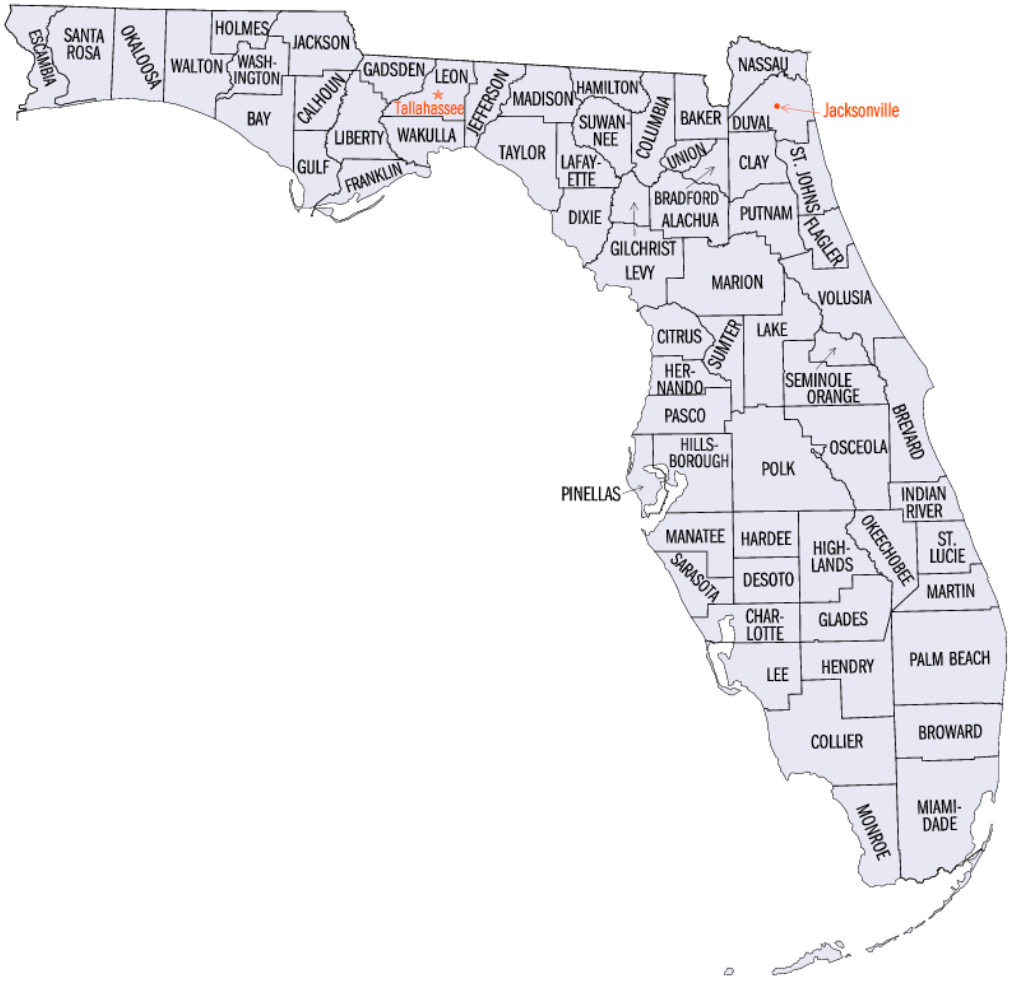
2009-2010 Florida Change to a Primary Enforcement Law for Seat Belt Use

Final Report



September 2010
For: The Florida Department of Transportation

By: Preusser Research Group, Inc.
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I. Background

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. The new law presented an opportunity to evaluate the impact of a change to primary enforcement in a State regularly participating in annual *Click It or Ticket* (CIOT) mobilizations, with a relatively high seat belt usage rate (82%).

The Florida Department of Transportation's Office of Highway Safety contracted with Preusser Research Group, Inc. (PRG) for an evaluation of the uninterrupted change from secondary to primary enforcement of seat belt violations. PRG examined the characteristics of the outcomes of the law change and its association with ongoing CIOT Mobilizations.

Florida's History with SBU Laws and Observed Seat Belt Usage

Years 1982 through 2002

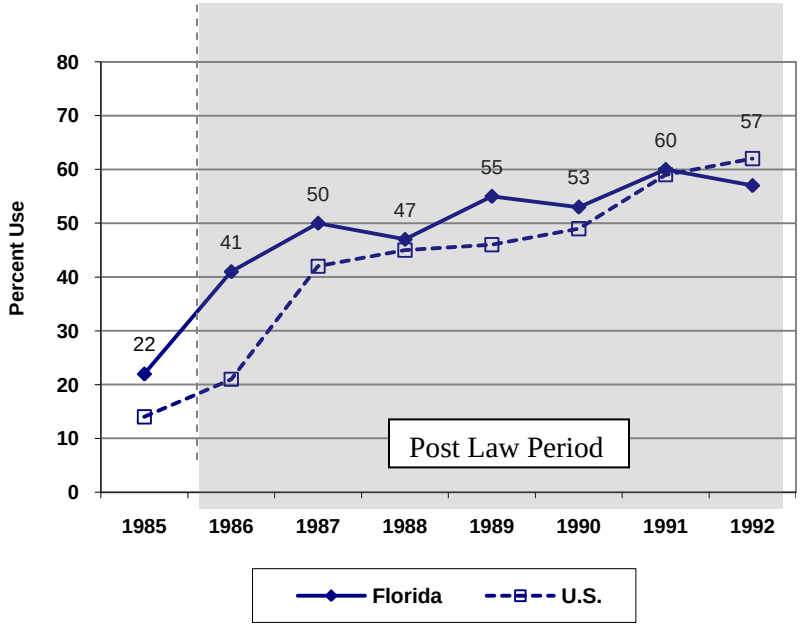
The State of Florida implemented its first adult seat belt law on July 1, 1986. The law was a secondary-law, meaning that, a Florida law enforcement officer could cite a motorist for not wearing a seat belt but only after observing some other violation. Florida's observed seat belt usage rate was low (22%) before the passage of that law (Figure 1). Shortly after enactment, but prior to the implementation of the new law, Florida reported a somewhat higher use rate (28%). It wasn't until after the new secondary law was put into effect, that the State reported considerable improvement (41%; 2nd half of 1986). The following year the State reported even higher belt usage (50%) before reporting a decline (47%) in 1988.

Belt usage increased again from 1988 to 1989 (+8 points) and then again from 1990 to 1991 (+7 points). At that time, Florida participated in *the National 70% by '92* program, the first nationwide enforcement mobilization -- also called *Operation Buckle Down*. During most of this early law period, Florida's use rate was slightly higher than the national use rate, as measured by NHTSA's 19-city survey.[1] That gap declined, however, as more states enacted seat belt laws and participated in national enforcement efforts.

Prior to 2000, the State of Florida typically used "soft" enforcement messages for campaigns to increase seat belt usage. The State used slogans such as "*Thumbs Up*" and "*Operation Beltway*" rather than harder enforcement messaging like "*Click It or Ticket."* At that time, message delivery was typically through the use of Public Service Announcements (PSAs) rather than paid placement of advertisements, and earned media. In addition, due to the State's secondary law status, the State preferred using saturation patrols or regular traffic patrols rather than checkpoints and or enforcement zones.

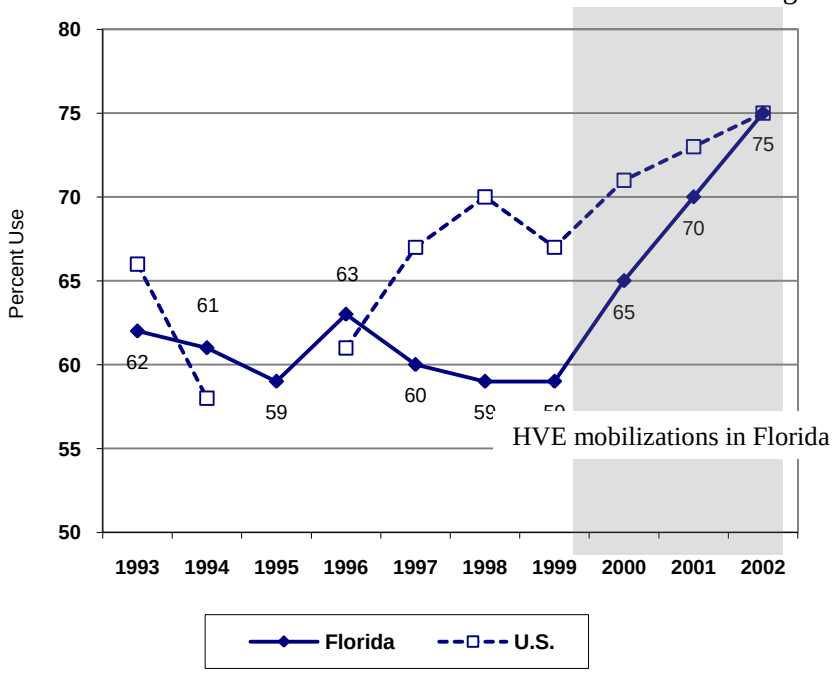
[1] During this period, from 1984 to 1992, when the national use rate derived from the 19-city survey, the sources for such information were as follows: 1983 use rates (Perkins, Cynecki, and Goryl, 1984); 1984 use rates (Goryl and Cynecki, 1985); 1985 use rates (Goryl, 1986); 1986 use rates (Goryl and Bowman, 1987); 1987-88 use rates (Bowman and Rounds, 1988 and 1989); and 1989-91 use rates (Datta and Guzek; 1990, 1991, and 1992).

