4	2,132	87.0	1,965	+0.6
Central	**86.5**	**12,023**	**89.0**	**11,831**	**+3.5**
Hillsborough County	87.0	2,658	89.9	2,616	+2.9
Lake County	85.1	1,649	85.1	1,655	0.0
Orange County	87.4	2,427	90.4	2,376	+3.0
Pasco County	85.9	2,267	88.5	2,305	+2.6
Seminole County	86.8	3,022	89.5	2,879	+2.7
South	**86.8**	**14,283**	**88.7**	**13,395**	**+2.8**
Broward County	85.0	3,936	89.4	3,699	+4.4
Collier County	86.7	2,324	89.5	2,198	+2.8
Lee County	89.1	2,647	90.6	2,483	+1.5
Miami-Dade County	84.9	2,681	83.8	2,298	-1.1
Palm Beach County	89.4	2,695	89.7	2,717	+0.3
Roadway Type	88.5	7,700	90.5	6,922	
Interstate	84.9	9,681	87.7	9,527	+2.0
Principal Arterial	85.7	9,816	87.2	9,309	+2.8

	Pre-CIOT April 2012		Post-CIOT June 2012		Pre to Post Difference
	Percent Use	N	Percent Use	N	
Minor Arterial	84.2	6,733	88.4	6,820	+1.5
Collector	82.9	5,295	87.2	4,970	+4.2
Local					+4.3
Day of Week					
Monday	84.7	6,729	89.1	5,095	+4.4
Tuesday	84.7	6,139	88.0	6,999	+3.1
Wednesday	85.1	3,951	87.9	4,654	+2.8
Thursday	86.9	5,024	88.4	4,899	+1.5
Friday	84.4	6,945	86.7	6,416	+2.3
Saturday	86.4	6,658	89.4	5,190	+3.0
Sunday	86.4	3,780	88.2	4,297	+1.8

Increases in belt use were measured on all road types, with the highest point increases among roadways with the traditionally lower use rates – collectors and local roads. Examining belt use by day of week showed improvement on all days of week with Monday, the day after CIOT enforcement usually ends, exhibiting the highest change in use rate. Belt use by time of day was also examined, and while we measured pre-post increase, there is very little variance in the use levels among the periods.

In summary, the 2012 CIOT effort achieved its goal in improving seat belt use under an existent primary law environment, resulting in increasing Florida's use rate pre-post mobilization. Improvements were measured across nearly all characteristics in the data.

Conclusion

Florida's statewide seat belt use rate is above the national average and has been for the last four years. The statewide use rate measured in June 2012 was 87.4 percent. This use rate was a slight, non-statistically significant decrease in statewide belt use from June 2011, but this may be an artifact of switching to a new survey design. As noted above, Local Roads, which were not surveyed previously, had a lower belt use rate than the larger, busier road type strata. Looking only at the other four strata, statewide belt use would have been 88.4 percent, not significantly different than the reported 87.4 percent but slightly higher than the June 2011 value (88.1 percent).There are other minor differences between the old survey and the current one, but it is fair to conclude that statewide seat belt use is essentially unchanged from 2011 and 2010. The values in these last three years represent a new high in seat belt use in Florida.

Statewide surveys conducted before and after the 2012 CIOT found that the program positively affected seat belt usage in Florida. The increases measured in 2012 were found in all regions, in both urban and rural areas, and across different occupant and vehicle characteristics; regardless of whether initial belt use rates were higher or lower. Statewide seatbelt surveys completed in 2012 show that the continued use of a high visibility program focused on seat belt enforcement can still increase daytime seat belt usage among all occupant types.

Appendix A. 32 Florida Counties with Fewest Passenger Vehicle Fatalities, 2005-2009

