

July 2011

# **Safety Belt Usage in Illinois**

## **June 2011 Observational Survey Results**

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# Illinois Department of Transportation

## Division of Traffic Safety

### Evaluation Unit

The Evaluation Unit within the Division of Traffic Safety in the Illinois Department of Transportation focuses on evaluation and monitoring of various highway safety projects and programs in Illinois. The Evaluation Unit conducts research and analyses that enhance the safety and efficiency of transportation by understanding the human factors that are important to transportation programs in Illinois. The main functions of the Unit include the following:

1. Develop an in-depth analysis of motor vehicle related fatalities and injuries in Illinois using several crash related databases (Crash data, FARS, Trauma Registry, Hospital data, and state and local police data).
2. Develop measurable long term and short term goals and objectives for the Highway Safety Program in Illinois using historical crash related databases.
3. Evaluate each highway safety project with enforcement components (e.g., Traffic Law Enforcement Program, Local Alcohol Program, IMaGE projects) using crash and citation data provided by local and state police departments.
4. Evaluate several highway safety programs (e.g., Occupant Protection and Alcohol). This involves evaluating the effects of public policy and intervention programs that promote safe driving.
5. Design and conduct annual observational safety belt and child safety seat surveys for Illinois. The safety belt survey is based on a multi-stage random selection of Interstate Highways, US/IL Highways, and several local and residential streets.
6. Provide results of research and evaluation as well as annual enforcement activities to the National Highway Traffic Safety Administration (NHTSA) as part of the Federal Requirements of State Highway Safety Program in Illinois.
7. Provide statistical consultation to other Sections at the Division of Traffic Safety and other Divisions at IDOT.
8. Publish results of all research and evaluation at the Division and place them as PDF files at IDOT's Website.

**This report provides estimated safety belt usage rates in Illinois using a statistical (multi-stage random) observational survey conducted statewide during June 2010 on both high volume state highways and low volume local roads and residential streets in Illinois. In addition, the report provides safety belt usage rates by vehicle type (passenger car and pickup truck), region, road type, and day of week.**

The report was compiled and prepared by the Evaluation staff. Comments or questions may be addressed to Mehdi Nassirpour, Ph.D., Chief of Evaluation Unit, Bureau of Administrative Services, Division of Traffic Safety, Illinois Department of Transportation, 1340 North 9<sup>th</sup> St., Springfield, Illinois 62702.

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## Survey Design

The recent safety belt survey was a statistical (multi-stage random) observational survey conducted statewide during June 2011 on both high volume state highways and low volume local roads and residential streets. The survey provided a statistically representative sample of the state as a whole. The survey design was based on the National Highway Traffic Safety Administration's requirements and had four characteristics.

1. The survey was conducted between 7:00 a.m. and 6:30 p.m. when the light was adequate for observation.
2. The survey observations were restricted to front seat occupants (drivers and outboard passengers) of passenger cars (cars, sport utility vehicles, taxis, and vans) and pickup trucks.
3. Only the use of a shoulder harness was observed since vehicles passed an observation point without stopping.
4. The survey sites included interstate highways, freeways, county roads, state highways, and a random sample of residential streets within selected areas.

There were 131,406 front seat occupants observed at 258 locations statewide in this survey. Of those, 119,448 drivers and outboard passengers were observed in passenger cars (which included cars, sport utility vehicles, and vans) and 11,958 were observed in pickup trucks. For more information on survey design, refer to the original report entitled "Design of the New Safety Belt Usage Survey in Illinois", Division of Traffic Safety, Illinois Department of Transportation (IDOT), January 1994.