Figure 1. Observed Seat Belt Use in Florida and the U.S., from 1985 through 1992



Florida along with most States across the U.S. began participating in *Operation ABC* mobilizations in year 2000 (Figure 2). Messaging began to get "harder" after 2000 when the State began participation in HVE efforts that moved more toward the use of paid advertisements. In 2001, Florida along with the entire NHTSA Region IV mounted its own Click It or Ticket mobilization, for which stepped up seat belt enforcement took place over a two-week period, and that enforcement was widely publicized by targeted paid advertisements carrying an enforcement centered message. The following year Florida participated in another Model Seat Belt Enforcement Program (Solomon, 2002), and usage in Florida increased substantially, reaching 75%, just prior to the start of the National Click It or Ticket (*CIOT)* Program in 2003.

Figure 2. Observed Seat Belt Use in Florida and the U.S. from 1993 through 2002

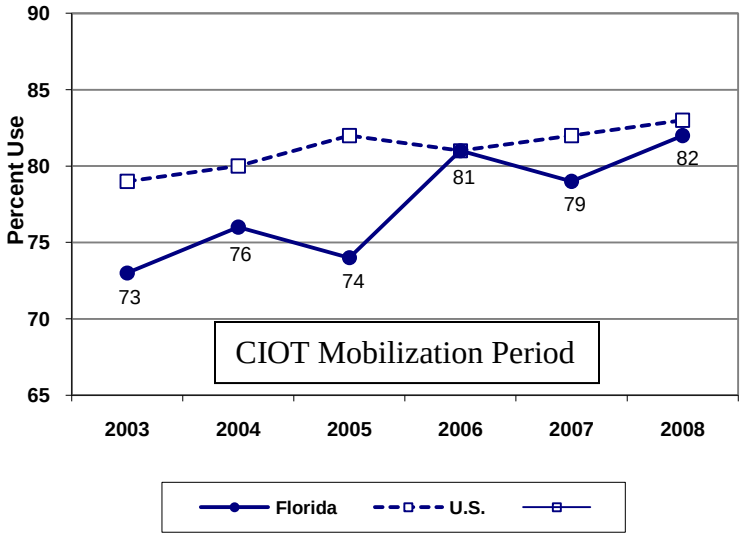


Years 2003 through 2008

Beginning in 2003, national Operation ABC mobilizations became National CIOT mobilizations and the number of States conducting HVE under Section 157 of TEA-21 more than doubled, from less than 20 to more than 40. Associated with this change, U.S. seat belt use increased by 4 percentage points, from 75% in 2002 to 79% in 2003, the second largest one-year gain since a National Occupant Protection Use Survey (NOPUS) was implemented in 1994.

From 1999 through 2004, Florida's observed use rate increased from 59% to 76%. In 2005, the belt usage rate declined slightly. In 2006, Florida re-designed its statewide survey and usage was measured at 81%, seven points higher than in 2005. This was also the final year of a two-year, NHTSA Region-wide, *Buckle Up in Your Truck (BUIYT)* program. By 2008, the official observed use rate in Florida was 82%, nearly identical to the national use rate of 83%. This was the last official observed rate prior to enactment of Florida's primary law upgrade (see Figure 3).

Figure 3. Observed Use in Florida and the U.S. during the CIOT Period: 2003-08



Year 2009 – Adoption and Enactment of the Primary Enforcement Law

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. On June 30, 2009, when Florida implemented a primary seat belt law, it already had a high baseline usage rate (82%). In addition, the State was engaged in a Rural Demonstration Program (RDP) to increase usage in rural areas in the northern part of the State and it was participating in annual Click It or Ticket (CIOT) mobilizations.

Most recent seat belt law upgrades have been accompanied by participation in nationwide enforcement mobilizations. In fact, some of the largest impacts in recent years have been in states that have both upgraded their laws and participated *in Click It or Ticket* (CIOT) campaigns. Examples include Illinois, Michigan, and Washington (Nichols and Ledingham, 2008). Enforcement has been a factor in terms of increasing seat belt use, primarily in association with May CIOT mobilizations. Thus, Florida's past and current experience with high visibility enforcement mobilizations is likely to be an influencing factor in terms of the gain associated with its primary law upgrade.

Preusser Research Group evaluated the change to a primary enforcement law for seat belts in Florida. The general objectives of this study were to:

- Evaluate the effects of the change from a secondary enforcement law to a primary enforcement law, and
- Examine the impact of Florida's first CIOT Mobilization under primary a enforcement law.

II. Methods

Statewide Observational Surveys

Questions regarding *changes in seat belt use* were addressed by 150-site *statewide observational surveys* conducted before and after May mobilizations periods, from 2006 through 2010. An additional statewide survey was conducted in July 2009, immediately after the upgrade went into effect. The results of these surveys provide the primary data for evaluating the impact of the Florida primary law on observed usage. Each of these surveys met the requirements NHTSA set for measuring statewide seat belt use, under Transportation Equity Act for the 21st Century (TEA-21).

[Six waves of 45-site surveys were conducted in north Florida from February 2009 through June 2010 as part of an evaluation of Florida's participation in a Rural Demonstration Program (RDP). These surveys were conducted in February, March, June, October, and November of 2009 and in June of 2010. The surveys were not statistically representative samples of the 36-county region that was targeted by the RDP. Rather, they provided an *index* of seat belt usage that was used to estimate *change* in the targeted area from one wave to another and from just prior to the law upgrade (March and June of 2009) to just after the upgrade (October and November of 2009). Results of the RDP program, including program inputs and outcomes are covered in-depth in another PRG Report (Report Title: *Evaluation of Florida's Rural Demonstration Program*) submitted to the Florida Department of Transportation.]

The key questions PRG sought to answer with the Statewide Observational survey data were:

- Did statewide seat belt use increase with the new primary law, and if so, when and by how much?
- Did the primary enforcement law have differential effects relative to race/ethnicity, age, gender, vehicle type, urban versus rural areas, etc?

DMV Awareness Surveys

Questions regarding *awareness and perceptions regarding the seat belt law and its enforcement* were addressed by means of one-page, paper-and-pencil *surveys conducted at 16 Department of Motor Vehicle Licensing Centers (DMV).* These surveys were conducted in July 2009, soon after the law change and again in June 2010, immediately after the 2010 CIOT Mobilization.

[As was the case with observational surveys, a subsample of (6) DMV licensing centers was selected for awareness surveys in the northern part of the State as part of the State's RDP evaluation. These surveys were conducted at the same time the RDP observational surveys were conducted (i.e., February, March, June, October, and November of 2009 and June of 2010). As previously mentioned, the results of the RDP program are covered in another PRG Report (Report Title: *Evaluation of Florida's Rural Demonstration Program*) submitted to the Florida Department of Transportation.]

Sixteen DMV License Stations distributed one-page, self administered, pen-and-paper surveys to motorists waiting for service. These surveys included several questions asked in previous

surveys used to evaluate seat belt demonstration projects (e.g., Buckle Up In Your Truck programs and Rural Demonstration Programs), but they also included questions regarding the new primary seat belt law. These questions asked *whether or not an officer could stop a vehicle based only upon a seat belt violation* and *whether or not an officer should be able to stop a vehicle based only on a seat belt violation*.