County	Region	N Fatal	% all FL	Cum %	Total DVMT[1]	% all FL	Cum %
Top 35 counties		**7,981**	**85.4%**	**85.4%**	**482,049,032**	**89.9%**	**89.9%**
Bay	North	81	0.9%	86.3%	5,032,335	0.9%	90.8%
Clay	North	80	0.9%	87.1%	4,371,071	0.8%	91.6%
Santa Rosa	North	78	0.8%	88.0%	5,577,310	1.0%	92.7%
Suwannee	North	76	0.8%	88.8%	2,391,386	0.4%	93.1%
Putnam	North	75	0.8%	89.6%	2,759,756	0.5%	93.6%
Hendry	South	74	0.8%	90.4%	1,079,455	0.2%	93.8%
Highlands	Central	72	0.8%	91.1%	2,992,432	0.6%	94.4%
Nassau	North	72	0.8%	91.9%	2,768,971	0.5%	94.9%
Flagler	North	65	0.7%	92.6%	2,905,246	0.5%	95.5%
Levy	North	59	0.6%	93.2%	1,616,902	0.3%	95.8%
Okeechobee	Central	57	0.6%	93.8%	1,266,898	0.2%	96.0%
Madison	North	55	0.6%	94.4%	1,524,037	0.3%	96.3%
Baker	North	52	0.6%	95.0%	1,606,959	0.3%	96.6%
Monroe	South	51	0.5%	95.5%	2,920,886	0.5%	97.1%
Desoto	Central	48	0.5%	96.0%	917,476	0.2%	97.3%
Washington	North	41	0.4%	96.5%	1,563,481	0.3%	97.6%
Jefferson	North	32	0.3%	96.8%	1,190,899	0.2%	97.8%
Bradford	North	28	0.3%	97.1%	999,795	0.2%	98.0%
Dixie	North	28	0.3%	97.4%	769,167	0.1%	98.1%
Hardee	Central	26	0.3%	97.7%	1,045,482	0.2%	98.3%
Glades	South	25	0.3%	98.0%	497,666	0.1%	98.4%
Taylor	North	23	0.2%	98.2%	1,106,994	0.2%	98.6%
Gilchrist	North	22	0.2%	98.5%	657,319	0.1%	98.7%
Hamilton	North	22	0.2%	98.7%	1,489,359	0.3%	99.0%
Union	North	22	0.2%	98.9%	409,325	0.1%	99.1%
Holmes	North	21	0.2%	99.1%	1,100,712	0.2%	99.3%
Wakulla	North	21	0.2%	99.4%	1,071,669	0.2%	99.5%
Calhoun	North	18	0.2%	99.6%	650,899	0.1%	99.6%
Gulf	North	15	0.2%	99.7%	523,768	0.1%	99.7%
Franklin	North	11	0.1%	99.8%	470,253	0.1%	99.8%
Liberty	North	10	0.1%	99.9%	543,864	0.1%	99.9%
Lafayette	North	7	0.1%	100.0%	444,674	0.1%	100.0%
Florida Total		9,348		100.0%	536,315,479		100.0%

[1] *2010 DVMT figures; includes all Florida roadways*

Appendix B. Seat Belt Observation Instructions

These instructions describe procedures for observing seat belts. Please keep these instructions handy for quick review.

1. Observation Sites

Our Statewide sample of randomly selected controlled roads and freeway exits includes 165 observation sites across 15 counties.

This is the first time that this specific design and list of observation sites has been used. You may be the first person to actually visit the sites. If so, it will be up to you to find a suitable location for observation or, if the road segment is in some way compromised (e.g., closed or under construction) so that normal traffic can't occur, disqualify the site and move to the next alternate.

You will be given a general map of the road segment on which you are to observe (together with time for observation and direction of traffic to observe). When you get to the general location, your first task is to find a specific location for observing. We will provide a recommended location for observation; however, should it be unsuitable, you can select a different location along the road anywhere between the road segment's end points. The general map will show the end points of the road segment, or identify possible highway exit ramps, on which observations can be made.

It is recommended that you first look for a place where traffic must slow naturally, for a traffic control (stop signs are better than traffic signals) or a sharp curve on an expressway exit ramp.

Select a spot where you can observe safely, without risk to yourself or to traffic (e.g., by being a distraction or by impeding their view), and where you can readily observe drivers and outboard front seat passengers. Note that the direction of travel you must observe has already been specified.

When you have selected the exact location for observing, show the location on your general map and then make a detailed "site map" – a drawing that shows where to stand, the traffic flow you're observing, the names of the intersecting roadways, nearby buildings, etc.

2. Observation Days and Times

You will receive a schedule that has assigned observation locations with day of week and time of day. You must adhere to this schedule if at all possible. Observe in poor weather as long as you can stay dry (enough) and your ability to make accurate judgments is not compromised.

Each day is comprised of three-to-six daylight time periods, and your schedule will include three to six locations to observe. The time periods are:

3 Periods	4 Periods	5 Periods	6 Periods
7:00 – 10:30 a.m. 10:30 a.m. – 2:30 p.m. 2:30 – 6:00 p.m.	7:00 – 9:30 a.m. 9:30 a.m. – 12:00 noon 12:00 a.m. –3:30 p.m. 3:30 – 6:00 p.m.	7:00 – 9:00 a.m. 9:00 – 11:00 a.m. 11:00 a.m. – 2:00 p.m. 2:00 – 4:00 p.m. 4:00 – 6:00 p.m.	7:00 – 8:45 a.m. 8:45 – 10:30 a.m. 10:30 a.m. – 12:15 p.m. 12:15 – 2:30 p.m. 2:30 – 4:15 p.m. 4:15 – 6:00 p.m.