## Historical Trends

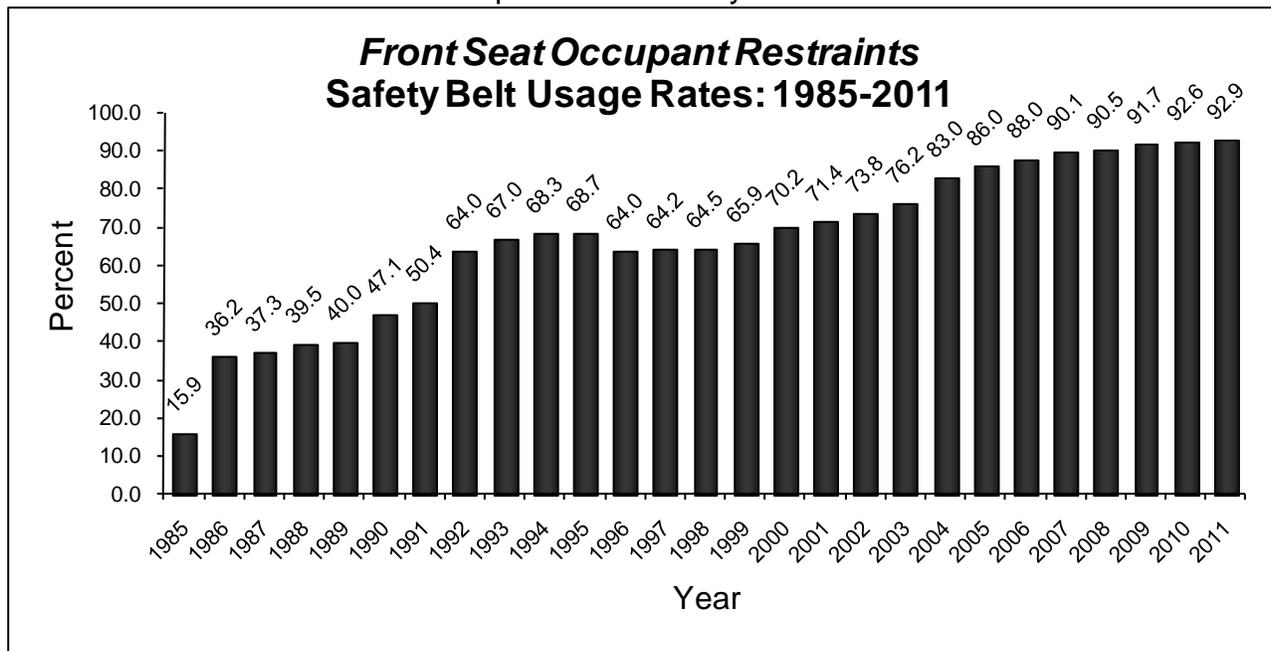
Currently the State of Illinois has a primary belt law, which became effective on July 3<sup>rd</sup>, 2003 after the bill was signed into the law. Under the primary belt law in Illinois, police officers can stop vehicles in which occupants fail to buckle up and issue citations.

The first Illinois safety belt law was passed in January 1985 and became effective July 1<sup>st</sup>, 1985. Originally, the safety belt law specified primary enforcement for front seat occupants of vehicles. Under this law, motor vehicle were required to be equipped with safety belts with the exception of

those people frequently leaving their vehicles for deliveries if speed between stops was no more than 15 mph, medical excuses, rural letter carriers, vehicles operating in reverse, and vehicles manufactured before 1965. In 1987, the original law was amended and became effective in January 1988 as a secondary enforcement law until July 3<sup>rd</sup>, 2003.

Illinois' first safety belt survey was conducted in April 1985, prior to the safety belt law becoming effective on July 1<sup>st</sup>, 1985. The data from the first survey became a baseline from which to measure the success of Illinois' efforts to educate citizens about the benefits of using safety belts. The baseline (April 1985) occupant restraint usage rate for all front seat occupants (drivers and passengers) observed in Illinois was 15.9 percent. During the first twelve months after the first safety belt law became effective, the observed usage rate increased to 36.2 percent. Since that time, the usage rate has gradually increased, peaking in June 2011 at a level of 92.9 percent. The safety belt usage rate in Illinois has increased 77 percentage points since the first survey was conducted in April 1985 (see Figure 1). It should be noted that the 1998 through 2011 safety belt surveys include pickup truck drivers and passengers who tend to have significantly lower usage rates than the front seat occupants of passenger cars.

**Figure 1**  
**Front Seat Occupant Restraint Usage Rate**  
**Comparison of Survey Results**



**Note: 1998 through 2011 safety belt usage rates include pickup truck drivers and passengers.**

## Summary of Findings

**Tables 1, 2 and 3** show results of the safety belt survey conducted at 258 sites during June 2010. Columns 1, 3 and 5 show the total number of observations for drivers, passengers and totals (drivers and passengers). Columns 2, 4 and 6 represent actual safety belt usage rates for drivers, passengers, and totals (drivers and passengers). The categories listed down the left side of the table indicate where the surveys were conducted by region of the state (with the number of sites in each region in parentheses), by road type, and by day of week. A total of 131,406 front seat occupants were observed during the survey. By looking at these tables, the safety usage rate patterns across selected categories for drivers are similar to that for passengers.