Six of the licensing stations were located in primarily urban counties and 10 were located in more rural counties. Each licensing center was asked to collect up to 200 surveys, with a goal of 1,600 surveys collected across all 16 sites. The following DMV centers were located in urban counties (cities in parentheses): Leon (Tallahassee); Duval (Jacksonville); Orange (Orlando); Pinellas (Tampa); Dade (Miami); Palm Beach. The remainder were located in the following rural counties (and cities): Columbia (Lake City); Dixie (Cross City); Gadsden (Quincy); Hardee (Wauchula); Highlands (Sebring); Jackson (Marianna); Okeechobee (Okeechobee); Polk (Lake Wales); Putnam (East Palatka); and Santa Rosa (Milton). [2]

In general, key questions that PRG sought to answer in the two surveys conducted were:

- Do drivers know the State of Florida has a primary enforcement law?
- Are drivers receptive towards the seat belt law in the State of Florida?
- Did awareness of primary enforcement vary relative to race/ethnicity, age, gender, vehicle type, urban versus rural areas, etc?
- Did awareness of the law increase or decline in the 12-month period after the law change?

In addition, responses to other questions were examined to determine levels of awareness regarding special seat belt enforcement efforts and seat belt messages; perceptions of risk of getting a ticket for not buckling up; and media sources for message awareness.

Uniform Traffic Citation Data

With regard to *enforcement activity*, Florida uses a *Uniform Traffic Citation* (UTC) system whereby all traffic citations issued by law enforcement are routed through the Florida Department of Highway Safety and Motor Vehicles. PRG examined UTC data for seat belt violations, from January 2005 through January 2010, to identify any shift in the total number of citations issued over time.

In general, the key question that PRG sought to answer using UTC data was:

- Did seat belt enforcement increase after changing to a primary law for seat belts.

[2] Based on location, these centers were located as follows: eight centers were located in the northern part of the State (i.e., in Santa Rosa, Jackson, Gadsen, Lean, Columbia, Duval, Dixie, and Putnam counties) and eight centers in counties located in the central and southern part of the State (i.e., in Hillsborough, Orange, Polk, Hardee, Highlands, Okeechobee, Palm Beach, and Miami-Dade counties).

Evaluating the 2010 Click It or Ticket

Mobilization Inputs

Statewide *indices of **media** and **enforcement** activity* that were part of Florida's participation in annual *statewide Click It or Ticket* (CIOT) mobilizations were used to gauge the level of media and enforcement activity for three years prior to the law change (2006-2008); the year of the change (2009), and the year following the change (2010). These data were obtained from NHTSA's *Mobilizations, Crackdowns, and Sustained Enforcement* database, where activity data are entered annually by the States. These data include: dollars spent for paid media; number of ads run on radio and television; number of news stories run on radio and television; number and percent of total enforcement agencies participating in CIOT mobilizations; and number of citations issued for seat belt (and child passenger safety) violations.

Observational Surveys

Statewide seat belt surveys were examined for changes in statewide belt use from immediately before the 2010 CIOT Mobilization to immediately after the conclusion of the mobilization. Each of these surveys met the requirements NHTSA set for measuring statewide seat belt use, under Transportation Equity Act for the 21st Century (TEA-21).

Awareness Surveys

As mentioned above, PRG aided the Florida Department of Motor Vehicles (DMV) in conducting awareness surveys in July 2009, immediately after the primary law had been put into effect and again in June 2010, about one full year after the law was implemented just after the conclusion of the 2010 CIOT mobilization. Both rounds of surveys were collected using the same procedures and at the same locations as the July 2009 survey collection effort.

The general question PRG sought to answer with this case study was:

- Did the new law result in different levels of mobilization inputs and outcomes?

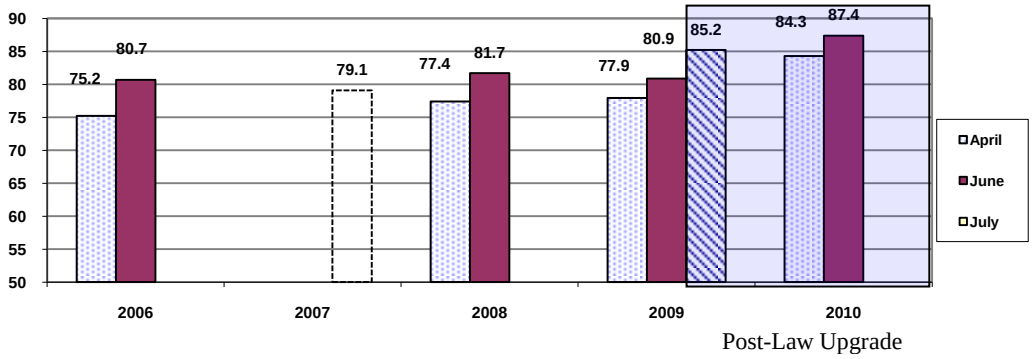
III. Results

Statewide Usage Trends from June 2008 through June 2010

Overall Impact. Seat belt use increased to its highest level to date (85.2%) after the implementation of the new primary enforcement law (July 2009). Belt use increased to a higher level after the 2010 CIOT Mobilization (87.4%).

Figure 4 shows observed seat belt use as measured by ten statewide surveys conducted from April 2006 through June 2010. It shows significant gains associated with CIOT mobilizations in 2006, 2008, 2009 and 2010, along with a significant gain associated with the primary law upgrade in 2009.

Figure 4. Observed Seat Belt Use Associated with CIOT and Law Interventions: 2006 – 2010

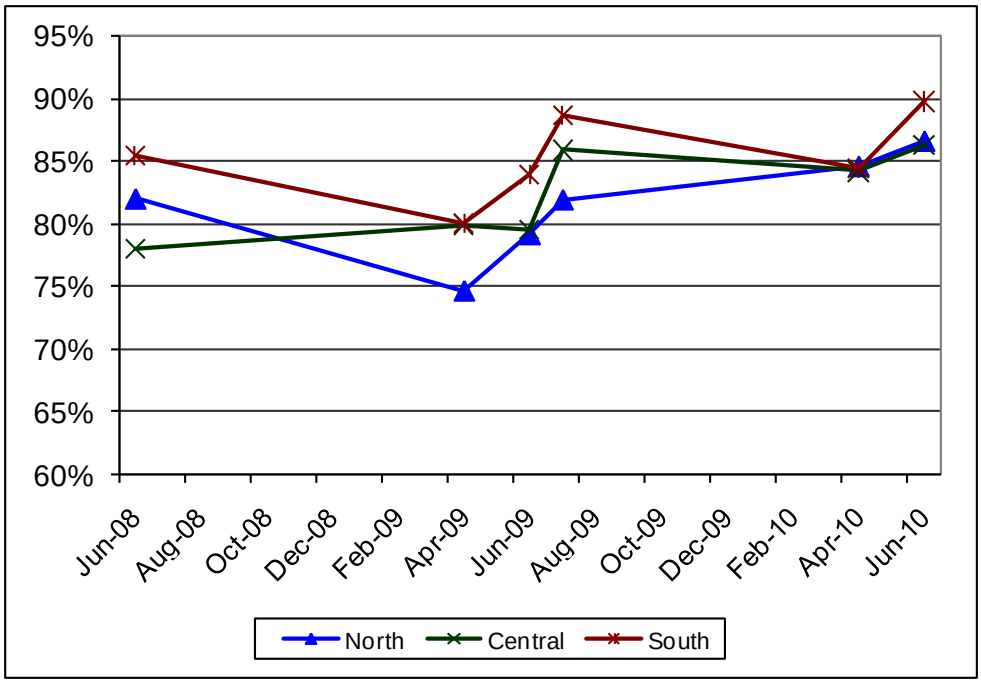


Annual CIOT mobilizations provided an important context within which the 2009 law upgrade was implemented. Figure 4 shows that the gain in usage associated with the 2006 May CIOT campaign was 5.5 percentage points, from 75.2% to 80.7%. In 2008, the gain associated with CIOT was 4.3 points, from 77.4% to 81.7%. In 2009, the year of the law change, there was a 3-point gain associated with CIOT, which was completed about one month prior to the upgrade. Finally, in 2010, there was a 3.1 point gain associated with CIOT under the new law environment.

The primary law upgrade, effective on June 30, 2009, was associated with a gain of 4.3 percentage points, from 80.9% to 85.2%, in addition to the 3-point gain associated with the 2009 RDP/CIOT effort. Thus, the total gain from April through July was 7.3 points. This was the largest gain measured during the five-year study period and it resulted in a post-law use rate of 85.2% in July 2009, the highest usage rate achieved in Florida at the time. By June 2010, seat belt use in Florida had increased to 87.4%. The gain experienced in 2010 was from a 6.4 percentage point higher baseline than the estimated CIOT gain in 2009 (77.9% vs. 84.3%). This higher baseline was very likely associated with the law change.