You need to observe for one full hour at each site. The observation hour should be continuous and should fall entirely within the observation period. Use the extra time in the observation periods to move between sites, locate and document your observation positions, eat lunch, etc.

3. List of Sites

In your packet of materials is your list of observation sites, together with maps, descriptive information (road names, cross streets, direction of travel to observe, etc.), and schedule.

4. What to Do if a Site Is Unusable/Inaccessible

Alternate sites with the same information are also provided. If you determine that the primary site cannot be used, you must select an alternate site. The alternate MUST be:

- The first site in your set of alternates that "matches," i.e.:
  - In the same county.
  - Of the same Roadway Type (there are 5 types; in decreasing size and traffic volume, they are: Interstate/Expressway, Other Principal Arterial, Minor Arterial, Collector, and Local).

If you must move to an alternate site, indicate on the general map for the primary site why you can't use it, go to the alternate, pick an appropriate observation spot, document it, etc.

If you use an alternate site, you must observe at the site during the same time period and day of week as the schedule for the site it replaces.

5. Which Roadway and Direction to Observe

It is important to recognize that one can**not** simply choose to observe traffic on either of the intersecting roadways at an intersection. The roadway and direction to observe are clearly indicated on the general site map. If possible, you **must** observe traffic on this roadway traveling in the direction indicated. If the roadway is a freeway/expressway/interstate, you are to code motorists who were traveling in the direction indicated as they leave this roadway via an exit.

If you cannot observe belt use for the direction specified, you may switch and observe traffic in the opposite direction. Switching direction is a **last resort**. Do this only if there is no safe place for you to position yourself or observations aren't possible due to something like sun glare; if you do this you must document the reasons for switching.

6. Which Vehicles to Observe

a. Code passenger cars, vans, jeeps, pickup trucks, and sport utility vehicles (SUVs) that are less than 10,000 lbs GVWR. Within these categories, there are no exceptions; code commercial vehicles (any vehicle with a sign on the outside), government vehicles, emergency vehicles, etc. Do NOT code large buses and heavy trucks.

b. You will have selected an observation point where you expect you will be able to code nearly every qualified vehicle. If traffic is moderate and you are near a stop-sign-controlled intersection (or a roundabout, or some other location where all traffic is slowed), this is realistic. If you are near a signal-controlled intersection, you may find that free-flowing traffic on the green signal is moving too fast. In that case, go to step (c). **The goal is to have very, very few "unsure".**

c. If you need to observe traffic stopped/slowed by a red light, begin observations with the **second** vehicle in a line of vehicles stopped at the traffic signal. Code restraint use by occupants of the second vehicle, then code the third vehicle in line, etc. Continue until the vehicles begin to move too rapidly with the green signal.

d. On surface streets with multiple approaching lanes of traffic, code traffic in all approaching lanes **including** ones for right or left turns, if any. At signal-controlled intersections, begin with the second vehicle in the near lane, then the second in the next lane, etc., to the third in the near lane, etc. For the next red signal, begin with second vehicle in the lane you left off at on the preceding signal phase. If the level of traffic is too high to code all lanes, observe each lane exclusively for an equal length of time, broken into 10 or 15 minute periods (with each lane observed for the same number of periods).

e. In the case of freeway exits, find a location controlled by a sharp turn, a stop sign, or a traffic signal so that you can observe nearly all vehicles as they slow down. If possible, do not choose a location that depends on vehicles slowing because they can't merge smoothly, since that would bias your selection to that category of drivers.

7. Heavy Traffic Conditions

Heavy traffic conditions should not affect observations at signalized intersections. For example, at a red light, you should begin with the second vehicle in the near lane and code the occupant and vehicle characteristics. You should then proceed to the second vehicle in the next lane, etc., then the third vehicle in the near through lane, and so on until traffic begins to move (you can walk alongside the line of vehicles). It is likely that, in heavy traffic conditions, there will be more cars stopped than you can code before traffic begins to move.

At freeway exits, it is possible that, in heavy traffic conditions, there is an "unending" line of vehicles slowing/stopped before entering the flow of traffic. In this situation, begin with the second vehicle in line (vehicle "A"). Code the pertinent information for

vehicle "A" and mark it on the coding sheet. One or more cars may have passed while you are completing the coding for vehicle "A". At the moment coding for vehicle "A" is complete, look up and identify the next slowed/stopped vehicle. Do **not** code that vehicle, but code the one behind it. Continue in this fashion throughout the coding period for that observation site.

8. How Long to Observe

Observe at each location for a full 60 minutes. A fixed observation period translates to high volume roadways contributing more observation data than low volume roadways. That's the way the study is designed.