**Table 1** shows safety belt use for combined passenger cars and pickup trucks. Of the total of 131,406 front seat occupants observed, almost 93 percent were wearing safety belts. The collar counties (DuPage, Kane, Lake, McHenry, and Will) had the highest usage rate at 94.4 percent closely followed by the downstate counties (Champaign, Macon, Montgomery, Peoria, Rock Island, and St. Clair) at 93.4 percent. Cook County, excluding the city of Chicago, had a usage rate of 90.3 percent, while the city of Chicago had the lowest usage rate at 87.4 percent. Based on Road Type, Interstate highway travelers had the highest usage rate at 96.3 percent followed by U.S./Illinois Highway travelers at 91.6 percent. Motorists traveling on residential streets had the lowest usage rate at 90.9 percent. The usage rate on weekends was 94.2 percent, while on the weekdays it was slightly lower at 90.9 percent.

**Table 2** presents safety belt use information for drivers and passengers of passenger cars excluding pickup trucks. Of the total of 119,448 observations, 93.5 percent were wearing safety belts. The safety belt usage rate for both drivers and passengers was 93.5 percent. The usage rate patterns across selected categories in **Table 2** are similar to the overall usage rate patterns shown in **Table 1**.

**Table 3** shows safety belt use patterns for pickup truck drivers and passengers. A total of 10,163 drivers and 1,795 passengers were observed. Drivers had a slightly higher safety belt usage rate than passengers (88.3 percent versus 85.6 percent). The usage rate patterns across selected categories in **Table 3** are similar to the overall usage rate patterns shown in **Table 1**.

**Table 4** through **Table 6** compare safety belt usage rates from June 2010 to June 2011 and show percent changes among front seat occupants of passenger cars and pickup trucks.

**Table 4** and **Figure 2** show that the overall safety belt usage rate among drivers and front seat passengers increased by 0.3 percentage point from June 2010 to June 2011. The downstate counties had the highest increase in safety belt use showing an increase of 0.9 percentage point from 2010 to 2011. The collar counties had an increase of 0.2 percentage point in safety belt use from 2010 to 2011. The city of Chicago and Cook County had slight decreases in safety belt use by 0.6 and 0.7 percentage points respectively from 2010 to 2011. Based on road type, safety belt use on Interstate Highways increased by 0.7 percentage points. Safety belt use on residential roads did not change from 2010 to 2011. On the other hand, safety belt use slightly decreased on U.S./Illinois Highways by 0.2 percentage points. Based on day of the week, safety belt use increased by 0.2 percentage point on the weekends, but slightly decreased on the weekdays by 0.1 percentage point.

**Table 5** and **Figure 3** show that the safety belt use among front seat passenger car occupants slightly increased by 0.4 percentage point from 93.1 percent in June 2010 to 93.5 percent in June 2011. **Table 5** follows the same trends that are found in **Table 4**.

**Table 6** and **Figure 4** show that the safety belt usage rate for pickup truck occupants slightly increased by 0.3 percentage point from 87.7 percent in June 2010 to 88.0 percent in June 2011.

**Table 1**  
**Overall Safety Belt Usage Rates in Illinois**  
**(June 2011)**

	Drivers		Passengers		Total	
	Total Observed	Actual Usage Rate	Total Observed	Actual Usage Rate	Total Observed	Actual Usage Rate
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Statewide (258)</b>	<b>111,688</b>	<b>93.0%</b>	<b>19,718</b>	<b>92.7%</b>	<b>131,406</b>	<b>92.9%</b>
<b>Regions</b>						
City of Chicago (46)	18,107	87.1%	2,822	89.3%	20,929	87.4%
Cook County (40)	14,589	90.5%	2,226	88.9%	16,815	90.3%
Collar Counties (118)	57,389	94.3%	10,817	94.6%	68,206	94.4%
Downstate (54)	21,603	93.8%	3,853	91.3%	25,456	93.4%
<b>Road Type</b>						
Residential (190)	59,196	90.9%	11,014	90.9%	70,210	90.9%
U.S./Illinois Highways (40)	20,873	91.6%	3,661	92.1%	24,534	91.6%
Interstate Highways (28)	31,619	96.3%	5,043	96.4%	36,662	96.3%
<b>Day of Week</b>						
Weekends (115)	53,643	94.2%	11,211	94.2%	64,854	94.2%
Weekdays (143)	58,045	91.0%	8,507	90.4%	66,552	90.9%

Note: Pickup trucks and passenger cars (cars, sport utility vehicles, taxicabs and vans) were included in this table.