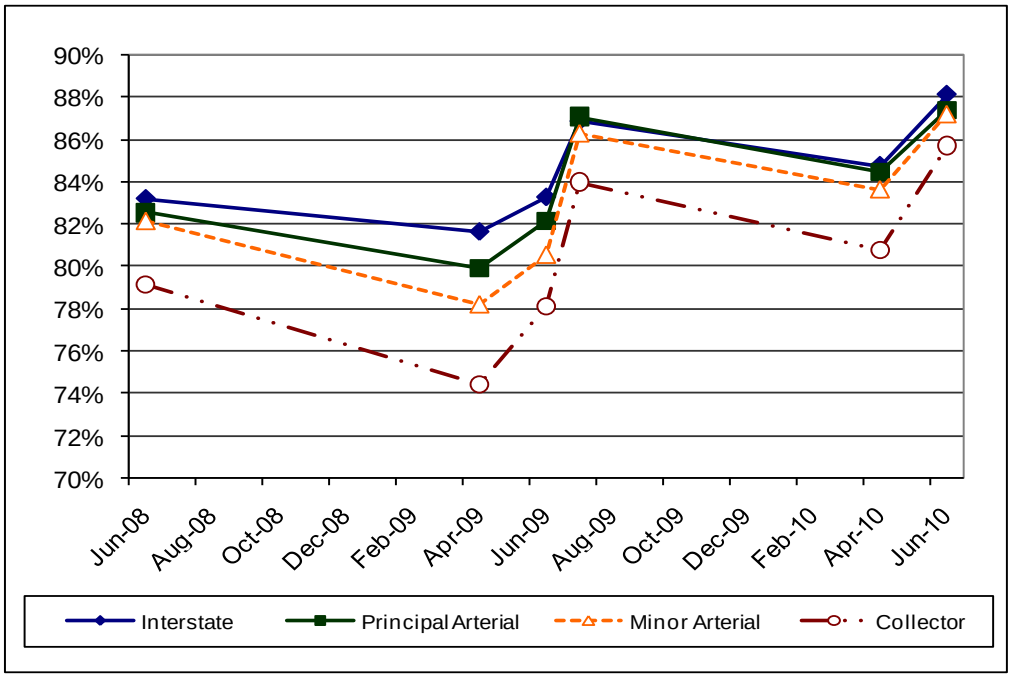
Overall Impact by Region. Looking at the overall impact, usage in the northern counties increased the most (+12 points), followed by the south (+9 points) and the central regions (+7 points). The large gain in north Florida is in part due to the fact that there was no decay from July 2009 (post-CIOT and post-law upgrade) to April 2010 (pre-CIOT). This may have been for the reason that, during this period, a rural demonstration program (RDP) was ongoing in the northern counties.

Figure 5. Changes in Usage by Region: June 2008 through June 2010



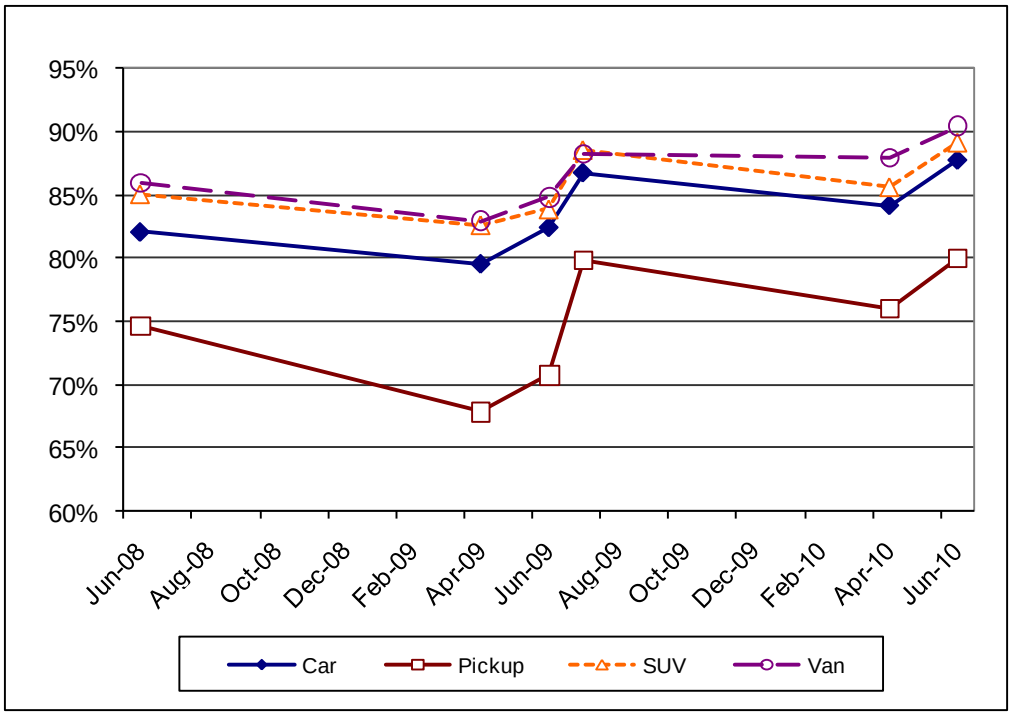
Changes in Usage by Roadway Type. Local *collectors* had the lowest usage baseline rates; the largest declines from one year (post-CIOT) to the next (pre-CIOT); ***and*** the largest increases associated with each CIOT mobilization. In addition, local collectors (and minor arterials) experienced the largest gains following the primary law upgrade (just under 6 points). Over the two-year period, collectors had a larger increase than any other roadway, thus decreasing the difference between lowest- and highest-use roads. *Interstate highways* and *primary art*erials consistently had the highest use rates; modest decay between mobilizations (-2 to -3 points); smaller gains associated with CIOT (+2 to +3 points); and slightly less gain associated with the law (+4 to +5 points).

Figure 6. Changes in Usage by Roadway Type: June 2008 through June 2010



*Changes in Usage by Vehicle Type***.** As with local roads, usage in pickup trucks was lowest at baseline (June 2008; 74.6%); declined the most prior to the 2009 CIOT (-6.8 points); increased the most following the 2009 primary law (+9.1 points); declined the most prior to the 2010 CIOT; and then increased (slightly) more than any other group following the 2010 CIOT. The overall CIOT-plus-law gain was 12 points in pickup trucks, more than for any other group. Usage among occupants of cars, SUVs, and vans averaged about 84 percent in June 2008; declined by just under 3 points prior to the 2009 CIOT; increased by about 2 points with the 2009 CIOT and by another 5 points with the law change (+6.2 points combined); usage then declined modestly between CIOT periods (-2 points) and increased modestly again after the 2010 CIOT (+3.2 points). Thus, usage among this *non-pickup group* was higher at all times; declined less during non-intervention periods; and increased less during interventions.

Figure 7. Changes in Usage by Vehicle Type: 2008-2010



Changes in Usage by Race/Ethnicity. Black occupants began with a usage rate of about 70 percent, about 10 points lower than among Hispanic occupants, the next lowest use group. As with Hispanics, there was little decline among Blacks from 2008 to the 2009 pre-CIOT period; usage among Blacks then increased more than among any other group associated with the law change (+8 points); declined slightly less than among Hispanics prior to the 2010 CIOT; then increased more than among Whites in conjunction with the 2010 CIOT mobilization. The patterns of the two lowest use groups (Blacks and Hispanics) were relatively similar to each other; much like the patterns described for local roads, and occupants of pickup trucks (i.e., low initial rates; substantial decay in use between interventions; and generally greater increases associated with interventions). Among Whites, there were higher baseline rates, generally less decay between interventions, and less impact associated with interventions. The CIOT appeared to have more of an impact on Blacks and Hispanics (a much smaller proportion of all occupants) than on Whites.

Changes in Usage by Gender. As a final comparison, males began with a baseline rate (78.1%) that was 8.5 percentage points lower than that of females (86.6%). This difference narrowed to 5.4 percentage points immediately after the law change, then increased to about 6.5 points after the 2010 mobilization. Usage increases associated with the 2009 CIOT and the law change were greater among males (+8.8 points) than among females (+5.5 points); there was a slight decay (-2.7 points) among both groups prior to the 2010 mobilization; then there was a slightly *greater* increase among *females* (+4 points) than among males (+3 points).