9. Whom to Observe

a. **Front seat drivers and outboard passengers**. If there are more than two occupants in the front seat, only observe the driver and the passenger (regardless of age) closest to the passenger-side door. Thus, if there are three occupants in the front seat, the observer would ignore the middle occupant.

b. Code **everyone in the driver's seat and the outboard passenger seat except children in child safety seats**. Do include all other children including children in booster seats. Leave fields for passenger data blank only if there is no qualified passenger present.

10. Recording Data

a. Each coding sheet contains room for 35 vehicles.

b. At the top of each coding sheet is a place for indicating the site code, site name (street/road/highway and identifier such as cross street or exit number), date, day of week, weather, and time of day. At the bottom of the sheet is a place to indicate page number and how many pages of site data there are. Make sure this is filled in accurately and completely for each coding sheet. For "location code", write in **both** the site number **and** the street/road location. THE LOCATION CODE IS EXTREMELY IMPORTANT.

c. Please place the coding forms in order in envelopes to return to PRG-South. Keep all the coding sheets for a county in one envelope. Within a county, try to place the coding sheets in order from lowest to highest intersection number. For each intersection, place the pages in order (e.g., 1 of 6, 2 of 6, 3 of 6, etc.).

11. Codes

a. **Vehicle**: Indicate the type of vehicle in which the person is riding.

C = Car
V = Van, minivan or other like vehicle
T = Truck, i.e., pickup truck with a separate bed, even if enclosed
S = Sport Utility Vehicle

b. **Sex** (**S**): Note the gender of the person being observed, male (M) or female (F) or unsure (U).

c. **Age** (A): Note the age range of the person being observed.

C = Child age 15 or younger (passenger only)
Y = 16-59
O = 60 years or older
U = Unsure

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

W = White
B = Black
H = Hispanic
O = Other
U = Unsure

e. **Restraint Use**

Seat belts: Code if the occupant is (Y) or is not (N) wearing a seat belt. **Code based on the shoulder belt.** If the shoulder belt is visible and properly positioned, code Y. If the person is adequately visible and no shoulder belt use is seen, code N. If you cannot see the person clearly enough to determine whether or not a shoulder belt is visible, code U (uncertain). In general, try to avoid the U code.

If the shoulder belt is improperly fastened, i.e., looped behind the back or under the arm, code N for improper use.

12. Returning Materials After Completing Observations

Make sure to return all materials back to PRG-South:

a. Completed coding forms
b. Unused coding forms (only after the last survey)
c. Site maps (with any changes noted – only after the last survey)
d. Maps (with any changes noted – only after the last survey)
e. List of intersections (with any changes noted – only after the last survey)

13. General Tips

Conducting seat belt observations is not particularly hard work, but it is tedious work. Conditions are often hot and humid. Observers must make a special effort to maintain the quality of the observations. Here are some tips and recommendations based on years of conducting these observations.

1. Dress for the work. A hat, sunscreen and sun glasses are essential. If you don't have the complexion that will allow several hours in the sun, you should wear long pants and long-sleeved shirts. The discomfort that comes with the heat is much more bearable (and considerably shorter) than a severe sunburn.

2. Wear an orange safety vest at all times. Drivers are wary of people hanging around corners peering into cars, especially if they have kids in the car. The vest gives you an "official" air that may put drivers at ease. Still, don't be insulted by windows going up, doors locking, etc.

3. You will have an identification letter from DOT; keep it handy. Police officers and others will probably not be aware of the project. If anyone asks what is being done, tell them and show them the letter.

4. Be thoroughly familiar with all the procedures in this manual. Just one person consistently making the same mistakes can bias the results. The point of this research is to get an accurate reading of seat belt usage so education campaigns can be developed for low usage groups. Accurate information is of paramount importance.

5. Each observer is ultimately responsible for his/her work, as well as safety. Remember, observation requires that you stand close to traffic. Stay alert and be ready to react.

Appendix C. Florida Seat Belt Observation Form

SITE NUMBER:_____ **SITE:**_____

NOTES:_____

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

DIRECTION OF TRAFFIC FLOW (Circle one): N S E W

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

WEATHER CONDITIONS

1 Clear / Sunny **4 Fog**
2 Light Rain **5 Wet But Not Raining**
3 Cloudy

	VEHICLE	DRIVER				PASSENGER			
Veh. #	**Vehicle** C = car T = truck S = suv V = van	**Sex** M = male F = female U = unsure	**Age** Y = 16-59 O = 60 or older U = unknown	**Race** W = White B = Black H = Hispanic O = Other U = unsure	**Use** Y = yes N = no U = unsure	**Sex** M = male F = female U = unsure	**Age** C = 15 Y = 16-59 O = 60 or older U = unknown	**Race** W = White B = Black H = Hispanic O = Other U = unsure	**Use** Y = yes N = no U = unsure
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FLORIDA SEAT BELT SURVEY
FORM 2012