**Table 2**  
**Passenger Car Safety Belt Usage Rates in Illinois**  
**(June 2011)**

	Drivers		Passengers		Total	
	Total Observed (1)	Actual Usage Rate (2)	Total Observed (3)	Actual Usage Rate (4)	Total Observed (5)	Actual Usage Rate (6)
<b>Statewide (258)</b>	<b>101,525</b>	<b>93.5%</b>	<b>17,923</b>	<b>93.5%</b>	<b>119,448</b>	<b>93.5%</b>
<b>Regions</b>						
City of Chicago (46)	17,213	87.3%	2,677	89.7%	19,890	87.7%
Cook County (40)	13,508	90.8%	2,024	90.7%	15,532	90.8%
Collar Counties (118)	52,312	94.7%	9,886	95.1%	62,198	94.8%
Downstate (54)	18,492	95.0%	3,336	92.3%	21,828	94.6%
<b>Road Type</b>						
Residential (190)	54,453	91.3%	10,093	91.7%	64,546	91.4%
U.S./Illinois Highways (40)	18,577	92.4%	3,319	93.1%	21,896	92.5%
Interstate Highways (28)	28,495	96.6%	4,511	97.0%	33,006	96.7%
<b>Day of Week</b>						
Weekends (115)	48,437	94.8%	10,165	94.7%	58,602	94.8%
Weekdays (143)	53,088	91.4%	7,758	91.4%	60,846	91.4%

Note: Passenger cars (cars, sport utility vehicles, taxicabs and vans) were included in this table.

**Table 3**  
**Pickup Truck Safety Belt Usage Rates in Illinois**  
**(June 2011)**

	Drivers		Passengers		Total	
	Total Observed (1)	Actual Usage Rate (2)	Total Observed (3)	Actual Usage Rate (4)	Total Observed (5)	Actual Usage Rate (6)
<b>Statewide (258)</b>	<b>10,163</b>	<b>88.3%</b>	<b>1,795</b>	<b>85.6%</b>	<b>11,958</b>	<b>88.0%</b>
<b>Regions</b>						
City of Chicago (46)	894	81.7%	145	80.7%	1,039	81.5%
Cook County (40)	1,081	85.9%	202	70.8%	1,283	83.6%
Collar Counties (118)	5,077	90.4%	931	89.4%	6,008	90.2%
Downstate (54)	3,111	86.7%	517	85.1%	3,628	86.5%
<b>Road Type</b>						
Residential (190)	4,743	86.0%	921	83.0%	5,664	85.5%
U.S./Illinois Highways (40)	2,296	84.8%	342	82.2%	2,638	84.5%
Interstate Highways (28)	3,124	93.4%	532	91.5%	3,656	93.2%
<b>Day of Week</b>						
Weekends (115)	5,206	89.1%	1,046	88.7%	6,252	89.0%
Weekdays (143)	4,957	86.9%	749	80.6%	5,706	86.0%

Note: Large trucks were excluded from this table.