Figure 8. Changes in Usage by Race and Ethnicity: 2008-2010

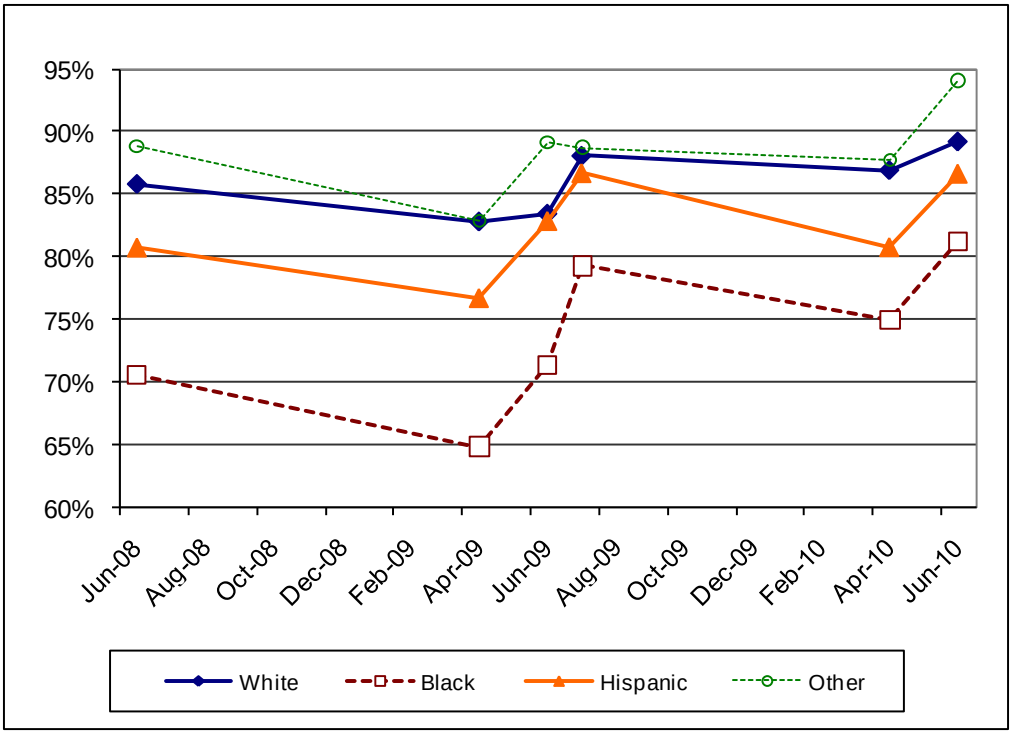
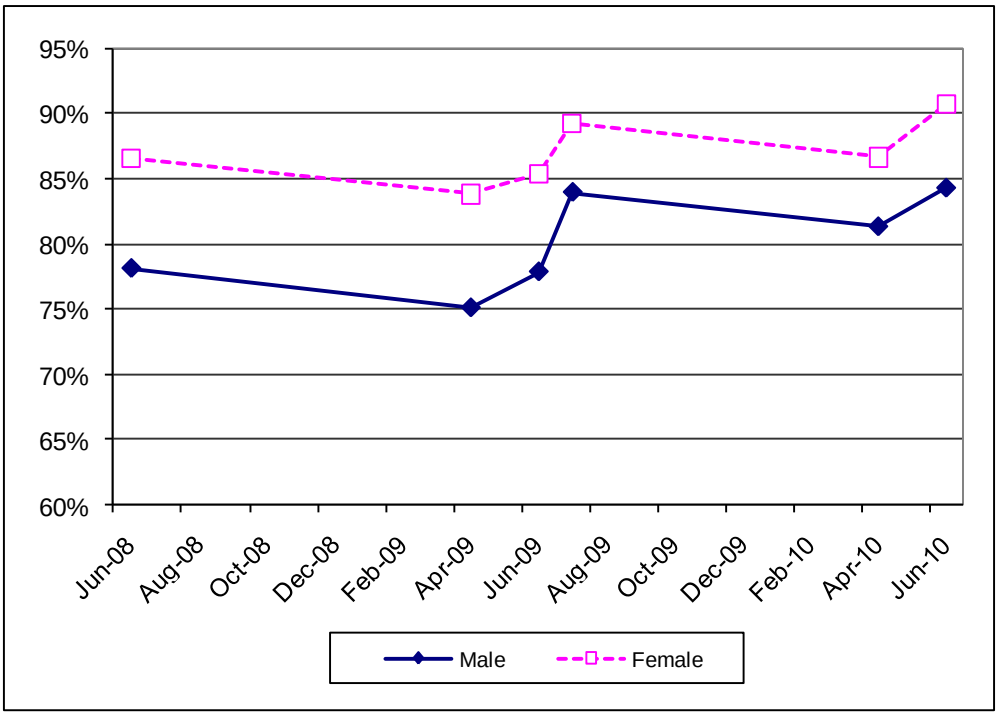


Figure 9. Changes in Usage among Females and Males: 2008-2010



In summary. The combination of the 2009 CIOT and the primary law change had a large and significant impact on usage in 2009, resulting in greater increases among lowest usage groups. Generally, the gains experienced by the lowest use groups decayed over time, until the 2010 mobilization, when there were additional gains. By June 2010, there were smaller differences between the lowest-use groups and other groups than there was the case in 2008 or in April of 2009. Clearly, the CIOT mobilization had an impact in seatbelt use in each year, and the move to primary in 2009 had a slightly greater impact.

Publicity and Enforcement Associated with the Law Change

In order to understand the environment in which the primary law upgrade occurred, it is important to examine the enforcement and media activity regarding seat belt use that occurred before, during, and after the law change. PRG obtained reasonably complete media and enforcement data regarding *statewide* activity associated with the May CIOT mobilizations. PRG obtained monthly (UTC) data on seat belt citations from 2005 through January 2010. Following is a description of the levels and trends in activity based on these various data sets.

Paid Publicity Associated with the Law Change

Paid publicity was associated with the law change. It is important to remember that the primary law was passed only weeks before the 2009 CIOT Mobilization took place and the law was implemented approximately three weeks after the Mobilizations conclusion. Ample resources were put into the 2009 CIOT Mobilization, including paid publicity. The amount of paid publicity used at that time is covered a subsequent section of this paper.

Earned Media Associated with the Law Change

Earned Media: Stories Associated with the Law Change. There was no formal reporting of stories associated with the primary law upgrade and there were no media events conducted with regard to the law change (that PRG is aware of). However, a search of the internet resulted in the identification of a substantial number of articles that focused on the change. Most of these articles focused on the fact that officers could now stop a car and ticket someone who was not buckled up, without having to observe another traffic (or other) offense. The information found on the web came from news outlets and from the websites of various organizations (e.g., Florida Highway Patrol, various legal firms, an Interstate 4 Information Center, etc.). Generally, the messaging was supportive of the new law; warned motorists that they can now be stopped; pointed out that the fine (+ other costs) is near $100; mentioned the safety-related benefits; providing examples of both survivors and teens killed; and noted the $35 million incentive for Florida to enact a primary law, etc. It was not possible to quantify the level of this earned media without a media-monitoring effort.

Awareness of Enforcement and the Law Change

July 2009 Post-Law Survey

Awareness surveys conducted at the 16 driver licensing centers measured awareness and perceptions regarding a number of issues, six of which are listed in Table 1. Immediately after the law change, about 94% of the respondents said that an officer could stop a vehicle and issue a citation simply for observing a seat belt violation. That was the highest level of awareness given for any of the issues listed. This perception was highest in Central Florida (95.1%); next highest for North Florida (93.9%); and lowest for South Florida (90.7%).

A smaller proportion, although a strong majority (77%), thought that an officer should be able to stop a vehicle and ticket an occupant solely for a seat belt violation: 78.8% in South; 76.4% in North; 77.0% in Central Florida.[3]

Just over 59% of respondents thought that they would *always or nearly always be stopped and ticketed if they drove without buckling up*. This percentage was slightly higher in the north, where about 61% responded that a ticket would always or nearly always be issued, compared with the south and central regions (about 60% and 56%, respectively). About 73% were *aware of special seat belt enforcement* and about 86% had heard something about *seat belts or seat belt use*. These percentages were generally lower in the southern region, compared with the northern and central regions, which had higher (and nearly equal) levels. In summary, the results of this statewide survey indicate that more than 9 out of 10 respondents were aware that a police officer could stop and ticket solely for a seat belt violation and nearly 8 out of 10 supported such action.