Page:_____ **of**_____

Appendix D. Florida Site List - Road Segments Chosen for Use

County Name	Roadway ID	Local Road Name	Begin Point	From Street	End Point	To Street	Length (miles)	Functional Classification Stratum	Functional Class. Strat Label
Alachua	26260000	I-75	14.570	0	17.160	0	2.590	1	Intst/Xwy
Alachua	26260000	I-75	1.000	0	9.688	0	8.688	1	Intst/Xwy
Alachua	26070000	W NEWBERRY RD	3.966	0	9.872	0	5.906	2	OthPrinArt
Alachua	26220000	SR 121/SW WILLISTON	8.931	0	10.228	0	1.297	2	OthPrinArt
Alachua	26590000	NW 43RD ST	17.104	0	18.112	0	1.008	3	MinorArt
Alachua	26090000	SW ARCHER RD	5.565	0	8.766	0	3.201	3	MinorArt
Alachua	26000037	SW 6TH ST	0.000	0	0.970	0	0.970	4	Collector
Alachua	26555000	SW 40 BLVD	0.000	0	0.317	0	0.317	4	Collector
Alachua	26A00706	SW 37th Blvd	0.533	0	0.677	0	0.143	A40	Local Rd
Alachua	26680000	County Hwy 1469	4.339	0	4.668	0	0.329	A40	Local Rd
Alachua	26A03215	NW 175th Ave	0.633	0	1.145	0	0.511	A41	Local Rd
Broward	86470000	FLORIDA'S TURNPIKE	2.913	0	6.743	0	3.830	1	Intst/Xwy
Broward	86075000	I-75	7.686	0	9.516	0	1.830	1	Intst/Xwy
Broward	86220000	UNIVERSITY DR	14.519	0	15.520	0	1.001	2	OthPrinArt
Broward	86100000	US 441/SR 7	4.089	0	5.084	0	0.995	2	OthPrinArt
Broward	86080500	SR 84 EASTBOUND	10.934	0	12.002	0	1.068	3	MinorArt
Broward	86004000	CORAL RIDGE DR	21.852	0	22.459	0	0.607	3	MinorArt
Broward	86000447	NE 20 AVE	0.178	0	0.561	0	0.383	4	Collector
Broward	86000493	DYKES RD	0.000	0	1.006	0	1.006	4	Collector
Broward	86000415	SW 30th Ave	1.525	0	1.602	0	0.077	A45	Local Rd
Broward	86000453	Blount Rd	1.323	0	1.517	0	0.194	A45	Local Rd
Broward	86000222	SW 46th Ave (Lyons Rd?)	1.123	0	1.252	0	0.130	A45	Local Rd
Collier	03175000	SR 93 / I-75	53.700	0	56.280	0	2.580	1	Intst/Xwy
Collier	03175000	ALLIGATOR ALLEY,I-75	0.063	0	29.200	0	29.137	1	Intst/Xwy
Collier	03080000	SR 29	17.000	0	27.208	0	10.208	2	OthPrinArt
Collier	03010000	TAMIAMI TRAIL	10.630	0	12.038	0	1.408	2	OthPrinArt
Collier	03003000	AIRPORT/PINE RIDGE R	5.851	0	7.294	0	1.443	3	MinorArt
Collier	03530000	COLLIER BLVD.	10.074	0	13.480	0	3.406	3	MinorArt