**Table 4**  
**Overall Safety Belt Usage Rates in Illinois**  
**(Comparison of June 2010 and June 2011)**

	Drivers			Passengers			Total		
	Usage Rate (2010)	Usage Rate (2011)	Percent Change	Usage Rate (2010)	Usage Rate (2011)	Percent Change	Usage Rate (2010)	Usage Rate (2011)	Percent Change
<b>Statewide (258)</b>	<b>92.6%</b>	<b>93.0%</b>	<b>0.4</b>	<b>92.1%</b>	<b>92.7%</b>	<b>0.6</b>	<b>92.6%</b>	<b>92.9%</b>	<b>0.3</b>
<b>Regions</b>									
City of Chicago (46)	88.1%	87.1%	-1.0	87.2%	89.3%	2.1	88.0%	87.4%	-0.6
Cook County (40)	91.3%	90.5%	-0.8	89.6%	88.9%	-0.7	91.0%	90.3%	-0.7
Collar Counties (118)	94.1%	94.3%	0.2	94.3%	94.6%	0.3	94.2%	94.4%	0.2
Downstate (54)	92.9%	93.8%	0.9	90.7%	91.3%	0.6	92.5%	93.4%	0.9
<b>Road Type</b>									
Residential (190)	91.0%	90.9%	-0.1	90.1%	90.9%	0.8	90.9%	90.9%	0.0
U.S./Illinois Highways (40)	91.7%	91.6%	-0.1	92.1%	92.1%	0.0	91.8%	91.6%	-0.2
Interstate Highways (28)	95.7%	96.3%	0.6	95.4%	96.4%	1.0	95.6%	96.3%	0.7
<b>Day of Week</b>									
Weekends (115)	94.0%	94.2%	0.2	93.9%	94.2%	0.3	94.0%	94.2%	0.2
Weekdays (143)	91.2%	91.0%	-0.2	89.9%	90.4%	0.5	91.0%	90.9%	-0.1

Note: Pickup trucks and passenger cars (cars, sport utility vehicles, taxicabs and vans) were included in this table.

**Table 5  
 Passenger Car Safety Belt Usage Rates in Illinois  
 (Comparison of June 2010 and June 2011)**

	Drivers			Passengers			Total		
	Usage Rate (2010)	Usage Rate (2011)	Percent Change	Usage Rate (2010)	Usage Rate (2011)	Percent Change	Usage Rate (2010)	Usage Rate (2011)	Percent Change
<b>Statewide (258)</b>	<b>93.1%</b>	<b>93.5%</b>	<b>0.4</b>	<b>92.8%</b>	<b>93.5%</b>	<b>0.7</b>	<b>93.1%</b>	<b>93.5%</b>	<b>0.4</b>
<b>Regions</b>									
City of Chicago (46)	88.5%	87.3%	-1.2	87.9%	89.7%	1.8	88.4%	87.7%	-0.7
Cook County (40)	91.4%	90.8%	-0.6	89.8%	90.7%	0.9	91.2%	90.8%	-0.4
Collar Counties (118)	94.7%	94.7%	0.0	95.0%	95.1%	0.1	94.8%	94.8%	0.0
Downstate (54)	94.0%	95.0%	1.0	91.9%	92.3%	0.4	93.6%	94.6%	1.0
<b>Road Type</b>									
Residential (190)	91.5%	91.3%	-0.2	90.7%	91.7%	1.0	91.4%	91.4%	0.0
U.S./Illinois Highways (40)	92.7%	92.4%	-0.3	93.1%	93.1%	0.0	92.7%	92.5%	-0.2
Interstate Highways (28)	96.2%	96.6%	0.4	96.3%	97.0%	0.7	96.2%	96.7%	0.5
<b>Day of Week</b>									
Weekends (115)	94.6%	94.8%	0.2	94.5%	94.7%	0.2	94.6%	94.8%	0.2
Weekdays (143)	91.7%	91.4%	-0.3	90.6%	91.4%	0.8	91.5%	91.4%	-0.1