Table 1. Statewide Post-Law Perceptions Regarding Seat Belt- Related Issues: July 2009

Issue/Perception		State-Wide	North FL	Central FL	South. FL
It is Important to Enforce the SB Law (yes)	**%** (N)	**88%** (1,650)	**88%** (772)	**84%** (557)	**92%** (321)
Chance of Getting Stopped (always or nearly always)	**%** (N)	**59%** (1,105)	**62%** (535)	**56%** (369)	**60%** (201)
Saw or Heard about Enforcement (yes)	**%** (N)	**73%** (1,365)	**74%** (644)	**75%** (495)	**65%** (226)
Saw or Heard about Seat Belts (yes)	**%** (N)	**86%** (1,608)	**86%** (750)	**86%** (568)	**83%** (290)
Officer can Stop Solely for SB Violation (yes)	**%** (N)	**94%** (1,743)	**94%** (814)	**95%** (617)	**91%** (312)
Officer Should Be Able to Stop for SB Violation	**%** (N)	**77%** (1,429)	**76%** (659)	**77%** (503)	**79%** (267)

[3] These are simple (unweighted) averages of the values at each site. Thus, each site had equal representation regardless of number of responses at that site and regardless of the number of sites in a particular region.

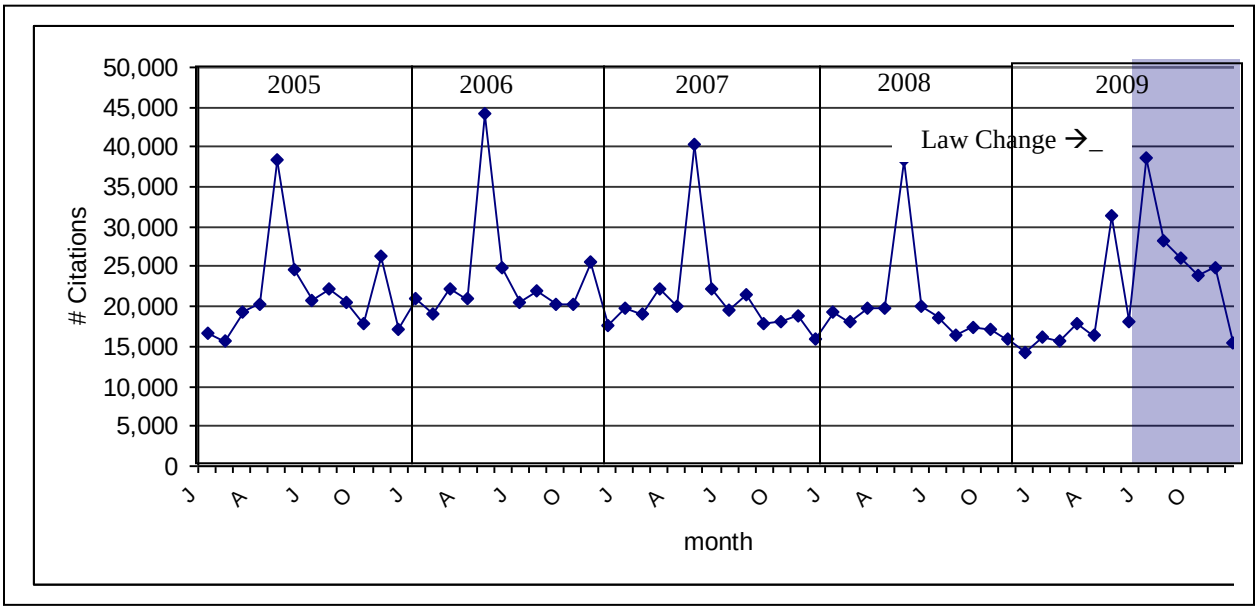
Uniform Traffic Citations (UTC)

PRG obtained annual citation data (including State, county, and local police agencies) for the five years from 2005 through January 2010. These data are shown in Figure 10. As would be expected, these data show a show a peak in citations associated with May CIOT mobilizations. Prior to the law change, these peaks gradually declined, with the largest decline occurring in May 2009. In July 2010, however, there is an unprecedented increase in citations in July 2009, immediately following the law change.

The general decline in citations associated with the May mobilizations, particularly from 2008 to 2009 is consistent with the May CIOT-reported data already described, although the CIOT-reported data did not show a decline from 2007 to 2008 as the UTC data did. Also, because the CIOT data were specific to May, they did not show the previously unseen increase in citations in July 2010.

The monthly data in Figure 10 show an elevated number of citations through October 2009 (compared with same period in 2008). By year's end, however, citations had declined to nearly the same level as that in December 2008. Thus, the law change appears to have resulted in a brief (4-month) increase in seat belt citations, compared with prior years. This increase diminished to near normal levels by January 2010.

Figure 10. Citations Issued for OP Violations in Florida, by Month: 2005-2009



The results of an autoregressive integrated moving average (ARIMA) analysis of these data are shown in Table 2. They indicate that there was a significant (upward) change in the series associated with the implementation of the primary law ($t = 4.305$; $p < 0.0001$).

Table 2. Parameters of Time Series Analysis of Florida OP Citation Data (2005-2009)
(interruption @ July 2009, with July data included in post-law period)

Parameter		Estimate	Std. Error	t	Approx. Signif.
Non-Seasonal Lags	AR1	.761	.067	11.442	.000
Seasonal Lags	Seasonal AR1	.891	.043	20.912	.000
Regression Coefficients	VAR00001	12993.706	3017.987	**4.305**	**.000**
Constant		14169.538	8587.081	1.650	.104

Melard's algorithm was used for estimation.

IV. Results of the 2010 CIOT Mobilization and the Primary Law

The 2010 CIOT Mobilization was the first High Visibility Enforcement (HVE) seat belt program conducted in Florida under a primary law. PRG examined annual mobilization inputs and outcomes for four years leading up to the time of the law change and the first year after, in year 2010. Amount of publicity and enforcement, awareness, and seat belt usage were tracked to determine if the new law resulted in different levels of program inputs and outcomes.

CIOT Inputs

CIOT Enforcement

PRG examined four years of participation in CIOT mobilizations prior to the law change (2006-2009), and one year after the law change (2010). Over that time, the State of Florida reported a relatively high percentage of total enforcement agencies participated in the CIOT mobilizations. Data from NHTSA's *Mobilization and Crackdown* activity data system in Table 3 show that, an average of about 75% of total agencies participated in the five years of mobilizations. The data also show there were increases in the proportion of participating agencies in both 2009 and 2010. The agency participation rate for the State of Florida was relatively high compared to U.S. as a whole (75% vs. 47%).

Table 3. Florida Indices of CIOT Enforcement Activity: 2006-2010

Enforcement Indices	May 2006	May 2007	May 2008	May 2009	May 2010	FL Ave	U.S. Ave**
Agency Participation (% of all agencies)	82.3	36.3	80.7	87.0	90.8	**75.4**	**46.6**
OP Citations (SB + CR) (# per 10K population)	18.8	15.8	20.0	14.0	34.0	**20.5**	**22.6**
Florida averages are generally for five years (2006 through 2010); U.S. averages are for four years (2006 through 2009). **U.S. data were not available for 2010 at this time.							

A commonly used index of enforcement intensity is the *occupant protection (OP) citation rate*. This is the number of seat belt and child passenger safety citations issued per 10,000 residents over a two-week CIOT enforcement period. Florida issued an average of 20.5 OP citations from 2006 through 2010, with a decline from 2008 to 2009 (from 20 to 14 citations/10K) and a substantial increase in 2010 (from 14 to 34 citations/10K). The four-year average across the U.S. was 22.6 (citations/10K), very similar to the rate in Florida.

CIOT Media

Table 4 summarizes the various indices of paid and earned media associated with CIOT from 2006 through 2009 (4 pre-law years), as well as in 2010 (the 1st post-law year). Per capita spending on paid media was much higher than the national average in 2006 and 2007; and was below the national average from 2008 through 2010. As a result, the number of paid ads also declined by about 60%, from well above the national average in 2006 to much less than the

national average in 2010. Thus, these two indices of advertising intensity suggest a sharp decline prior to the law change.

With regard to earned media, the number of news stories declined from 105 per million residents in 2006 to between 34 and 38 (stories per million residents) in 2008, 2009, to 30 in 2010. Similarly, there was a large decline in the number of news events associated with each mobilization from 2006 (about 5 events per million residents) to 2007 (about 0.5 events per million residents). There were slight increases from this level in 2009.

Table 4. Florida (and U.S.) Indices of CIOT Media Activity: 2006-2010

CIOT Media Indices	May 2006	May 2007	May 2008	May 2009	Pre Law Ave	U.S. Ave	May 2010
Media $ Spent (per capita)	$0.12	$0.11	$0.08	$0.04	$0.09	$0.05	$0.04
Paid Ads Run (per 10K pop.)	4.6	n/a	2.8	1.9	3.1	8.8	2.2
News Stories (per 1 mill. Pop.)	105	n/a	34	38	59.1	69.0	39
News Events (per 1 mill. Pop.)	4.9	0.5	1.0	1.1	1.9	1.9	1.3

Click It or Ticket 2010 Outcomes

PRG conducted a baseline statewide survey just prior to CIOT in April 2010. Results from the June post-CIOT survey were compared with this April pre-CIOT survey to examine the effects of the 2010 CIOT program under the new primary law environment. Table 5 displays the weighted and unweighted use rates results of each survey.