Collier	03000043	13TH STREET	4.282	0	6.284	0	2.002	4	Collector
Collier	03030000	N COLLIER BLVD	0.000	0	2.157	0	2.157	4	Collector
Collier	03A04916	Laurel Oak Dr	0.118	0	0.146	0	0.028	A45	Local Rd
Collier	03A01658	Arnold Ave	0.957	0	1.328	0	0.370	A41	Local Rd
Collier	03A00214	Desoto Blvd S	6.654	0	6.905	0	0.251	A41	Local Rd
Duval	72001000	I-295/SR 9A	35.000	0	35.511	0	0.511	1	Intst/Xwy
Duval	72040000	SOUTHSIDE BLVD	2.914	0	4.852	0	1.938	1	Intst/Xwy
Duval	72100000	ATLANTIC BLVD	10.034	0	12.383	0	2.349	2	OthPrinArt
Duval	72120000	NORMANDY BLVD	10.762	0	13.378	0	2.616	2	OthPrinArt
Duval	72193000	Merrill/McCormick (Ft Caroline Rd)	0.876	0	2.469	0	1.593	3	MinorArt
Duval	72028000	BAYMEADOWS RD	0.000	0	1.191	0	1.191	3	MinorArt
Duval	72000121	KERNAN BLVD S	1.269	0	2.820	0	1.551	4	Collector
Duval	72800000	COLLINS RD	0.000	0	6.100	0	6.100	4	Collector
Duval	72A11195	Connie Jean Rd	0.329	0	0.588	0	0.260	A41	Local Rd
Duval	72000117	Hood Rd S	3.304	0	3.632	0	0.332	A41	Local Rd
Duval	72A07054	Jackson Ave N	0.674	0	0.723	0	0.050	A41	Local Rd
Escambia	48260000	I-10	12.257	0	16.481	0	4.224	1	Intst/Xwy
Escambia	48270000	SPUR I-110 SR8A	0.000	0	6.341	0	6.341	1	Intst/Xwy
Escambia	48020000	SCENIC HWY	23.296	0	24.690	0	1.394	2	OthPrinArt
Escambia	48020000	SCENIC HWY	17.290	0	18.312	0	1.022	2	OthPrinArt
Escambia	48050000	N PACE BLVD	21.029	0	23.676	0	2.647	3	MinorArt
Escambia	48010000	E NINE MILE RD	11.323	0	13.777	0	2.454	3	MinorArt
Escambia	48506000	E KINGSFIELD RD	3.678	0	5.445	0	1.767	4	Collector
Escambia	48530000	J EARLE BOWDEN WAY	3.033	0	10.371	0	7.338	4	Collector
Escambia	48A00153	Tara Dawn Ln	0.482	1	0.641	0	0.158	A40	Local Rd
Escambia	48A03414	Taylor Rd	0.883	2	1.156	0	0.271	A45	Local Rd
Escambia	48A05129	Shiloh Dr	0.000	4	0.293	0	0.292	A40	Local Rd
Hillsborough	10470000	VETERANS EXPRESSWAY	2.050	0	4.099	0	2.049	1	Intst/Xwy
Hillsborough	10075000	I - 75	0.000	0	4.381	0	4.381	1	Intst/Xwy
Hillsborurgh	10030000	E HILLSBOROUGH AVE	2.267	0	3.522	0	1.255	2	OthPrinArt
Hillsborurgh	10090000	DR ML KING JR BLVD	5.638	0	7.738	0	2.100	2	OthPrinArt
Hillsborurgh	10504000	W BEARSS AVE	0.000	0	0.200	0	0.200	3	MinorArt
Hillsborurgh	10519000	GIBSONSTON DR	0.000	0	3.502	0	3.502	3	MinorArt

Hillsborurgh	10000209	BRYAN RD	0.000	0	3.040	0	3.040	4	Collector
Hillsborough	10700000	LUTZ-LAKE FERN RD	5.665	0	6.674	0	1.009	4	Collector
Hillsborough	10A21385	W Timberlane Dr	2.062	0	2.107	0	0.046	A45	Local Rd
Hillsborough	10A07950	Leroy Collins Blvd	0.198	0	0.399	0	0.202	A45	Local Rd
Hillsborough	10523000	Symmes Rd	3.610	0	3.872	0	0.263	A41	Local Rd
Lake	11470000	FLORIDA'S TURNPIKE	1.276	0	1.612	0	0.336	1	Intst/Xwy
Lake	11470000	FLORIDA'S TURNPIKE	1.276	0	1.612	0	0.336	1	Intst/Xwy
Lake	11200000	US 27	1.723	0	3.728	0	2.005	2	OthPrinArt
Lake	11010000	ORANGE BLOSSOM TRAIL	14.253	0	17.470	0	3.217	2	OthPrinArt
Lake	11030000	CR 435	0.000	0	1.673	0	1.673	3	MinorArt
Lake	11190000	SR 19	0.569	0	9.725	0	9.156	3	MinorArt
Lake	11503500	LAKESHORE DR	0.000	0	3.100	0	3.100	4	Collector
Lake	11090000	LAKE DRIVE, C-561	21.379	0	23.872	0	2.493	4	Collector
Lake	11A01640	Starlight	0.273	0	0.368	0	0.095	A41	Local Rd
Lake	11A02348	Magnolia Dr	0.028	0	0.138	0	0.110	A41	Local Rd
Lake	11A07586	Oakley Seaver Dr	0.524	0	0.660	0	0.136	A41	Local Rd
Lee	12075000	SR 93/I-75	0.000	0	1.029	0	1.029	1	Intst/Xwy
Lee	12075000	SR 93/I-75	12.614	0	16.452	0	3.838	1	Intst/Xwy
Lee	12020000	PALM BEACH BLVD	2.506	0	4.364	0	1.858	2	OthPrinArt
Lee	12020000	PALM BEACH BLVD	13.320	0	18.241	0	4.921	2	OthPrinArt
Lee	12640000	CORKSCREW ROAD	0.000	0	1.379	0	1.379	3	MinorArt
Lee	12004000	GLADIOLUS DR	8.254	0	9.570	0	1.316	3	MinorArt
Lee	12000151	COUNTRY CLUB BLVD.	0.000	0	1.600	0	1.600	4	Collector
Lee	12000129	MCGREGOR BLVD/CR867	0.271	0	2.949	0	2.678	4	Collector
Lee	12000152	Ben Hill Griffin Pkwy	3.894	0	4.012	0	0.118	A45	Local Rd
Lee	12A10866	SE 6th St	0.228	0	0.362	0	0.134	A41	Local Rd
Lee	12A18697	Del Lago Way	0.948	0	1.628	0	0.682	A41	Local Rd
Miami-Dade	87270000	NORTH SOUTH EXPWY	12.380	0	14.404	0	2.024	1	Intst/Xwy
Miami-Dade	87005000	SOUTH DADE EXPWY	0.000	0	2.397	0	2.397	1	Intst/Xwy
Miami-Dade	87010000	SOUTH DIXIE HIGHWAY	0.000	0	13.947	0	13.947	2	OthPrinArt
Miami-Dade	87052000	NW 119 ST/GRATIGNY D	0.000	0	0.892	0	0.892	2	OthPrinArt
Miami-Dade	87190000	WEST DIXIE HWY	0.597	0	2.794	0	2.197	3	MinorArt