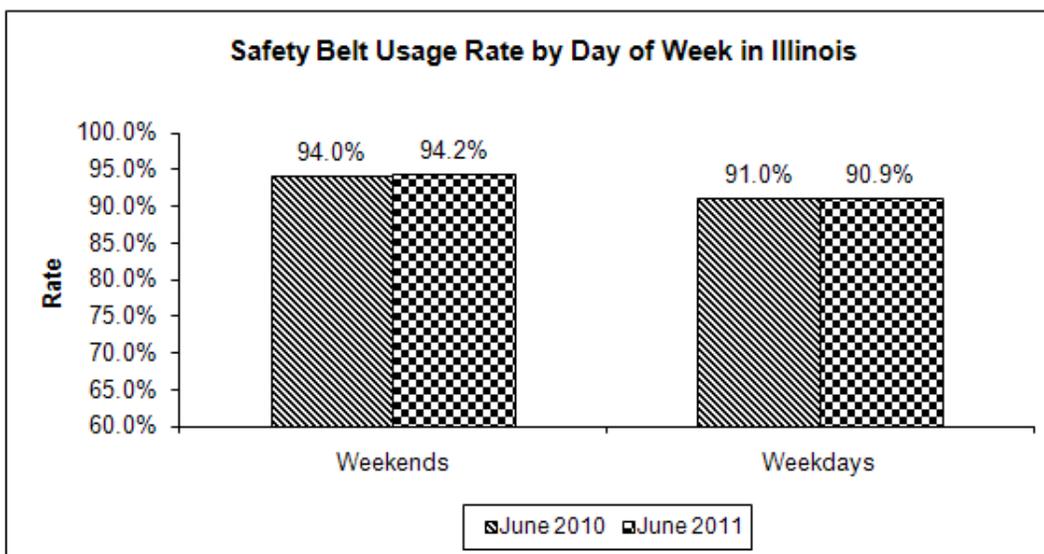
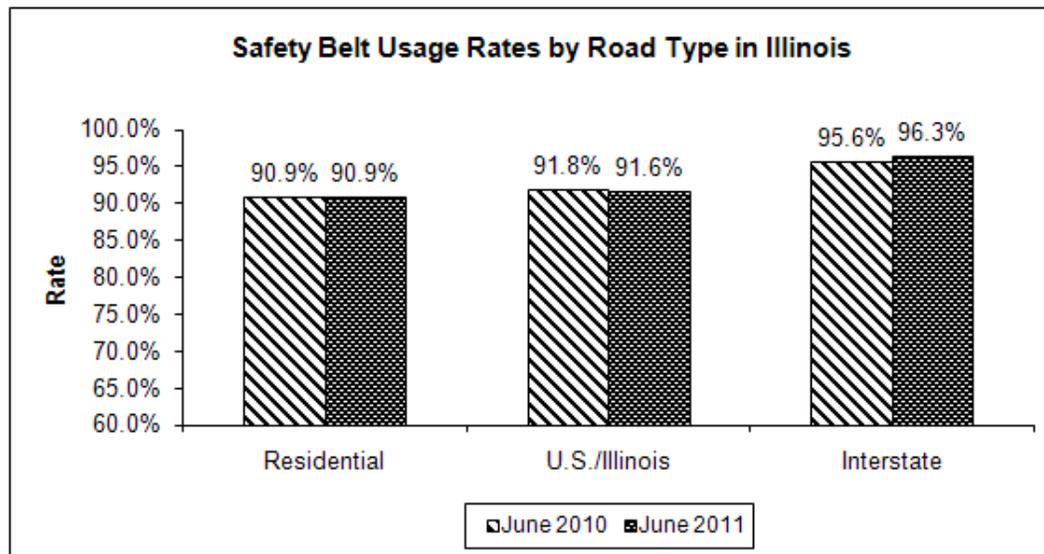
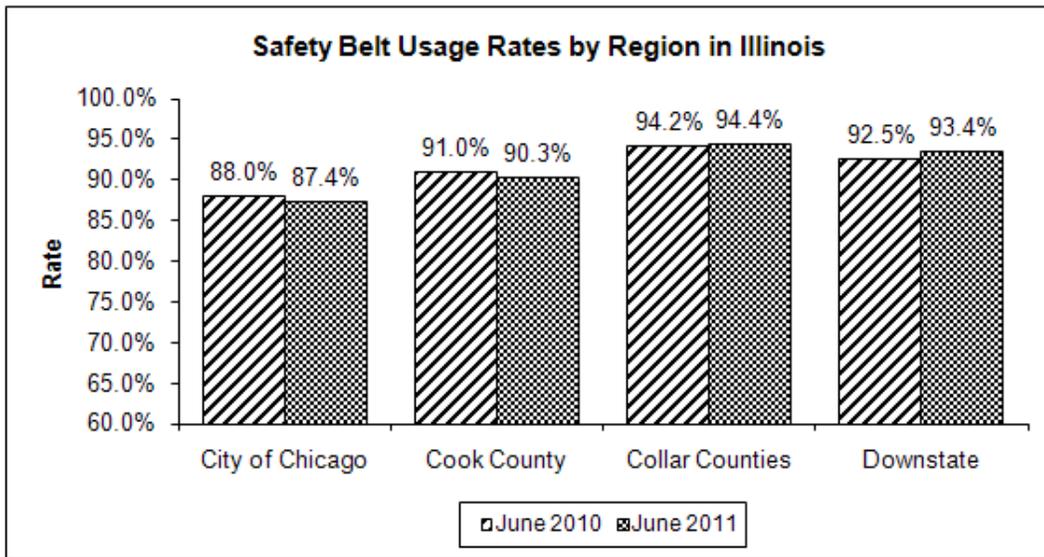
Note: Passenger cars (cars, sport utility vehicles, taxicabs and vans) were included in this table.