Change in Overall Usage (Weighted Estimate)

The weighted results indicate an overall increase of 3.1 percentage points between pre- to post-CIOT rates.

Change in Subgroup Estimates (Raw Data)

The breakdown of the unweighted (raw) data counts show that both drivers and passengers increased their use rate following the mobilization. This improvement *may have been* slightly greater among passengers (+3.5 points) than among drivers (+3.4 points), possibly reducing the gap in use rate between these two occupant role types.

Table 5. Safety Belt Use Rate Pre-Post 2010

Weighted	**Pre-CIOT April 2010**		**Post-CIOT June 2010**		Pre to Post Difference
	Percent Use	N	Percent Use	N	
Statewide, All Occupants	84.3	41,813	87.4	37,183	**+3.1**
Unweighted	**Pre-CIOT April 2010**		**Post-CIOT June 2010**		Pre to Post Difference
	Percent Use	N	Percent Use	N	
Occupant Type					
Driver	84.0	34,315	87.4	30,837	+3.4
Passenger	82.9	7,498	86.4	6,346	+3.5

Table 6 provides further information on changes in usage among other subgroups, based on raw data counts. Although between-group differences remained, the data in Table 6 suggest that there were improvements among all subgroups, but particularly among Blacks, Hispanics, and "Others." An examination of occupant belt use *by vehicle type* showed increases among all categories, with the most notable being the 4.0 percentage point increase among pickup truck occupants (the lowest use group). Even with that increase, however, occupant use rates in pickup trucks lag behind the use rates of occupants in other vehicle types. Similarly, increases were greater among younger occupants (a lower use group) than among older occupants (a higher use group). Interestingly, this pattern was reversed with regard to gender. Here, increases were greater among females (the higher use group) than among males (the lower use group).

Table 6. Changes in Seat Belt Use Rates by Gender, Age, Race, and Vehicle Type (unweighted data)

	Pre-CIOT April 2010		**Post-CIOT June 2010**		Pre to Post Difference
	Percent Use	N	Percent Use	N	
Sex					
Male	81.3	22,078	84.2	19,804	+2.9
Female	86.6	19,723	90.7	17,346	+4.1
Age					
16-59	82.5	34,277	86.4	30,691	+3.9
60 or older	89.8	7,520	91.6	6,483	+1.8
Race/Ethnicity					
White	86.9	25,809	89.2	20,244	+2.3
Black	75.0	5,988	81.2	5,787	+6.2
Hispanic	80.7	9,510	86.6	10,622	+5.9
Other	87.7	472	94.1	493	+6.4
Vehicle Type					
Car	84.2	23.361	87.7	20,918	+3.5
Truck	75.9	5,053	79.9	4,750	+4.0
SUV	85.6	10,191	89.2	8,817	+3.6
Van	87.9	3,208	90.4	2,698	+2.5

The data presented in Table 7 concern location and daily travel characteristics. Nearly all the data presented demonstrate increases in usage from pre-CIOT (April) to post-CIOT (June). Increases were measured across all regions (i.e., North, Central, and South). Further breakdowns show that while the North region had one county (Marion) where no increase was measured, increases in belt use were measured in all of the remaining 11 counties observed, with increases ranging from 0.8 points (in Hillsborough County) to 7.0 points (in Lee County).

Table 7. Changes in Seat Belt Use Rates by Region, County, Road Type, and Day of Week (unweighted data)

	Pre-CIOT April 2010		**Post-CIOT June 2010**		Pre to Post Difference
	Percent Use	N	Percent Use	N	
Region and County					
North	**85.4**	**6,719**	**87.6**	**7,025**	**+2.2**
Duval County	86.4	3,947	88.9	4,115	+2.5
Leon County	85.7	1,543	89.4	1,534	+3.7
Marion County	81.7	1,199	81.5	1,316	-0.1
Central	**84.2**	**13,624**	**86.1**	**11,380**	**+1.9**
Hillsborough County	84.8	4,101	85.6	3,904	+0.8
Orange County	81.5	3,038	83.8	3,038	+2.4
Pinellas County	85.0	4,150	88.5	2,815	+3.5
Polk County	85.6	2,335	87.1	1,623	+1.6
South	**83.0**	**21,470**	**87.9**	**18,778**	**+4.9**
Broward County	81.6	5,949	87.0	5,704	+5.4
Collier County	91.1	2,112	93.7	895	+2.6
Lee County	87.2	3,439	93.0	1,490	+5.8
Miami-Dade County	78.9	6,113	85.9	6,714	+7.0
Palm Beach County	83.6	3,856	89.2	3,975	+5.6
Roadway Type					
Interstate	84.7	9,462	88.1	9,269	+3.4
Principal Arterial	84.5	14,712	87.4	12,336	+2.9
Minor Arterial	83.6	12,168	87.2	10,697	+3.6
Collector	80.8	5,471	85.7	4,881	+4.9
Day of Week					
Monday	84.1	5,063	88.8	5,364	+4.7
Tuesday	84.8	6,563	87.6	4,923	+2.8
Wednesday	83.9	5,071	87.3	3,326	+3.4
Thursday	84.0	5,345	88.4	5,200	+4.4
Friday	82.6	8,111	84.6	6,959	+2.0
Saturday	83.6	7,695	87.4	7,306	+3.8
Sunday	84.5	3,965	87.8	4,105	+3.3

Increases were measured on all *road types*, with the highest point increases among the more local roads (with lower baseline rates). Examining belt use by *day of week* showed improvement on all days, surpassing 87 percent on all days except Friday.

In summary, the 2010 CIOT Mobilization achieved its goal of increasing belt use under the relatively new primary law environment, in spite of large gains seen in 2009. Improvement was measured across nearly all subgroups, although between-group differences remained even after

the 2010 CIOT. These trends and between-group differences will be examined in more detail in the next section.

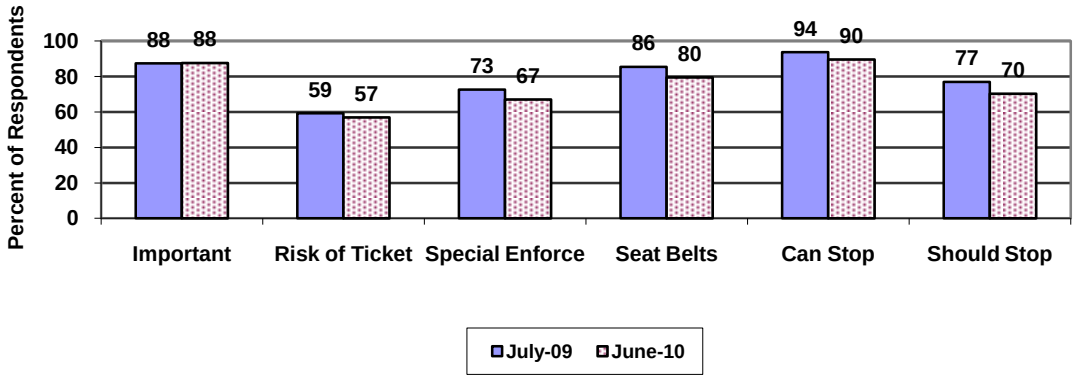
Change in Awareness/Perceptions (July 2009 to June 2010)

Table 8 (and Figure 11) show statewide change in awareness and perceptions from July 2009 to June 2010. There were no significant shifts with regard to perceived *importance of enforcing the seat belt law* (about 88% felt that it was either very or somewhat important) or in the perceived *likelihood of receiving a ticket* if one rode unbuckled (57-59% thought that a ticket was either very or somewhat likely). Over this period of time, however, there were modest but highly significant declines in awareness of *special enforcement* efforts (-5.6 points) and *seat belt messages* (-6.0 points). There also were declines in awareness that an officer *can stop* a vehicle solely for a seat belt violation (-4.0 points) and that an officer *should be able to stop* a vehicle solely for a seat belt violation (-6.7 points). Some of these declines in awareness may have been associated with the lower media funding leading up to and immediately following the upgrade. It likely does not reflect lower levels of enforcement since two key indices, agency participation in mobilizations and CIOT citation rate, increased from the 2009 CIOT to the 2010 CIOT.