Miami-Dade	87055000	SW 72 ST/SUNSET DR	4.018	0	5.066	0	1.048	3	MinorArt
Miami-Dade	87063500	NW 67 AVE	0.000	0	2.000	0	2.000	4	Collector
Miami-Dade	87000617	TENESSEE DR/SW 167AV	0.000	0	1.924	0	1.924	4	Collector
Miami-Dade	87A00653	SW 99th Ave	0.441	0	0.488	0	0.048	A41	Local Rd
Miami-Dade	87A04543	SW 43rd St	0.282	0	0.379	0	0.097	A41	Local Rd
Miami-Dade	87A08024	SW 254th St	0.122	0	0.512	0	0.389	A41	Local Rd
Orange	75340000	JOHN LAND APOPKAEXPY	0.000	0	5.662	0	5.662	1	Intst/Xwy
Orange	75280000	I-4	13.675	0	15.555	0	1.880	1	Intst/Xwy
Orange	75037000	ALAFAYA TR	2.468	0	3.126	0	0.658	2	OthPrinArt
Orange	75010000	ORANGE BLOSSOM TRL	1.707	0	4.095	0	2.388	2	OthPrinArt
Orange	75035000	CR 535	0.644	0	1.799	0	1.155	3	MinorArt
Orange	75000012	APOPKA/VINELAND RD	1.154	0	4.544	0	3.390	3	MinorArt
Orange	75000030	ROUSE ROAD	2.600	0	3.580	0	0.980	4	Collector
Orange	75000099	MAIN ST	3.000	0	3.775	0	0.775	4	Collector
Orange	75A10465	Avondale Ave	0.000	0	0.062	0	0.063	A41	Local Rd
Orange	75521000	Lee Vista Blvd	0.953	0	1.110	0	0.153	A45	Local Rd
Orange	75A04828	Cassatt Ave	0.308	0	0.567	0	0.259	A41	Local Rd
Palm Beach	93470000	FLORIDA'S TURNPIKE	2.754	0	8.669	0	5.915	1	Intst/Xwy
Palm Beach	93470000	FLORIDA'S TURNPIKE	8.669	0	13.795	0	5.126	1	Intst/Xwy
Palm Beach	93310000	BEELINE HWY	13.529	0	16.933	0	3.404	2	OthPrinArt
Palm Beach	93580504	CONGRESS AVE	0.000	0	1.184	0	1.184	2	OthPrinArt
Palm Beach	93150000	SR809/MILITARY TRAIL	17.142	0	17.669	0	0.527	3	MinorArt
Palm Beach	93070000	MILITARY TR	1.106	0	1.539	0	0.433	3	MinorArt
Palm Beach	93562000	WELLINGTON TRACE	0.776	0	1.560	0	0.784	4	Collector
Palm Beach	93110000	CR 880	9.794	0	22.905	0	13.111	4	Collector
Palm Beach	93A11709	Seminole Blvd	0.000	0	0.031	0	0.031	A41	Local Rd
Palm Beach	93A00871	Lyons Rd	0.000	0	0.228	0	0.229	A41	Local Rd
Palm Beach	93A04383	Diego Dr S	0.485	0	0.557	0	0.072	A41	Local Rd
Pasco	14140000	I 75	0.291	0	1.358	0	1.067	1	Intst/Xwy
Pasco	14140000	I 75	11.588	0	18.852	0	7.264	1	Intst/Xwy
Pasco	14120000	SR 52	3.028	0	8.005	0	4.977	2	OthPrinArt
Pasco	14030000	US 19	7.710	0	11.474	0	3.764	2	OthPrinArt
Pasco	14000080	EILAND BLVD	0.000	0	3.826	0	3.826	3	MinorArt
Pasco	14010000	US 41	11.321	0	19.811	0	8.490	3	MinorArt
Pasco	14510000	HAPPY HILL RD	12.088	0	14.172	0	2.084	4	Collector