**Table 6**  
**Pickup Truck Safety Belt Usage Rates in Illinois**  
**(Comparison of June 2010 and June 2011)**

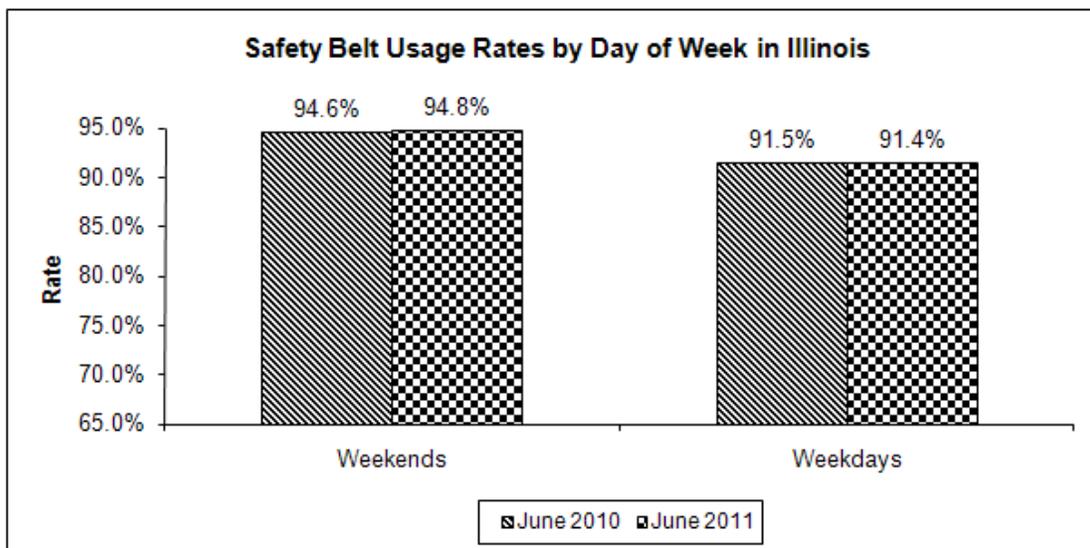
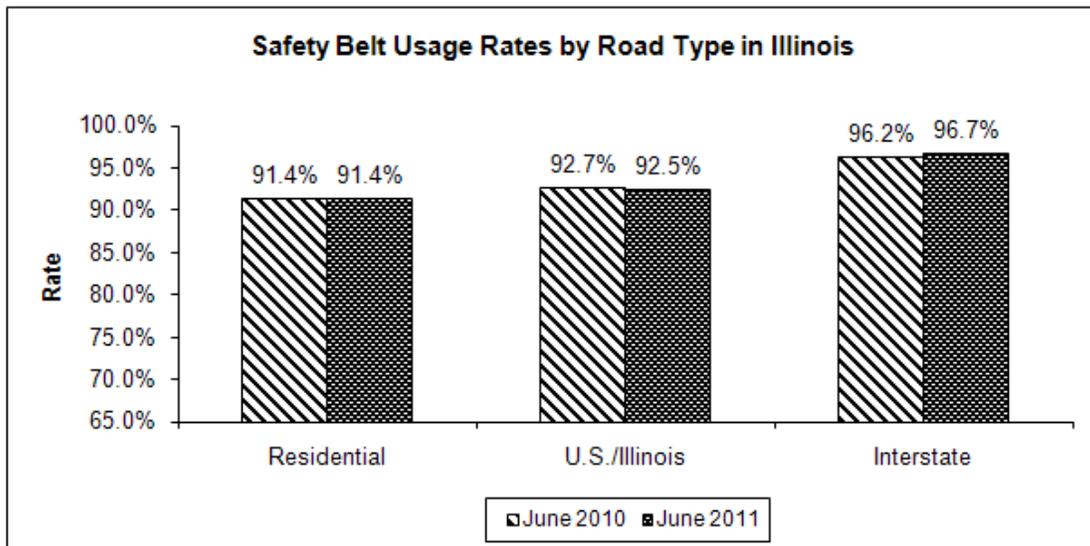
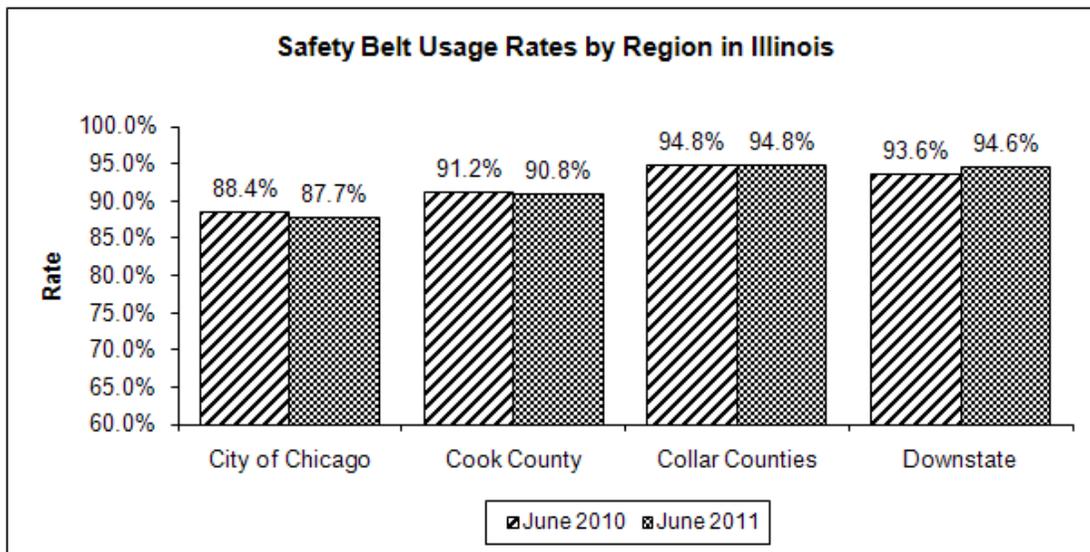
	Drivers			Passengers			Total		
	Usage Rate (2010)	Usage Rate (2011)	Percent Change	Usage Rate (2010)	Usage Rate (2011)	Percent Change	Usage Rate (2010)	Usage Rate (2011)	Percent Change
<b>Statewide (258)</b>	<b>88.0%</b>	<b>88.3%</b>	<b>0.3</b>	<b>86.5%</b>	<b>85.6%</b>	<b>-0.9</b>	<b>87.7%</b>	<b>88.0%</b>	<b>0.3</b>
<b>Regions</b>									
City of Chicago (46)	79.5%	81.7%	2.2	74.3%	80.7%	6.4	78.8%	81.5%	2.7
Cook County (40)	89.6%	85.9%	-3.7	87.5%	70.8%	-16.7	89.3%	83.6%	-5.7
Collar Counties (118)	89.1%	90.4%	1.3	88.8%	89.4%	0.6	89.1%	90.2%	1.1
Downstate (54)	87.7%	86.7%	-1.0	84.1%	85.1%	1.0	87.1%	86.5%	-0.6
<b>Road Type</b>									
Residential (190)	86.4%	86.0%	-0.4	85.0%	83.0%	-2.0	86.1%	85.5%	-0.6
U.S./Illinois Highways (40)	85.0%	84.8%	-0.2	85.1%	82.2%	-2.9	85.0%	84.5%	-0.5
Interstate Highways (28)	91.9%	93.4%	1.5	89.0%	91.5%	2.5	91.4%	93.2%	1.8
<b>Day of Week</b>									
Weekends (115)	88.7%	89.1%	0.4	88.4%	88.7%	0.3	88.6%	89.0%	0.4
Weekdays (143)	87.3%	86.9%	-0.4	84.2%	80.6%	-3.6	86.8%	86.0%	-0.8

Note: Large trucks were excluded from this table.

**Figure 2**  
**Overall Safety Belt Usage Rates in Illinois**



**Figure 3**  
**Passenger Car Safety Belt Usage Rates in Illinois**



**Figure 4  
Pickup Truck Safety Belt Usage Rates in Illinois**