Table 8. Change in Awareness/Perceptions from July 2009 to June 2010

Issue/Perception		2009	2010	Change	Signif.
It is Important to Enforce the Seat Belt Law	**%**	**88%**	**88%**	+0 pts	0.932
	(N)	(1,885)	(1698)		
Chance of Getting Stopped (for SB viol) is High	**%**	**59%**	**57%**	-2 pts	0.167
	(N)	(1,865)	(1687)		
Saw/Read/Heard about Special Enforcement	**%**	**73%**	**67%**	-6 pts	0.0003
	(N)	(1,881)	(1691)		
Saw/Read/Heard Something about Seat Belts	**%**	**86%**	**80%**	-6 pts	<0.0001
	(N)	(1,881)	(1690)		
Officer can Stop Vehicle Solely for SB Violation	**%**	**94%**	**90%**	-4 pts	<0.0001
	(N)	(1,860)	(1672)		
Officer Should Be Able to Stop for SB Violation	**%**	**77%**	**70%**	-7 pts	<0.0001
	(N)	(1,855)	(1669)		
All significance tests were based on 2x2 chi-square analyses with df = 1.					

Figure 11. Post-Upgrade Awareness, Perceptions and Opinions Regarding Seat Belt Issues



Legend for Figure 11: *Important* = It is important to enforce the seat belt law; *Risk of Tic*ket = If one drives unbuckled the always or nearly always will receive a ticket; *Special Enforce* = saw or heard about special enforcement of seat belt law in past 30 days; *Seat Belts* = saw or heard something about seat belts in the past 30 days; *Can Stop* = an officer can stop a vehicle and issue a ticket for a seat belt violation; *Should Stop* = an officer should be able to stop a vehicle and issue a ticket solely for a seat belt violation.

Awareness by Subgroup (July 2009)

Awareness and perceptions varied by subgroup after the 2009 CIOT and the primary law upgrade but the patterns were not consistent for all of the key questions. Following is a brief summary of these differences.

Gender. With regard to gender, the largest differences between males and females were in response to the *perceived importance of seat belt law enforcement* (82% of males vs. 92% of females said that it was important), *perceived risk of getting a ticket* if one rode unbuckled (55% of males vs. 63% of females thought one would always or nearly always get a ticket), and the belief that an *officer <u>should</u> be able to stop a vehicle* and issue a ticket solely for a seat belt violation (73% of males vs. 81% of females held this belief).

There was very little difference between males and females with regard to *perceived strictness of enforcement* (76% of males and 77% of females thought enforcement was at least somewhat strict), being *aware of recent seat belt enforcement* (73% and 72%, respectively), *aware of recent seat belt messages* (85% and 86% respectively), or the perception that an *officer <u>could</u> stop and ticket* for failure to buckle up (94% each).

In summary, compared with females, males were modestly less supportive of enforcement and less likely to think that a ticket would be issued. That given, there were very few differences regarding level of enforcement or publicity or of the fact that an officer could stop a vehicle and issue a ticket solely for a seat belt violation.

Age. Younger respondents (under age 40) were generally less aware and supportive of enforcement than older respondents (40 and older). They were less likely to feel that enforcement of the seat belt law was important (86% vs. 89%, respectively); that the law was being strictly enforced (75% vs. 78%); that a ticket would be likely if one did not buckle up

(56% vs. 63%); to be aware of enforcement (72% vs. 74%) or aware of seat belt messages (83% vs. 88%); to be aware of the ability of an officer to issue a ticket solely for a seat belt violation (93% vs. 95%) or to express support for that ability (73% vs. 81%). That said, the differences were modest, except for the *perceived risk of getting a ticket* if one rode unbuckled (7-point difference) and the belief that an *officer should be able to* stop a vehicle and issue a ticket solely for a seat belt violation (9-point difference).

Race. This summary looks only at differences between Whites and Blacks, which were the two largest racial groups (about 1,175 White respondents about 380 Black respondents). The number of Asians and Native Americans was small (about 60 and 10, respectively) and their results were highly variable. There was a reasonably large group of about 200 "Other" respondents but the make up of that group was very heterogeneous and thus not easily defined. There were very little differences between Whites and Blacks with regard to perceived *importance of enforcing* the seat belt law, perceived *risk of getting a ticket* for non-use, or having *heard recent seat belt messages*. There was a modest difference with regard to perceived *strictness of enforcement* (75% among Whites, 78% among Blacks). Blacks were more likely than Whites to be aware of recent enforcement (77% and 72%, respectively) but Blacks were less likely than Whites to be aware that police *could* stop and ticket solely for a seat belt violation (91% and 95%, respectively). Finally, a smaller proportion of Blacks thought that police *should* be able to stop and ticket a motorist simply for a seat belt violation (71% and 76%, respectively).

Ethnicity. About 300 respondents indicated that they were of Hispanic ethnicity and about 1,450 indicated that they were not Hispanic. There was very little difference between these two groups with regard to perceived *strictness of enforcement* or awareness of *recent enforcement* or *seat belt messages* (although Hispanics were slightly more aware of both enforcement and messages). There also was little or no difference between Hispanics and non-Hispanics in their awareness that police can stop and ticket for a seat belt violation.

There were substantial differences with regard to the *importance of enforcing the seat belt law* (95% of Hispanics and 86% of non-Hispanics said it was important), in the perceived *likelihood of getting a ticket* if unbuckled (64% of Hispanics and 58% of non-Hispanics said a ticket would always or nearly always be given), and in the belief that *police should be able to stop and ticket* a motorist solely for a seat belt violation (86% of Hispanics and 75% of non-Hispanics).

Vehicle Type. The largest group of respondents, about 900, said that they most often drove a passenger car; about 300 drove a pickup; another 300 drove an SUV; and about 100 drove a van. Another 78 said they drove some other vehicle type and about 50 checked multiple vehicle types. The patterns in awareness and perceptions associated with these subcategories were not strong or consistent. Perhaps the most consistent pattern was among occupants of pickup trucks. Proportionately fewer of them felt that it was important to enforce the seat belt law (82% vs. 88% of non-pickup respondents); a smaller percentage of these occupants thought that a ticket would always or nearly always be issued for a seat belt violation (55% vs. 59%); and proportionately fewer thought that a police officer should be able to stop a vehicle and issue a ticket solely for a seat belt violation (74% vs. 78%). Responses among occupants of pickups and all others were nearly identical with regard to the perceived strictness by which the law was being enforced, recent efforts to enforce the seat belt law, and the fact that an officer can stop

and ticket solely for a seat belt violation. Occupants of pickups were more likely to say that they had seen recent messages about seat belt use (90% vs. 85%).

In summary of awareness levels by subgroup, there was a tendency for lower use groups, such as males, younger occupants, and occupants of pickup trucks to be less supportive of enforcement and to perceive less risk of getting a ticket. These groups generally provided the lowest support for the primary enforcement provisions of the new law. Hispanics, on the other hand, were more likely to be aware of recent enforcement, to believe that it was important, to think that the risk of getting a ticket for not buckling up was higher, and to support primary enforcement provisions.

V. Discussion

Studies of primary law upgrades have shown that they frequently affect higher risk groups at least as much as lower risk groups. Upgrades have, for example, resulted in significant increases in usage among young males, drivers of pickup trucks, rural occupants, drinking drivers and occupants killed in late night crashes (Eby et al., 2002; Voas et al., 2007; and Masten, 2007).

On June 30, 2009, when Florida implemented a primary seat belt law, it already had a high baseline usage rate compared with past law upgrades. In addition, the State was engaged in a Rural Demonstration Program (RDP) to increase usage in rural areas in the northern part of the State, and it was participating in annual Click It or Ticket (CIOT) mobilizations.

The 2009 CIOT mobilization occurred after the new law had passed but before the law was implemented. There was some evidence that the 2009 CIOT mobilization was less intense than in prior years, and the decrease in intensity is likely associated with the smaller gain in usage (about 3 percentage points). Immediately after the law change, PRG measured an additional 4.3 point increase in seat belt usage statewide (from 80.9% post-CIOT to 85.2% post-upgrade). Perhaps most importantly, the impact of the law change was greatest among low-use groups, including males, Black occupants, and occupants of pickup trucks.

After the primary law was put into effect, awareness surveys indicated that 90% of respondents were aware of the fact that police could stop and ticket a motorist solely for a seat belt violation (i.e., primary enforcement). In addition, this provision was supported by about three-quarters of all respondents.

The 2010 CIOT mobilization was the State of Florida's first High Visibility Enforcement program for seat belts under a primary enforcement law. Enforcement intensity increased to levels not seen before, and that is likely associated with additional gains in statewide belt usage. Once again, increases were greatest among the lowest use subgroups.

The conclusion of this case study is that the primary law upgrade in Florida had an immediate and significant impact on program activities and observed usage.

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