Pasco	14000045	COLLIER PKWY	0.875	0	4.542	0	3.667	4	Collector
Pasco	14A04627	20th St	0.671	0	0.845	0	0.174	A41	Local Rd
Pasco	14A03795	Lussier Ln	1.086	0	1.178	0	0.091	A41	Local Rd
Pasco	14000105	East Rd	0.000	0	0.253	0	0.254	A40	Local Rd
Seminole	77470000	SEMINOLE EXPRESSWAY	6.089	0	11.609	0	5.520	1	Intst/Xwy
Seminole	77470000	SEMINOLE EXPRESSWAY	14.476	0	17.028	0	2.552	1	Intst/Xwy
Seminole	77120001	FOREST CITY RD	1.305	0	1.795	0	0.490	2	OthPrinArt
Seminole	77120000	SANLANDO SPRINGS RD	6.323	0	7.473	0	1.150	2	OthPrinArt
Seminole	77501000	RED BUG LAKE RD	0.000	0	4.755	0	4.755	3	MinorArt
Seminole	77507000	HOWELL BRANCH RD	0.000	0	1.553	0	1.553	3	MinorArt
Seminole	77000230	ALAFAYA WOODS BLVD	0.000	0	2.352	0	2.352	4	Collector
Seminole	77000200	WYMORE RD	0.296	0	1.210	0	0.914	4	Collector
Seminole	77A00621	E Mitchell Hammock Rd	2.374	0	2.520	0	0.146	A45	Local Rd
Seminole	77A00621	E Mitchell Hammock Rd	2.719	0	2.834	0	0.114	A45	Local Rd
Seminole	77505000	Rinehart Rd	3.169	0	3.298	0	0.116	A45	Local Rd
St Johns	78080000	I-95	0.950	0	8.125	0	7.175	1	Intst/Xwy
St Johns	78080000	I-95	26.155	0	32.060	0	5.905	1	Intst/Xwy
St Johns	78020000	US 1/SR 5	0.977	0	4.950	0	3.973	2	OthPrinArt
St Johns	78020000	US 1/SR 5	6.484	0	13.841	0	7.357	2	OthPrinArt
St Johns	78090000	SR 206	10.621	0	14.255	0	3.634	3	MinorArt
St Johns	78051000	SR 207	12.634	0	14.531	0	1.897	3	MinorArt
St Johns	78520000	INTNL GOLF PKWY	14.101	0	16.153	0	2.052	4	Collector
St Johns	78511000	CR 210/VALLEY RIDGE	0.000	0	1.960	0	1.960	4	Collector
St Johns	78510000	Palm Valley Rd	13.601	0	13.697	0	0.096	A41	Local Rd
St Johns	78A05192	Heritage Landing Pkwy	0.539	0	0.761	0	0.221	A41	Local Rd
St Johns	78A00647	Sawgrass Dr E	2.132	0	2.301	0	0.170	A40	Local Rd
Volusia	79002000	I-95	0.000	0	11.470	0	11.470	1	Intst/Xwy
Volusia	79110000	I-4	11.526	0	14.120	0	2.594	1	Intst/Xwy
Volusia	79230000	DUNLAWTON AVE	2.322	0	2.965	0	0.643	2	OthPrinArt
Volusia	79040000	S WOODLAND BLVD	11.322	0	12.338	0	1.016	2	OthPrinArt
Volusia	79090000	PERKINS HWY	0.203	0	2.376	0	2.173	3	MinorArt
Volusia	79000268	GRAVES AVE	0.000	0	0.739	0	0.739	3	MinorArt
Volusia	79000008	ELKCAM BLVD	2.548	0	4.565	0	2.017	4	Collector
Volusia	79000048	WALL AVE	0.920	0	1.291	0	0.371	4	Collector
Volusia	79000044	N Garfield Ave	0.640	0	0.762	0	0.122	A41	Local Rd

Volusia	79000029	E Minnesota Ave	0.000	0	0.251	0	0.248	A40	Local Rd
Volusia	79A04088	South St	0.435	0	0.505	0	0.070	A40	Local Rd